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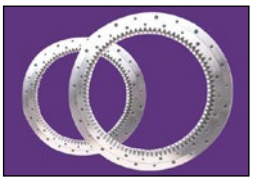

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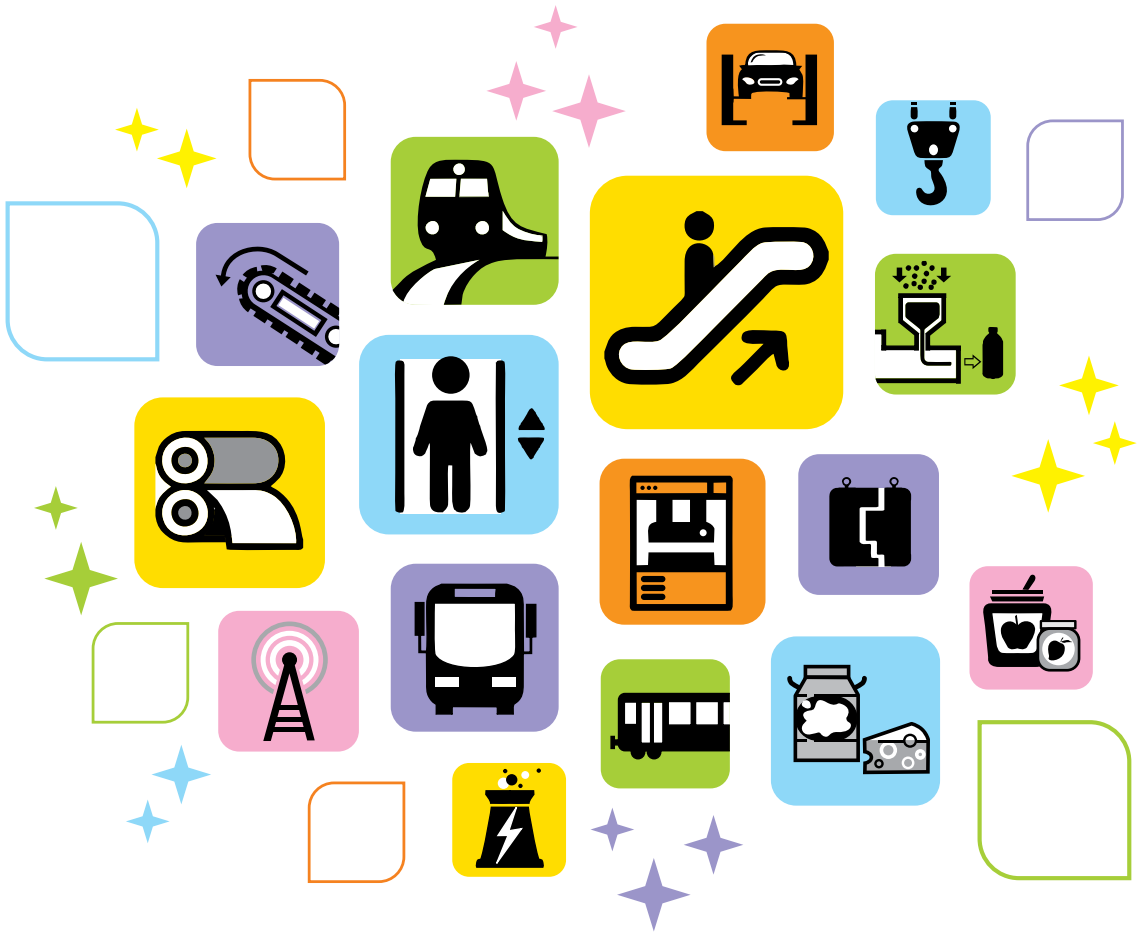

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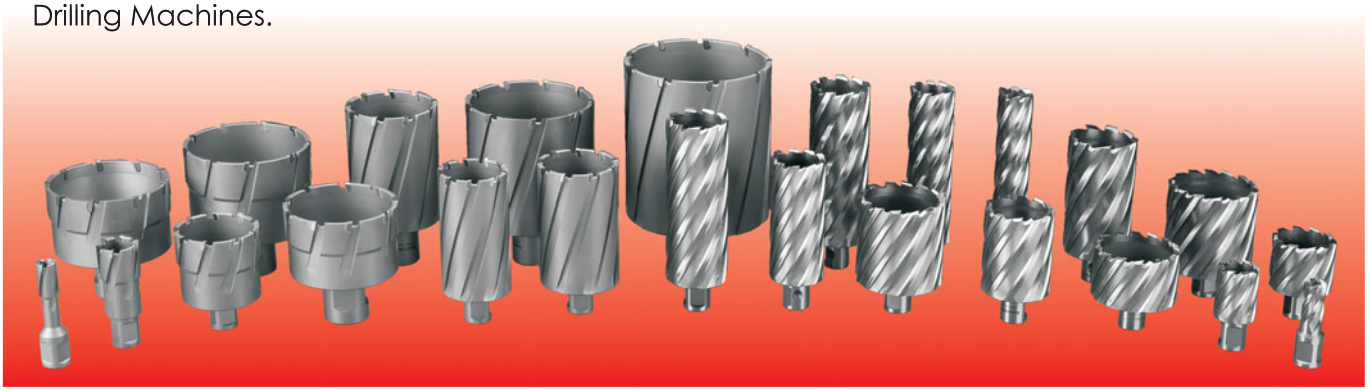

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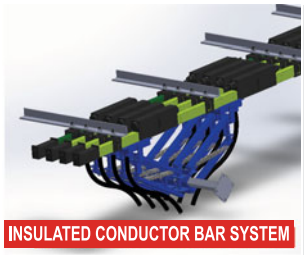
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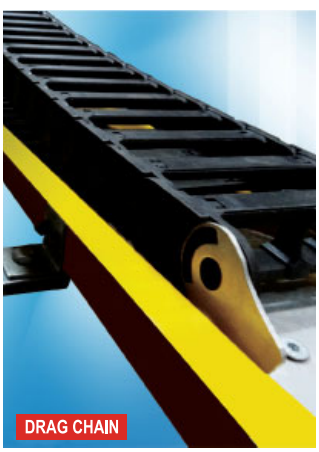
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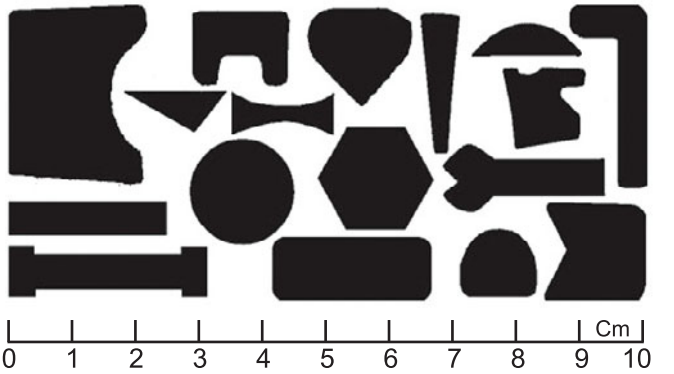

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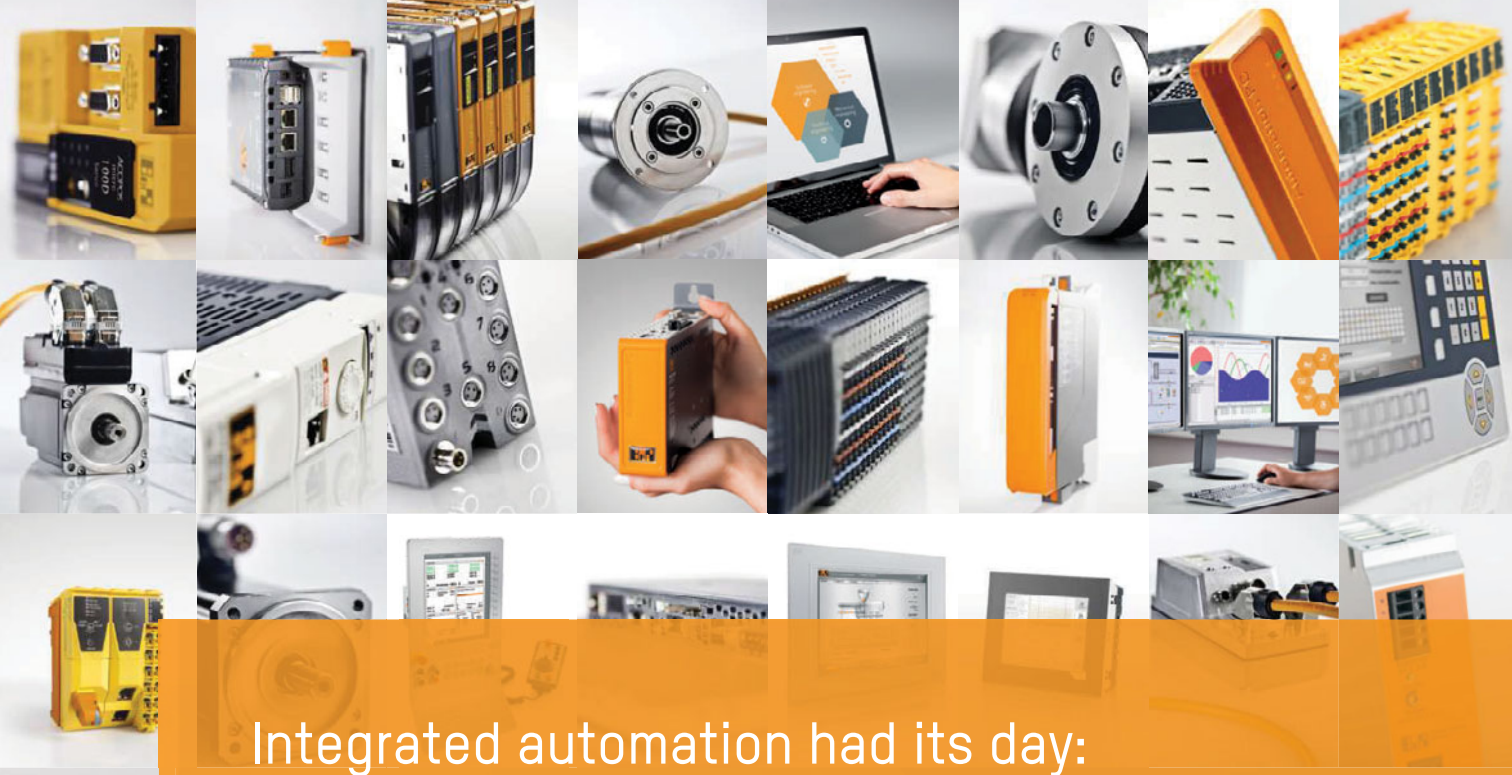

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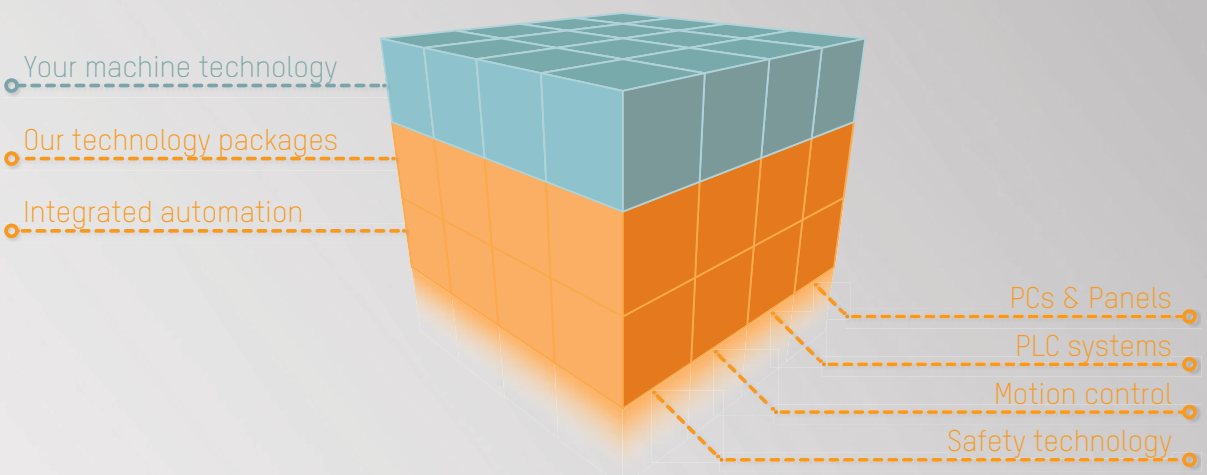

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EDITOR'S NOTE

$ 5 trillion economy: A dream or reality?

The Indian economy experienced abrupt disruption in 2019 with growth slowing down due to turbulence in non-banking financial institutions and major reform measures like GST and demonetization undertaken by the government. In fact, the International Monetary Fund (IMF) blamed India for global slowdown in 2019. IMF lowered India's economic growth forecast to 4.8 per cent - 1.3 percentage points lower than its earlier estimates - for this fiscal year. IMF expects 5.8 per cent (growth rate) in 2020 and then an upward trajectory to 6.5 per cent in 2021.

This estimate does not augur well for the country which is aiming to become $ 5 trillion economy by 2025 with manufacturing sector being the major contributor.

For manufacturing to reach $ 1 trillion mark by 2025, the sector will have to grow at a CAGR of 9.7 per cent. This task looks humungous as the sector has witnessed continuous slid in 2019 with December 2019 Index of Industrial Production (IIP) – which is used to track the performance of the industrial sector in the Indian economy - showing 0.3 per cent contraction. On the whole, between April and December 2019, the IIP has now shown a cumulative growth of a meagre 0.5 per cent.

To bolster the slowing economy, the government has to rekindle growth in small and medium enterprises (SMEs) who are considered to be the backbone of the Indian economy. Policies such as demonetization and GST have constrained growth of this sector and a lack of access to capital and credit has pushed some SMEs to look for expensive, informal credit. Since 2010, the bank credit to the SMEs sector, which provides employment to over 11 crore individuals and adds to 26 per cent of the country's GDP, has declined from 17 per cent to 13 per cent.

As banks turn cautious due to economic slowdown, credit flow to MSMEs has dipped. According to the Reserve Bank of India (RBI), gross loans to MSME sector declined 3.43 per cent to Rs 4.65 lakh crore in November 2019 from Rs 4.81 lakh crore in March 2019. On a year-on-year basis too, credit growth till November 2019 in both micro and small, as well as medium enterprises has been negative at -0.1 per cent and -2.4 per cent respectively.

With NPAs rising, capital has become a scarce resource in India. NPAs in the small and micro enterprise sectors are significantly lower than larger corporate loans. Hence, capital markets should be better developed to encourage SMEs.

The "Cover Story" of the IPF's 48th Annual Edition intends to show the roadmap towards $ 1 trillion manufacturing economy.

Experts believe the government should focus on designing and implementing good policies that will bring people out of poverty and enhance their average quality of living standards to those comparable to developed economies of the world, which will automatically result in a $5 trillion economy. The size of the economy should be the result and not the objective.

Do write in with your suggestions at *feedback@IPFonline.com*

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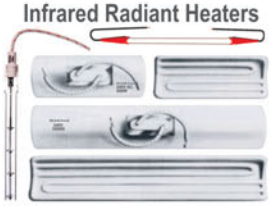

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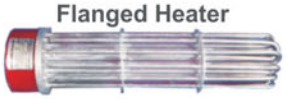

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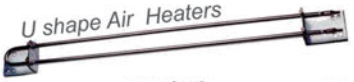
Finned Strip Heaters

U shape Air Heaters



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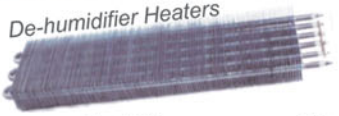

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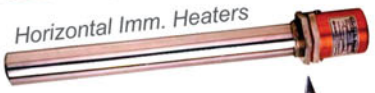

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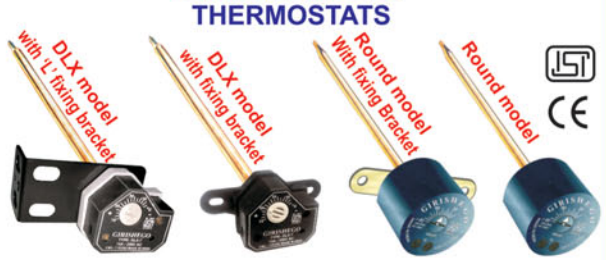

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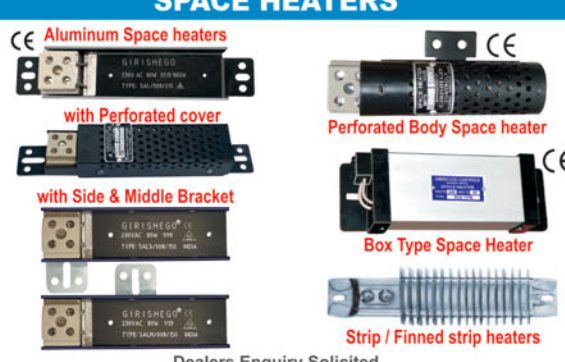

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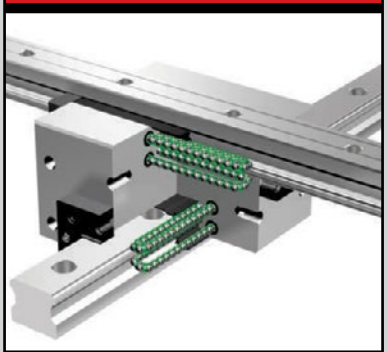

Cross LM Guide
SCR

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Cross Roller Guide + Table

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Round Linear Guide (HCR)

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LM Ball Spline

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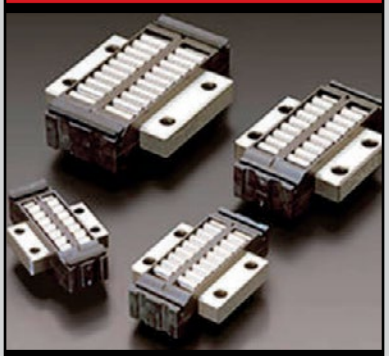

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LM Stroke ST

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Rod End + Link Ball

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Lead Screws DC / DCM

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Precision Belt / Ball screw Actuator

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Cost Effective Actuator

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Precision LM Guide Actuator

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Grease for LM System

Clamping & Braking Elements for LM Guides

Linear Speed Guides

Cheunbok Screw

Industrial Shock Absorber

Linear Bearings / Bushes

Linear Shaft + Support

Aluminium Profiles

Modular Linear Axis

Modular Assy Systems

Precision Locknuts

Locking Elements

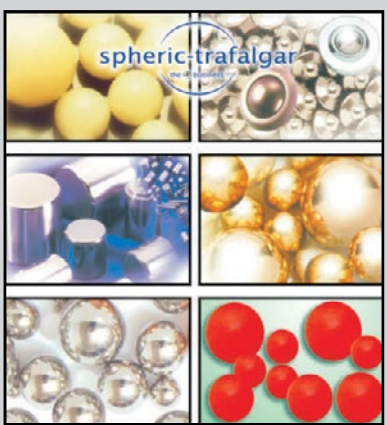
Mist Cleaner
for Machine Tools

Gears

Rack + Pinion

Gear Box

Precision Ground
Ball Screws



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Big Size Gears

Curvic Coupling

Slewing Ring

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Electro Mechanical Linear Actuators

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Linear Step Actuator

Precision Ballscrew Integrated Actuator

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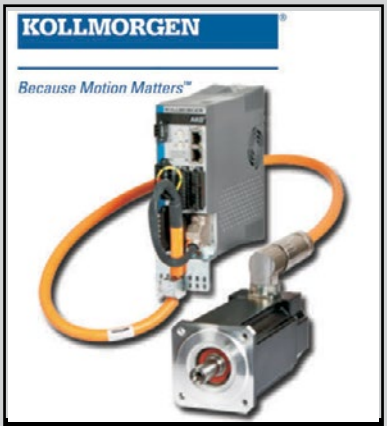
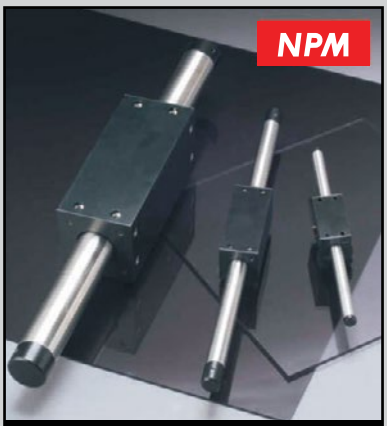


Servo Motion System

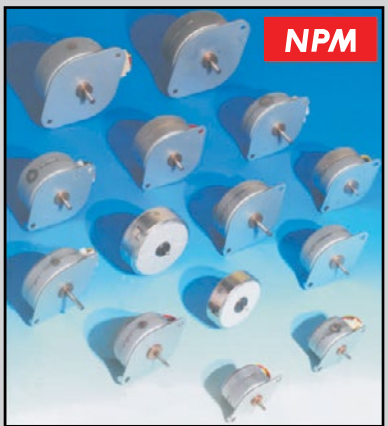
AC / DC Motors + Gearbox

Hybrid Stepper Motor +
BLDC Motor / Drive



Linear Shaft Servo Motor

Motion Network

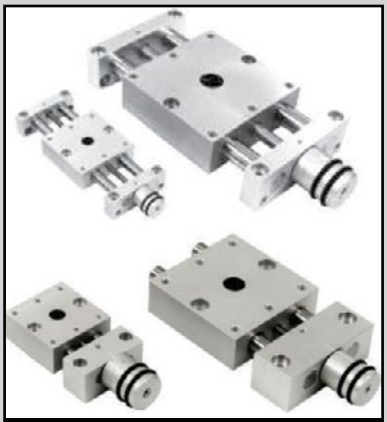


Miniature Stepper +
AC Sync Motors

Servo controller with
Built-in drive

Servo + Stepper
Motion Controller

Direct Drive Rotary Servo



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Pneumatic Valves

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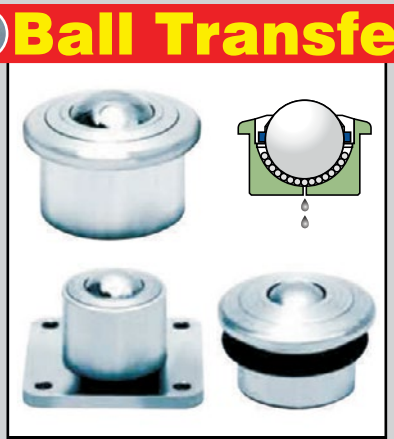
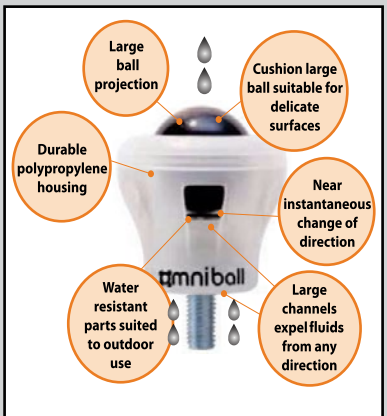


Medium Duty Range
Up to 600kgs

Light Duty Range
Up to 250kgs



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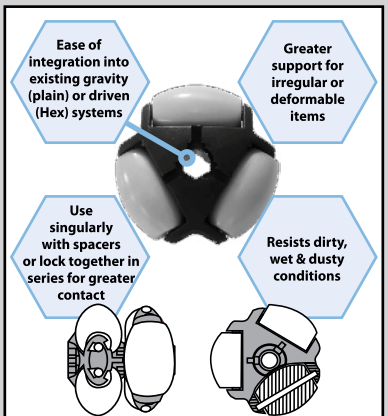

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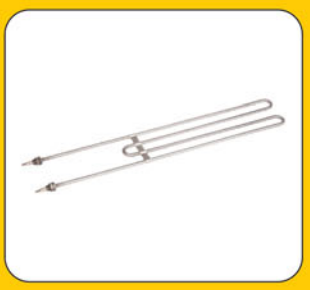
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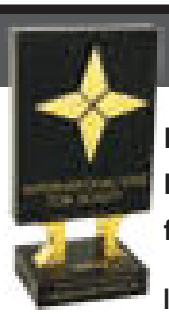

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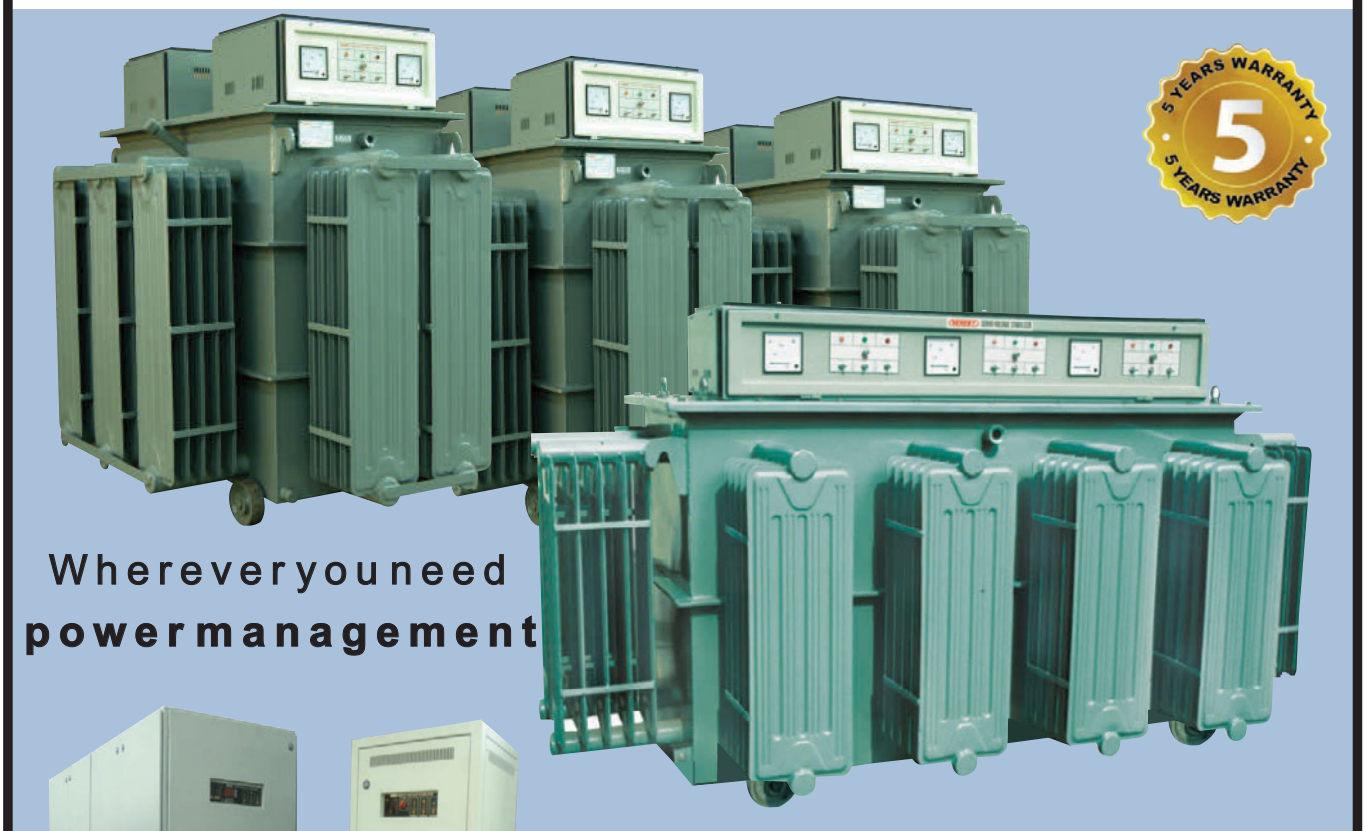

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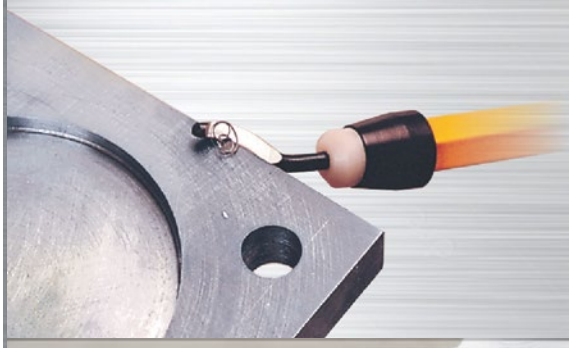

Hand-Deburring Tools - Classic Line

For Hand-Deburring of
- Edges - Straight, Inner & curved,
- Both sides of - slot, key-ways, ribs, ridge, sheets,
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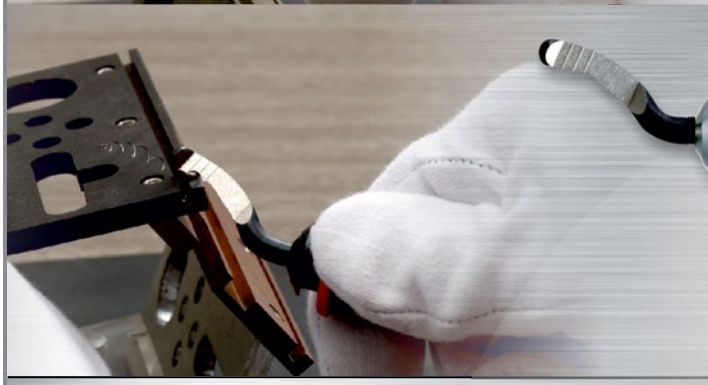

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Break-through Design in the History of Deburring
Optimum use of entire cutting edge length

Deburring Tool Head for Inside (ID) & Outside (OD) Diameter

Quick reversal of tool for deburring of ID & OD

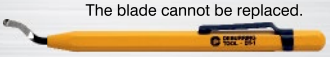
CP GRAT·EX Hand - Deburring Tools Classic Line

Deburring Tools with Handle

DT-1

This is a Simple, Economical Tool. It has universal blade C-10 attached to a hexagonal handle with pocket clip.
The blade cannot be replaced.

Packing Model	Includes
DT-1 (2) (31014)	2 pcs of DT-1
DT-1 (10) Set (86109)	10 pcs of DT-1



DT-2

In this the blade can be replaced. This includes Hexagonal handle with universal blade C-10.

Packing Model	Includes
DT-2 (31024)	1 pc of DT-2
DT-2 (5) Set (86059)	5 pcs of DT-2

DT-3

Here the blades can be replaced & stored from back side of the handle. The handle body is of ABS plastic & the blade holder is of polyacetal.

Packing Model	Includes
DT-3 (33033)	'D' Handle & 3 Blades C-10, C-20 & C-30

DT-3 (M)-SD

This is Polyacetal body handle & Matallic Blade Holder for longer life.
☑ Ergonomically designed.
☑ Has thumb rest. ☑ Grips well in Hand.
☑ Blades can be stored from backside.

Packing Model	Includes
DT-3(M)-SD (34034)	'D-SD' Handle & 3 Blades C-10, C-20 & C-30

DT-5-SD

Here the Blades can be replaced & the holder can be telescoped to reach & deburr the burrs at depth.
☑ Collet action ensures firm locking of plain surface holders.

Packing Model	Includes
DT-5-SD (34054)	'T-SD' Handle, DT(C) Holder & 5 Blades C-10, C-20, C-30, C-10(C) & C-15
DT-52-SD (34524)	'T-SD' Handle, DT(P) Holder & 2 Blades P1 & P2.

RDT-SD Rigid Deburring Tools (34064)

Extra Heavy duty deburring tool.
Strong, Sturdy & Rugged.
Type RDT-SD includes Handle 'R-SD' & Universal Blade R-10(S).

Key-Way/ Slot Deburrer KWS-SD (34074)

For simultaneous deburring of both edges of slot or key-wey. Four cutting edges -2 for std. depth of slot / key-wey & 2 for shallow depth. Includes Handle 'T-SD', telescopic holder KW, Blades KW-9 & KW-16.

Sheet / Rib Deburrer Set SDT (34084)

Excellent for deburring one or both edges of sheets / ribs. Width range 0 -12 mm. Cutting edge along the full circle on 2 sides.

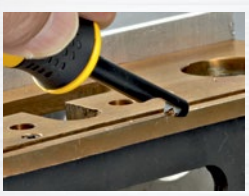
'V' Shaped Sheet / Rib Deburrer VDT-SD (34094)

Unique Tool-has 4 nos 'V' shaped edges 2 nos for 1 to 12 mm width range & 2 nos for 0 to 4 mm width range. Includes handle 'T-SD', Telescopic holder VT & V-4 blade.

Sheet / Rib Deburrer V2-SD (34104)

V-2 Blade

☑ Double ended tool.
☑ Held & replaceable in collet type T-SD Handle.
☑ Deburrs both edges of sheet/ rib of upto 4 mm thickness from one side.
☑ Single edge deburring from another side of the tool.



DT-SD (3-in-1) Set (86319)

- ☑ **This is a unique Deburring Tool with Handle which can hold three sizes of swivel blades viz. 'R' (6 mm ⌀), 'C' (3.2 mm ⌀) & 'P' (2.6 mm ⌀)**
- ☑ **The handle has auto release system for easy change of blades & Holders.**
- ☑ **All the holders and blades can be stored from back side of the handle.**
- ☑ **Includes Handle 'R-SD', Holders SD-C & SD-P and 7 Blades R-15 (S), C-10, C-20, C-30, P-1, P-2 & P-3.**

Handle shown with R-15(S) Blade.

Holder SD-C

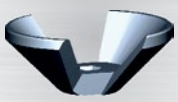
Holder SD-P

Handle shown with SD-C Hoder & C-10 Blade.

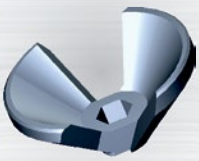
CP GRAT·EX **Deburring Tool Head for ID & OD**

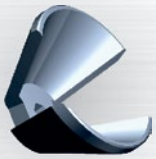
Patented

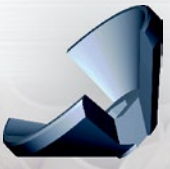
Deburring Tool Head for Inside (ID) & Outside (OD) Diameter

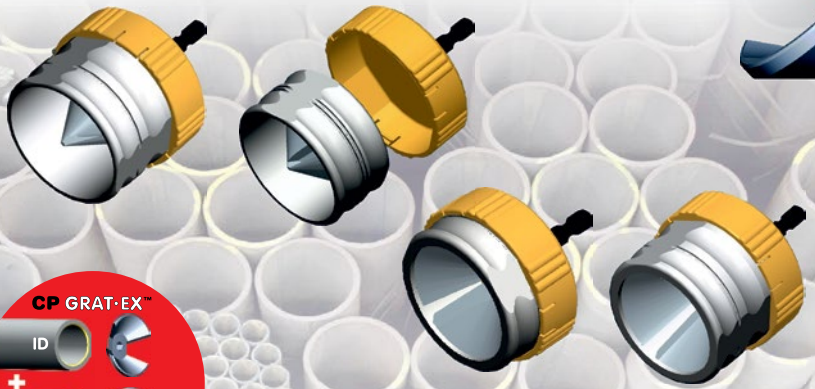


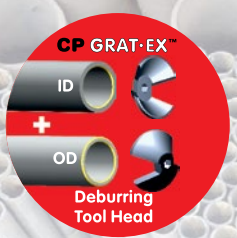
- Rigid, one piece construction - made from HSS (M2) grade material
- Quick reversal of tool for deburring of ID & OD
- Two Flute tools in 3 sizes with 60^0 & 90^0 included angle cover range from : 5/8" to $2\frac{7}{16}$" (16 to 62 mm) of ID / Holes and 5/8" to $2\frac{9}{32}$" (16 to 58 mm) of OD
- Single Flute tool with 60^0 & 90^0 included angle cover range from : 5/32" to $1\frac{13}{16}$" (4 to 46 mm) of ID / Holes and 5/32" to $1\frac{21}{32}$" (4 to 42 mm) of OD
- The tools can be used :
  - Manually with hand held holder / handle OR
  - Manually with power driven tool OR
  - With Machine tool



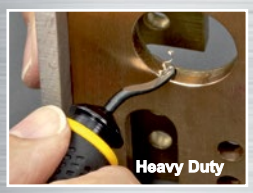


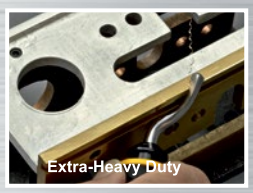


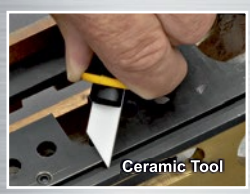


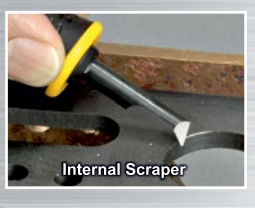


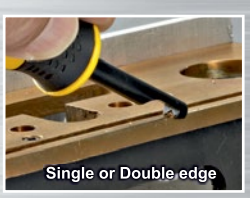
CP GRAT·EX Deburring Tools - Applications

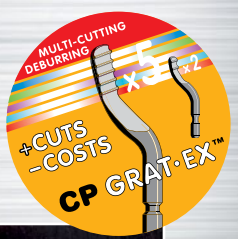












Manufactured by :

CP GRAT·EX
Manufacturing Company

44, Nand Ghanashyam Ind. Estate, Off. Mahakali Caves Rd., Andheri (E), Mumbai 400 093. India
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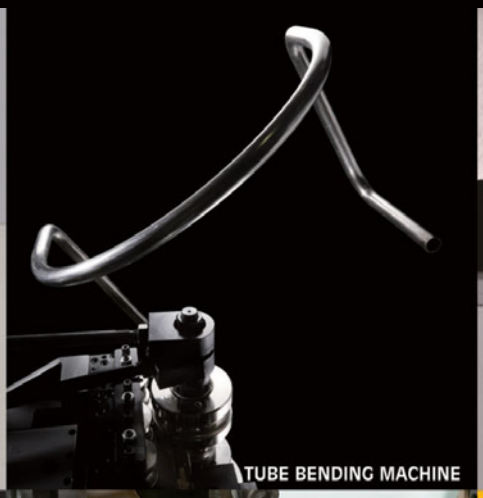
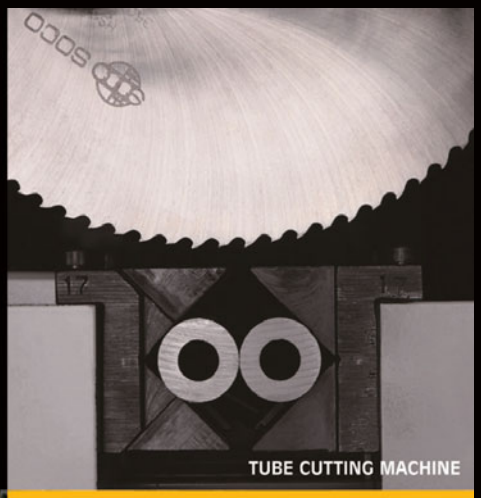
LASER TUBE CUTTING MACHINE


TUBE BENDING MACHINE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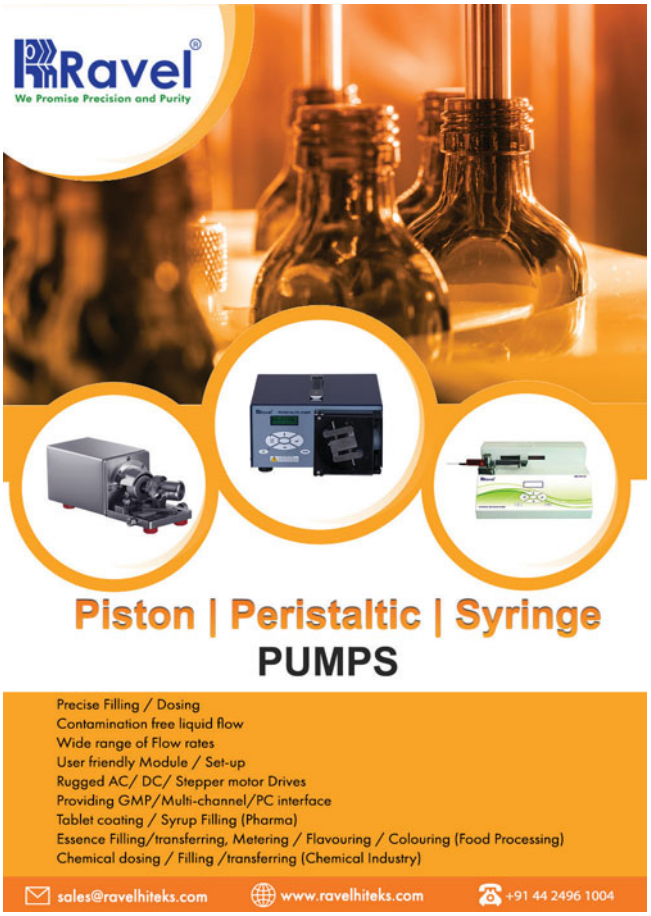


COST REDUCTION IN HEAT TREATMENT

ESPON-AS is an anti-scale protective coating developed by Steel Plant Specialities LLP, a Mumbai based firm.

Features:

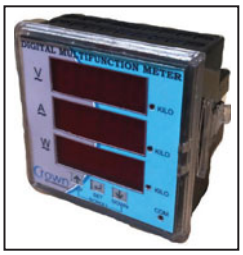
- Several benefits accrued by the use of this coating are: ESPON-AS protects metals and alloys against oxidation and decarburisation during heat treatment.
- ESPON-AS coated tools and components can be heat treated in air using a box-type or bogie hearth; electric, gas or oil fired furnace.
- ESPON-AS eliminates need of salt bath or expensive controlled-atmosphere equipment in many cases.
- ESPON-AS is non-flammable and non-hazardous. No toxic or volatile materials are expelled from the coating during mixing or heat-treating the coated components.

About the company: Steel Plant Specialities (SPS) manufactures cost-saving coatings and lubricants for metal forming processes like hot forging, heat treatment, hot rolling and casting.

Contact:

Steel Plant Specialities, Mumbai
Tel: 022-67978060 Fax: 022-25552459
Email: info@steelplantspecialities.com

SINGLE PHASE MULTIFUNCTION METER, CES-MFM



Crown Electronic Systems offers a wide range of single phase multifunction meter, CES-MFM.

Features:

- This is 4-digit three row 7-segment display; true RMS measurement and perfect liner response.
- It has three switches for onsite setting.
- It is CT/PT ratio programmable & compact size and light weight; ABS dust-proof rugged casing.
- It has touch proof voltage & current terminals & password protection.
- Its specifications include: auxiliary supply: universal auxiliary (90-300V AC) supply; accuracy: 1.0% (Class 1.0); inputs: voltage (upto 500V), current secondary (5A); dimension: 96X96X57 mm; panel cutout: 92mm X 92mm; standards: IP-20.

About the company: Crown Electronic Systems are one of the manufacturers, wholesaler, and exporter of a wide range of quality testing and measuring instruments. Their products find usage in all the electrical and electronic industry.

Contact:

Crown Electronic Systems, New Delhi
Tel: 011-40072526, 45013465
Email: crown_tnm@yahoo.com, tnm.ces@gmail.com

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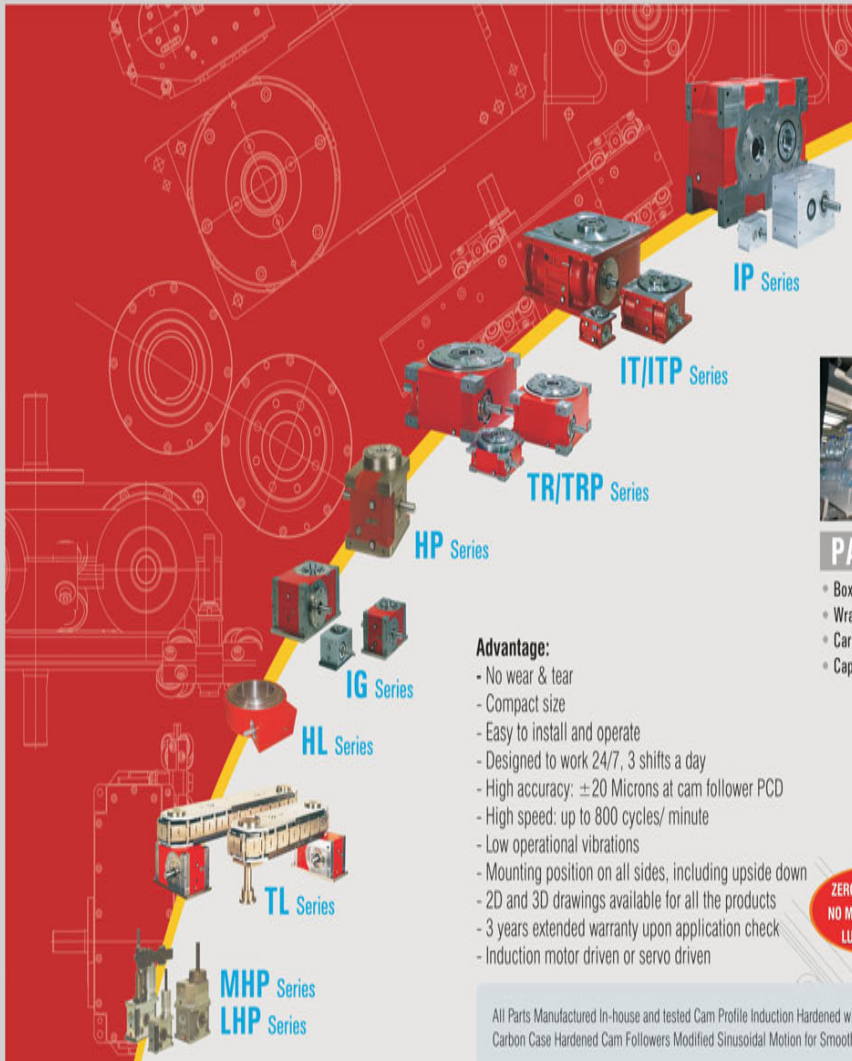

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- Its applications include: For evaporation, crystallization, polymerization, blending, dispersion, gas absorption, batch distillation, etc.

About the company: SIECO is your favorite associate for reactors/agitators for the most efficient working, especially pertaining to the sectors like chemical, pharmaceutical, bio-chemical, food and oil industries.

Contact:

Sieco Engineers Pvt Ltd, Bangalore
Tel: 080-41200659
Mobile: 09886782854, 09886793854
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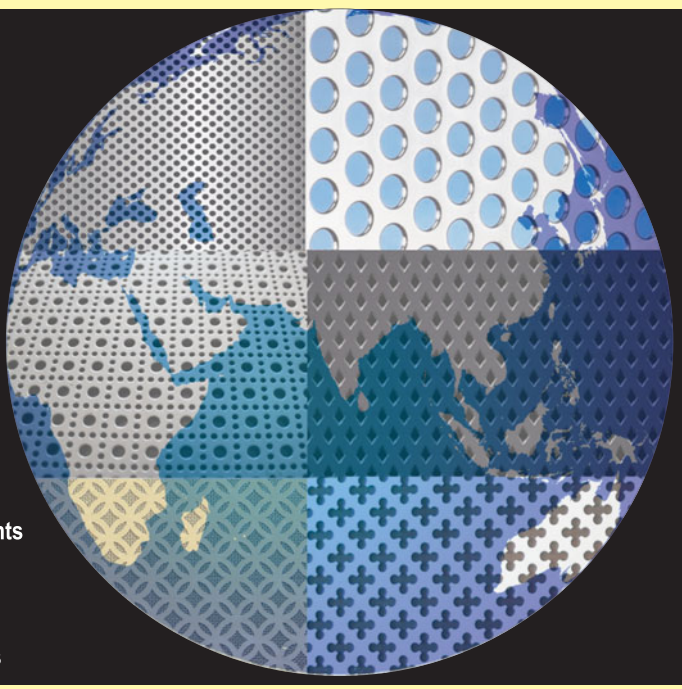

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HIGH-SPEED 5MP CAMERA, IL5

Fastec Imaging Corporation has launched IL5 High-Speed 5MP Camera.

Features:

- With four models to choose from, boasting crisp, clean video from 2560 x 2080 @ 230fps to 800 x 600 @ 1650fps, there is an IL5 to fit any application need; all models record over 3200 fps at VGA resolution and more than 18,000 fps at smaller resolutions
- Able to save images to an SSD or SD card while recording high-speed bursts of hundreds or even thousands of images at a time, the IL5 is always ready for the next high-speed snapshot.
- Thousands of Fastec high-speed cameras are in use worldwide in diverse industries including food and beverage, converted paper, personal care, pharmaceutical, military, mining, broadcast, and academic research.

About the company: Fastec Imaging Corporation is dedicated to designing and manufacturing high-speed digital imaging solutions that are powerful, robust, and cost effective.

Contact:

Fastec Imaging Corporation, CA 92127, USA
Tel: +1 858-592-2342 Email: sales@fastecimaging.com

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| AT11-16E |

Tool-free installation in 3 easy steps: the AX8000 multi-axis servo system.

www.beckhoff.co.in/AX8000

With the highly compact AX8000 multi-axis servo system, Beckhoff enables quick installation and commissioning of high-performance drive equipment in just 3 easy steps:

1. Fast and tool-free module connection with the new AX-Bridge quick-connection
2. Safe and simple motor connection with plug connector on the AX8000 underside
3. Reduced number of cables and installation cost with One Cable Technology

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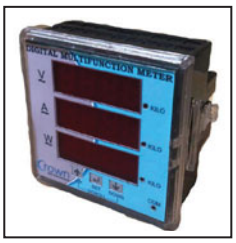
PROGRAMMABLE DIRECTION INVERSE TIME CURRENT RELAY



JVS Electronics Pvt Ltd offers a wide range of programmable direction inverse time current relay, Type JRP 011.

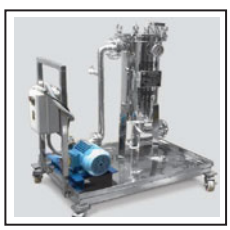
Features:

- It is software based design; programmable time current characteristics; choice of four curves; selectable characteristic angle; programmable directional / non-directional element; draw - out case.
- Its applications include: The relay provides time graded phase and earth fault protection of parallel transformers, transformer feeders, parallel feeders, ring main system etc.
- The relay measures the line current from each of the phases and if it exceeds the set threshold, then relay extends a trip signal after an operating time. The relay's operating time is determined by selecting one of the four inverse time characteristics. The relay has facility to active/ inhibit the high set protection feature. The relay output contacts are self reset. Relay operation without any fault current is determined by trip test facility.

About the company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:
JVS Electronics Pvt Ltd, Ramanagara
Tel: 080-27204211/12/13 Fax: 080-28361335
Email: bangalore@jvselectronics.in

MOBILE FILTRATION SYSTEMS



S & C Invotek manufactures mobile filtration systems.

Features:

- It is user-friendly for the shop floor requirements and it is easy to move from around different places on the shopfloor wherever batch filtration is required as there is no need for permanent installation.
- These systems are designed for use with high performance filter bags, strainers or cartridge filter.

About the company: S & C Invotek is engaged in designing and manufacturing filtration products for engineering and process industries. This includes bag filters, membrane cartridge filters, vent filters, steam filters, etc.

Contact:
S&C Invotek, Bangalore
Tel: 080-26697112, 26797001
Mobile: 09844035677, 09980775677
Email info@invotekfilters.com; sales@invotekfilters.com; marketing@invotekfilters.com

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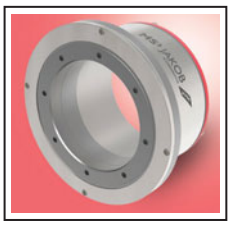
MOTOR SPINDLE PROTECTION SYSTEM



JAKOB Antriebstechnik GmbH has innovated a multi-award-winning motor spindle protection system, MS³.

Features:

- The successful test phases show the great potential of the spindle protection system and confirm the promised effects of damage and cost minimization.
- As a result, the shock-sensitive components of the motor spindle are effectively protected from the high force peaks in case of a collision or an overload situation. Characteristics: no external energy supply necessary; faster than purely electronic process monitoring systems; high lateral adhesion and system stiffness for safe operation; absorption of the kinetic impact energy by dampers; integrated interrogation of the deflection state for emergency stop; self-resetting of the motor spindle with high precision; increased machine availability; adaptable to all common motor spindle geometries; and maintenance free.

About the company: JAKOB's products are exported worldwide. The utilization of our drawbars provides the evidence of good quality.

Contact:

Jakob-Gruppe, Germany
Tel: +49 (6022) 220811 Email: reus@akobantriebstechnik.de

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Tumble Kart's heavy duty fabrication makes it Rigid & Durable.

Click on the link below for YouTube Video:
https://www.youtube.com/watch?v=uEbj6x8X1Ds

Customer specific sizes undertaken.

Contact :

Sterling Tools

D-190, Industrial Estate, Gokul Road, HUBLI - 580 030 Karnataka INDIA.
E-mail : sterling_tool@yahoo.co.in
Website : https://sterlingtool.co.in
Tel Ph : +91 836 233 2756, +91 836 233 4191

Message "Tumble Kart" to +91 98866 76618 for video clip.

PATSON MACHINES PRIVATE LIMITED

Aspiring for Perfection...

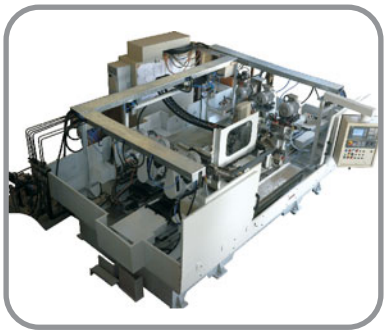
Special purpose machine is a means of achieving lower production cost by increasing productivity. In design of SPMs , we retain features which are essential for the operations, thus reducing the costs. Wherever possible, operations are combined so as to reduce the number of settings and labour involvement. This also improves the component accuracy. SPMs gives you higher output at much lower cost, compared to machining on VMC/HMC.

Multispindle drilling/tapping technology will boost productivity, assure quality and reduce cost of operations enable to withstand global competition. We help to keep pace in the race to globalization. Our specialization is in automatic machines and machining technology. We offer complete machining solutions using appropriate technology.

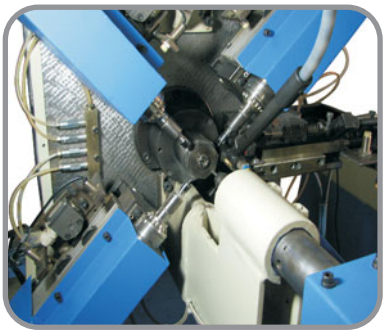
ROTARY INDEXING TYPE SPM

WAY TYPE SPM

MULTISPINDLE DRILLING AND TAPPING SPM



CNC SPM FOR CHASIS COMPONENT



5 AXIS MICRODRILLING SPM

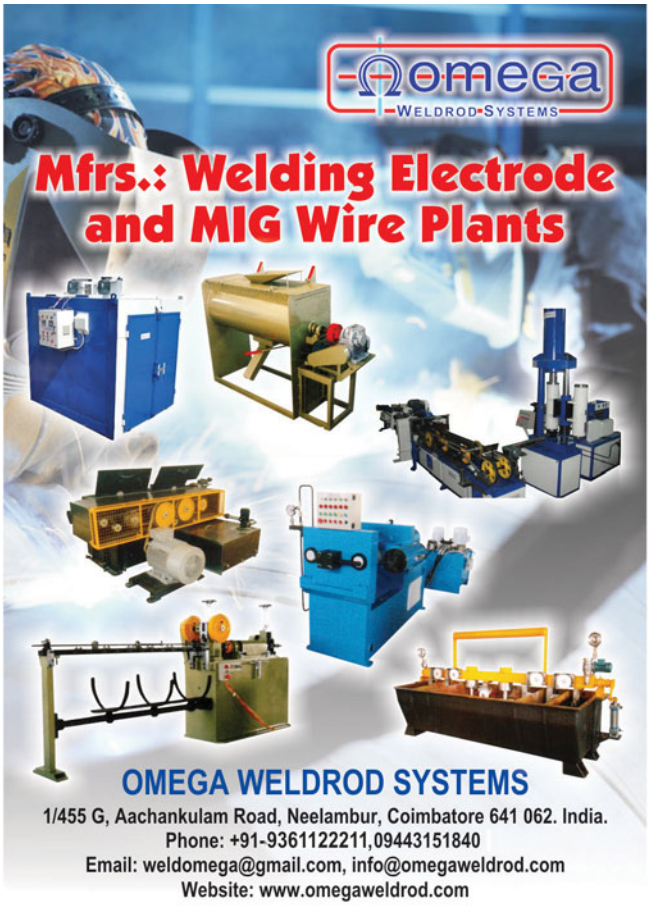
ADJUSTABLE MULTISPINDLE DRILLING & TAPPING MACHINE FOR LED LIGHTING COMPONENTS

OUR OTHER PRODUCTS

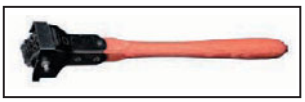
- Multispindle drilling machines.
- Multispindle tapping machines.
- CNC machines.
- CNC machines for Chasis components.
- Turning SPMs.
- Assembly SPMs.
- Fine Boring machines.
- SPMs For Defence Industry.
- Multispindle machines for long section material.
- STD. Spindle units and slide units.

Let Us Know Your Requirements For Right Solutions.

Reg. Office : 'Sneh' C - 11 Erandwane Society , 14/5, Erandwane, Pune 411 004. Tel. : (020) 25442913 M.9823134603
Email: patsontech@gmail.com / info@patsonmachines.in Website : www.patsonmachines.in
WORKS : Shop No.H-3, S. No. 77/1+2+3, Vishnu Malati Ind. Estate, Village Shivane, Pune 411 023.Tel. : (020) 25292830



COMPRESSION LOAD CELL



EPOCH Instruments & Controls Pvt Ltd offers a wide range of compression load cell.

Features:

- Epoch compression load cell is a high precision force sensor for stringent load measurement.
- The innovative design of this sensor offers high degree of accuracy towards force measuring techniques. A precision machined flexure with superior quality strain gauges is used as the load sensing element.
- The unique feature of this design brings high accuracy, full temperature compensation and high over Load Protection.
- EPOCH has compression load cell form 5 kg to 200 tonne.

About the company: EPOCH Instruments & Controls Pvt Ltd was established in 1985 by a team of professionals to manufacture load cells, dynamometer, pressure transducer, process controller & various kinds of custom built industrial weighing systems to meet the various requirements of process industries, cement industries, general weighing application etc.

Contact:

EPOCH Instruments & Controls Pvt Ltd, Bangalore
Tel: 080-23481364, 23283728 Mobile: 09035697225
Email sales@epochloadcell.com

One Stop Solution for
BEARING INDUCTION HEATERS

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& many more models...

FEATURES

- Robust industrial design
- Simple operations
- Covers wide range of bearings from bore size 15mm and above
- Microcontroller controlled electronics
- Environmentally Sound, Fault finding, self diagnostic function
- Ideal for industrial use maintenance and Production
- Fast, Easy, Reliable and Safe

NOT JUST FOR BEARINGS

Induction heater is ideally suited for shrink fitting of bearings (even with plastic cages) gears, pinions, couplings, pulleys, fly-wheels, sleeves and liners etc.

iNVENTUM
Engineering Company Pvt. Ltd.

Office: 201, Kuber Complex, Opp. Laxmi Indl. Estate,New Link Road, Andheri (West), Mumbai 400 053.Tel.: 91-22-2673 0499 / 590 Mobile: 09819802535

Email: sales@inventumindia.com | Website: www.inventumindia.com

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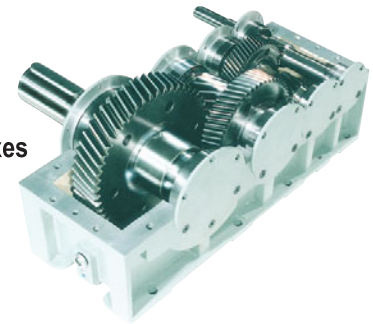
Manufacturing capacity- upto 250 tonnes 50m span

Double Girder, Single Girder, Goliath, Semi-Goliath Cranes for any use such as Steel Mill Duty Cranes, Power Plant Cranes, Paper Mill Cranes, General purpose Cranes etc.

Our cranes and hoists are the closest to European Cranes in terms of features, specifications, manufacturing technology & inspection techniques.

Electric Wire Rope Hoists

Gear boxes



Travelling Machinery

- We opt for a 100% - in - house Production of all key components.
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- All alloy steel Helical, Case Hardened Gears & Pinions designed with the help of KISSOFT softwares.
- Very high gearing life-silent running with all BENEFITS of HELICAL GEARING.
- Perfect BALANCING leads to equal load on both beam flanges.
- UNMATCHED PRICE-PERFORMANCE RATIO.-
- Our customer profile spans prestigious private corporates and government undertakings through the country. They include **INDIAN RAILWAYS, NTPC, BHEL, EIL, MECON, SAIL etc.**

REVA INDUSTRIES LIMITED

Unit I : Plot No.28, Sector-25, Faridabad - 121004, Haryana
Unit II : Plot No.164, Sector-24, Faridabad - 121005, Haryana
Unit III : Plot No. 799, Sector 69, IMT Faridabad-121004, Haryana
Phone: 0129 4185401 • Fax: 0129 4185414
E-mail: reva@revacranes.com • Web: www.revacranes.com

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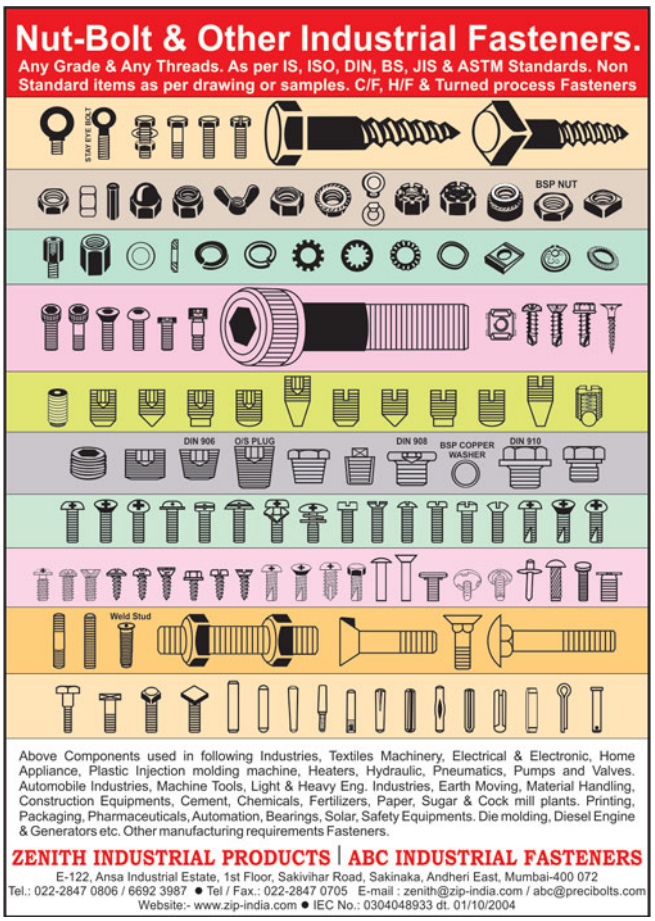
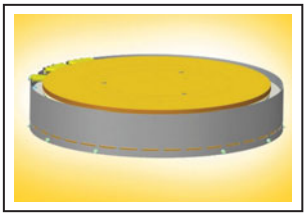


THERMAL CHUCKS



ERS electronic GmbH, Germany offers a wide range of thermal chucks.

Features:

- Industry's lowest soaking time; ultra low noise; fast transition times; PRIME Thermo Shield (PTS); reaching -10°C with NO chiller; highest flexibility with modular surface design.
- This is the 4th generation of thermal chucks from ERS, with a temperature ranging from -60 to 300°C.
- For test temperatures down to -10°C, no separate chiller is necessary, and for -40°C only a small chiller is needed (only 1/3 of the size of a normal ERS chiller)
- The PRIME Thermo Shield (PTS) is integrated into the chuck, leading to an estimated 2/3 reduction in soaking times compared to previous ERS models.

About the company: ERS electronic GmbH, is an innovation-based company in the market of thermal test solutions. It is engaged in maintaining consistent technological development in thermal management.

Contact:

ERS electronic GmbH, Germany
Tel: +49 (0)89 894132-0
Fax: +49 (0)89 8418766
Email: info@ers-gmbh.de

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CIN: U51503MH2001PTC132921

partnering
people & the planet

V4, Dec 2019

ROTARY JOINTS

Rotodyne Fluid Technic offers a wide range of rotary joints.

Features:

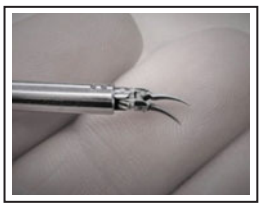
- These rotary joints are designed with journal type and specific seal designs, selected based on the operating conditions like rotating speed, operating pressure, nature of application etc.
- This design has several advantages over the contemporary face sealing designs – especially for high pressure low speed applications, like the possibility of having multiple ports which can be pressurised simultaneously, less susceptibility of fluid contamination, handling multiple fluids and positive sealing higher pressure capabilities etc.
- These joints are available with maximum pressure rating of 400 kg/cm2, speed up to 2000 rpm and flow capacities upto 400 lpm.

About the company: Bangalore-based Rotodyne Fluid Technic, manufactures Rotodyne range of low speed high torque hydraulic motors, rotary joints and rotary actuators.

Contact:

Rotodyne Fluid Technic / Far Hydraulics, Bangalore
Tel: 080-28396831 Mobile: 09448840717
Email: info@tornadofluidpower.com, marketing@tornadofluidpower.com

ROBOTIC PLATFORM, MICROSURGERY BASED



Medical Microinstruments, offers a robotic platform specifically designed for open microsurgery.

Features:

- The platform allows the surgeon to control two tiny articulated microinstruments that simplify reconstruction procedures after traumatic injuries as well as after tumor removal in soft tissue and bones.
- Equipped with the smallest articulated wrist having a 3 mm outer diameter and tips just 150 micron in width.
- The wrist is the key to performing robotic microsurgery in real clinical settings and allows easy manipulation of small sutures, from 9-0 to 12-0 in size.
- Robotic platform captures surgeon's hand movements and a scaled-down motion is imposed on the microinstruments.

About the company: Medical Microinstruments developes Microinstruments that expand the possibilities of surgical interventions. The company engages to develop key technical innovations having potential to enable an optimised use of technology in surgery.

Contact:

Medical Microinstruments-MMI, Calci (PISA), Italy
Tel: +39-050879692
Email: info@mmimicro.com

One Stop Solution for

Pharmaceutical, Bio-Pharmaceuticals, Cosmetics, Healthcare, Food, Beverage, Semiconductor, Dairy and other high purity Sanitary Processes Industries.

Our commitment to our customers is to provide the best possible service in terms of design, fabrication, product quality, delivery and traceability. We operate across a wide range of industries delivering a complete engineering service that incorporates:

ASME BPE tubes and fittings: Sanitary valves - butterfly valves, change over valves, diaphragm valves, nonreturn valves, floating valves, three-piece body sanitary ball valves, two-piece sanitary ball valves, flow control valves, plug valves, pressure relief valves and sampling valves • Tank equipment - level gauges, manhole covers, air relief valves, spray balls and tank sight glass • Filtration equipment - inline filters, 90° angle filters and screen gaskets • Sanitary centrifugal pumps • Tubes - sanitary stainless-steel tubes and ASME BPE tubes • Tube fittings - 90° and 45° elbow, equal tee, reducing tee, cross tee, concentric and eccentric reducers, inline sight glass • Sanitary unions - clamp TC unions, SMS unions, DIN unions, IDF unions, RJT unions and DS unions • Food-grade rubber hoses - hose materials include EPDM, NBR, PTFE, silicone and food-grade PVC • Gauges and instrumentation - Temperature Gauges, pressure and vacuum Gauges etc.

OUR IN HOUSE ELECTRO POLISHING FACILITIES FOR SS PIPES AND TUBES, TANKS, VESSELS, SS COMPONENTS ETC.

- Product and process equipment development
- Project design and management capabilities, technical training and support
- Hygienic stainless steel engineering and fabrications
- Stainless steel metal polishing
- Comprehensive CNC equipped machine shop
- Comprehensive stock of filters, valves, manways, tube and pipe fittings.

SS316 L and 304 tubes available in 6.1 mtrs long with inside and outside polished surface finish from SF1-SF3, SF4-SF6 Electropolish as per ASTM A 270 S2 Complaint

Sieco Vacuum and Hygienic Products Pvt Ltd

 # 125B, Bommasandra Industrial Area, Hosur Road, Bangalore - 560099, India.
Tel: +91-80-41220701 • Mobile: 924311 0681 • Fax: +91-80-41658997
• E-mail: siecohygienic@gmail.com

CROUZET

www.crouzet.com

OVERVIEW
PRODUCT LINES

AUTOMATION & CONTROL
MOTION
SWITCHES & POSITION SENSORS

ABOUT CROUZET

Since 1921, Crouzet has been committed to designing, manufacturing and supplying efficient components for automated systems to serve a wide range of application in the Aerospace & Defense market; in many industrial equipment markets, with a specific focus on applications such as Access control, Railway, Nuclear and Industrial valves.

Crouzet's product lines include Automation and control devices, Motion products, Switches and Position Sensors, Cockpit Controls and Electrical Protection products.

Crouzet has a heritage of close collaboration with customers in the development of adapted products of fully customized solutions.

Driven by innovation and customer satisfaction, our teams are focused on delivering the right products and services for the right application, always meeting, and often exceeding customers expectations.

Crouzet is your trusted partner of choice to face the challenges of today and tommorrow.

Crouzet is a company of innoVista Sensors ™.

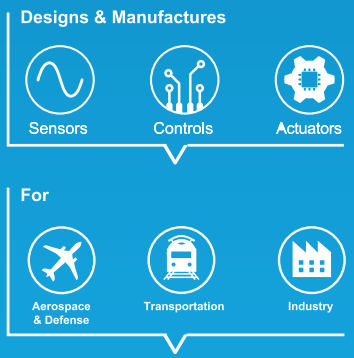
INNOVISTA SENSORS

Innovista Sensors™ is a worldwide industrial specialist of sensors, controllers and actuators for automatedsystems.

Through its company Crouzet, InnoVista Sensors™ Offers a wide range of reliable, efficient dedicated to the Aerospace & Defense, Transportation and industrial markets and segments.

Thanks to the recognized expertise of its teams and a strong innovation policy, InnoVista Sensors brings performance enhancing solutions to its customers worldwide.

TM InnoVista Sensors : your trusted partner of choice to face industrial challenges to today and tomorrow.



BRUSHLESS DC MOTOR WITH BUILT-IN DRIVE

All-in-one solution Ready-to-use brushless motor with integrated controller

40WATTS DIRECT DRIVE BRUSHLESS DC MOTOR WITH BUILT-IN ELECTRONIC CONTROL				
57MM SQUARE MOTOR		80140032	Connection	
	Supply voltage (V)	24VDC	Power earth	Black
	No-load speed (rpm)	2900	24V power supply	Brown
	No-load current (A)	0.2	Signal earth	Black
	Nominal speed (rpm)	2230	On/off input	Green
	Nominal current (A)	2.15	Direction input	Yellow
	Nominal Torque (Nm) Note: 1Nm = 10Kgcm 0.16	Speed setpoint	Orange	
	Speed control	0-10V (Optional PWM)	12points/rev encoder output	Brown
Built - In Holding Brake - 4096PPR Encoder / PLC Optional	Input impedance (K)	-		
	Frequency range (Hz)	150 to 1000	Encoder direction output	Red
	Weight (g)	800	Torque limiting setpoint	Blue
	Dimension (mm) Motor Length and Shaft dia X L	98 L Shaft : 8 X 25	Torque saturation output	Purple
	Type of output	PNP		

40WATTS BRUSHLESS DC GEARED MOTOR WITH BUILT-IN ELECTRONIC CONTROL						
Ø 62MM PLANETARY GEARED MOTOR	Ratios(I)	Speed (rpm)	Torque (N.m)	1 Stage	2 Stages	3 Stages
	7	311	0.9	80149616		
	46	48	5.4		X0230206	
	308	7	32			X0229816
	Supply voltage (V)			24 VDC	24 VDC	24 VDC
	Speed control			0-10V	0-10V	0-10V
Built - In Holding Brake - 4096PPR Encoder / PLC Optional	Efficiency (%)			90	80	70
	Weight (g)			1750	2150	2550
	Dimension (mm) Motor+gearbox length and Shaft dia X Length			144and 16 X 30	160 and 16 X 30	175 and 16 X 30

80watts Brushless DC geared motor with built-in electronic control						
Ø 81MM PLANETARY GEARED MOTOR	Ratios(I)	Speed (rpm)	Torque (N.m)	1 Stage	2 Stages	3 Stages
	5	627	1.1	80189704		
	27	120	5.2		80189705	
	139	23	23			80189706
	Supply voltage (V)			24 VDC	24 VDC	24 VDC
	Speed control			0-10V	0-10V	0-10V
Built - In Holding Brake - 4096PPR Encoder / PLC Optional	Efficiency (%)			80	70	60
	Weight (g)			3200	3900	4600
	Dimension (mm) Motor+gearbox length and Shaft dia X Length			182 and 19 X 40	203.9 and 19 X 40	226 and 19 X 40

AUTOMATION & CONTROL

Type	Part no	Inputs	Power supply	Out put
With Display	PROGRAM LOGIC CONTROLLER			
CD 12	88970041	8 Digital(of Which 4 are analouge)	24 V DC	4*8 A relays
	88970042	8 Digital(of Which 4 are analouge)	24 V DC	4 Solid state 0.5A (of hich 1i is PWM)
	88974043	8 Digital	100 V - 240 VAC	4*8 A relays
	88974044	8 Digital	24 VAC	4*8 A relays
	88970045	8 Digital(of Which 4 are analouge)	12 V DC	4*8 A relays

GSM COMMUNICATION PLC				
em4	Part no	Description	Inputs	Output
	88981123	First all-in-one nano -PLC with GSM Communication for control & Alert functions with mobile phoned Get alerted, receive data logs or Control your application by SMS	12 Configurable Digital , Analog inputs (inc.4-20mA, NTC 4 configurable digital input for encoder (20KHZ - 60KHZ)	10 Configurable PWM and relay Out Put

CONTROL RELAYS						
Regeneration	Type	Part No	Meas. Range	Sequence/Asymmetry	O utput (S)	Casing width (mm)
With 70% Regeneration	MWG	84873022	208-480V~-50/60HZ	Yes/No	1*5 A change over	17.5
	MWU	84873023				
	MWA	84873024		Yes/5-15%		
	MWUA	84873025				

SAFETY RELAY					
Image	Safety category	Safety contacts	Supply	Part number	Type
	3	3 NO + 1NC	24 V DC	85102031	KNA3-YS

MICROSWITCHES AND LIMIT SWITCHES

	MICROSWITCHES													LIMIT SWITCHES								
	Miniature						Subminiature			Sub-Subminiature				Heavy Duty			Miniature					
Series	PBX 8324	83139	83123	V3S 83169	83106 83154	V3/V3D 83160/260 83161/261	V4S 8318	83133	V4/V4D 83170/270	V5S 8320	83141	83228 83229	83151	8384	SP4522	SP3941 SP3969	8387 8388	83589	8380	83731	SP4863 SP4816	SP4813
Max Rating @ 250 Vac (A)	10A	6A	10A	8A	16A	25A	10A	6A	12A	4A	5A	5A	5A	10A	1A	1A	10A	8A	6A	10A	1A	1A
Low Level version																						
Sealing level	IP65 IP67	IP66 IP67	IP66 IP67 IP69	IP67 IP69			IP67 IP69			IP67 IP69			Gas tight Hermetic	IP66	Gas tight Hermetic	IP67	IP66 IP67 IP69	IP66 IP67 IP69	IP65	IP66 IP69	Gas tight Hermetic	Gas tight Hermetic
Double break	Zb*	Za*			Za*			Za*						Za*			Zb*		Za*			
Bistable (maintained action)																						
High temperature (> 125°C / 257°F)						200°C 392°F		150°C 302°F	150°C 302°F		150°C 302°F	140°C 284°F	250°C 482°F		250°C 482°F	200°C 392°F					250°C 482°F	250°C 482°F
Low temperature (< -40°C / -40°F)	-50°C -58°F					-60°C -76°F					-55°C -67°F	-55°C -67°F	-55°C -67°F		-55°C -67°F						-55°C -67°F	-55°C -67°F
Direct Opening Action																						

OUR QUALITY SYSTEM

Aerospace

AS/EN 9100
AS/EN 9102
NADCAP
EASA approved
(Part 21/G & Part 145)
FAA approved
(FAR 21 & FAR 145)

Nuclear

EDF certification
RCC-E

Automotive

ISO/TS 16949

Hazardous Locations

ISO/IEC80079-34
(ATEX/IECEx)

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www.innovistasensors.com

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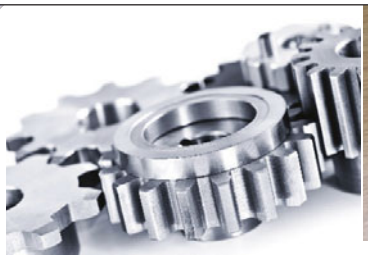
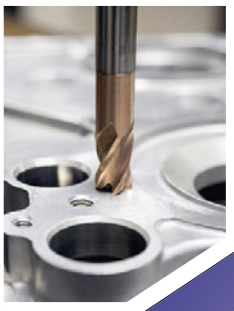
InnoVista Sensors India Pvt Ltd.
BNR Complex, Plot No. 92/1A, 1st Floor, H P Avenue Road,
Konappana Agarahara, Electronic City Phase 1, Bangalore - 560 100.
Tel. : +91 (80) 6762 4500/01 I india@crouzet.com

SMT





Surface Modification Technologies Pvt. Ltd.

Designers of Surface Engineering Solutions

We deliver surface enhancement solutions using Physical Vapor Deposition (PVD) coating processes customized to individual requirements. We have been catering to a wide spectrum of industries since 2004; offering both standard as well as tailor-made coating solutions to augment the performance of various cutting tools, dies, moulds as well as components used in engineering, pharmaceutical and aerospace industries. Our dazzling bouquet of glittering decorative coatings blend with and thereby complement the needs of various segments of decorative industries. State-of-art glittering colour coatings thus add a jewel to SMT's crown.

Through unmatched knowledge of processes and technologies involved, SMT has thus emerging as one of the key players in the Indian Surface Engineering Industry. Our in-house R&D centre is always passionate and up-beat about undertaking challenges and as a direct result we are able to meet the specific requirements of upcoming markets.

SMT has three Coating Centres, Two centres are at Mumbai & Pune (West Zone) and other at Bangaluru (South Zone) equipped with sophisticated and advance PVD coating machines.

Corporate office and R & D Centre
Unit 9, Emrald Premises,
Behind Modi Hyundai, Sativali Road,
Vasai Road – (East), Dist. Palghar,
Maharashtra - 401208.

+91 9152776684 +91 9819781842 +91 9820611771

enquiry@smt.co.in umeshm@smt.co.in jimmyc@smt.co.in

Coating centres:
SMT Coating centre (South Zone)
#384 A / 107 / 2, Opposite Isha cashews,
gerupaliya village, kumbalgodu Mysore road,
Bangalore-560074.

+91 9820611771

jimmyc@smt.co.in

Coating Centres:
SMT Coating Centre (West Zone)
Unit 10 & 11, Emrald Premises, Behind Modi Hyundai,
Sativali Road, Vasai Road – (East), Dist. Palghar,
Maharashtra - 401208.

+91 9152776684
+91 9819781842

umeshm@smt.co.in

Coating Centres:
SMT Coating Centres (West Zone)
Plot No. 29/1, D2 Block,MIDC,
Chinchwad,Pune 411019.

+91 9152776684
+91 9819781842

umeshm@smt.co.in

Manufacturing Centres:
SMT [unit-II] A
106, Ajahara Industrial Estate, Near Sharp Industries,
Waliv Phata, Vasai – (East), Dist. Palghar,
Maharashtra - 401208.

+91 9820611771

jimmyc@smt.co.in

Manufacturing Centres:
SMT [unit-II] B
Survey No.66, Plot No.23, Sunita Engineering works,
Waliv, Vasai – (East), Dist. Palghar,
Maharashtra - 401208.

+91 9820611771

jimmyc@smt.co.in

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Ashveera Pneumatic Services

1473, Jawaharlal Nehru Road, Golden Industrial Estate, Gerugambakkam, Chennai - 600 122. Ph: 044-2382 0173 LL : 996 222 7040 / 996 222 9040
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SERVO AMPLIFIERS, AKD2G

Kollmorgen has launched its new generation of AKD Servo Amplifiers.

Features:

- The specialist provider of servo drive technology and motion control unveiled the new second-generation AKD servo amplifier concept – a concept that has plenty to offer in terms of safety.
- When safety technology kicks in faster and there are more functions available, man and machine together can work even more closely. The new range of products is planned to launch in 2017.
- From a safety perspective, AKD2G amplifier will offer important safety functions in the form of Safe Brake Control (SBC) and Safe Brake Test (SBT), which offers an efficient and cost-effective way of making vertical axes safe without the need for protective fences.

About the company: Innovators consistently rate Kollmorgen as one of their best motion systems manufacturing partners. Kollmorgen is one of the few companies in the world whom actually design and manufacture all of these products.

Contact:
Kollmorgen India, Mumbai
Tel: 022-42270300
Email: snehal.ambre@kollmorgen.com

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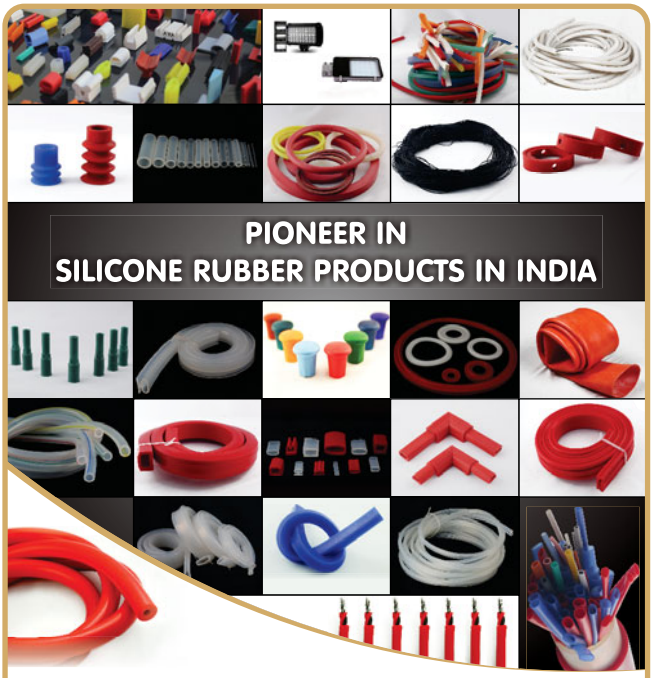

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AIR GUN

Vaibhavi Int. Trading House offers a new air gun with the purpose to improve the working environment called Pro One developed by Silvent.

Features:

- Pro One is an ergonomic air gun that generates a low sound level and an efficient blowing force; to minimise the risk of injuries even more.
- Air guns with extended air gun pipes are usually used to reach narrow spaces and to have the possibility to move away from the blowing area; the operators increased safety distance minimizes the risk of body, eye and hearing injuries.
- In some cases, it can be beneficial to get a longer distance to the blowing area.
- The extended air gun pipe is also perfect if you need to blow inside a machine and therefore need a longer reach; Pro One-300 is also featured with an ergonomic handle, that minimises the risk of repetitive strain injuries.

About the company: Vaibhavi International Trading House (VITH) was established in 2005. Today it is one stop shop for equipments and machines of International Standards from overseas suppliers.

Contact:
Vaibhavi Int. Trading House, Thane, Mumbai
Tel: 022-25892568 Email: math.nagaraj@vintrade.net

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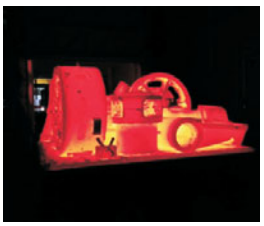

Rapid Quench Heat Treatment Furnaces

- Custom designed Heat Treatment Furnaces.
- Autocycle Control, 8 Step PID Profile, 10 Profile Memory.
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- Recuperator, Auto Door Clamping, Ceramic Modular Lining, 100kg-100MT capacity.
- 150+ Installations in India & Abroad.

Mould & Core Drying Systems

- Flaskless, Flask, Cement Sand, No Bake Moulds quickly uniformly dried.
- Online, Tunnel, Portable custom designed models.
- Gas/Oil/Electrical Heating.
- No Bake, Co_2 Sand, Shell cores drying after Painting.
- Slat Conveyor-Tunnel, Trolley-Tunnel, Overhead Pallet.
- Automated systems (PLC controlled)

Ladle Preheating Stations

- Ladle Preheating systems are custom designed and manufactured by Dhanaprakash.
- More than 250 installation in India and Abroad.
- Any Ladle, Any Fuel, Any Position, Any Metal.
- Quick, Smokeless, Energy Efficient.
- Recuperators for Heat Recovery.
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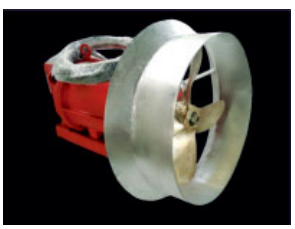
Submersible Agitator is a key equipment for Quenchant Tank Agitation in Heat Treatment process. The Airless agitation with 0.6 m/sec. velocity resulting in 800° C/min hot job cooling rate achieves the required properties.



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HYDRAULIC CRIMPERS

UNIFLEX Hydraulik offers a wide range of hydraulic crimpers.

Features:

- Innovative HM crimpers from UNIFLEX are setting new standards.
- The machine offers an opening stroke of more than 180 mm and an opening diameter of 580 mm (without dies). It can thus be used to crimp industrial hoses up to 12" with ANSI flanges and pipe fittings up to 16" without having to remove the dies
- The fixed 6-o'clock die and the 250 mm long bottom die make workpiece positioning easy. Apart from hydraulic hoses, the machine can be used to join reinforcing steel, steel cables, ropes and insulators with forces up to 6000 kN. The HM 665 is controlled through the tried and tested Control C.2, a bespoke control unit of UNIFLEX.

About the company: UNIFLEX Hydraulik GmbH based in Karben near Frankfurt, Germany, has been developing, producing and marketing innovative systems for the production and machining of hoses.

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UNIFLEX Hydraulik GmbH, Germany
Tel: +49 (0) 6039/9171-270
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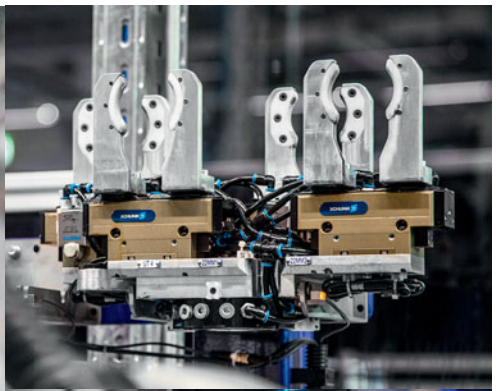

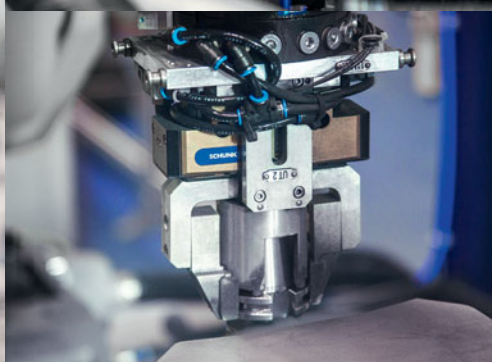

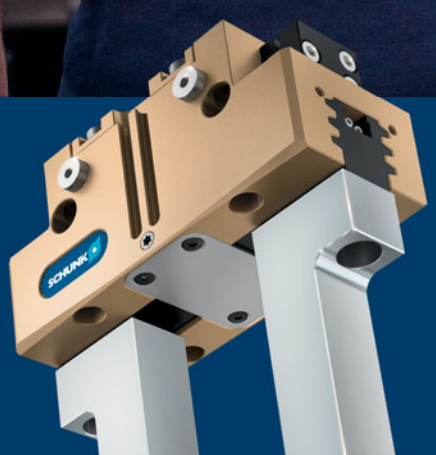

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Tamara Laslo, Production Forewoman in the Field of Toolholding, SCHUNK GmbH & Co. KG, Lauffen a. N.

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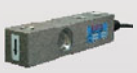
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SWITCHES FOR ETHERNET NETWORKS

Lapp offers a new line of switches for ethernet networks under the name Etherline® Access.

Features:

- Reconfiguration time, which is the period until communication is restored following an interruption, is only 20 milliseconds with 250 active components in the network; besides this, the switches are fully equipped with cutting-edge diagnostic and redundancy features.
- The combination of an industry-calibre switch and industrial branded cable such as ETHERLINE® provides maximum performance in terms of transmission quality and reliability.
- The customer does not need to purchase individual components from different suppliers, on the contrary, they can procure a complete communication solution from a single source for the highest demands in industrial applications.

About the company: Since 1957, the Lapp Group has been producing innovative cables, industrial connectors, accessories, and engineered solutions as a worldwide market leader.

Contact:
Lapp Group India, Bengaluru
Tel: 080-47405000 Email: info@lappindia.com

WATER COOLED INDOOR CHILLERS

Stulz, a global leading provider of energy efficient temperature and precision air conditioning technology, has announced the availability of its innovative CyberCool WaterTec series of water cooled indoor chillers.

Features:

- Comprising five different models, with a cooling capacity ranging from 350-1400kW, CyberCool WaterTec is designed for use in a wide variety of applications including data centres, manufacturing and production locations, as well as commercial environments.
- Built using state-of-the-art energy optimised components, extensive equipment options and a wide temperature range at the chilled water outlet (1-19°C), these cutting edge indoor chillers also utilise oil free magnetic Turbocor compressor technology.
- This contributes to unrivalled low noise operation, ease of maintenance and an energy efficient partial load mode.
- Control is at the heart of CyberCool WaterTec and it uses the latest hardware to offer an enhanced experience.
- An integrated touchscreen allows all components and equipment options to be precisely controlled, while intelligent partial load, parallel operation, pump and valve control can be precisely adapted to respective customer requirements.
- In addition, a simple connection to all standard Building Management Systems (BMS)) is possible.

About the company: Since its foundation in 1947, STULZ has evolved into one of the world's leading suppliers of air conditioning technology. With the manufacture of precision air conditioning units and chillers, the sale of air conditioning and humidifying systems, and service and facility management, this division of the STULZ Group achieved sales of around Euro 450 million in 2016. The company also cooperates with sales and service partners in over 140 other countries, and therefore boasts an international network of air conditioning specialists. STULZ produced precision air-conditioning systems with a modular design – a groundbreaking innovation, which established the company's international reputation as a specialist for the air conditioning of data centers and mobile phone stations. Customer focus, entrepreneurial spirit and technological expertise – these have formed the basis for the successful growth of the STULZ Group.

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3D PRINTING IN THE FIFTH MACHINE GENERATION

MATSUURA Machinery GmbH offers 3D printing machine Lumex Avance-25.

Features:

- With the Lumex Avance-25, Matsuura is introducing a hybrid system for additive production in its fifth generation.
- According to Matsuura Machinery, the completely re-engineered hybrid metal 3D printer features an enhanced powder distribution speed along with optimized control and sintering capabilities to shorten the sintering time.
- The optional, fully automatic powder supply, collection and reuse system enables automatic metal powder supply and collection without any operator contact with the powder; the capabilities of the CAM software have also been also upgraded.

About the company: The Matsuura factory was first founded in Fukui city. Production and distribution of lathes began. The company is convinced that the machine has become easier to use and that this will contribute to the expansion of the metal 3D printer market.

Contact:
Merle Ganteführer, MATSUURA Machinery GmbH
Tel: +49 6122 7803-34
Email: gantefuehrer@matsuura.de

GRINDING WHEEL DRESSER

PFERD offers a wide range of grinding wheel dresser.

Features:

- It is ideal accessory for PFERD bench grinding wheels if the wheel is clogged or its shape has changed.
- The dressing roller consists of hardened steel discs with U-shaped teeth. Wave washers between the tooth discs make the tooth roller stable and robust.
- For high peripheral speeds, the dresser has a spindle with an integrated grease fitting to guarantee a long tool life.

About the company: PFERD engages in development, production and support and distribution of tool solutions on jobs for surfaces and material cutting. It operates as an independent company geared towards offering the user maximum benefit and optimum cost-effectiveness.

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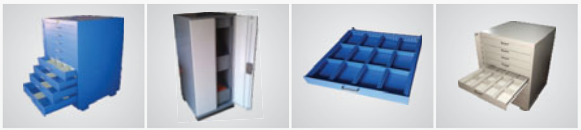

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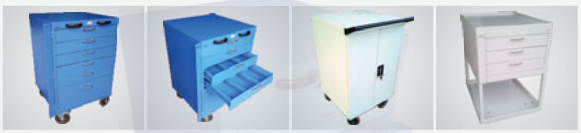

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F) DISPLAY : Four Rows 7 segment Display For AC V,A,W,Hz,pF,WA
DC Volt Meter 0 - 199.9V, AMMETER 0 - 1.999A
H) AUX. SUPPLY : 230V ± 20%

DC REGULATED POWER SUPPLY

OUTPUT VOLTAGE	OUTPUT CURRENT
0 - 30V	1A 2A 5A 10A 20A 30A
0 - 60V	1A 2A 5A 10A 20A
0 - 120V	1A 2A 5A 10A
0 - 300V	1A 2A 5A

DUAL OUTPUT DC REGULATED POWER SUPPLY

0 - ± 30V	1A 2A 5A 10A 20A
0 - ± 60V	1A 2A 5A 10A
0 - ± 120V	1A 2A 5A
0 - ± 300V	1A 2A

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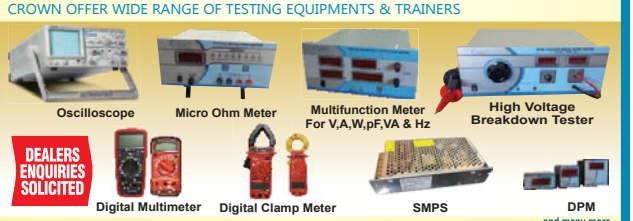

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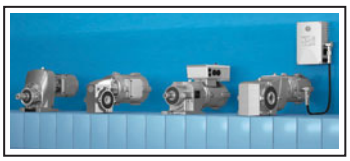
HIGHLY EFFICIENT IE4 SMOOTH-SURFACE MOTORS



NORD Drivesystems has expanded its range of high-efficiency smooth-surface motors.

Features:

- The new permanent-magnet synchronous motors without cooling fins achieve level IE4/super premium efficiency. This can greatly benefit the food, beverage, and pharmaceutical industries, and other hygienically demanding applications
- The efficient smooth-surface motors are suitable for use in dry areas as well as in applications requiring frequent cleaning.
- The IE4 or Super Premium Efficiency synchronous motors operate significantly more efficiently than induction motors, specifically in the partial load range. This results in substantially lower cost for energy consumption and lower TCO.

About the company: Nord Drivesystems develops, produces and sells drive technologies with around 3.400 employees, and is one of the international leaders in the industry. In addition to standard drives, NORD supplies application-specific concepts and solutions, even for special applications, for example with energy-saving drives or explosion-protected systems. Gross sales amounted to approx. EUR 540 mn in the 2015 business year.

Contact:
NORD Drivesystems Pvt Ltd, Pune
Mobile: 09765490890 Email: marketing.in@nord.com

HYDRANUT INSERT FASTENERS

Avlock International India Pvt Ltd offers a wide range of blind rivet nut fasteners.

Features:

- These are available in various types & different materials. They are widely used in automotive, electrical, electronic & all sheet metal industry.
- These access needed from only one side of the application, for high speed assembly. It can be used with hand tools, pneumatic tools and fully automated machines.
- This is high torque two turns ratio. It is high corrosion resistance, high shear, and ultimate tensile & push-out strength.

About the company: Avlock International is the world's leading manufacturer in specialized fasteners and installation equipments. They are an Indo-South African joint venture company for manufacturing and supply of fasteners and installation equipments.

Contact:
Avlock International India Pvt Ltd, Thane
Tel: 022-25872300 Email: info@avlock.co.in

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Business Development

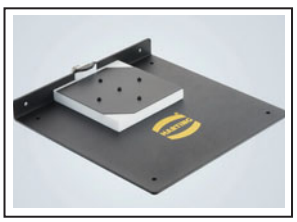
Carlmann is a marketing organization involved in the business development of companies in the field of steel raw materials and engineering. The company has been performing to its potential and is being appreciated by all business partners.

The company is very keen to expand its activities in view of its developed infrastructure and market response. Keeping this in view we now look forward to representing small/medium quality manufacturers on exclusive basis in the field of steel raw materials / Ferro alloys engineering and chemical items.

Companies interested in having such a marketing arrangement may contact:

Mr. T. P. Gopal - Director - (M) : 9331050577
Mr. Harish Gopal - Director - (M) : 858280497
Email: marketing@carlmann.in, harish@carlmann.in

UHF RFID ANTENNA, HA-VIS RF-ANT- WR24



Harting India Pvt Ltd offers UHF RFID antenna, HA-VIS RF-ANT- WR24.

Features:

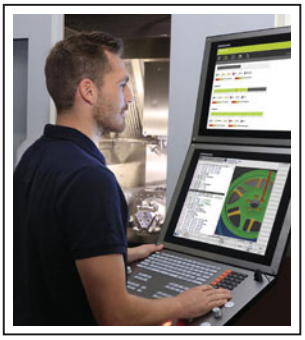
- This antenna range is for creating gates for container tracking and identifying platforms where the antenna is installed directly under the train. The antenna is also suitable for applications in conditions of extreme temperature
- The WR24-i is ideal for Industrial use; the minimalistic design and N connector also make it suitable for special gate applications such as train recognition on the railway track
- Made of stainless steel, the WR24-r is ideal where a mechanically robust solution is a must; design comes without a connector on the antenna.
- The WR24-t is used for implementing UHF applications in environments with special temperature range requirements; this antenna can even operate at +150 ° Celsius.

About the company: Harting's speciality is high-performance connection technology. The range of products and solutions comprises connectors, device connection technology and network components.

Contact:

Harting India Pvt Ltd, Chennai
Tel: 044-43560415 Email: abhishek.bimal@harting.com

CONTROL WITH TOUCH SCREEN AND GESTURE



Heidenhain GmbH offers control with touch screen and gesture.

Features:

- With TNC 640 and TNC 620, Heidenhain will be highlighting the latest generation of touch screen controls at EMO Hannover 2017; these combine the typical advantages of the company's field-proven controls with intuitive gesture control familiar from smartphones or tablet PCs
- For each working step, the exhibitors explain, the context-sensitive user interface displays exactly those elements currently needed by the operator; this makes the new generation of Heidenhain TNC controls with touch screen even easier to use, reliable in operation, and ideally suited for future requirements; the TNC user is said to benefit from work simplification, time savings, and greater production efficiency
- Two live demonstrations at the booth will show what the controls can achieve in practice; a milling machine with a TNC 640 control using the Dynamic Efficiency and Dynamic Precision packages of functions will reportedly manufacture a salt and pepper shaker in a short time and with contours and surfaces so fine that no rework is needed
- Using a turning machine with a CNC Pilot 640, visitors can experience how quickly and easily they can create an NC program using Turn Plus and then implement the program in a machining process; all the user has to do is specify the workpiece blank along with the finished part contour and select the material and clamping devices.

About the company: Dr Johannes Heidenhain GmbH develops and manufactures linear and angle encoders, rotary encoders, digital readouts, and numerical controls for demanding positioning tasks. Heidenhain products are used primarily in high-precision machine tools as well as in plants for the production and processing of electronic components. With our extensive experience and know-how in the development and manufacture of measuring devices and numerical controls, they create the groundwork for the automation of tomorrow's plants and production machines. These include the measuring and test equipment developed and built for many of the world's standards laboratories and the angular encoders for various telescopes and satellite receiving antennas. The products in the standard HEIDENHAIN product program naturally profit from the knowledge gained in such projects.

Contact:

Frank Muthmann, Dr Johannes Heidenhain GmbH
Tel: +49 8669 31-2188
Email: muthmann@heidenhain.de

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PUMPS FOR WATERJET CUTTING

KMT GmbH – KMT Waterjet Systems is launching the new Streamline Pro-III model series Pumps for Waterjet Cutting.

Features:

- KMT has achieved this by significant improvements in the pressure intensifier – especially the new SUPRAlife high-pressure seal, for which the manufacturer specifies a guaranteed service life of 500 hours.
- With the 93 kW pump (125 hp) from the Pro-III model series, KMT can now offer an extremely efficient combination of motor power and water pressure, allowing the fastest cutting speeds in the industry.
- Its offers the latest generation of its successful PRO pump range for waterjet cutting at up to 6200 bar.
- The new high-pressure pump allows significantly longer running times – thereby also extending the maintenance intervals.

About the company: KMT Waterjet, have served a pivotal role as true pioneers in the manufacturing industry by developing leading designs of waterjet intensifier pumps and precision cutting heads.

Contact:

KMT GmbH – KMT Waterjet Systems, Germany
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V	V	V	P	R	O	B	L	E	M	N	M	L	H	O
I	E	H	H	E	T	H	D	R	Y	J	A	W	O	T
H	R	T	G	U	S	H	U	T	D	O	W	N	W	S
G	H	A	Z	A	P	S	H	E	A	Y	L	O	S	P
E	E	K	L	D	S	U	A	A	K	P	H	F	B	O
H	A	L	N	U	T	L	D	T	D	Q	D	I	W	T
T	T	U	K	Q	U	A	E	I	A	S	U	S	G	D
F	I	S	F	A	V	M	L	A	D	B	N	Q	C	F
Y	N	T	H	C	I	H	N	G	K	N	V	Z	Q	Y
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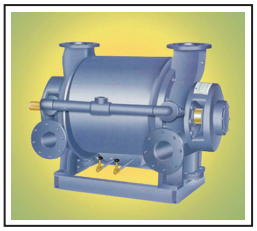
LIQUID RING VACUUM PUMPS/COMPRESSORS



Vacunair Engineering Co. Pvt. Ltd offers liquid ring vacuum pumps/ compressors.

Features:

- There is only one rotating part - a balanced rotor running with close clearances without any metallic contact with other parts; no lubrication is required and air or gas handled is oil free; pump can handle hot and saturated vapours; air is compressed by rotating water ring radially and outlet parts are also radial.
- The pump can comfortably handle dust, fibers and foreign matter with seal water; it can handle more seal water and hence for many of the applications water receiver is not required; it has cylindrical control plates having ample area for inlet/outlet port fitted with close clearances to the rotor; unloader valves are provided to remove any foreign solid particles like any process fibres/pulp, sand , silt, ash; low power and water consumption; it gives non-pulsating vacuum
- Control cone clearance are not effected by small variation in axial length/axial position of the rotor; ball/roller bearings on both sides are floating and have small axial movement; control cone port angle selected on basis of specific operating condition which reduce over compression and power.

About the company: Established in 1965, Vacunair Engineering Co Pvt Ltd is a manufacturer of entire range of vacuum technology, air handling engineering, combustion technology, industrial drying and process heating machines.

Contact:

Vacunair Engineering Co Pvt Lt, Ahmedabad
Tel: 079-22910771
Fax: 079-22910770 Email: info@vacunair.com

GROUND BALL SCREWS

M M Huzeifa offers a wide range of ground ball screws.

Features:

- These screws are made through grinding process. On ground screws journal machining is performed prior to thread grinding which ensures precise concentricity with the ball thread.
- These products advantages are zero backlash, precision accuracy from C0 to C7. Low noise available in 9 mtrs in single length.

About the company: M M Huzeifa was established in 1973 in Mumbai. Today, the company has made a name for itself in the list of top suppliers of ball & roller bearings, ball screws/linear motion guideways in India.

Contact:

M M Huzeifa, Mumbai
Tel: 022-23423272, 23401096
Mobile: 09322657836, 09867391096
Email: sales@mmhuzeifa.com

THERMIC FLUID HEATERS

Aero Therm Systems Pvt Ltd offers thermic fluid heater is a three pass oil/ gas fired heater.

Features:

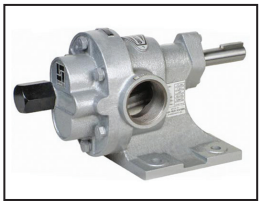
- Coil from seamless astma 106 GR-B pipes; independent drive for fuel pump 1440 rpm; no scale formation; available with custom built units for higher temperature and heat output ratings fitted with fully automatic oil/gas burners
- Easy and economical operation; outside purview of IBR; circulating pump motor interlock; low level in expansion tank; low fuel oil temperature.
- Two pressure switch for no flow/low flow; high stack temperature; high thermic fluid temperature; flame monitor by photocell (LDR).

About the company: Established in 1964, Aero Therm Systems Pvt Ltd started as a manufacturer of air handling equipments like blower, axial flow fan and oil firing equipments like burner, oil pre heater, filter etc. The company is also engaged in design and manufacture of boilers, thermic fluid heaters, dryers, ovens, furnaces, hot air generators, hot water generators and allied heating systems.

Contact:

Aero Therm Systems Pvt Ltd, Ahmedabad
Tel: 079-25890158 Fax: 079-25834987
Email: contact@aerothermsystems.com

ROTARY GEAR PUMPS, TYPE FT



Fluid Tech Systems offers wide range of rotary gear pumps.

Features:

- Special features include simple and compact design, low noise, and high efficiency, easy maintenance, reliability and low cost.
- Type FT rotary gear pumps are made of body with graded cast iron, lapped finished gear pair and hardened and ground shafts provided with sintered bushes.
- These pumps operate up to maximum pressure of 10 kg/cm^2 with 2.5 LPM to 500 LPM flow capacity; the suction and delivery connections are available in ¼", ½", ¾", 1", 1¼", 1½", 2", 2½", and 3" size.
- These are highly suitable for pumping and transfer of corrosive chemicals, acid, dyes, resins, pigments, printing inks and various other liquids up to viscosity of 10,000 SSU and temperature up to 200°C.

About the company: Fluid Tech Systems commenced business in 1993. It has various types of gear pumps under the brand name of "Rotofluid" considering the common requirement of gear pumps for various industries.

Contact:

Fluid Tech Systems, Ahmedabad
Tel: 079-22900100 Mobile: 09879057200
Email: info@rotofluidpumps.com, mail@rotofluidpumps.com

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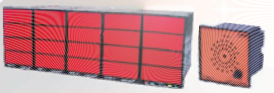

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Features:

- This can accommodate widths up to 2000 mm and lengths over 25 mtr.
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- These are used for conveying of products, parts, components and assemblies in heating, washing, packing processes under hygienic conditions and various other efficient methods of conveying.

About the company: For over 80 years, the Wiperdrive Group is engaged in the business of material handling systems, power transmission products, aviation ground support equipment, storage and racking solution, high-end technology products and project management. The company has a complete team of specialised engineers from hydraulics, pneumatic, electrical and electronics sector with 21 liaison offices in India.

Contact:

Wiperdrive Engineering, Mumbai
Tel: 022-22844307, 22871995
Fax: 022-22873597
Email: info@wiperdrive.com

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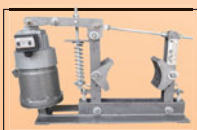
CRANE CONTROL EQUIPMENTS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Electro Hydraulic Thrustor

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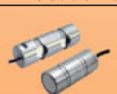
Crane Automization

Wire Rope Load Cell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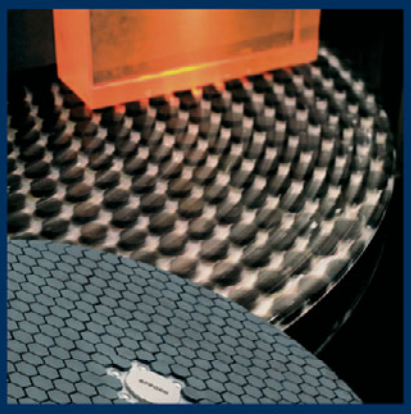

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St. Joseph Engineering Works offers a wide range of heat sealing machine.

Features:

- Easy location of plastic container underneath the heating pad; effortless compression spring pressing device/lever during the heating and sealing operation; easily operated sealing pad, it does not require any cumbersome adjustments for different sizes of plastic containers.
- The heating pad can be easily altered to suit size of plastic containers; thermos-tat to adjust according to the thickness of plastic plug/diaphragm; maintenance is very simple.
- The operation of the machine is simple as it does not require special skills; on keeping the plastic container on the base plate/platform, the container along with the plug/diaphragm is pressed against the heating pad by the action of compression spring lever/handle.
- Any heat transfer paper i.e. butter paper/cellophone paper/teflon cloth is first placed on the plastic plug/ diaphragm to ensure even heat-sealing of the same.

About the company: St. Joseph Engineering Works established in the year 1964, is an exporter, supplier and manufacturer of automatic oil filling machines, packaging machinery, semi automatic filling machines, etc.

Contact:

St Joseph Engineering Works, Mumbai
Tel: 022-24932653 Mobile: 09819849926
Email: sam_sje@yahoo.com, philiprebeiro@yahoo.co.in

PIV GEAR BOX

Britex Industries offers a wide range of PIV gear box.

Features:

- It has been manufacturing PIV (positive infinite variable) gearboxes for variable speed applications for the past forty years.
- These gearboxes have today replaced German make PIVs not only in India but also in countries such as Australia, South Africa and the Middle East.
- These also provide spares such as PIV chains, cones, shoe brackets, etc., along with torque limiters for safety purposes.

About the company: Britex Industries in 1958 for manufacturing machine tools accessories such as PIV Gearbox, precious machine tools in 1965 for manufacturing a broader, more speciliased spectrum spares such as whole range of couplings pulleys, sprockets, reduction gearbox etc. It also undertakes repairs and servicing of PIV gearboxes of any make.

Contact:

Britex Industries
Tel: 022-22844307, 22871995 Fax: 022-22873597
Email:info@wiperdrive.com

MAGNETIC CORE DRILLING MACHINE

Daksha International offers a magnetic core drilling machine manufactured by BDS Maschinen GmbH.

Features:

- Model MAB 855 offers core drilling performance up to Ø75 mm and has a robust, four-stage gear
- Motor output – 1700 Watt; voltage – 230 V AC, 50-60 Hz; stroke – 255 mm; magnet size – 110 x 220 x 54 mm; weight – 25 kg
- Industrial arbor – MK 3, 19 mm Weldon (¾"), MK 3, 32 mm Weldon (1 ¼"); Morse taper – MK 3
- Speed range 1 to 4 – 110 min-1, 175 min-1, 245 min-1 and 385 min-1; and permanent internal lubrication.

About the company: Daksha International was established in 2001. The company is a dealer of core cutters, core cutting machines and materials handling items. It is also a distributor for polyester slings capacity 1 ton to 300 tons for Damar, magnetic drilling machines broach cutters/annular cutters, blower sanders, etc.

Contact:

Daksha International, Mumbai
Tel: 022-23452244, 23444092
Email: cordialm@gmail.com

BALL TRANSFER UNITS

HVD Distributors offers ball transfer units manufactured by Alwayse Engineering, a UK-based company.

Features:

- These have become an integral part of the material handling industry. Alwayse ball transfer units are used in industries throughout the world.
- There are many possible applications for Alwayse ball transfer units. Loads need to be moved smoothly, precisely and with minimum effort.
- Some typical applications include cargo and baggage handling, assembly lines, as a castor, machine loading, sliding door systems, machine tables, etc.

About the company: HVD Distributors Pvt Ltd offers ball transfer units manufactured by Alwayse Engineering, a UK-based company established in 1939, and credited as the originator of this product. They cater to the domestic as well international market, in particular to the applications of turntables, robotics, man-lifts, material handling M/N's, cranes and excavators, machine tools, oil and gas and general engineering.

Contact:

HVD Distributors Pvt Ltd, Mumbai
Tel: 022-66655000, 23444236/37
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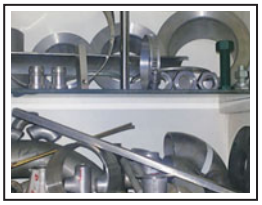
Sparr Electronics Ltd.
414A, 7th Main Rd, 1st Block, HRBR Layout, Banaswadi, Bengaluru, Karnataka 560043, INDIA
Phone: +91-80-41278033, Email: sales@sparrl.com, Website: www.sparrl.com

STAINLESS STEEL MATERIALS, GRADE 321



Pooja Steel & Alloys is offering stainless steel materials, 321 grade, in various shapes such as strips, sheets, pipes, tubes, etc.

Features:

- Type 321 is similar to SS 304, however, it contains a Titanium addition of at least five times the carbon content, this addition is made to reduce or eliminate chromium carbide precipitation – resulting from welding or exposure to high temperatures.
- Maximum stabilisation is accomplished by annealing between 1750°C and 1850°C; mainly used in aircraft exhaust stacks and manifolds, chemical processing equipment, welded equipment, jet engine parts, petrochemical and other fertilizer industries.
- Can be used for exhaust systems where operating temperatures are higher than 800°F and where corrosive conditions are not too serve, also because of its resistance to scaling and vibration fatigue.

About the company: Pooja Steel & Alloys is a dealer and importer of industrial raw materials, with an understanding through various mass media of regular requirements in different specifications and sizes. .

Contact:

Pooja Steel & Alloys, Mumbai
Tel: 022-23872562 Email: pseco93@gmail.com

PVC CHAINS

Continental Commercial Company designs, manufactures and offers PVC chains.

Features:

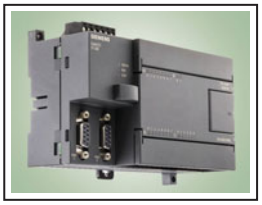
- These are made from UV protected PVC; plastic chains in solid 7 mm thickness material are used for crowd control, displays, gardens, and numerous non-load bearing uses.
- These PVC chains are available in a bag of 100 mtr length of the chain, in various colours; plastic chains in solid 4mm thickness material are used for toys, pets, displays, gardens, and numerous non-load bearing uses.
- These PVC chains are available in a bag of 100 mtr length of the chain, in various colours.

About the company: Established in the year 1977, Continental Commercial Company is a manufacturer, supplier, retailer, wholesaler and exporter of varied types of machine lamps, coolant pipes, collets and other industrial products. Equipped with advanced machines and tools, the company's manufacturing unit has capacity to meet the bulk requirements of customers, backed by a dedicated workforce.

Contact:

Continental Commercial Co, Mumbai
Tel: 022-23433808, 23400875 Mobile: 09820232852
Email: conticomco@vsnl.net

PROGRAMMABLE CONTROLLERS



Rechner Automation Systems Pvt Ltd offers a wide range of programmable controllers sourced from global manufacturers.

Features:

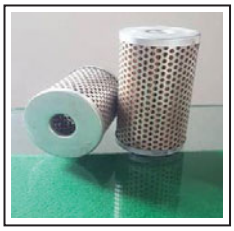
- It provides various ranges of programmable controllers to suit individual requirement and specifications of the plant, including: high range PLCs, mid range module PLCs, micro PLCs, logic modules, soft PLCs, motion controllers, failsafe PLCs, and redundant PLCs.
- These range includes: Siemens – Simatic S7-200, Simatic S7-300, Simatic S7-400 and WinAC; Allen Bradley – Pico Controllers, Micrologix, SLC 500 system and PLC 5 system; GE FANUC – Versamax Series 90-30, Series 90-70, RXR3i PacSystem and RX7i PacSystem; Schneider – Modicon M340, Modicon Premium and Modicon Quantum; and ABB – AC 500, AC 300, S 500 and AC31.

About the company: Rechner Automation Systems Pvt Ltd sets standards with its innovative methodologies in control and instrumentation solutions. The company has clearly steered miles ahead in the field of industrial automation, setting standards, providing total automation solutions based on the needs of the industry trends at the right time and is one of the leading system integrators.

Contact:

Rechner Automation Systems Pvt Ltd, Mumbai
Tel: 022-24057880, 24054012 Email: rechner@vsnl.in

POWER STEERING OIL FILTER



Clair Filter Systems offers a wide range of power steering oil filter.

Features:

- These correctly outlined oil filters helps in greasing up moving motor parts.
- Oil filters are accessible with wellbeing valves, which sidestep over-prohibitive stream and keeps the motor from being oil starved and increment motor life
- These power guiding oil filters in fluctuated determinations at pocket amicable costs in the business sectors.
- Easy to install; easily operate; high work capacity.

About the company: Clair Filter Systems is a sole proprietary firm, established in the year 2004, which is engaged in the manufacturing and supplying of a wide range of oil filters, automobile air filters, and fuel filters.

Contact:

Clair Filter Systems, Pune
Tel: 020-27672525
Mobile: 09881620899, 07745090899
Email: clairfilter@gmail.com

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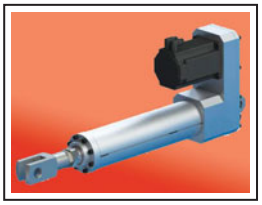
ELECTROMECHANICAL ACTUATORS



Apex Precision Agencies offers Electromechanical Actuators.

Features:

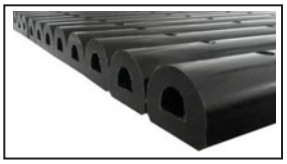
- In electromagnetics, the air gap separates a stationary member and a moving member of the electromechanical actuators.
- The advantage of electrostatic is the higher switching rate and less energy loss; moves charged toner particles in electro photographic processes.
- Piezoelectric is the property of certain crystals that produces a voltage when subjected to mechanical deformation, or undergoes mechanical deformation when subjected to a voltage.
- The actuators are compact and cost effective; silent operation; control unit can be mounted to the actuator.

About the company: Apex Precision Agencies was established in the year 1990. Its product range includes linear motion guides, balls crews, roller screws and lead screws, linear guides and aluminium profiles used in various industries for automation.

Contact:

Apex Precision Agencies, Mumbai
Tel: 022-61464444, 25550900
Mobile: 09820040939
Email: sales@apexprecision.co.in

D-TYPE RUBBER FENDERS



Kiran Rubber Industries offers a wide range of D-type rubber fenders.

Features:

- D-type rubber fenders can be used widely as the hanged equipment of defending dash for all kinds of shipping, ports and docks.
- They can absorb sufficiently the energy when was dashed to the maximum to ensure the integrity and steadiness of all kinds of the shipping and docks.
- Excellent chemical and physical properties, excellent oil, high/low temperature resistance, wearing-resistant, oil-resistant, dust-resistant; with reasonable reaction it may absorb more energy than of cylindric type; convenient in installing.
- It is usually used for docks of frame work type and ships due to the small size of its bottom width; also used for railcars, automobile, industrial electrical equipment, building door and window, construction machinery, etc.

About the company: Kiran Rubber Industries Pvt Ltd is a manufacturer and exporter of moulded and extruded rubber products. Manufactured using latest technology, these products are efficient in performance and highly durable.

Contact:

Kiran Rubber Industries, Mumbai
Tel: 022-42637403 Mobile: 09769633732
Email: info@kiranrubber.com

INTERNAL LOCKING ASSEMBLY

Power Ace Engg Co offers premium quality internal locking assembly manufactured by TAS-Schafer, Germany.

Features:

- These are meant for highly stressed shaft-hub connections; it has a high degree of concentricity and easy removal by means of jacking screws.
- These assemblies are available in various standard ranges such as TAS-3003, TAS-3006, TAS-3012, TAS-3015 and TAS-3020, the difference in the higher ranges being larger flange of the internal bush, preventing axial movements of shaft and hub.
- Removal is simple as the cone angles prevent binding; the locking devices avoid backlash that is sometimes encountered with keyed connections; they allow generous tolerances on shafts and hubs.
- Benefits include: superior performance against reversing; dynamic and impact loading; precise positioning and adjustments; and a wide variety of sizes and styles.
- The product quality is certified by EN ISO-9001: 2000 – Germany. This is a device which locks the shaft with the hub for further manufacturing activity.

About the company: Established in 1986, Power Ace Engineering Co., is a supplier of drive solutions. The company delivers engineering products like shaft locking devices and power transmission solutions etc.

Contact:

Power Ace Engg Co, Mumbai
Tel: 022-28205862, 56919028
Email: powerace@bom2.vsnl.net.in

FLEXIBLE SHAFT COUPLING

Excella Electronics offers a wide range of flexible shaft coupling.

Features:

- The flexible shaft coupling adjusts itself to the misalignment (angular, parallel, skew) of two shafts connected by it and transmits torque and motion from one shaft to the other.
- This coupling is widely used to couple tachogenerators, encoders, etc.
- One-piece construction made of aluminium alloy or stainless steel material; flange or set screw clamping; offset adjustment up to 5° and parallel up to 0.2°; and no backlash with constant velocity transmission.

About the company: Excella Electronics was established in 1966. It has been engaged in manufacturing motion control devices for more than 4 decades and thereby specialises in the same.

Contact:

Excella Electronics, Mumbai
Tel: 022-21029911 Fax: 022-21029922
Email: kedar@excellaelectronics.com, joshi@excellaelectronics.com

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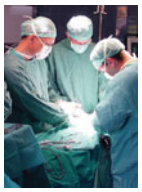

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COMPRESSED AIR DRYER – REFRIGERATION TYPE

Delair India Pvt Ltd offers compressed air dryers.

Features:

- Compressed air dryers are must for pneumatic controlled tools and systems. If the compressed air is not dry there will be corrosion in compressed air pipe line, pneumatic tools and systems which will lead to their malfunctioning.
- In most cases refrigeration dryers are suitable for 40°C-45°C ambient temperature. A major problem in compressed air systems is the presence of water, dust particles, oil (oils particles are introduced by lubricated air compressors) and solid contaminants which can adversely affect air quality.
- It offers both ranges of compressed air dryers, i.e., refrigeration type and Adsorption type. Refrigeration dryer is ideal for general instrumentation and controls, where pressure dew point is 3°C- 6°C are considered adequate. Adsorption dryers provide a much lower atmospheric dew point from (-)20°C to (-)60°C at a relative compressed air humidity of only 0.1%. Refrigeration dryer operates on the method of cooling the air near to freezing point to remove the moisture and reheating it to approximately 10°C below the incoming compressed air temperature at nominal conditions.
- It is designed for just the right quality of air at the most economical costs. It has wide instrumentation air where requirement is between 3°C PDP to 6°C PDP. It uses less energy and hence low operating cost. The FDI series air dryers a packaged self contained unit, fully automatic and produces a steady level of dewpoint.
- There is complete dryer operation overview from Delsmart Card MIMIC display, available in air and water cooled versions. Its energy saving, low power consumption and easy acceptability for maintenance. It can be specially designed for high pressure applications with optional features such as filter suitable for high pressure application, dryer with bypass line and valve. Refrigeration dryer ranges from 17 m3/hr to 34000 m3/hr (10 to 20,000 cfm).

About the company: Delair India specializes in designing, engineering and manufacturing of compressed air and gas drying systems – refrigeration & adsorption type. The company is largest in compressed air treatment in terms of numbers of units sold, customer base, sales & service network, and capacity of single unit. Delair manufactures refrigeration dryers, desiccant dryers, gas dryers, air receivers, after coolers, moisture separators, air filters and auto drain valves.

Contact:
Delair India Pvt Ltd, Gurgaon
Tel: 0124-4091111
Fax: 0124-4091100
Email: delairmarketing@pahwa.com

GROUND WORM SHAFTS

Malkar Industries offers ground worm shafts in any steel, ferrous or non-ferrous material.

Features:

- It has in-house manufacturing facility for profile grinding of worm shafts on WMW, Matrix and Reishauer thread grinding machine. It can offer ground worms in bulk quantity due to large number of thread grinding machines.
- Profile ground worms are the most accurate worm profiles compared to hobbing or milling or thread whirling process. Capacity: diameter – up to 300 mm, module up to 25 module, length 500 mm, lead up to 200 mm and number of starts – 10.
- Apart from ground worms, the company also manufactures lead screws, knurling tools, thread rolls, spur and helical gears, worm and worm wheels, serration cutters, hob cutters, ground gears, etc.

About the company: Malkar Industries, established in 1972, is engaged in manufacturing of precision gears and allied items, and has achieved a name for quality essential in precision gearing for gearboxes, actuators, wiper motor fans, instruments, etc. The company has specialisation in manufacturing of standard/non standard hardened and ground gears.

Contact:
Malkar Industries, Navi Mumbai
Tel: 022-27612404
Email: malkar.samir@gmail.com, sales@malkargears.com

UV SENSOR FOR OIL/GAS FLAMES

Linear Systems provides a range of flame sensors for detecting oil and gas flames.

Features:

- Available with various viewing and mounting arrangements – Models UV-01, UV-71-AJ, UV-71-SC, etc.; designed to detect UV radiations emitted by a naked flame.
- These are immune to visible light and refractory glow from furnace walls; the company's designs include protective quartz glass cover, ¾" NPT and BSW mounting with optional air cooling.
- Also available a NW model self-checking UV sensor (UV-71-SC).

About the company: Established in 1986, Linear Systems is a manufacturer of oil burner controllers, gas burner controllers, burner sequence controllers, LDR flame sensor, LDR flame amplifier, UV flame sensor, UV flame amplifier, etc.

Contact:
Linear Systems, Mumbai
Tel: 022-25512534 Telefax: 022-25576002
Email: info@linearsystems.in

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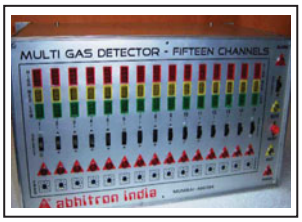
15 CHANNEL GAS DETECTOR SYSTEM



Abhitron India offers a wide range of 15 channel gas detector system.

Features:

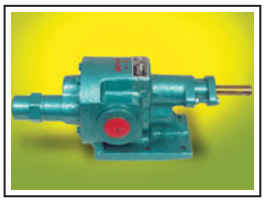
- This 15 channel, 15 numbers of gas sensor can be attached by which if its using hydrogen in the plant, it will come to know 15 different situations of H2 on one panel in a one room.
- There are total 150 Leds and one bargraph to each channel which is acting like an analog meter and helps customer to read approximate PPM or percentage of a any gas.
- There is a "selection switch" for each channel which can select 3 levels – low – medium - high which indicates 0-100 PPM (LO), 100 To 500 PPM (MED) and 500 To 1000 PPM (HI). Company provides calibration certificates also.
- This leak light is given separately to each channels by which customer understands the exact situation of leakage.
- This light will blink till you press the "reset" switch. Battery backup is provided. Initial stop timer is provided. common 70DB siren will be available.
- For longer AC alarm / flasher will be supplied on request. Extra Relays can be given at extra cost to attachment of PLC etc.
- It detects more than 300 hazardous gases such as LPG, smoke hydrocarbons, ammonia, hexane, hydrogen, sulphur dioxide, acetone, benzene, alcohols, esters and around 100 inorganic gases & many more.
- It can be used for the detection of Smoke, also as an environment Detector, Air Pollution Monitor.
- Its application usage areas such as hotels, computer rooms, hospitals, solvent extraction plants, chemical and fertilizer plants nuclear plants etc can be used.
- This is the best system for Indian environmental conditions. In India, with the lights Indicator, which acts like analog meter, which indicates 0% to 100% LEL (lower explosive limit).
- The only gas detector with bargraph facility in India which has its specialty & one can read its concentration from a far distance to take immediate action.
- This company has been awarded with many other awards. Other products like multi gas detectors, domestic gas detector, breath alcohol analyzer, metal detector, flue gas analyzer, halogen, sf6 & freon detector are also in the manufacturing range.

About the company: Abhitron India an ISO 9001-2008 certified company, since 30 years manufactures of different types Gas Leak Detectors which can detect all Toxic, Combustible & Hydrocarbons with LPG, CNG, Ammonia, Hydrogen, SO2, Benzene, CL2, H2S etc

Contact:

Abhitron India, Mumbai
Tel: 022-26361469 Email: abhitronindia@gmail.com, safetydevices@rediffmail.com

ROTARY GEAR PUMPS



C Bole & Co offers a wide range of positive displacement rotary gear pumps.

Features:

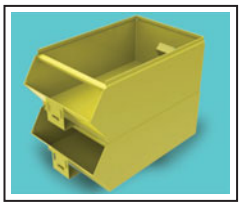
- These pumps find applications for furnace oils, fuel oils, molasses, paints and pigments, castor oils, gasoline, inks, gums, sizing liquids, circulation of lube oils in gearboxes, turbines, fluid couplings, compressors, diesel engines, etc.
- Pumps can be supplied in SS 316, gun metal, bronze construction with heating/cooling jackets; pumps can be supplied with special mechanical seal, which prevents leakage near shaft end; the pump body is made of 2-piece type i.e., only one joint in the body which reduces the maintenance cost.
- It has easily replaceable bushes with positive lubrication arrangements; it has proved more efficient due to suction and delivery in the line with the rotors; for handling all kinds of oils.
- For viscous corrosive liquids and chemicals, pumps can be supplied in stainless steel, gun metal or bronze construction with helical gears for smooth as well as efficient running and built-in relief valve for dependable and trouble free pumping of viscous liquids.

About the company: C Bole & Co offers wide range of seal-less magnetic drive monoblock, chemical process pumps which ensures 100% leak proof operation.

Contact:

C Bole & Co, Mumbai
Tel: 022-23424350, 23429641
Fax: 022-23424040
Email: cboleco@yahoo.com, cboleco@hotmail.com

SNOUT END BINS



Stakall offers a wide range of snout end bins.

Features:

- Suitable for storing of articles of very small in size.
- Lightweight yet sturdy design; ideal for use on the assembly lines.
- Self stackable; carrying capacity up to 30 kg; colour – blue / yellow.

About the company: Stakall manufactures a wide range of storage solutions, from steel pellets to heavy duty boxes and from drum pallets to mini containers. The company provides solutions in design concept or construction, sample produce or mass production. It also fabricates pallets from mild steel, stainless steel and aluminium; the user can choose the type of metal best suitable to their plant environment.

Contact:

Stakall, Palghar
Mobile: 08600047373
Email: marketing@stakall.in

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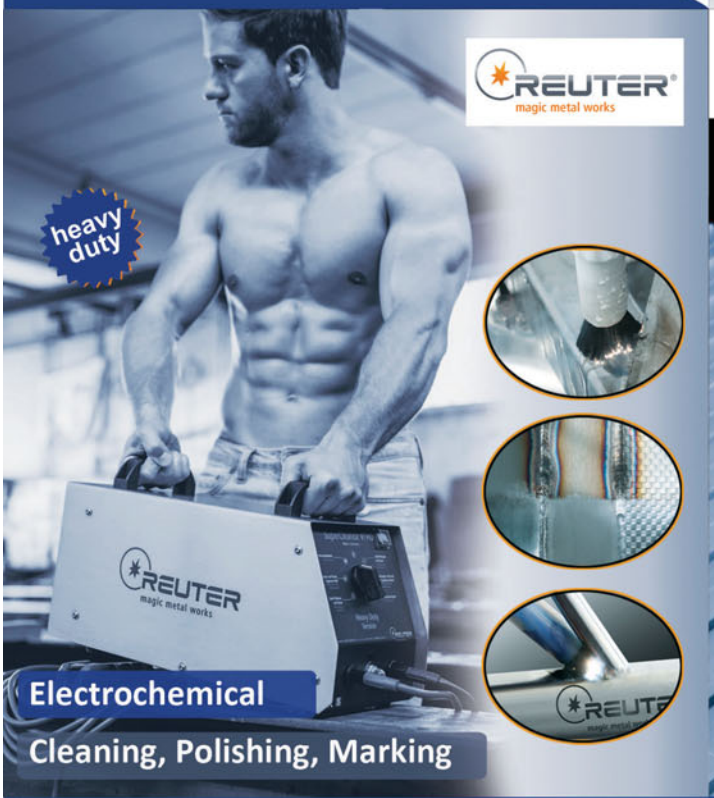

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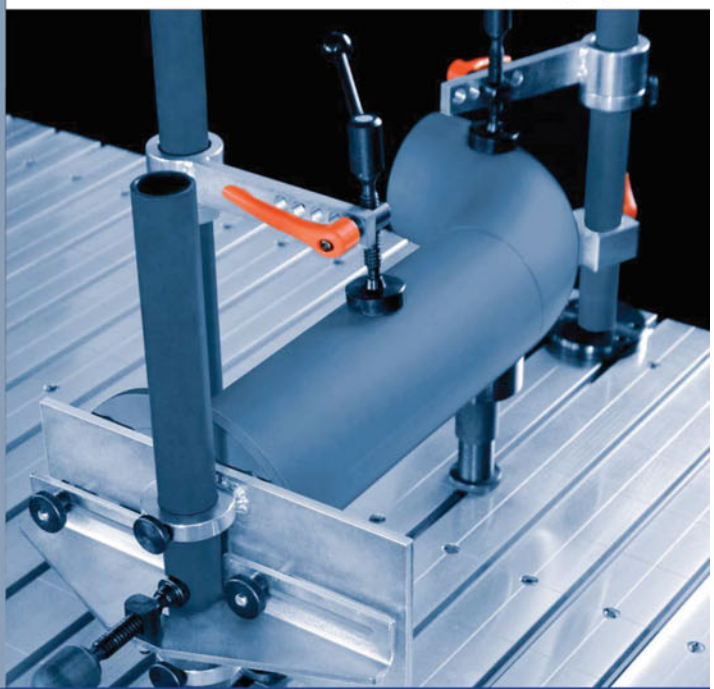

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transportation cost and related expenses such as packing charges are not included in the warranty. One can dispatch portable hardness tester/s properly packed/crated and they will provide a free written estimate upon thorough examination of the hardness tester/s. They also maintain complete stock of spares and accessories like impact devices, impact bodies, standard test blocks, support rings, etc. According to the company, when a complete service with spares is conveniently available why do users think of buying a new hardness tester? It is much economical to get the existing hardness tester/s repaired, reconditioned, and refurbished or rebuilt at a fraction of the cost.

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Heat Treatment Sales & Services
Contact Person: Mr Bharat Shah
L/119 GIDC Industrial Estate, Odhav
Ahmedabad 382 415
Tel: 079-22870144, 22871096
Mobile: 09879244642 Fax: 079-22876952
Email: bvshah@enmatest.com
URL: www.enmatest.com

LEVEL SWITCH, INSERSTAT

R K Dutt Concerns offers a wide range of level switch, Inserstat.

Features:

- Inserstat, a state-of-the-art multipoint level switch, offers some unique features for the first time in India.
- Inserstat level controller comprises of a doughnut type annular magnetic float, guided inside the tank by top entry blind dip pipe; as the level changes, the float moves over the blind dip pipe; switching cartridges with their leads (wires) are mounted on epoxy PCB strip graduated in centimetres.
- As the float passes the sensing cartridge positioned at set point, the contact changes and remains changed (latched) so long as the float is beyond the set point; when the float returns to normal, the contact also reverts to normal.
- Leads of each cartridge are terminated in a weatherproof terminal box at top of the blind pipe; total freedom from corrosion, single float – multipoint operation, no moving parts, stepless adjustment and no shutdown.

About the company: R K Dutt Concerns is a manufacturer of level, pressure and flow indicators and channel partner of Siemens Process Instruments.

Contact:
R K Dutt Concerns, Thane
Tel: 022-67248787, 25822541 Fax: 022-67248777
Email pisales@rkdutt.com

SOLAR PCU

Solarcare India Pvt Ltd offers a wide range of solar PCU.

Features:

- The standalone PCU of 1-5 kW is considered for domestic purpose; the sine wave inverter generates a sinusoidal AC voltage with an exceptionally precise voltage and stabilised frequency; the inverter is protected against overload and short circuit.
- Inverters are working on priority logic based technology in which solar is getting first priory then battery and finally it is connected with main supply before the battery SOC level goes beyond its safer limit.

About the company: Solarcare India Pvt Ltd is an ISO 9001:2008 certified company and OHSAS 18001. It is a solar solutions provider with product range consisting of solar PCU, charge controller, solar water pump inverter, hybrid UPS, wind and solar hybrid system, etc.

Contact:
Solarcare India Pvt Ltd, Dist Tiruppur
Tel: 04252-273840 Mobile: 09159912345
Fax: 04252-273915.
Email: solar@windcareindia.com

FIELD INSTRUMENTATION SOLUTIONS

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- Float Operated Level transmitters
- Magnetic Level Indicators
- Bilge Level Switches
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Diaphragm Seal Systems

- Remote Seals for Pressure, Differential Pressure, Flow and Level Transmitters
  In Collaboration with PCI instruments, UK

Flow Instrumentation

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- Sight Flow Indicators

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SHRIDHAN Automation Pvt. Ltd
D13, KIADB Industrial Area,
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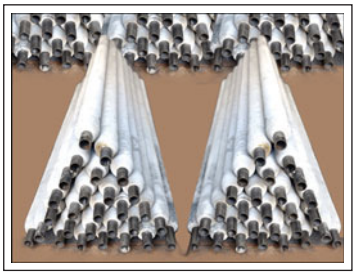
FEATURED PRODUCT

EXTRUDED FINNED TUBES



Thermal Equipments has introduced a range of extruded finned tubes widely used in air heater, steam heat exchanger and various heat transfer equipment.

Features:

- These high efficient Bi-metalic extruded finned tubes are formed helically out of a Bi-metal tube. The result is an integrally formed finned tube with an excellent fin-to-tube bond providing exceptional efficiency and longevity. Whether rough service, high temperatures, or corrosive environment, extruded fin tubes are a great option for heat exchanger applications.
- Fin material is of aluminium a 1060 & base tube material is of carbon steel, stainless steel, copper, brass, cupronickle or any of the material.
- Tube outer diameter ranges from 15.87 mm to 38.1 mm & outer fin diameter ranges from 32 mm to 70 mm as required. Number of fins per inch available are 7-8-9-10-11. Extruded fin tube can be manufactured up to 10 meter length.
- Heat exchanger & process equipment manufacturers require latest high efficient extruded fin tubes instead of conventional spiral fin tube.
- Other features of these tubes include: high value addition to heat exchanger; very high efficiency compared to conventional spiral fin tube; excellent corrosion protection due to aluminium Fin; used up to 325°C; no air gap between fin & tube; faster heat transfer; less steam consumption; more life to heat exchanger; and robust construction.

About the company: Established in 2003, Thermal Equipments has been serving various process industries like chemical, pharmaceutical, textile, cement, power, agriculture, paper & pulp, food, fertilizers, plastics, etc. Thermal Equipments is invariably strived to be at the cutting age technology innovating feature packed fin tube heat exchanger, extruded finned tubes, shell & tube heat exchangers, and industrial fans & blowers backing it up with time to time service.

Contact:

Thermal Equipments
Plot No L-120, G I D C Industrial Estate
Odhav, Ahmedabad 382 415
Tel: 079-22870144 Fax: 079-22892007
Mobile: 09825032966, 09427303040
Email: info@thermalequipments.com
URL: www.thermalequipments.com

MECHANICAL POWER TRANSMISSION PRODUCTS

Albro Trading Co offers a wide range of mechanical power transmission products.

Features:

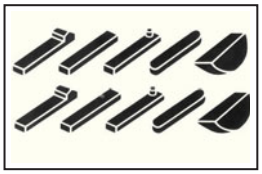
- It is reputed and established name in mechanical power transmission products, specialises in superior quality products, available off the shelf as well as made to order according to customers' specifications and individual requirements as per sample in mild steel, cast iron and carbon steel, etc.
- It is besides their usual range of chains & sprockets in simplex, duplex and triplex, conveyor chains with attachments, elevator buckets & chains, piv chains, leaf chains, extended pitch chains, silent chains and stainless steel industrial chains and their spares, albro has a complete range of various gears: hob cut spur, bevel spiral & helical gears, racks & pinions, ratchets & pawl, worm / worm wheels.
- Albro is also reputed for its excellent range of couplings which include jaw & chain types, universal joints, gear, tyre & pin bush type.

About the company: Albro are authorised main dealers for "Diamond" super chains and their genuine spares, connecting lock and half link, made by TIDC India, an ISO 9001 & ISO 14001 company.

Contact:

Albro Trading Co, Mumbai
Tel: 022-23424336, 022-23441194 Fax: 022-23447116
Email: sales@albrotradingco.com, albrotradingco@gmail.com

PARALLEL & WOODRUFF KEYS



R K Engineering Company manufactures a wide range of Parallel and Woodruff Keys.

Features:

- Parallel keys are manufactured as per IS: 2048/83 and woodruff keys as per IS: 2294. These are made from EN-8/9 material in soft condition.
- They can also be made from SS-410 and SS-316. The keys are used in automobile industries, textile industries, machine tool industries, motor and pump industries, cement industries, etc.
- Also offered are non-standard keys to suit customer's requirements.

About the company: R K Engineering Co commenced its business operation in the year 1976. It is engaged as a manufacturer, exporter, supplier for grooved pin, dowel pin, taper pin, spring dowel pin, circlip, parallel keys.

Contact:

R K Engineering Company, Mumbai
Tel: 022-22671141, 66104058 Fax: 022-22655255
Email: rkenggcomp@gmail.com

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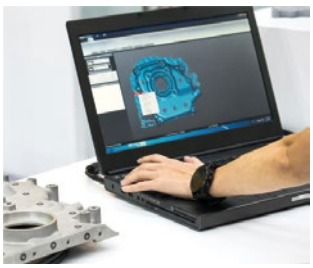
ptc



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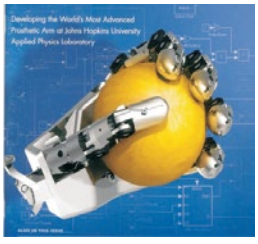

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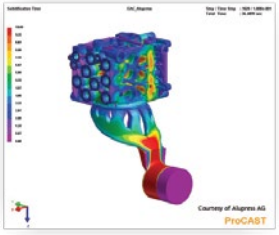

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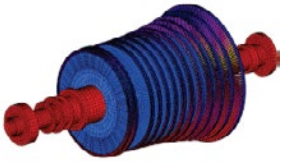

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HEAT EXCHANGER WATER SCALE REMOVAL COMPOUND, HESR-900

The model HESR-900 is a newly introduced Heat Exchanger Water Scale Removal Compound.

Features:

- Removes heavy deposits of water scale by a modern technology known as nanotechnology; removes the scale without any harm to the substrate material and without causing any pollution problem and hazards to the operating work force
- Reduces problems of higher consumption of energy, lower flow rate, cost of replacement for plant and equipment, and

- Can also be applied for removal of scale while the technology is suitable for a closed loop water circulation system; it can also be used for an open loop circuit.

About the company: Process & Technology is a manufacturer and supplier of chemical, stainless steel chemical, SS pickling chemical, soldering chemical for copper tubes on SS sheet, etc.

Contact:

Process & Technology
Contact Person: Mr Sailesh Shah
F/2, Kastubanagar Society, Behind Nutan Vidyalaya
Sama Road, Sama, Vadodara, Gujarat 390 024
Tel: 0265-2711013 Mobile: 09924441367
Email: process_technology@yahoo.com

PANEL LOCK

ABS Corporation offers newly launched weather proof panel lock.

Features:

- It is weather proof lock with IP 65 AND IP 67 rated & it is 18", 20", 24" networking rack, mobile rack, available in mild steel and stainless steel.
- It is available in mild steel & stainless steel.
- It can be locked with 3 position at one time; available in 120mm, 160mm and 200 mm.

About the company: ABS Corporation is one of the leading manufacturer of all kinds of panel lock, hinges and handles. It was established in 2002 and exports to more then 30 countries.

Contact:

ABS Corporation, Thane
Mobile: 09324076522, 09970868395
Email: info@lockmanufacturer.in

FIRE X FIRE EXTINGUISHERS

Marvel Gloves Industries offers a wide range of fire X fire extinguishers.

Features:

- It is safe for people, pets and the environment. This product is environmentally friendly and the dry powder is ecologically safe and non toxic to humans. These fire X fire extinguishers are the first line of defence against fires.
- The device is not a replacement for the fire extinguishers; fighting fire is dangerous and it is recommended on site during fire, to call the emergency services and vacate the area in a controlled and safe manner.
- The extinguisher is fully automatic, there are no pins to remove, no triggers to depress and no experience is necessary. That fighting fires is left to professionals but should a ball be used on a fire before is becoming dangerous.

About the company: Marvel Gloves Industries, founded in 1980, is a manufacturer, exporter and importer of gloves & PPEs for industries.

Contact:

Marvel Gloves Industries, Mumbai
Tel: 022-22626546, 22626876
Email: marvelgloves@gmail.com, fabindustriessales@gmail.com

'C' FRAME POWER PRESS

Marvel Machine Tools Pvt Ltd offers 'C' frame power press – Wasino – Japan, model: PUX-150l.

Features:

- This good quality sophisticated pre-owned CNC & conventional machines such as CNC VMC, HMC, turning centre, VTL, power press, Horz. & floor boring, grinder, milling etc.
- These wide range of metal cutting machines from reputed manufactures have versatile utility.
- Its features include: 'C' frame power press make- Wasino -Japan includes- heavy & robust construction, high quality clutch, very smooth working of ram & motorised slide adjustment.
- Technical Specifications: 'C' frame power press make Wasino – Japan model- pux-150l, capacity – 150tons, stroke – 200mm, bed – 1440 x 630mm, ram – 670 x 500mm, die height – 450mm, with die cushion.

About the company: Marvel Machine Tools Pvt Ltd Mumbai offers good quality sophisticated pre-owned CNC & conventional metalworking & sheet metal machine tools such as press lines, C & H frame presses, high speed presses, hot forging presses, trimming presses, knuckle joint presses, etc.

Contact:

Marvel Machine Tools Pvt. Ltd, Mumbai
Tel: 022-22657481/82 Email: info@marvelmachinery.com

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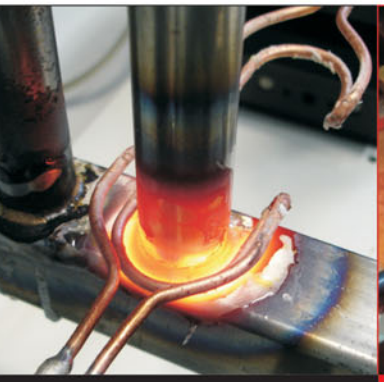
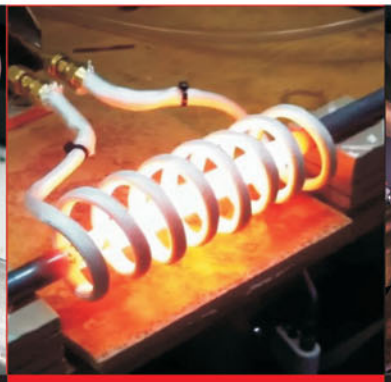
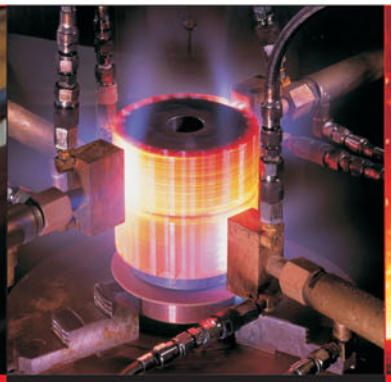

BRAZING


FORGING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Mobile: 9810001305, 9810109848

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satra.international@gmail.com

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AEROSPACE COMPONENTS

Kazi Industries offers aerospace components.

Features:

- These components are available in a wide variety of materials i.e, stainless steel, titanium, nickel alloy, heavy alloys, 316, 304 stainless steel, aluminum, copper, brass, bronze, aerospace special steel.
- These are used for a wide range of applications including aerospace, telecommunications, avionics, sub-contract engineering selected conventional equipment provides simple to complex component manufacture from a single to batch production in the most efficient, cost effective and consistent manner possible.

About the company: Kazi Engineering produces a wide range of components in ferrous and non-ferrous materials. It also offers a wide range of sub-contract, multi axis CNC machining services and this latest technology provides customers with CNC Milling capability up to 30° in length, together with CNC turning facilities up to 250 mm in diameter barfed, and larger billet sizes.

Contact:

Kazi Industries, Pune
Tel: 020-25381995
Email: feeroz@kaziindustries.com info@kaziindustries.com

ELECTRIC OVERHEAD TRAVELING CRANES

Techno Industries offers a wide range of electric overhead traveling cranes.

Features:

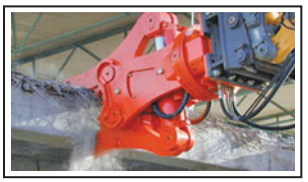
- This is superior quality electric overhead traveling cranes with high efficiency.
- Designed with adequate safety factors, in accordance to duty classification as per IS-3177 and IS-4137; the structural parts of the cranes are designed and manufactured as per IS-807.
- These cranes are classified in different types mainly single girder cranes or double girder cranes; used for heavier loads and longer spans.
- Used for heavier loads and longer spans; single girder cranes offers cost effective solution due to their low dead weight; provide greater floor coverage than other types of cranes.

About the company: Incepted in 1979, Techno Industries - an ISO 9001:2015 certified company, is the manufacturer of leading industry brand called 'Tacklers'. The products are as per IS standards and are also capable of operating in hazardous area as per gas group IIA, IIB and IIC.

Contact:

Techno Industries, Ahmedabad
Tel: 079-25830742, 25831839, 40323330
Mobile: 09377039904 Email: info@technoind.com

HYDRAULIC AERIAL ACCESS WORK PLATFORMS



Shalimar Engineering Company offers Mac-Lifton hydraulic aerial access work platforms.

Features:

- These access work platforms are the ultimate machines for overhead maintenance work, and can be used for maintenance of street lights, aircraft and also for tree trimming.
- They can be fitted on to standard commercial vehicles. Power is taken from the truck power take-off unit or from a separate prime mover. The boom system consists of two rectangular box sections.
- The lower boom is connected to the rotating column. The rotating column consists of heavy-duty bearings. 360 degrees continuous slewing is provided for quickly positioning the work basket. The slewing mechanism consists of a hydro motor fitted on to a worm reduction unit. Parallel links take care of basket levelling.
- These independent links ensure that the basket is always level. All cylinders are internally hard-chrome plated for long seal life. The cylinders are double acting and have seal of a very high quality. All cylinders are provided with valves which prevent it from coming down in the event of hose failure.
- These valves also prevent runaway situations when the boom movements tend to overrun the pump. The boom travel is limited to safe limits any operation beyond these limits will automatically cut off further movement. Duplicated controls are provided as a standard feature. Boom operations can be made either from the basket or from the base. Separate valves are provided for stabilisers with boom inter locks.
- The basket is made from tubular sections for extra strength and it insulated to withstand 3 kVA. The basket controls are protected against unintentional operation.

About the company: Shalimar Engineering Company, founded in 1973, manufactures Mac-Lifton brand of material handling equipment since. Mac-Lifton brand of material handling equipment are widely used across industries such as chemical and pharmaceutical industries, machine tools, tractor industries, electrical and electronic industries, steel and engineering industries, packaging and glass industries, defence sector, aeronautics and space research, rubber and cable industries, mining industries, municipal corporations, etc.

Contact:

Shalimar Engineering Co, Mumbai
Tel: 022-24221309, 24312141 Mobile: 09820060700
Email: shalimarenggco@gmail.com, ashwin@maclifton.com

MASTERTIG

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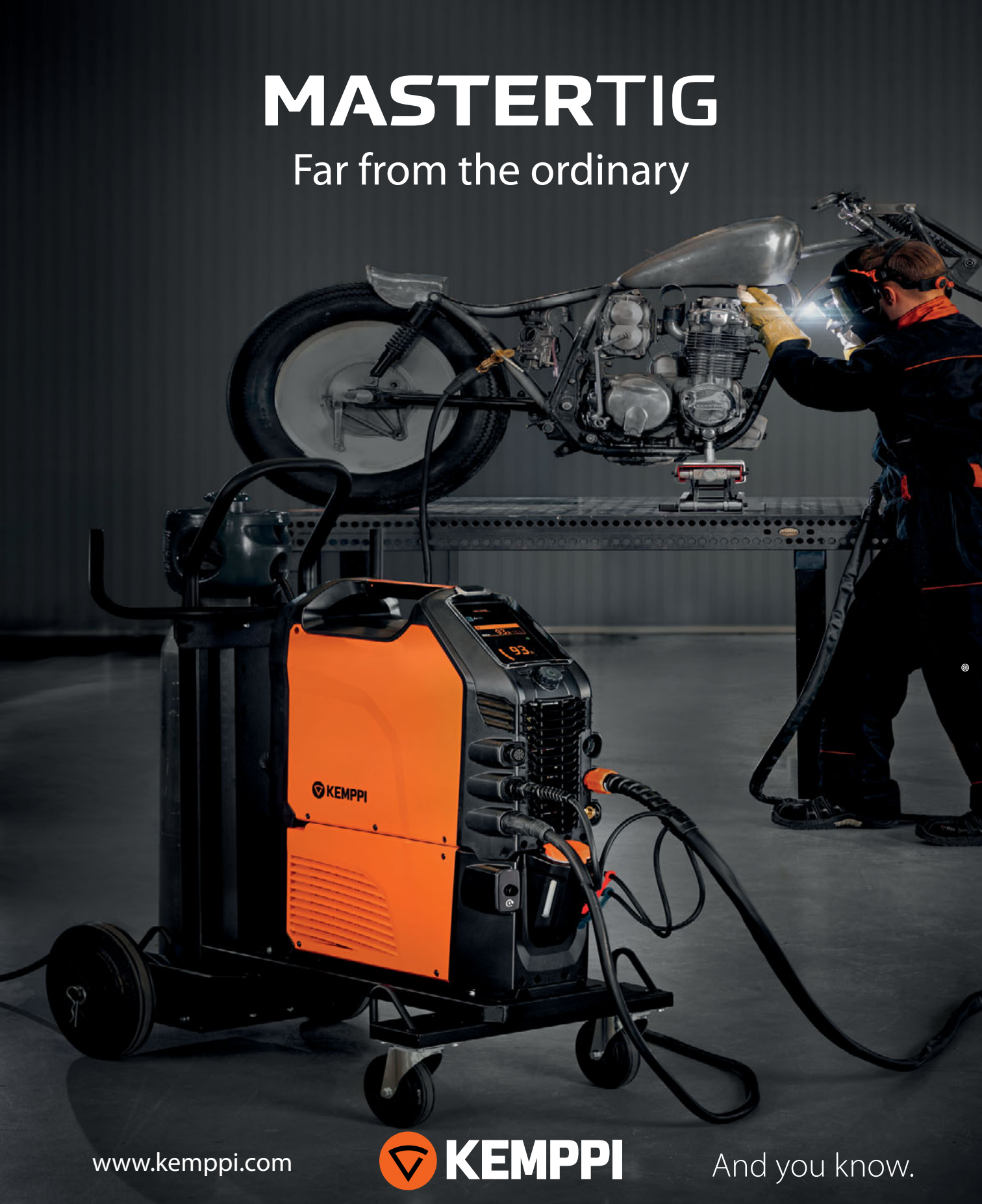

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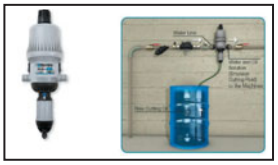
ACCURATE PROPORTIONER FOR CORRECT MIXING OF COOLANTS & LUBRICANTS



Steel Plant Specialities LLP, Mumbai, offers accurate proportioner for correct mixing of coolants/lubricants/quenchants with water, consistently and automatically.

Features:

- Huge losses due to improper mixing of coolants/ quenchants/lubricants with water are experienced throughout industries. These include coolant spillage losses of up to 5%, high evaporation losses of coolants from sump, failure of heat treated parts due to improper quenchant mixing, low die life or excessive lubricant consumption in die casting, hot forging operations and low tool life in CNC/VMC operations due to improper coolant mixing with water. Manual mixing methods followed in the industry are always subjected to human error. Maintaining consistent, correct dilution ratio of concentrates with water is a challenge faced by metal-forming industry. Steel Plant Specialities' Accurate Proportioner ensures mixing in correct dilution ratios with water, thus enabling a number of benefits in important operations.
- In CNC/VMC operations, correct mix of CNC coolant with water enables reduced evaporation losses, increased sump life of coolant, preventing bad odour from sump and increased tool life due to better lubricity.
- In polymer quenching, correct mix of polymer quenchant with water enables uniform heat treatment of parts at all locations of quenching tank and desired heat treatment characteristics of induction hardened parts.
- In die casting and hot forging lubrication, correct mix of die lubricants with water enable optimal die life and ease of operations, without job sticking.
- Accurate Proportioner automatically sucks pre-set quantity of coolant directly from coolant drum. It emulsifies (mixes) the coolant with water and delivers the diluted solution through the outlet.
- The Accurate Proportioner operates only on water connection. No electricity connection and no complex softwares or settings are required. As it works on water pressure, the proportion will always be accurate, as per the inlet of water quantity.
- Difference in water inlet water pressure will not affect accuracy of proportioner. Capacity of Accurate Proportioner is up to 350 litres per hour (concentrate + water).

About the company: Steel Plant Specialities (SPS) manufactures cost-saving coatings and lubricants for metal forming processes like hot forging, heat treatment, hot rolling and casting.

Contact:

Steel Plant Specialities LLP, Mumbai
Tel: 022 67978060, 25552459
Mobile: 09820493373
Email: info@steelplantspecialities.com

DC REGULATED POWER SUPPLY

Crown Electronic offers DC regulated power supply.

Features:

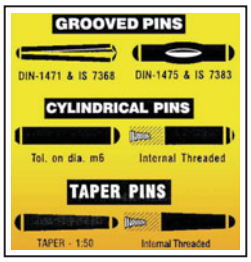
- "Crown" made DC regulated power supply are constant voltage and constant current type supplies, and have high regulation for load and line voltage variation.
- The output current can be controlled to any value from 0 to maximum.
- It has following features: Input voltage: 230V ± 10% AC 50 Hz; Output voltage: Continuously Variable with coarse and fine control); Output current: Settable with coarse and fine control; Load regulation (CV): ±0.05 % ± 3mV From no load to full load; Load regulation (CC): ± 0.05% ± 1 mA From no load to full load; Line regulation (CV): ± 0.01% ± 3mV for ± 10% variation input voltage; Line regulation (CC): ± 0.01% ± 1mA for ± 10% variation input voltage; Ripple: Less than 1 mV.

About the company: Crown Electronic Systems are one of the manufacturers, wholesaler, and exporter of a wide range of quality testing and measuring instruments.

Contact:

Crown Electronic Systems, New Delhi
Tel: 011 40072526, 45013465
Email: crown_tnm@yahoo.com, tnm.ces@gmail.com

CYLINDRICAL TAPER & GROOVED PINS



R K Engineering Company offers cylindrical, taper and grooved pins.

Features:

- Cylindrical (dowel) pins are used for retaining parts in a fixed position or for preserving their alignment.
- Cylindrical hardened pins are manufactured as per IS: 6689, unhardened pins as per IS: 2393 and taper, pins as per IS: 6698 standards.
- These are suitable for parts that have to be taken apart frequently, in which case cylindrical pins would tend to wear the holes.
- Grooved pins have parallel equidistant longitudinal grooves impressed on their exterior surface and are manufactured to IS: 7368 standards; also manufactured are non-standard pins.

About the company: R K Engineering Co commenced its business operation in the year 1976. It is engaged as a manufacturer, exporter, supplier for grooved pin, dowel pin, taper pin, spring dowel pin, circlip, parallel keys.

Contact:

R K Engineering Company, Mumbai
Tel: 022-22671141, 66104058 Fax: 022-22655255
Email: rkenggcomp@gmail.com

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Horizontal reach:
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Horizontal reach:
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Payload: 12 Kgs.
Horizontal reach:
2010 mm with various power source options

ROBOT MODEL
GP 8
Payload: 8 Kgs.
Horizontal reach:
727 mm

ROBOT MODEL
GP 7
Payload; 7 Kgs.
Horizontal reach:
927 mm

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YASKAWA INDIA PRIVATE LIMITED
426, Udyog Vihar, Phase IV, Gurgaon, 122016, Haryana, India

marketing@yaskawa.in

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SOUND LEVEL METER

ACD Machine Control Company offers sound level meter that provides the essential basic instrument for sound investigations.

Features:

- It measures, on an internationally standardised decibel scale, the value of the alternating pressure waves of the air which are caused by the sound.
- ACD is making available instrument 'S-3000' which confirms to the requirement of 'Type-2' instrument as per IS 9779-1981.
- Other features are 40 db to 140 db range; A and C weightage; regular logging of this parameter provides early warning of breakdown; offered as portable instruments for individual parameters as well as an integrated meter; long operational life; trouble-free functionality; rugged design.

About the company: ACD Machine Control Company Pvt Ltd is a manufacturer and wholesaler of a qualitative assortment of air velocity monitoring, field failure relay, dynamic balancing equipment, etc.

Contact:

ACD Machine Control Company Pvt Ltd, Mumbai
Tel: 022-66921091, 66921092, 28323676
Fax: 022-28221736
Email: info@acdmachines.com, acd@vsnl.com

PIPE CHAMFERING MACHINE

Hydropower Engineering Systems offers pipe chamfering machine.

Features:

- This machine is designed for edge preparation of pipes. The machine can simultaneously carry out facing and chamfering operation.
- This machine is equipped with pneumatic clamping system and multi tool holding device.
- The machine also has AC variable frequency drive for selection of infinite cutting speed. Cutting feed rate is controlled manually. Optional hydraulic/pneumatic feeding can be given.
- Specifications of this product are maximum diameter of the job is 101.6 mm; minimum diameter of the job is 38.1 mm; RPM range is 45 to 350 RPM; and maximum power consumption is of 5 HP.

About the company: Hydropower Engineering Systems is engaged in design and manufacturing services of hydraulic equipment and machinery. Established in 1996, it is a manufacturer of cable crimping machine, de-coiling cum straightening machine, hydraulic press, hydraulic scissor lift, etc.

Contact:

Hydropower Engineering Systems, Bangalore
Tel: 080-25361221 Mobile: 0984513451
Email: info@hydropowerengineers.com, hpes_ bg@yahoo.co.in

CNC MINI-MILING & PRECISION ENGRAVING MACHINES

Toolcraft Systems Pvt Ltd is offering CNC mini-miling and precision engraving machines.

Features:

- The EX series machines with close grained cast iron construction, C3 class ground ball screws, precision class LM guideways on all axes, components sourced globally from world class suppliers and high frequency electro spindle up to 60000 RPM with vector control.
- Digital AC servo motors and drives, open architecture CNC running on Microsoft Windows CE, up to five axis simultaneous control; linear/3D circular/helical/ spline interpolation, EtherCat or Mechatrolik link or Sercos full digital interface, high speed machining (HSM), tool centre point (TCP) and volumetric compensation.
- CAN open digital field bus, velocity feed forward with jerk limitation and look ahead functions, win NBI graphical interface for customising user screens, boot and process control as well as the ability to integrate many CNCs on the factory LAN, embedded soft PLC; power failure restart – memory search.

About the company: Toolcraft Systems Pvt Ltd, established in 1961, engages as a manufacturer, supplier and exporter of CNC mini mills, engraving machines, spark erosion machines, co-ordinate drilling, etc.

Contact:

Toolcraft Systems Pvt Ltd, Bangalore
Tel: 080-23454612, 23454622
Email: toolcraft@vsnl.com

BOX FILTERS

Pioneer Filters offers a wide range of box filters.

Features:

- These are normal box type air filters produced in large quantities as these can be fitted to a range of blowers.
- The finish is silver ash and the filter media is again based on the application.
- These filters also have long life and the cartridges inside can be replaced easily after usage with a new one without changing the frame thereby saving time and money.

About the company: Pioneer Filters was established in 1987 to manufacture air filters for trucks. Its first major client was the Kirloskar Electric Company in 1989. With more than 31 years in the filter industry, they are a pioneer in filtration.

Contact:

Pioneer Filters, Bangalore
Tel: 080-65340135 Mobile: 0973113774
Email: raghu@pioneerfilters.in

High Quality Machines From Denmark

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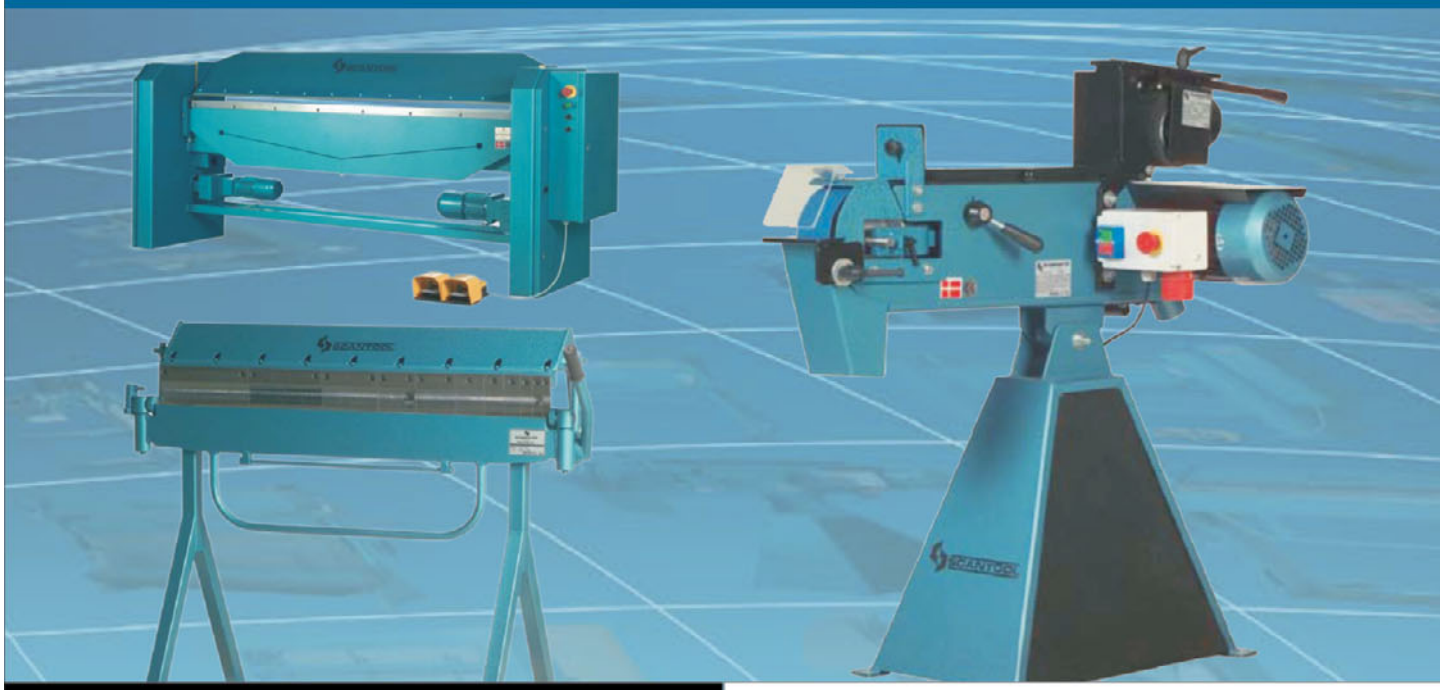

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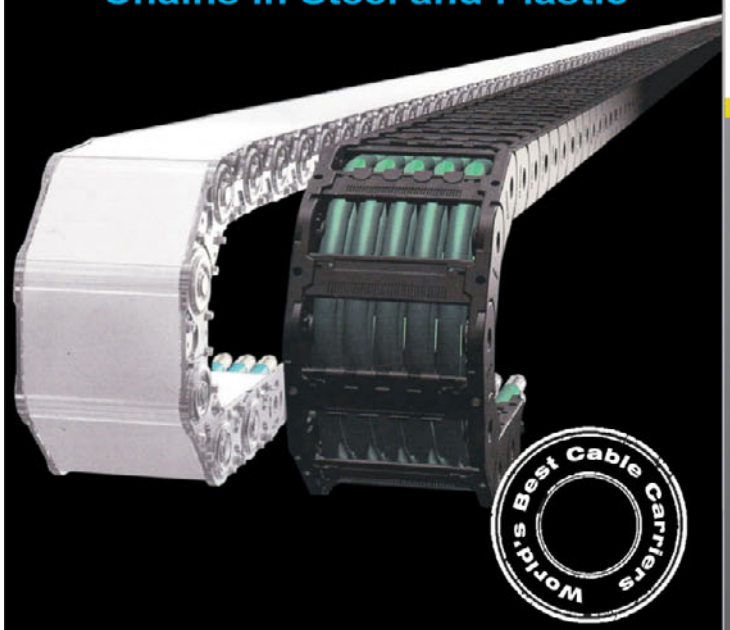

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ECOFLUX* CORRUGATED TUBE HEAT EXCHANGER

HRS Process Systems Ltd. India, is part of UK based HRS group of companies a leading heat transfer technology provider.

Features:

- The high demand for heat transfer equipments in industries like chemical, pharmaceutical, agrochemical, petrochemical, oil & fats, fertilizer, food and beverages, engineering and others is driving the advancement in heat transfer technology.
- During heat transfer process, over a period of time, deposition of substance occurs. Formation of this boundary layer is referred to as fouling, a factor which poses resistance to product flow. Fouling is typically high in shell and tube (smooth tube) heat exchangers and significantly impacts the heat transfer process.
- It offers ECOFLUX*corrugated tube heat exchanger (CTHE), which is a shell and tube heat exchanger where "corrugated tubes" are used instead of plain tubes.
- This is a definitive option to tackle fouling seen in regular shell and tube heat exchangers. The tubes in ECOFLUX* CTHE are corrugated to induce turbulence in both the flows (product and service) even at lower velocity. Corrugated tube thus, boosts heat transfer multifold even at low Reynold's number with minimum increase in pressure loss. This enables efficient heat transfer even in liquids with high viscosity, large fibers or particulates.
- ECOFLUX* corrugated tube heat exchangers are compact in yet give significantly enhanced performance over smooth tube heat exchanger. It can be customized according to the process needs with wide choice of MOC like SS304L, SS316L, 904L, 321, Titanium, Duplex, Hastellloy, Alloy 20 and Copper depending upon compatibility of process fluids.

About the company: HRS Process Systems Ltd is a part of HRS Group, which operates at the forefront of thermal processing technology and is one of Europe's leading heat exchanger specialists. It is equipped with a strong network all across domestic and international market like UK, Spain, USA, India, Australia, New Zealand and Malaysia to fulfil technology needs of process industries. This proves to be a versatile, economical and energy efficient equipment for multiple process industries. Their focus is to provide innovative and cost effective heat transfer solutions for an extensive range of processing applications across a diverse spectrum of industries. HRS Group's research centre, in Murcia, Spain, is working on existing and future processing techniques for heat exchange solutions.

Contact:

HRS Process Systems Ltd, Pune
Tel: 020 25663581/82/ 66047894
Email: info@hrsasia.co.in

COBALT DRILLS

Orient Hardware & Tools Corporation offers a wide range of "Cobalt Drills" with brand Soyer.

Features:

- It is 5% cobalt drill bits gives high heat and wear resistance. Alloyed with Cobalt to improve heat resistance which will perform and outlast normal HSS bits particularly if your work involves tough metals.
- It can be used on hand drill, pillar and CNC machines. Wedged centre point eliminates need for centering. Material: HSS-Co M35 , 5% cobalt HSS. Its sizes are available from 1 to 13mm.
- These product applications: include cobalt bits are also superior for their resistance to heat and hence can be used on tough and hard jobs. They are ideal when used to drill stainless steel, titanium and even cast iron.

About the company: Orient Hardware and Tools Corporation is one of the largest tool stores in India and authorized distributors & for most of the renowned brands in the field of tools and equipments.

Contact:

Orient Hardware and Tools Corporation, Coimbatore
Tel: 0422-4072222, 4072284
Mobile: 09789533433
Email: ctdorient@gmail.com

STEEL BAR BENDING & CUTTING MACHINE

Orient Machinery offers a wide range of "Steel Bar Bending & Cutting Machine" with brand Peak.

Features:

- Steel bar bending machine is fully automatic steel bar bending machines. All gears are made of steel and rated for continuous working.
- Components are made of special graded alloy steel and precision machined. Machine can be moved on its 4 steel wheels within your work sit.
- Steel bar cutting machine is inside gear is made of steel, can cut upto 35mm (flat, round and square steel). The blade is made from special steel and hardened to give along life all 4 sides can be switched for cutting. These gears are made of special alloy steel.

About the company: Orient Machinery is authorized distributors & for most of the renowned brands in the field of equipments and machinery.

Contact:

Orient Machinery, Coimbatore
Tel: 0422-4270300 Mobile: 09500777485
Email : info@orientmachinery.net.in

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The company is complying and working as per ISO 9001 and 13485 (Medical Services) certification along with ISO 14001 (Environmental Aspects) and OHSAS 18001 (Health and Safety) certification

SYSTEM MONITORING RELAY

Electronics Relays (India) Pvt Ltd offers a wide range of system monitoring relay.

Features:

- System monitoring is designed keeping in mind complex control systems in a large processing unit where number of such relays are high number, need to be monitored to detect the faults and control the process. The new design is built to sense the faults &to ease monitoring of the relay or the overall function of the system electronically.
- The harsh electrical environment is the cause of failures at the controller and load(field) side.
- The conventional relays without the sensing functions tend to fail due to over voltage/current and any other errors. In order to overcome such failures a relay which is unique in function is designed with sensing capabilities.
- Relays generally fail as short /open circuit may be in the i/p or o/p circuit. Probability of relay failing as short is very high compared to open circuit failures. Rarely the output open circuits, but still such fault is not ruled out .
- It may be due to insufficient trigger to the device or the device or open path in the output circuit. In order to make the relay safe and fail proof, the voltage and current are sensed and faults are indicated to alert and monitor the processes.
- This new design is available in the hockey puck style package and rated for 25/40/50 Amps at 240 Vac. Unique SSR IN 17.5 mm built in DIN clip.
- Normally SSRs require an external heat sink beyond 5 Amperes.
- But this unique design manages the thermal conditions in such a way that it does not require an external heat sink even at 10 Amperes. The product can handle 10 A AC and 15 A dc currents. Mounting is DIN rail compatible and due to its slim style, more relays can be packed in the control panel.

About the company: Electronic Relays India, an ISO 9001:2008, established in the year of 1979, manufacturing solid state relays. ERI is the first company to design an innovative product with looks alike switch gear parts. ERI began its endeavor by exporting a major part of its production to the united states subsequently; it expanded activities and began catering to the huge demand in the domestic market too. Their range of products, shorter development cycle Eri brand recognized in the national and international markets.

Contact:

M/s. Electronics Relays (India) Pvt Ltd, Bangalore
Tel: 080-22354189, 22354190
Email: sale@eri.co.in

AVIATION TOOLS

S H Industrial offers a wide range of Stahlwille aviation tools.

Features:

- Highly durable aircraft hand tools are designed with durability and strength in mind; their mobility and tool-storage products ensure that you never lose another aircraft tool again.
- Aircraft maintenance tools are specialist products designed to last longer; they are made from high tensile strength steels, heat resistant alloys and compound-layer materials.
- Their products have a reputation for quality are a designed to last a lifetime; they have a lifetime warranty on all Stahlwille tools.
- Specialists tools are of a premium quality and are used for the manufacture of aerospace components.

About the company: S H Industrial Needs, is a leading and well recognised name as manufacturers, exporters, importers and dealers of engineering and industrial hand tools and associated accessories.

Contact:

S H Industrial Needs, Chennai
Tel: 044-25218485, 42178485
Mobile: 09840196225, 09840952712
Email: sales@shindustrial.in

AIRCRAFT SEATS

Royal Nag Aviation offers aircraft seats.

Features:

- This is cockpit chair of boeing 747, specially designed and manufactured by royal nag aviation for our complete 1:1 scale functional aircraft models, back rest tilts back and front locks in any position.
- The handle right or left locks in any position, any angle for your comfort; the seat front edge or back edge slides down and up locks at any comfortable position.
- The entire seat slides back and front 6 inches smoothly and locks for your comfort
- Rotating a knob the seat lifts 6 inches up and down and locks in any height for your comfort.

About the company: Royal Nag Aviation established in 2013 is in close proximity to all the major public and private sector aviation Industries at Bengaluru. It based as a sole proprietorship firm. Company is a pioneer manufacturer and supplier of models of functional aircraft made of either composite or sheet metal both for large scale or small scale production.

Contact:

Royal Nag Aviation, Bengaluru
Mobile: 09886009174
Email: royalnagaviationblr@gmail.com

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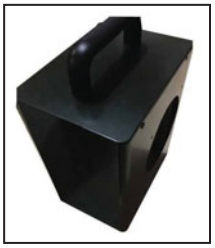
SHEET METAL ENCLOSURE



Swati Precision Tool Room offers a wide range of precision sheet metal enclosure especially for aerospace.

Features:

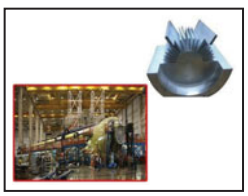
- These enclosures are produced form high grade raw materials like stainless steel, aluminum, etc.
- Sheet metal enclosures are widely used for various electrical and industrial purposes; these are widely used to protect electrical parts, instruments, computer components from dirt, oil and corrosion.
- These sheet metal enclosures for indoor and outdoor applications; angle, bar, channel and tubing are used for production and locks are provided to these enclosures to ensure high security.
- These sheet metal enclosures are used in food and beverages industries
- Sturdy construction; corrosion resistance; precision made; high strength and longer shelf life; these enclosures are epoxy coated to ensure good quality
- Applicable for electrical and industrial purposes; construction and engineering industry; automobile industry; pharmaceutical industry; aerospace.

About the company: Swati Precision Tool Room was established in the year 2003 and is a manufacturer and supplier of precision machined components.

Contact:

Swati Precision Tool Room, Bengaluru
Tel: 080-23584177 Mobile: 09341254424
Email: info@swatiprecision.com

AIRCRAFTS COMPONENTS



Meru Precision Industries offers aerospace components for aircrafts.

Features:

- These are manufactured utilizing quality materials and exactness building procedures.
- Submit to global quality models and offer these products with superb execution, erosion safety and more administration life characteristics.
- These products according to the particular prerequisites.

About the company: Meru Precision Industries is a well acclaimed name in the field of manufacturing, supplying and exporting of industrial gauges, aerospace components, jigs and fixtures, industrial gear boxes, special purpose machines, instrument boxes, lead screw nuts and splitting machines.

Contact:

Meru Precision Industries, Bengaluru
Tel: 080-23324085, 23284708
Mobile: 09986465377, 09620223786
Fax: 080-23525559
Email: merushiv@yahoo.com

AIR SHOWERS

Sam Products Pvt Ltd offers a wide range of air showers.

Features:

- The new generation air showers besides having all facilities of the existing Sam air showers, now facilitates the user friendly functions. These new hybrid air showers A.K.A negex have more built in safe features & incorporate better end user requirements.
- Negex are provided with Industrial grade Electromagnetic Locks having single body no moving parts. Even the Doors have Strong & Robust Stainless Steel Striker operating at static olding force of 1360Kgs.
- The doors are durable aluminium framed door assemblies with clear glass. As safety measure now Negex have Emergency Buttons along with User Lights on both sides of Shower for all doors to be unlocked instantly.
- Electrical main breaker switch are mounted on inside the work zone for rapid shutdown of the system & all doors are immediately unlocked.
- Electronic ballasted lights ensure reduction of energy costs. Permanantly lubricated direct drive centrifugal blowers.
- Interlocking of both exit & entry doors ensures both doors from being opened.
- All doors are unlocked automatically in case of power failure for safety reasons.
- It is duration of air shower is programmable. Continous flow of air is available at lower speeds at stand by mode thereby reducing energy consumed & maintaining the chamber clean.
- This time watch along with thermometer have been provided for instant display.
- It is stainless steel flooring ensures easy maintenance & cleaning.

About the company: Sam Products Pvt Ltd was incorporated with the aim to serve the customers with honest deals and high quality products such as plastic air curtains, air showers, etc. The company started its business operations in the year 1992 as a manufacturer and supplier of varied line of products for different industrial usage.Their quality assured products are suitable for varied applications. The main aim of our company is to produce the required quantity of clean room products that are required by our clients. The quality managers are the mainstay in ensuring the delivery of products and the customers. They ensure that the clients receive finest performance and efficient range.

Contact:

Sam Products Pvt Ltd, Noida
Tel: 0120-4357039
Mobile: 09810065139
Email: samproducts1992@gmail.com

VED Engineering
ISO 9001:2008 CERTIFIED COMPANY

COMPLETE TURN KEY SOLUTION FOR
DAIRY, BEVERAGE, FOOD & PHARMA INDUSTRY

Cup Filling Machine/ ICE Cream Filling Machine

ROTARY CUP FILLING MACHINE.
(1200/2000/3000 Cups per hour)

Cup filling machine suitable for filling liquids like Dahi/Lassi/Milk/Juice/ Yogurt/Shrikhand and Non Carbonated Beverage.

Functioning-Manual, Semi-Automatic, Fully Automatic.

ROTARY ICE CREAM CUPS/CONE FILLING MACHINE
(UP TO 2400 CONES PER HOUR)

Functioning-Semi-Automatic, Fully Automatic

Bottle/Matka Filling Machine

Customized jar and cup filling machine for (200-1000 ml) Automatic and semi automatic machines with washing and scrubbing of bottles and jars for curd and ghee. Matka filling machine for 1 Kg to 15 Kg variants with filling and sealing.

Pasteurization System

Pasteurization system ranging 300 LPH to 20,000 LPH Suitable for Milk, cream, dahi, paneer, juice & beverage. This system is offered with tubular holding ranging from 20 sec to 10 min depends on application. It is also provided precise output temp. control of the product

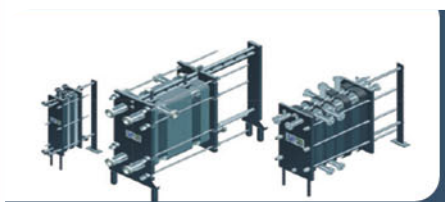


Plate heat exchanger

PHE used for heating/cooling of milk, cream, ice cream mix, sugar syrup, juice mix, beverages, soda water, pharma chemicals & food products

Clean-in Place

Clean-in Place (CIP) system used to clean the pipelines & equipment using circulation of hot water, lye & acid after every shift of processing products.

Hot water genration system

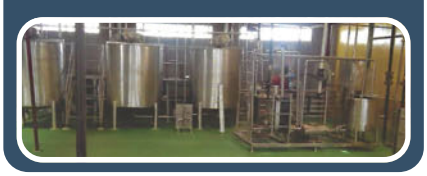
For Supply hot water at precise temp. Used for heating of pharma solution, milk, cream, juice, sugar syrup, beverage, chemical solution, swimming pool & hot water supply to hotel & hospital.

Dimple Jacketed tank & Hemispherical Kettle's

Used for heating/cooling of dairy, beverage, food, pharma products with regular agitation with optional process automation for maintaining the temp of fluid

Dairy Plant

Juice & Beverages Machinery



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Applications:

Air Compressors, Blowers, Fans, Agitators, Mixers, Pulverisers, Pumps, Jaw Crushers, Mill Duty, Blenders, Stone Crushers, VSI, Injection Blow Moulding, Extruder, Hydraulic Power Pack, Forging Press, Centrifuge, ID/FD Fan, Feed Water Pump, HVAC, Crane & Hoist.

We are committed to enhance your productivity and profits!

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IE4 Motors - Your Key to Short Term & Long-Term Profits!

If huge Electricity Bills are eating away your Profits, Replace your Old **IE1** Motors with Super Premium Efficiency **IE4** Motors!

Hello Decision Makers,

Here are some important facts about IE4 Motors.

Your Plant operates in an extremely complex and competitive business environment where only the fittest can survive. Since Profit Margins are always under pressure, the only viable option to maintain and increase the profit margin is to slash the operational costs. Electricity Costs being one of the major costs, which impacts your profitability. Old and comparatively inefficient electric motors of previous efficiency levels like Eff 1, Eff 2 and IE-1 often drag down the operational efficiency.

The modern IE4 Motors can help your industry to maintain the competitive edge in the Short and Long-Term Matrix.

The following table demonstrates this with an example for Popular Ratings…..

4 Pole IE4 Motors Running for 8000 Hrs at 80% Load Per Annum

Old IE1 Motor - 4 Pole/1500 RPM	55 KW	75 KW	90 KW	110 KW	132 KW	160 KW
Efficiency of Old IE1 motor	92.1 %	92.7 %	93 %	93.3 %	93.5 %	93.8 %
Your Old IE1 Motor Annual Power Consumption in Unit	382193 KWH (Unit)	517799 KWH (Unit)	619355 KWH (Unit)	754555 KWH (Unit)	903529 KWH (Unit)	1091684 KWH (Unit)
Your Old IE1 Motor Annual Power Bill (Rs.10 per Unit)	**Rs.3821930**	**Rs.5177990**	**Rs.6193550**	**Rs.7545550**	**Rs.9035290**	**Rs.10916840**
New IE4 Motor - 4 Pole/1500 RPM	**55 KW**	**75 KW**	**90 KW**	**110 KW**	**132 KW**	**160 KW**
Efficiency of New IE4 motor	95.7 %	96 %	96.1 %	96.3 %	96.4 %	96.6 %
New IE4 Motor Annual Power Consumption in Unit	367816 KWH (Unit)	500000 KWH (Unit)	599376 KWH (Unit)	731049 KWH (Unit)	876349 KWH (Unit)	1060041 KWH (Unit)
Reduced Annual Power Bill with New IE4 Motor (Rs.10 per Unit)	**Rs.3678160**	**Rs.5000000**	**Rs.5993760**	**Rs.7310490**	**Rs.8763490**	**Rs.10600410**

Performance and Saving after Using New IE4 Motors

Reduced KWH Units (Annual)	**14377 KWH (Unit)**	**17799 KWH (Unit)**	**19979 KWH (Unit)**	**23506 KWH (Unit)**	**27181 KWH (Unit)**	**31643 KWH (Unit)**
New **IE4** Motor Price (Rs)	Rs.192102	Rs.250684	Rs.290803	Rs.330010	Rs.388662	Rs.454685
Net Annual Savings by using New IE4 Motor instead of Old IE1 Motor	Rs.143770	Rs.177990	Rs.199790	Rs.235060	Rs.271810	Rs.316430
Payback Period (ROI) in Months For Recovering the cost of New IE4 Motor	Payback Period **16 Months**	Payback Period **17 Months**	Payback Period **17 Months**	Payback Period **17 Months**	Payback Period **17 Months**	Payback Period **17 Months**
New IE4 Motor Price (Rs.)	Rs.192102	Rs.250684	Rs.290803	Rs.330010	Rs.388662	Rs.454685
Deduction of Scrap Value of Old IE1 Motor (Approx.10%) (Rs.)	Less Rs.19210	Less Rs.25068	Less Rs.29080	Less Rs.33001	Less Rs.38866	Less Rs.45468
IE4 Motor Price after deduction of scrap value of IE1 Motor (Rs.)	Rs.172892	Rs.225616	Rs.261722	Rs.297009	Rs.349796	Rs.409216
Saving in Energy Bill with Rs.10/Unit	Rs.143770	Rs.177990	Rs.199790	Rs.235060	Rs.271810	Rs.316430
Payback Period (ROI) in Months for recovering the cost of IE4 Motor after deduction of scrap value of Old IE1 Motor.	Payback Period **14 Months**	Payback Period **15 Months**	Payback Period **16 Months**	Payback Period **15 Months**	Payback Period **15 Months**	Payback Period **16 Months**

With this, along with a saving in the monthly electricity bill, there is recovery in the Capital Cost within just 14 to17 months. Your IE4 Motor starts earning Benefits in the short as well as the long-term.

The Indian® Electric Co.

We are committed to enhance your productivity and profits!

DOOR ACTUATION

Eaton Technologies offers door systems and components across the aerospace market.

Features:

- The electromechanical capabilities are central to Eaton's large cargo door product line - a line that continues to provide superior performance.
- Eaton's systems, sub-systems, and components are used to control, open, close, lift, latch and/or lock all types of doors, including cargo, passenger.
- Environment control systems (ECS), landing gear, engine cowl, weapons bay, canopy, thrust reverser, ram air, and other types of aircraft doors.

About the company: Eaton is a diversified power management company providing energy-efficient solutions that help customers effectively manage electrical, hydraulic and mechanical power. The company is a global technology leader in electrical products, systems and services for power quality, distribution and control, power transmission, lighting and wiring products; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety.

Contact:

Eaton Technologies Pvt Ltd, Pune
Tel: 020-66337000
Fax: 020-66338585
Email: enquiryindia@eaton.com

AIRBORNE STRUCTURES

Hemkund Engineering offers airborne structures.

Features:

- Complete manufacture processes include heat treatment, annnealing, forming, solutionising, check and straighten.
- NDT test, age hardening, anodising, painting and assembly.
- Partnerships with various NADCAP approved special process vendors for airborne components.

About the company: Hemkund was established in the year 1983 to cater to the niche segment of precision engineering and manufacturing. Hemkund today has evolved in the Indian aerospace segment, providing solutions for the manufacture of complex aero structures and tooling.

Contact:

Hemkund Engineering, Bangalore
Tel: 80-25092106, 25092107
Mobile: 09845011089
Fax: 080-25594200
Email: pradeep@hemkund.co.in

AIRCRAFT WARNING LED LIGHT

Geltronix avails aircraft warning LED lights.

Features:

- Optical lens arrangement to provide 360o illumination by high-intensity red LEDs; special design for over 10 year life; current through LEDs under all conditions 20mA 20 %; voltage across LEDs under all conditions 2V 10 %.
- Photocell auto on/off (internal fitted) no extra cost; sealed water-proof unit conforming to IP-65 standards; casing made of special aluminum alloy (LM6), painted with UV paint for atmospheric protection.
- UV stabilised polycarbonate lens to protect the LEDs; bird - spike to keep away the droppings; fire retardant; withstands impact of up to 5J.

About the company: Established in the year 1988, Geltronix, is a manufacturer, wholesaler and exporter of broad range of aviation lights. The broad product array is made strictly according to the industry specific norms. The company uses high quality PVE insulated cover for the entire array of aviation lights.

Contact:

Geltronix, Ahmedabad
Tel: 079-25623610
Mobile: 09426573374
Email: geltronix@gmail.com

AIRCRAFT BATTERY, SILVER ZINC TYPE

HBL Power Systems offers silver zinc aircraft battery.

Features:

- HBL's silver oxide zinc batteries are used in military aircraft for emergency supply of reserve electrical power to aircraft avionics and weapons systems when the output of the aircraft generator is insufficient or the generator is out of service.
- It ensures continued combat capability of the aircraft independently by starting the aircraft engine without ground support units ensuring the aircraft is never stranded and will be available when called upon.
- This battery also fully meets the requirements of DTD & P (air) specification E&I 300, issue-3 issued by the Indian defence.

About the company: HBL Power Systems Ltd is active in business since 1977, with a focus on engineered products and services. The first products selected and successfully developed were Aircraft batteries - eventually leading to HBL offering the worlds widest range of specialised batteries.

Contact:

HBL Power Systems Ltd, Hyderabad
Tel: 040-66167777
Mobile: 08096907149
Email: sankaran.balasubramanian@hbl.in

WellMake

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- Chamber Type Furnaces
- Forced Air-Circulation Furnaces
- Pit Pot Type Annealing Furnaces for Wires & Strips
- Bogie Hearth Furnaces
- Forging/Normalising/Hardening/Tempering Furnaces
- Gas Carburising/Nitriding Furnaces
- Bell Type Furnaces for Bright Annealing & Heat Treatment
- Conveyorised Furnaces for Hardening and Tempering Plants
- Rotary & Moving Hearth Kilns
- Batch/Continuous Annealing Furnaces
- Melting/Holding Furnaces for Aluminium, Copper/Brass & Other Non-Ferrous Metals Crucible, Tilting Baleout and Reverbratory Type
- Furnaces with Hydrogen Atmosphere
- Furnaces for Gas Generators and Ammonia Crackers
- Aging, Homogenising Furnaces for Aluminium Plants
- Special Purpose Furnaces for Chemical Plants
- Continuous Furnace for Sintering & Brazing

80 Ton Bell Type Bright Annealing Furnace

IMPORT SUBSTITUTES

D -Type Muffles for BA Lines for SS

Muffle for BA Line for SS Line

Corrugated Inner Covers for Bell Furnaces

Various Types of Impellers

Manufacturing and Dispatch Facility

Machining Facility upto 3.6 meter dia

60 Ton Capacity Duel Fuel Fired Sheet Annealing Furnace

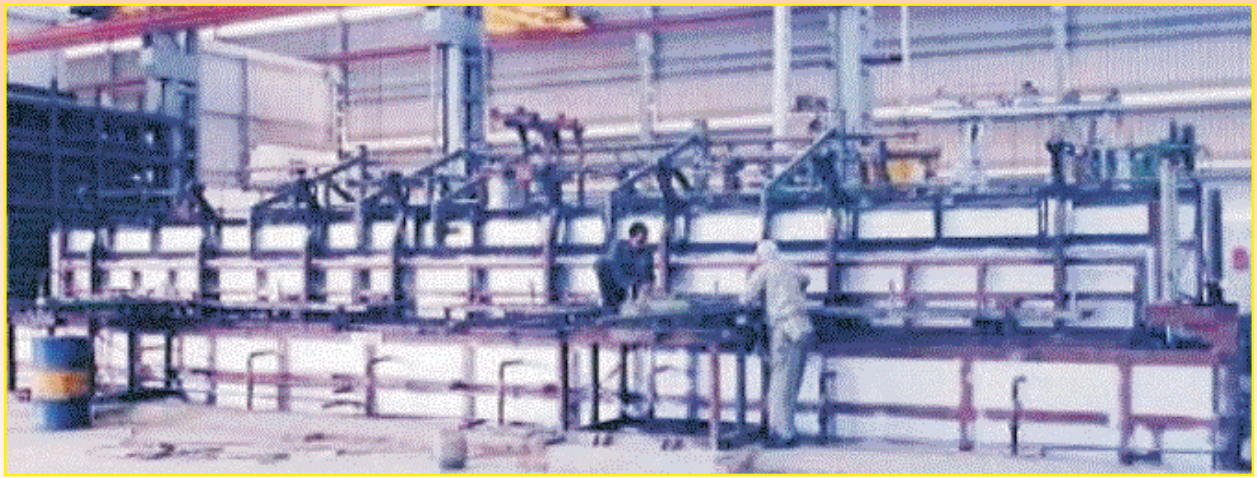
Batch Type Muffle Furnace with Protective Atmosphere

Indirect Fired Continuous Conveyorised Ovens

Gas Fired Rectangular Bell Furnaces

Quenching Furnace For Manganese Steels

Hot Air Generator for Municipal Waste / RDF to Energy Projects



Hardening Furnace with Quenching Tank for 40 Feet long Bars/Pipes

Conveyorised Heating Furnace

ENERGY SAVING DEVICES

Wellmake offers Energy Saving Devices for all type of Fuel or Gas Fired Furnaces wherein Combustion air to be preheated upto 350°C depending upon type of furnace by outgoing flue gases thus giving fuel saving of upto 5 – 6% depending upon type of furnace. The Recuperators fabricated from ERW or Seamless Tubes in grade AISI 304, 316 and 310.

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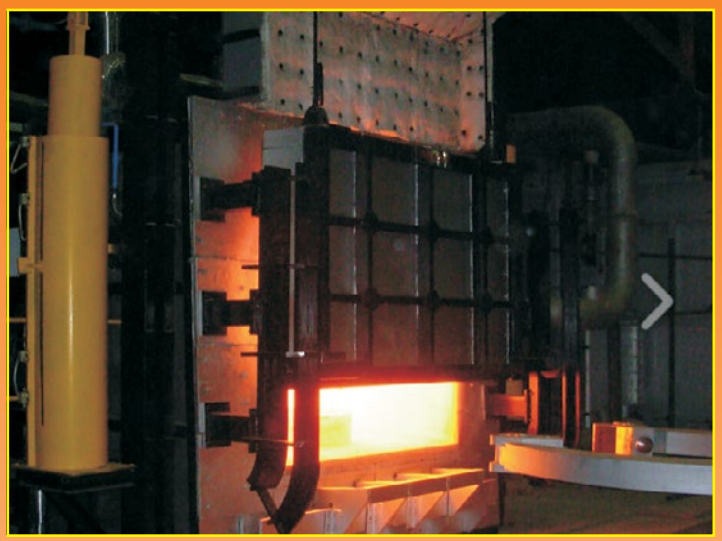
We also offer Special Purpose, Tailor made Furnaces and Heating Equipments as per Customer's specific requirements of Temperature, Process and Handling Arrangements other than our standard range of Products.



20 Ton/batch capacity Oil Fired Chamber Furnace for Forging with ± 3 degree C Temperature Control.

Continuous Hardening Quenching & Tempering Line for CO_2 Cylinders with Oil Fired Furnaces.

SS 316 L Grade Fabricated Sink Roll and Stabilizer Roll Arms and Bush Housings for Rolls of Galvanising Line.

Please contact with your specific requirements at;

Wellmake Engineering Company Pvt. Ltd.

38 Km, Sector-16, Kasar Road, Opp. Somani Labour Gate, Bahadurgarh 124 507. Haryana.

Phone: 011 25489548, 49050796 Mobile: 098108-96055 / 098100-53690

E-mail: wellmake2007@gmail.com | Web: www.wellmake.in

AUTOMOBILES SCANNER

Newtech Equipment offers automobiles scanner.

Features:

- This is compact and diagnostic scan tool for all Asian and European vehicles.
- User interface – fast downloading, compact size, bright display backlight; memory capacity – 256 MB built-in memory (max 1 GB)
- LCD – LED backlight 320x240 resolutions, 40 columns x12 lines; keypad – soft touch keypad type, total 25 keys button; power consumption – 3.6 watts; operating voltage – 7-36 V DC input
- Operating temperature – 0-50; internal battery – max 2 hr; user-friendly function – connector location, auto searching mode; scan function – current data, flight record, actuator (wherever applicable).

About the company: Established in the year 2008, Newtech Equipment, is a manufacturer, trader, importer and exporter of an assortment of wheel balancer, computerised wheel aligner and automatic tyre changer. These products are developed by employing cutting edge technology and machinery. The offered range of products have advantages like easy installation, accurate design, compact size, high operating speed and fully automatic operation.

Contact:

Newtech Equipment, Ahmedabad
Mobile: 09327123141, 09426068557
Email: newtechequipment@gmail.com

AUTOMOTIVE AIR DUCT HOSE

Ace Engineering & Chemicals, offers automotive air duct hose.

Features:

- Automotive air duct hose offered are FRP based that makes these non corrosive in terms of finish and long lasting in usage.
- Designed to deliver lifelong services, these are also water proof as well as come in light weight finish, thus making these ducts easy to handle while cleaning and during general maintenance.
- Meets up to the demands of cross ventilation; being made of FRP material, these are also superior in constructed finish and provide for superior ventilation for exiting of air and heat; no water absorption; excellent weather-ability.

About the company: ACE Engineering & Chemicals Pvt Ltd, established in the year 1998, is a manufacturer, distributor, exporter and supplier of a superior range of engineering moulding products/components.

Contact:

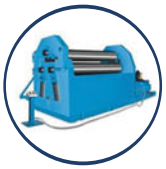
Ace Engineering & Chemicals Pvt Ltd, Indore
Mobile: 09826061669 Fax: 0731-2857481
Email: director@aceengineerings.com

Design & Manufacturing of

EOT/HOT/JIB/GOLIATH/GANTRY

Cranes & Hoists, Mechanical & NC, CNC Hydraulic Shearing Machines & Press Brakes, PLC Hy. Plate Rolling Machine, Hy. Presses & Power Presses, CTL / Slitting Lines, Pre Engineered Buildings, Special purpose Hydraulic & Pneumatic Machines.

Shearing


PRE-PINCHING Plate Rolling Machine

Straightener

CNC Press Break

Under Crank Shearing

Straightener

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Mob.: +91-93500 40636, 93134 29290, 80819 18191
Email: marketing@monotechengineers.com, monotech@nsenergygroups.com
Url: www.monotechengineers.com, www.nsenergygroups.com
Skype: monotech.engineers1991

HOSE CRIMPING MACHINE, MODEL HP/TRM2

Iso Hose & Engineering Works Ltd offers Flexon make hose crimping machine, model HP/TRM2.

Features:

- These machines is versatile and most rugged machine most simple operation and optimum accuracy of crimping of hose assemblies are the added features of the machine which is economically priced.
- The machine is beautifully painted with chrome plated supporting rods. Machine has digital display and operates with power switches and foot-operated valve (optional).
- Hose crimping-hose cutting-hose skiving- hose testing with impulse tests ranging from 7500 psi to 40000 psi working pressure.
- It is manually hand operated and motorized and ¼" to 2" size motorized hydraulically operated horizontal

About the company: Flexon machines have earned the name in domestic and international market since 1986. The company provides full technical and raw material support to prospective buyers.

Contact:

Iso Hose & Engineering Works Ltd, New Delhi
Tel: 011-42137604/25990574
Email: isohose1974@yahoo.co.in

EPC SERVICES FOR SOLAR/ WIND POWER PLANTS

Powermax Energies Pvt Ltd offers a wide range of EPCservices for solar/wind power plants.

Features:

- Solar/wind power plants are fully integrated power plants, with PV solar modules, wind generators, solar mounting systems, PCUs and other electronics that wire the grid and provide an independent source of energy.
- The range includes control panels, electrical control panels, DC drives, electrical DC drives, lift inverters, online UPS systems, commercial UPS systems, home inverters, sinewave inverters, servo stabilisers and Exide batteries in Thane, Mumbai.

About the company: Incepted in the year 1978, Powermax Inverters & UPS Systems is an ISO certified organisation. It is engaged in the manufacturing, exporting and trading of wide assortment of home UPS systems and batteries. Moreover, it is the authorised dealer of Bajaj home UPS systems and Exide batteries, Prestolite batteries and Amco batteries in Maharashtra.

Contact:

Powermax Energies Pvt Ltd, Mumbai
Tel: 0251-2446592
Mobile: 09322282181, 09769319621
Email: sales@powermax.co.in

RANSBURG ELECTROSTATIC SPRAY GUN

South India Spray Systems offers ransburg electrostatic spray gun.

Features:

- Vector is the cost-effective solution for all low pressure electrostatic painting processes with complete compliance with European Environmental Legislation.
- Vector provides considerable advantages compared to any other electrostatic spray gun system.
- Used for general metal spraying; intricate metal components and parts; commercial and off road vehicles; automobile parts; aerospace industry; domestic appliances.
- Lighter weight with improved operator ergonomics; increased durability and reduced maintenance; redesigned electrostatic controllers - provide quick and simple operation; easy to clean and maintain.

About the company: South India Spray Systems is a trader, importer, distributor, supplier and wholesaler of a broad array of spray finishing outfit, hose pipe connector, automatic air spray, compact mini trans tech, trans tech spray gun, manual HVLP spray gun and others.

Contact:

South India Spray Systems, Chennai
Tel: 044-43559006 Mobile: 09500057372,
Email: ramesh@sissindia.com

3D-STL WHEEL ALIGNMENT MACHINE

Sarveshwari Technologies, offers 3D-STL wheel alignment machine.

Features:

- It plug and play machine; 5 mega pixels Sony camera made for fast and accurate alignment; microsoft window XP compatibility alignment program.
- It is compatible with alignment pit/lifts; operate: mount the clamps-roll vehicle back or pull forward-obtain all; alignment readings in under dynamic measurements without rim; compensation, the basic parameters can be done in less than 2 minutes.
- In addition to the traditional basic parameters, certain extensive functions; like steering wheel, single wheel, and vehicle lift, etc; chassis align data online facility; precise measurements too can be done.

About the company: Sarveshwari Technologies Ltd(SARV) has been dedicated to provide complete comprehensive solutions for the tyre maintenance by not only offering equipment with latest technology from the world's renowned OEMs but by also having good stock of spare parts and trained personnel to cater to the immediate needs of customers.

Contact:

Sarveshwari Technologies Ltd, Delhi
Tel: 011-27023750, 27021499
Email: info@garageequipments.com

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AUTOPHORETIC COATING PLANTS

Integrated Automation and Robotics offers a wide range of autophoretic coating plants.

Features:

- Formation of a uniform film over the entire surface of the work piece; lower process energy consumption; elimination of heavy metal waste and volatile organic compounds emissions; improvement of inside-out corrosion performance.
- Easy reach even in difficult-to-reach areas; superior barrier protection; reduced application equipment footprint; low cost of coating.
- Used for defense and machine build up industries; automotive & its ancillaries; general engineering; heavy earth moving equipment manufacturing.
- LCV/MCV/HCV auto service industry; heavy earth moving equipment industry; white good products; power equipment; aviation, marine components.

About the company: Integrated Automation and Robotics is a provider of all types of PLC and SCADA based automation solutions. Applicable for fully automatic surface treatment plants with transporters, custom built automation systems, motion control systems, robotic and servo based systems, etc.

Contact:
Integrated Automation and Robotic, Aurangabad
Tel: 0240-6451197 Mobile: 09158277999
Email: vijay.akot@rediffmail.com

SOLAR MODULES

Macro Solar System offers solar modules.

Features:

- The modules are available in different sizes and designs so as to cater to the given requirements; longer service life; easy to install; fine finish; easy maintenance.
- The products are manufactured through intelligent and resourceful applications of latest technology.
- The steel products are widely applauded for their notable features like rugged construction, durability and excellent workability.

About the company: Established in the year 2009, Macro Solar System is engaged in offering solar and engineering products. It manufactures and supplies solar Modules, solar street lights, solar home lighting systems, solar water heaters, solar power pack, solar water pumping systems, solar lanterns, solar stand fans, etc.

Contact:
Macro Solar System, Hyderabad
Tel: 040-42221477, 23779277
Mobile: 09963832999, 08978532999
Fax: 040-32779277.
Email: info@macrosolar.in

SOLAR CHARGE CONTROLLER

Amrut Energy offers a wide range of solar charge controller.

Features:

- Easy installation; simple handling; long service life; intelligent microprocessor control; silent, solid state pulse width modulation (PWM charging) process; user selectable configuration 12 V or 24 V or 48 V configuration.
- Test point allows precise adjustment of settings; electronic over current protection; communication interface with PC or LCD modular for data logging or parameter.
- Prevents battery from the damage caused by overcharge, and disconnects the battery in case of severe discharge by shutting loads; used in solar power systems, solar grids and solar inverters.

About the company: Founded in 2014, Amrut Energy Enterprise is a manufacturer, wholesaler and trader of solar power systems and batteries. The wide assortment of products comprises solar power systems, solar home and street lights and solar panels.

Contact:
Amrut Energy, Ahmedabad
Mobile: 09574556247, 09054333393
Email: info@amrutenergy.com

ANTI CORROSIVE COATING SERVICE

Grafiti Constrotech offers a wide range of anti corrosive coating service.

Features:

- Offered anti corrosive coating is highly demanded in various application areas and also owing to its several quality attributes.
- These anti corrosive coating are available at nominal rates; timely execution; hassle-free management; optimum results.
- Used for offshore platform components, pipework, coastal structures, drill riser sections, brake calipers; industry served marine, oil-gas, industrial, infrastructure, power generation.

About the company: Established in the year 2011, Grafiti Constrotech is a service provider engaged in flooring and waterproofing services, in conformation with industry laid norms and standards. These services are rendered using high-grade materials and equipment and latest technology.

Contact:
Grafiti Constrotech, Pune
Tel: 020-25452187
Email: grafiticonstrotech@gmail.com,
ajayjathar@gmail.com

SERVING INDUSTRIES TO SATISFACTION FOR MORE THAN FOUR DECADES

PRODUCT RANGE

LEVEL INDICATORS / TRANSMITTERS
- mechanical level indicators
- remote boiler level indicators
- magnetic level gauges
- capacitance type level indicators / transmitters
- displacer level transmitters
- RF capacitance type level transmitters
- reed level indicators
- ultrasonic level transmitters

LEVEL SWITCHES
- displacer operated magnetic level switches
- float operated external cage magnetic level switches
- float operated magnetic level switches
- reed level switches
- conductivity type level switches
- RF capacitance type level switches
- vibrating fork level switches
- rotary paddle level switches
- cable and float level switches
- Oil level float switches

LEVEL GAUGES
- bicolor / color port level gauges
- reflex level gauges
- transparent level gauges
- tubular level gauges
- float and tape type tank gauges

FLOW SWITCHES
- globe / vane type flow switches
- indicating flow relay
- thermal dispersion flow switches

FLOW METERS
- paddle wheel flow meters
- electromagnetic flow meters
- magnetic flow meters
- ultrasonic flow meters
- variable area flow meters

OPEN CHANNEL FLOW TOTALIZERS
- capacitive open channel flow totalizers
- ultrasonic open channel flow totalizers
- float type open channel Flow totalizers

LOSS OF HEAD INDICATORS
- capacitive type
- float type

VALVES
- cast iron / cast steel / forged steel valves
- ibr certified blow down valves

rate of flow transmitter

float operated magnetic level switch

blow down valve

electromagnetic flow meter

rf capacitance type level switch

vibrating fork level switch

thermal dispersion flow switch

colour port level gauge

ultrasonic flow meter

ultrasonic open channel flow totaliser

Gear Box Oil Level Float Switch

magnetic level gauge

rotary paddle level switch

loss of head indicator

conductivity type level switch

reflex level gauge

displacer operated magnetic level switch

capacitance type level indicator

Paddle wheel flow meter

float & tape tank gauge

HO Address: 'RAJKAMAL', 6TH FLOOR, 13, CAMAC STREET, KOLKATA –700 017
Contact: Ph: +91 33 22832766, 22903924
Email: info@levcongroup.com, levconh@vsnl.net
Web: www.levcongroup.com

ANTI-CORROSIVE PRIMERS AND INTERMEDIATES

Hempel Paints (India) Pvt Ltd offers a wide range of anti-corrosive primers and intermediates.

Features:

- Can provide a reliable anti-corrosive system for almost any structure or piece of equipment, from bridges and port equipment to offshore wind turbines and oil-gas constructions
- All our coating solutions are designed with durability in mind, to ensure you benefit from longer asset lifetimes and efficient maintenance; the primers and intermediates have been tested according to Norsok and ISO 12944 standards, and
- The range of primers and intermediates includes: avantguard activated zinc primers, hempadur epoxy coatings, galvosil zinc silicates, versiline CUI 56990, hemudur waterborne epoxy primers, hemucryl waterborne acrylic primers.

About the company: Hempel is a coatings supplier for the decorative, protective, marine, container and yacht markets.

Contact:

Hempel Paints (India) Pvt Ltd, Mumbai
Tel: 022-61392555, 2520392123 Mobile: 09821412315
Email: prta@hempel.com

CF POWDER COATING EQUIPMENT

Triologics Surface Finishing Equipments offers a wide range of CF powder coating equipment.

Features:

- This is a constant power unit, which ensures voltage and current ratio to ensure proper charging of powder with good coverage and wrap around at different distances from gun tip and the job to be coated.
- A variety of powder flow patterns are possible due to special vortex type nozzle design without changing nozzles; the Corona-CF is a typical electro-pneumatic design with two stages, which can be used depending on the job profile.
- The difference in charge tackles the faraday cage effect and stops repelling of powder, which is an advantage when painting corners and intricate shapes.

About the company: Triologics Surface Coatings Private Limited an ISO 9001:2008 certified company, is a manufacturer, trader and exporter of a range of finishing equipment and system.

Contact:

Triologics Surface Finishing Equipments, Pune
Mobile: 09423003832, 09422027596
Email: response@triologics.com

COLD GALVANIZING ZINC COATING

Arihant Corporation offers a wide range of cold galvanizing zinc coating.

Features:

- It works electro-chemically on all ferrous metals, providing rust and corrosion protection indoors and outdoors.
- Provides a tough, flexible coating that will not crack or peel even in extreme heat or cold; it is a 98% zinc-rich galvanized coating that works like a hot-dip on ferrous metals indoors and outdoors.
- The coating withstands water temperature up to 100°C and continuous dry heat up to 400°C; flash rust prevention on welded areas.
- Applications include air conditioning systems and fans, fencing, piping, sumps, water tanks, gutters, metal roofs and buildings, structural steel bridges, buildings, off-shore rigs, steel windows, etc.

About the company: Arihant Corporation, established in 2007, is a trader and supplier of lubricant oils, lubricant spray, synthetic lubricant, aerospace lubricant, grease lubricant, release agents, etc.

Contact:

Arihant Corporation, Ahmedabad
Mobile: 09426035613, 09978923163
Email: aricorpo@yahoo.co.in

GANTRY / GOLIATH CRANES

Reva Industries Ltd offers a wide range of gantry/ goliath cranes.

Features:

- These cranes, often called goliath cranes or portal cranes, are suitable for indoor and outdoor usage.
- They are self-standing members (they are cranes with legs, and do not require support from walls or rigid columns of buildings.
- They are available in a wide range of capacities between 1T till 150T. They are majorly used in open ware houses or buildings where the column or structure is weak.

About the company: Established 1963 with auto parts for escorts, Eicher. In 1979 the material handling division was initiated to manufacture EOT cranes, double girder cranes, single girder cranes, underslung cranes, underslung double girder cranes, electric hoists, high lift hoists, low headroom hoists, jib cranes, pillar mounted jib cranes, wall mounted jib cranes, goliath cranes, stacker cranes, traverser, tandem operation cranes, flame proof cranes, circular cranes of different sizes and capacities.

Contact:

Reva Industries Ltd, Faridabad
Tel: 0129-4185400
Email: reva@revacranes.com

We Offer

Belts that Drive Productivity

- Kevlar Woven Belts
- Kevlar Woven Tapes/ Ropes/ Roller covers
- SS Woven Belts
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- Covered Timing Belts – Plain & with Vacuum Holes
- Stainless Steel Belts
- Drive Tapes of Stainless Steel

Also available – any other special Belt as per your design & requirements.

- Stainless Steel Belts – Belt Technologies USA
- Timing Belts with Cover for FFS machines – Bervina Hungry
- High Temperature Heat Resistant Belts – up to 650° C – Tuff Temp USA

THE PROLIFIC

84, Stephen House, 4, B B D Bag (East) Kolkata 700 001.
Tel.: 033 22420486 / 033 22311075
E-mail: sales@prolificbelting.in • bk@prolificbelting.in

BRUSHLESS DC MOTOR WITH DRIVE.

Chandra Electric Company offers a wide range of brushless dc motor with drive.

Features:

- This product offers NEMA 23 frame size BLDC motors from 10 to 120watts in 24vdc, 36vdc and 48vdc (Custom Voltage motor also can be manufactured) using rare earth magnets as rotor.
- It is offering 4pole motors with and without hall effect sensors. End Shields are aluminum pressure die cast. Motor shafts (machined in CNC m/c) made of Carbon steel 40C8 as per IS: 1570.
- Specially designed bearings are used to withstand frequent change in acceleration, deceleration or sudden change in speed.
- This motor and drive work in closed loop system. Drive also offers serial communication with basic feature on potential free contact like start/stop and Frwd/Rev, speed control thru POT or PLC (0-5Vdc/10Vdc) as per customers' choice.
- It is 24Vdc operated speed 3000-12000 rpm, wattage:- 10 to 120 watts.

About the company: Chandra Electric Company manufactures electric motors (BLDC, PMDC, universal, shaded pole, AC motors) for import substitution.

Contact:

Chandra Electric Company, Mumbai
Tel: 022-25961016 Mobile: 09322505913
Email: pillai@cemotors.co.in, cemotors@gmail.com

BREAKSTEM BLIND FASTENERS

Avlock International India Pvt Ltd offers a wide range of breakstem blind fasteners.

Features:

- These are available in various types & different materials. These are widely used in all sheet metal industry.
- It is ideal for use in thin sheet materials where access is limited to one side of work surface only.
- Compensates for irregular, oversized, slotted or misaligned holes. Provides strong, vibration resistant joints.
- It is high corrosion resistance & high shear and tensile strength.

About the company: Avlock International is the world's leading manufacturer and distributor, in specialized fasteners and installation equipments. They are an Indo-South African joint venture company having ISO 9001:2015 certification for manufacturing and supply of rivets and installation tools.

Contact:

Avlock International India Pvt Ltd, Thane
Tel: 022-25872300
Email: info@avlock.co.in

TENSION SPRINGS

Aditya Industries offers tension springs, also known as extension springs.

Features:

- The main use of a tension spring is to absorb or store energy along with creating a resistance to the pulling force, the spring gets stretched as the lood is applied to it.
- Tension springs are attached at both ends to other components, when these components move apart, the spring tries to bring them together again; tension springs absorb and store energy as well as create a resistance to a pulling force.
- They are often tughtly wound in the no load position and have hooks, eyes, or other interface geometry at the ends to attach to the components they connect; they are frequently used to provide return force to components that extend in the actuated position.

About the company: Aditya Industries is ISO 9001 company and manufacturing coil springs for use in stone crusher machine, vibrating screen, construction machine, mining, elevator, agriculture, control valve, steel plant, piping hanger, switchgear etc.

Contact:

Aditya Industries, Ambernath
Tel: 0251-2620027/2
Email: aditya_springs1@rediffmail.com

GEARS, GEAR COMPONENTS & ASSEMBLIES

Eppinger Tooling Asia offers a wide range of gears, gear components and assemblies.

Features:

- The product range consists of spiral bevel gear sets – 10 to 1 ratio dia 457 mm; 2 to 1 ratio dia 406 mm, module up to 12.7; 1 to 1 ratio dia 323 mm; hobbed gear dia 500 mm x 8 m; hardened and profile ground spur and helical gears dia 330 mm x 5 m; internal gears dia 152 mm x 3 m.
- Custom built/non-standard gears and gear assemblies also can be provided.
- Applications include machine tools, railways, textiles, automation, automotives, engineering, pumps, compressors, printing machines, etc.

About the company: Established in 1925 in Denkendorf, Germany, today Eppinger Tooling Asia Pvt Ltd is well equipped to offer a wide range of gear assemblies, gear components and high precision gears - both standard and custom built. State-of-the-art manufacturing and quality control facilities ensure top quality.

Contact:

Eppinger Tooling Asia Pvt Ltd, Coimbatore
Tel: 04259-304032/33/34 Mobile: 08870013053
Email: marketing@eta-tools.com; eppinger@dataone.in

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SHEET PASTING MACHINE, CORRUGATED

SRG International offers a wide range of highly efficient corrugated sheet pasting machine.

Features:

- These machines are used to apply glue on the tip of the corrugation sheets for making a different ply.
- Sheet pasting machine comprises 3 rollers, which are smoothly finished for ensuring even lamination of boards.
- Provided with hard chrome rollers with these machines for improving the quality; long life services of the machine and to ensure the gum crushing.
- The machine is simple in design and easy to operate which insure smooth finish and working; hand fed sheet pasting machine is useful for gluing fluted side of board for making 3, 5, 7 ply corrugated board.

About the company: SRG International Pvt Ltd, established in 2005, is active in the domain of manufacturing, supplying, exporting and retailing prefabricated structure, cold room and stainless steel products etc.

Contact:

SRG International Pvt Ltd, Faridabad
Tel: 0129-4069216 Mobile: 09811984444
Fax: 0129-4069216
Email: srgprefab@gmail.com srginternational.in

PPR INSERTS

Air Grip Group of Companies offers PPR inserts made from brass.

Features:

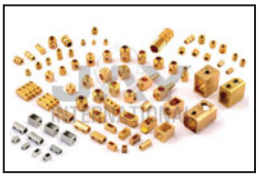
- The inserts are available with diamond, straight or unidirectional knurling.
- Length maintained for such inserts within tolerance of -0.05 mm; thread size starts from M16 to M50, BA, BSW, BSPT, BSF and American threads like UNC, UNF, UNEF, and NPT are also available as per custom requirements; straight, diamond, opposite diagonal etc are the knurling options available to give solid gripping to molding applications.
- Vertical undercuts in tri series provides superior tensile strength. Blind thread or closed bottom inserts prevent plastic from entering the bottom of the insert.

About the company: Airgrip Group are a medium to high volume, brass products supplier who also produce precision components, brass turned parts, shrew machine parts and fasteners, including sub-assemblies to specific drawing tolerances.

Contact:

Air Grip Group of Companies, Jamnagar
Tel: 0288-2730001
Fax: 0288-2730002
Email: sales@airgrip.co.in, sales@airgrip.in

PLASTIC MOULDING INSERTS



Jay International provides brass threaded inserts for plastics industries, communication equipments, automotive industries, electrical and wiring device cases, etc.

Features:

- Full line of brass inserts offered for all methods of installation, including: ultrasonic, heat, thermal, press-in and mold-in.
- Brass inserts are produced as per custom design and specifications. Standard series of threaded inserts such as straight hole, blind (closed bottom), collar inserts, ultrasonic, press in, tri slotted inserts, etc are available.
- Collar series inserts provide options to use flange to make electric contact. Ultrasonic series thread inserts having opposite diagonal knurls provide excellent torque resistance.
- Blind thread or closed bottom inserts prevent plastic from entering the bottom of the insert.

About the company: Established in 1965, Rupam Group of companies is a manufacturer, exporter of brass components for electrical industries specially for switchgear and energy meters.

Contact:

Jay International, Jamnagar
Tel: 0288-2560565 Fax: 0288-2560560
Email: jaydhirajcorp@yahoo.com, info@jaybrass.in

ULTRASONIC CONCRETE TESTER

Index Engineering offers ultrasonic concrete tester.

Features:

- These testers have features like fast concrete testing using non-destructive techniques, better viewing facility at site under high ambient light conditions, and completely portable with optional battery operation..
- Gives reading directly in microseconds with positioned decimal nominal 3 prr and 30 prr switch selected rate.
- Time measurement ranges from 0.1 to 999.9 microseconds in single range with least count of 0.1 micro seconds throughout and of accuracy -0.1 microseconds for entire range. It has measurement range of approximately 1.5 mtrs in concrete.

About the company: Established in 1977, Index Engineering Co is an ISO 9001:2008 certified business firm engaged in manufacturing, supplying, trading, retailing, wholesaling and exporting a comprehensive range of industrial equipment and machines such as testing and engineering equipment and surveying instruments.

Contact:

Index Engineering Co, Indore
Tel: 0731-2544254 Mobile: 09425057910
Email: info@indexengineering.com

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SOLAR CHARGE CONTROLLER

Jadhav Powertech offers a wide range of solar charge controller.

Features:

- This wide range of solar charge controllers are used for solar home lighting systems, street light systems and for various solar PV applications.
- These charge controllers, which protect battery from over charging and for excessive discharge, are the essential components of solar PV systems.
- These controllers ensure negligible voltage drops; consumes less than 5 mA; offers long life of batteries; and come with noncorrosive terminals.
- They are compact in size and easy to install; and provide adequate protections and indications.
- Their other features include nominal system voltage (12V/24V DC); charging current (6A/10A); charge control efficiency > 95%; and excellent charging algorithm.

About the company: Jadhav Powertech is engaged in manufacturing, and supplying high end electronic equipment like digital UPS, solar LED lights, solar street lights, solar home light system, digital inverter, solar garden lights, LED tube light, LED gate lamp, LED down light, solar CFL street lights. The range of products find application in industries like telecom, information technology, automotive, etc.

Contact:

Jadhav Powertech, Nashik
Tel: 0253-6619919 Mobile: 09096870007
Email: jadhav_powertech@rediffmail.com

DUST FUME EXTRACTION SYSTEMS

Wollaque Ventilation & Conditioning offers high quality dust fume extraction systems, extensively demanded in multiple industries.

Features:

- These systems are broadly known for their anti-corrosive nature and robustness.
- Its features include excellent performance; energy efficient; rust resistance; low maintenance.
- These systems are manufactured under the guidance of ingenious professionals using the finest grade components with the help of contemporary techniques as par the international norms of quality.

About the company: Established in 1995, Wollaque Ventilation & Conditioning (P) Ltd is engaged in designing and manufacturing of air pollution control equipment, industrial ventilation equipment and other related systems.

Contact:

Wollaque Ventilation & Conditioning (P) Ltd, Noida
Tel: 0120-3021945 Mobile: 07053126570
Fax: 0120-3021948 Email: wvcl@hotmail.com

DOUBLE HELICAL GEARS

Ashoka Gears offers double helical gears.

Features:

- These gears can bear high torque; possess similar advantage and smoothness like single helical gear.
- Double helical gears are very useful in marine industry and heavy equipment manufacturing marine gears boxes, rolling mills, steel rolling mills and other heavy industries.
- Two gears of the same type are stacked together and make it one; most double helical gears come in cylindrical form.
- It has two sections of teeth which are simply referred to as the left hand and the right hand.

About the company: Ashoka, started in 1952, is a diversified component manufacturer catering to cement plants industry, sugar industry, steel re-rolling mills, turbine plants, steel plants, power plants, mining industry-gold, coal, mineral, fertiliser industry, earth moving equipment manufacturers, handling equipment manufacturers, harvesters manufacturing industries and various other OEMs.

Contact:

Ashoka Group, Noida
Tel: 0120-4252305 Mobile: 09811141400
Email: ag@ashokaengineering.com

POWDER COMPACTION DIES

Electronica Tough Carb offers powder compaction dies that are largely used as a tool for pressing of powders.

Features:

- These powder compaction dies exhibit superfluous resistance and endurance due to which they are highly demanded.
- Cavity finish and alignments of punches, core rods are maintained perfectly in order to load on press machines; temperature resistant; enduring; corrosion resistant; and abrasion resistant.
- These dies are used for hard metal; ceramic; powder metallurgy; magnet; refractory and pharmaceutical sectors.

About the company: Electronica Tough Carb Ltd (ETCL), a group company of SRP Electronica, was incorporated in 2008 for tungsten carbide products. ETCL is governed by a stringent set of quality control policy. It has established an in-house metallurgical and chemical laboratory as an integral component of its manufacturing unit.

Contact:

Electronica Tough Carb Ltd, Nashik
Tel: 02551-230221
Mobile: 09011089813
Email: enquiry@toughcarb.com, skanore@toughcarb.com

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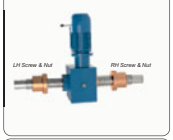

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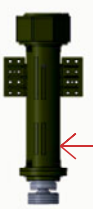

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PLUNGER TYPE PUMP (MP-I0)

Mini Max Pumps offers plunger type pump (MP-I0), providing longer service life and excellent performance.

Features:

- This pump can handle high pressures of 98 kg/sq cm; offer steady state metering accuracy of +/-1 % of pump output; and single setting of stroke from 10%-100% by interlocking mechanism.
- This pump offers high flow rates of 0-10,000 liters/hr. Simplex and multiplex arrangements of pumps with common drive are available for universal use.
- The range includes plunger type pumps, hydraulic actuated diaphragm pumps, hydraulic actuated pump, mechanically actuated pumps, med pumps, screw pumps, mechanically actuated diaphragm pumps, solenoid operated dosing pumps, hygienic pumps, and high pressure triplex pumps.

About the company: Established in 1999, Mini Max Pumps is a manufacturer, exporter and supplier of hi-tech pumps and associated systems. These are provided in different operating configurations so as to perfectly match up with multiple working needs.

Contact:

Mini Max Pumps, Nashik
Tel: 0253-6649383 Mobile: 09130022891
Email: minimaxpumps@gmail.com, sales@minimaxdosing.com

TOP MOUNTED ENTRY STIRRER

Noble Procetech Engineers offer top mounted/top entry stirrers.

Features:

- These stirrers comprise stainless steel tank mixers, that comes with high shearing and mixer emulsifier mounted on tank top.
- They are used for mixing, emulsifying, homogenising, dispersing and disintegrating of solids.
- Precision construction standards for mixers allow cutting processing times.
- Control panel, timer, gear box/available in flameproof and non flameproof version are available. Material of construction (MOC) for contact parts are SS 304, SS 316, SS 316 L, alloy 20 & hastelloy C, and for non-contact parts are MS powder coated; for heavy work, double bearing type heavy bracket, heavy duty use in adverse environment.

About the company: Noble Procetech Engineers, established in 2007, manufactures and supplies a comprehensive range of process equipment and systems that includes process pumps, dosing systems, electric metering pumps, industrial metering pumps and many more.

Contact:

Noble Procetech Engineers, Nashik
Tel: 0253-6612267 Mobile: 09172211562
Email: response@meteringdosingpump.com

DIAPHRAGM PUMP, MECHANICAL ACTUATED

Unique Dosing Systems offer mechanical actuated diaphragm pump.

Features:

- It is generally used for water and waste water treatment chemicals. It has a capacity ranging from 0 to 720 L/h and pressure up to 5 kg/cm2.
- Designed to be used for low capacity and low pressure, it has PTFE coated diaphragm which is motor driven.
- It is ideal for continuous duty applications and extensively used for handling corrosive fluids. The mechanically linked diaphragm is driven with the help of motor. The operational accuracy of the pump is up to + 3% and the repeat ability accuracy is +3%.
- Pump is used for dosing all types of chemicals, polyelectrolyte, PAC and alum, soapstone powder; hydrogen peroxide (H2O2), and rosin.

About the company: Incepted in 2003, Unique Dosing Systems is a manufacturer and supplier of a vast array of standard and customised positive displacement pumps and testing systems.

Contact:

Unique Dosing Systems, Nashik
Tel: 0253-6695341 Mobile: 09822420535
Email: info@uniquedosing.com, sales@uniquedosing.com

MILLING MACHINE, KNEE TYPE

Ess Kay Lathe Company provides knee type milling machine.

Features:

- Milling machine is known for its compact design. This machine is easy to handle as well as to maintain.
- Its features include: rigid spindle housing; ribbed high graded cast structure; one shot lubrication system; exceedingly low operation noise; cross ribbed box type column structure; hardened and ground gears, spindle and shaft; rigid over arm makes over arm; brace superfluous; robust and large front bearing on spindle; power operated feed and rapid trousers (only in 'A' series).
- Wide range of spindle speeds and feeds facilitate every needs of industry. Machines are designed according to the international standards, proven technology and using first class material for the manufacturing process.

About the company: Started in 1988, ESS Kay Lathe Company manufactures and exports a range of machineries such as heavy duty lathe machines, cone pulley lathe machine, pulley type lathe machine, industrial slotting machine, etc.

Contact:

Ess Kay Lathe Company, Batala
Tel: 01871-242575 Mobile: 09216220475
Email: info@esskaylathemachines.com

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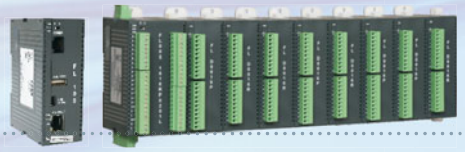

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COPPER ROD, OXYGEN FREE

Shera Energy offers high quality copper wires and stripes like O2 free copper wire rod.

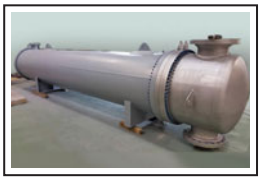
Features:

- These rods are used in many industries related to cement, construction, shipbuilding and many other commercial industries for various applications.
- These rods are manufactured using optimum quality raw material which gives quality and reliability assurance of these copper wires.
- These products are used as anodes in electrical industry for paneling, electrification lines, earthing, etc.
- They come in 8, 12.5, 16 and 20 mm sizes; are available in different grades and dimensions; are resistive against rust and corrosion; are durable and reliable; are highly malleable; and have excellent tensile strength.

About the company: Shera Energy Pvt Ltd, incorporated in 2003, is engaged in manufacturing and supplying of premium quality copper wires and strips as well as aluminium wires and strips.

Contact:
Shera Energy Private Limited, Jaipur
Tel: 0141-2330056
Mobile: 09314434116
Email: piyush@sheraenergy.com, geet@sheraenergy.com

SHELL AND TUBE HEAT EXCHANGERS



Rex Heat Exchanger offers high quality shell and tube heat exchangers.

Features:

- These heat exchangers are mostly used in higher-pressure and higher temperature applications. These types of heat exchangers have two divisions - one is shell and other is tubes. Here one fluid runs through the tubes, and another fluid flows over the tubes (through the shell) to transfer heat between the two fluids.
- For this purpose seamless/ERW or rolled pipes are used for shell and seamless tubes are used for tubes.
- The shell and tube heat exchangers design process contains two parts – thermal and mechanical design.

About the company: Rex Heat Exchangers is a manufacturer of heat exchangers. Tubes, tube sheets, shells, baffles and fins of heat exchanger are made out of various custom required material and TEMA standards like seamless or ERW tubes and shells in copper aluminum, brass, mild steel, cupro nickel, aluminium brass and stainless steel, carbon steel, admiralty brass materials are used.

Contact:
Rex Heat Exchanger Pvt Ltd, Vadodara
Tel: 0265-2351643 Mobile: 09974176693
Email: response@rexheatexchanger.com

AIR EJECTOR

Hemant Industries offers a wide range of air ejector.

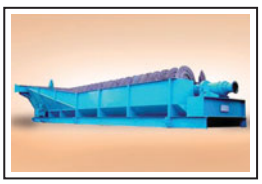
Features:

- Air ejector helps in reduction of costly downtime of heavy equipment operating at elevated temperature and safety of workmen who are performing their duties where hazardous fumes and gases are present.
- It helps in improving efficiency of workers, who must work in hot areas or where noxious gases are present; areas where electrically operated exhaust equipment cannot be used.
- Features of this air ejector includes no moving parts; ideal for venting in hazardous areas; maintenance free; high static pressure capabilities; high volume discharge; aluminum inlet housing; sturdy galvanised steel or aluminum diffuser and even FRP lined; and light weight construction.

About the company: Established in 1971, Hemant Industries is engaged in manufacture, supply and export of air movers, flange guards (PP, MS, SS, teflon), CCOE approved, safety fittings, industrial safety helmets (with national and international standards).

Contact:
Hemant Industries, Vadodara
Tel: 0265-2642402 Mobile: 09825014516
Email: info@hemind.com, hemantindustries@gmail.com

SPIRAL CLASSIFIER



Durga Metal Profiles offer superior quality spiral classifier.

Features:

- This wet classification is the art of solid-liquid separators i.e. spiral separator, separating the solid particles in a mixture of solids and liquids into fractions according to particle size or density by methods other than screening.
- The classifying operation is carried out in a pool of fluid pulp confined in a tank arranged to allow the coarse solids to settle out, whereupon they are removed by mechanical means.
- Solids that do not settle report as overflow from the pool; upgradation of 2 to 3% is achieved improving qualities of an end product.

About the company: Durga Metal Profiles, Belgaum, is a unit pioneered in manufacturing, plant equipments, mineral processing equipment, engineered mineral processing equipment especially for iron ore beneficiation plants. Its range includes spiral classifier, industrial spiral classifier, industrial spiral separator, solid-liquid separators spiral separator, etc.

Contact:
Durga Metal Profiles, Belgaum
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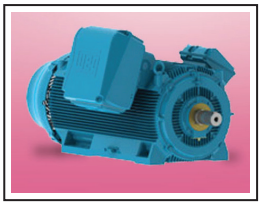
HGF MOTORS



Weg Electric offers HGF line motors having high performance combined with low maintenance costs.

Features:

- This product line is ideal for operating in the toughest applications, which require increased strength and durability of motors.
- Its specifications include: Rated output – 90 kW to 3150 kW; number of poles – 2, 4, 6, 8, 10 and 12; frame sizes – 315 to 630; frequency – 50 Hz; voltage – 380 to 6600 V; service factor – 1.00; insulation – class F (ΔT = 80K); degree of protection – IP55
- Its features include mounting – B3; cooling method – TEFC - IC411; enclosure material – FC-200 cast iron; fan cover – FC-200 cast iron for frames up to 400 and steel for frames 450 and above; fan – aluminum for frames up to 500 and steel constructed for frames 560 and above.

About the company: Weg Electric initially produced electric motors, in the 1980s. It expanded activities, making electrical and electronic parts, products for industrial automation, power and distribution transformers, coatings and electrical insulating varnishes.

Contact:

Weg Electric (India) Pvt Ltd, Bangalore
Tel: 080-46437450 Email: info-in@weg.net

WEIGHT REDUCTION MACHINE

Devrekha supplies weight reduction machine and dye weight reduction machine.

Features:

- This comes with low tension volumetric soft nozzle; totally tangle free operation with help of angular design nozzle and fully flow square pipe; excellent and even reduction with low tension and perfect rinsing system.
- This machine has moderate and auto control liquor ratio; PLC base automation with graphical display and PID control (if required); digital level controlling system for accurate control dozing.
- Fully automatic and semi automatic version is available. It comes with stirrer mechanism in caustic addition tank; easily removable filter and heat exchanger.
- It can operate in low temperature up to 90°C (max) and vessel is made from SS 316 L.

About the company: Devrekha an ISO 9001:2000 certified company engaged in the manufacturing and exporting of textile dyeing machinery was established in 1982.

Contact:

Devrekha, Surat
Tel: 0261-2398881 Mobile: 09825148738
Email: info@devrekha.com

COPPER FLEXIBLE CONNECTORS, FLAT BRAIDED

Nana Udyog offers a wide range of flat braided copper flexible connectors.

Features:

- In the range of 1 mm^2 to 4000 mm^2 with the range up to 4000 amps and are supplied using bare copper or tinned or silver-plated braided/stranded wires with end terminals also either in bare copper or tinned or silver plated as per given requirements.
- Flexible connectors are manufactured using multi-layered braids up-by-up or side-by-side to increase the current carrying capacity.
- This can be supplied from 250 amps to 4000 amps catering to bus duct, switchgear, and generator manufacturers.
- Its specification include ranges of 1mm^2 to 4000 mm^2; current capacity of 250 amps to 4000 amps; insulation sleeves of heat shrink, silicone, PVC, fiberglass.

About the company: Nana Udyog, is a manufacturer and exporter of different types of copper flexible braids, tapes and connectors for electrical, electronics and automobile sectors.

Contact:

Nana Udyog, Surat
Tel: 0261-2481644 Mobile: 09825965003
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Edutek Instrumentation offers a professional universal material tester.

Features:

- This material tester is a bench top unit for training purposes; has simple operation and robust construction makes the unit suitable for student experiments.
- Using the accessories that are also available, additional bending, shear, cupping and compressive tests can be performed. PC data acquisition and evaluation is also possible. The basic version of the unit does not require any additional sources of power.
- The test load is generated using a hand operated hydraulic system; the test load is displayed using a large gauge and a trailing pointer.
- The elongation of the test specimen is recorded via a mechanical gauge; the unit features a clear layout and the rapid changing of accessories.

About the company: Edutek Instrumentation, established in 1973, manufactures quality tested and reliable lab glassware, lab apparatus and scientific instruments.

Contact:

Edutek Instrumentation, Ambala
Tel: 0171-4006100
Mobile: 09996644855
Email: edutekgroup@gmail.com

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Sriperambadur Taluk, Kancheepuram - 602 105
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FUME HOODS

Microteknik provides fume hoods, designed to contain and exhaust toxic, obnoxious, pungent smelling gases to protect persons and equipment in the laboratories.

Features:

- The fume hood complies with international standard on fume handling systems.
- Fabricated out of thick Duro-board clad from outside in laminated sheet and inside finished in non-corrosive, chemical resistant epoxy paint; an up-down sliding sash made of teakwood mounted in thick glass sheet and workable on weights and pulleys system counter balanced is provided.
- Fluorescent lighting is provided in the chamber; gas tap and electric power plug also provided in addition to stainless steel wash basin and suitable water tap.

About the company: Microteknik, founded in 1967, manufactures instruments for pathology, histopathology, microscopes, audiovisual, pharmacology, clean air systems, heat and refrigeration (from -80 to 2200 deg), seed technology. It also provides analytical instruments and glassware incinerator, fermentors, and lyophilisers.

Contact:

Microteknik, Ambala
Tel: 0171-2640855 Mobile: 09896044855
Email: microteknikgroup@gmail.com

INDUSTRIAL OIL BURNERS

Burner India is engaged in offering the industrial oil burners that is used to heat up the products by generating the flame by using gaseous fuel.

Features:

- It is loaded with dynamically balanced blower as per IS requirements and electric motor as per TEFC standards.
- It is an electronic photocell based flame monitoring device with precise automatic damper control for regulating the flow of air.
- Designed and developed as per the established industrial standards and is applicable in oil and petroleum industry, chemical industry and road construction industry; precise automatic damper control for regulating sufficient flow of air, which imparts efficient fuel combustion.
- Electronic photocell based flame-monitoring device; heater unit optional; FO fired burners also available.

About the company: Burner India, established in 2001, is a manufacturer, exporter and supplier of industrial burners, blowers and hydraulic power packs hot air generator, etc.

Contact:

Burner India, Mehsana
Tel: 02762-224194 Mobile: 09825279389
Fax: 02762-224194 Email: burnerindia@yahoo.com

PIPE CONVEYOR CHAIN

Tripcon Engineering offers a range of pipe conveyor chain.

Features:

- These are manufactured for use in conveying of pipes with bearing roller that gives a low coefficient of friction and a higher roller allowable load which allows user to use these chains in a very rigid and rough conditions.
- Pipe conveyor chains are available in various sizes, grades and other dimensions as per the given requirements.
- These products are manufactured using high grade raw material that is sourced from the most valued vendors of the industry.
- Raw materials like carbon steel, alloy steel as well as stainless steels are used. Manufactured with variety of steel grades which after heat treatment gives low coefficient of friction, high strength, durability and optimum output to the equipment.

About the company: Established in 1991, Tripcon Engineering Pvt Ltd is an ISO 9001:2008 certified organisation engaged in manufacturing, supplying and exporting a wide rage of industrial chains.

Contact:

Tripcon Engineering Pvt Ltd, Anand
Tel: 02692-236031 Mobile: 09825089070
Fax: 02692-236380 Email: response@elevatorchains.com

BUCKET ELEVATOR

Ironbuild Systems offer bucket elevator, which is used to transfer the material from ground level to certain height vertically.

Features:

- It consists of a nylon or rubber belt running on one drive pulley at the top and the other one is driven pulley, which is at the bottom inside a fabricated casing.
- This belt is fitted with buckets at some specific intervals. Buckets lift the material from ground level to a higher level and buckets are emptied while moving around top pulley by centrifugal action.
- Bottom pulley has sliding mechanism for maintaining proper tension and alignment in the belt. Top pulley is rubber lagged to avoid wear and tear of belt during movement.
- Both the pulleys are dynamically balanced for noise free performance.

About the company: Ironbuild offers specialised services in the field of design, engineering and manufacturing of equipments for projects ranging across multiple disciplines/sectors.

Contact:

Ironbuild Systems Pvt Ltd, Anand
Tel: 02692-237207
Fax: 02692-235799
Email: info@ironbuild.net, marketing@ironbuild.net

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Sales Office: 14, Chandney Chowk Street, Kolkata - 700 072. Phone: 033 2212-7208/6001 Fax: +91-033-2212-8619

DETAILS OF DEALER:

- Mr. H. C. Khurana, Union Equipments pvt. Ltd., ED-55, Tagore Garden, New Delhi – 110 027
- M/s. Power Tech Service Centre, FM-177, FM Market Complex, Gandhi Road, New Bus stand, Rourkela – 769001 Mobile no.9861132779/9437647874
- Rupak Chakraborty, 45, Kabiguru Srni, Gr. Floor, City Centre, Durgapur – 713216 Cell - 9434133014

E-mail: ppeckolkata@gmail.com

COPPER DRYER

Koolking Udhyog provides copper dryer solutions that have applications in air-conditioners and refrigerators.

Features:

- These copper dryers are precision designed for preventing liquid and moisture present in air returning systems from entering compressors as well as also at the same time also assist in reducing system noise and in ensuring normal functioning of system.
- For achieving durable construction quality, these fittings are manufactured using superior quality copper of standard i.e. ASME-B16.22; superior construction standards that prevent liquids present in air returning systems from entering compressors..
- Use of imported molecular-sieves and provide air-condition facility in fitting department for avoiding moisture.

About the company: Koolking Udhyog Pvt Ltd is serving in air-condition industry since 1977. It is certified as ISO 9001:2000 and ROHS 14001:2004 from TUV German.

Contact:

Koolking Udhyog Pvt Ltd, Sangrur
Tel: 01675-254018 Mobile: 09317724222
Fax: 01675-254018 Email: sgopal@kpmgroupindia.com

12 KV RETROFIT TYPE VCB

System Control offers 12 kV retrofit type VCB (vacuum circuit breaker).

Features:

- The circuit breaker is only operated as and when required. The frequency of maintenance of ACB/ BOCB/MOCB is dependent on number of short circuit operations and the switching applications.
- It is cheaper and simpler alternative to enhance the life for the old installation whose service life in almost over or even surpassed.
- The benefits of modern technology viz. vacuum technology can be made available with minimum installation cost.
- There is no need to store large quantity of costly spares of ACB/BOCB/MOCB which may not be available because its manufacturing has become obsolete.

About the company: System Control was started in 1979 for manufacturing customised low voltage switchgear for industries like paper, textile, sugar, and various power utilities. The core activity of the company today revolves around manufacture of switchgear up to 36 kV.

Contact:

System Control, Salem
Mobile: 09488189406 Email: marketing@systemcontrol.in

FLAME PROOF BRAKE

Pethe Industrial Marketing Company offers flame proof brake.

Features:

- Flame proof weather proof (FLP / WP) enclosures are constructed in accordance with provisions as specified in IS/IEC:60079-1:2007.
- It is very compact and modern in design. The mounting flange of the enclosure is mounted on the non-driving end of the motor. Failsafe AC or DC disc brakes are fitted inside these enclosures.
- There are 3 types of enclosures: small, medium and big depending upon the size and torque capacity of the brake; suitable for II B and zone I & II atmosphere.
- Enclosure is provided with eye-bolt for easy shifting; function is to bring to stop, moving/rotating machinery like motor/gearbox; holds/stops the load in desired place; instant stop; robust design; consumes low power.

About the company: Pethe Industrial Marketing Company Pvt Ltd is a manufacturer and supplier of brake motor, clutches, clutch brakes, gearbox, couplings, industrial automation, power transmission solutions, disc type brakes, geared brake motors, etc.

Contact:

Pethe Industrial Marketing Company Pvt Ltd, Mumbai
Tel: 022-24223976, 24220923
Mobile: 09821936459
Email: response@petheind.com petheind@yahoo.com

BILLET GRABBER

SMT Machines (India) Ltd offer quality billet grabbers.

Features:

- These products are widely used in steel melting shops for the purpose of grabbing ingots or billets with ease; used to properly place the finished product in the stock yard or warehouse.
- Billet grabber provides durable standards and corrosion resistance. It is not a magnetic, hydraulic, electronic or pneumatic device.
- It is a pure mechanical device and has a number of advantages over other material lifting equipments.
- Its also offers a wide selection of engineering goods and machines such as steel mill, pusher, ejector, impeller, conveyors, motor, V-belt pulley, gear coupling, reduction gearbox, pinion gearbox, etc.

About the company: SMT Machines India Ltd, an ISO 9001:2008 certified engineering company, offer a comprehensive range of innovative engineering goods. It is a manufacturer, supplier and exporter of superlative hot rolling mill, hot rolling mill machinery, rolling mill machinery, rolling mill equipment and rolling mill spares.

Contact:

SMT Machines (India) Ltd, Mandi Gobindgarh
Tel: 01765-256337, 257742
Fax: 01765-255199 Email: info@smtmachinesindia.org

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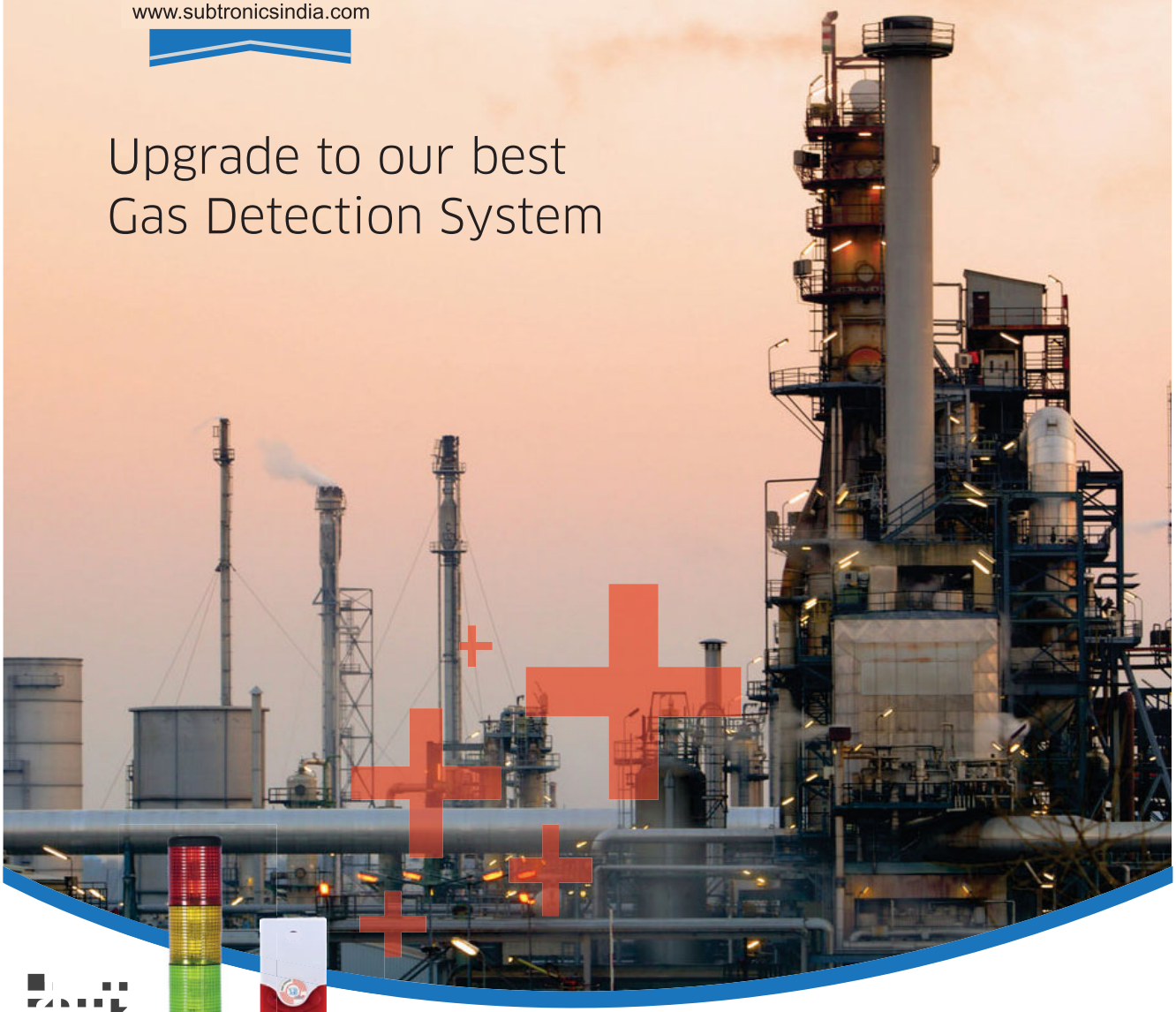

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SEMI AUTOMATIC PRINTING MACHINE

Ultracuring System offers economical semi automatic printing machine.

Features:

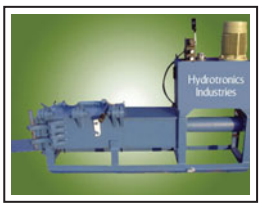
- It is fitted with squeegee head on hardened steel shafts with linear bearing motion that provides accurate and vibration free squeegee movement..
- Suitable for quality screen printing, the machines maintains high level of accuracy and can be easily controlled and installed; squeegee carriage on hard chrome plated solid steel shaft with linear bearing motion (IKO Japan).
- It has castor wheels for easy mobility; and printing operation by foot switch or automatic cycle, with dwell timer 0-10 sec.

About the company: Incepted in 2008, Ultra Curing System is an exporter of post press unit, pre-press unit and printing unit. These include light curing unit, screen print machines, screen printing units, screen printing tables, screen storage racks, horizontal screen dryer, semi automatic printing machine, washer, etc.c

Contact:

Ultracuring System, Vasai
Tel: 0250-6583351, 6052000
Mobile: 09890280460, 09820238497
Email: umraov.admin@gmail.com, umraosys@gmail.com

HYDRAULIC SCRAP BALING PRESS



Hydrotronics Industries provides a comprehensive assortment of hydraulic scrap baling press.

Features:

- Hydraulic scrap baling press specially designed and manufactured for easy processing of ferrous or non-ferrous scrap in different forms.
- These machines are known for compressing leftover, housing of junk, metallic chips, cab, metal structural, into cuboids bales.
- Hydraulic scrap baling press is available in different models, which help the user to select the machine as per the operation they are used for.
- Features of these presses include long functional life; robust design; and high efficiency.

About the company: Founded in 2005, Hydrotronics Industries is engaged in manufacturing and supplying a premium quality range of hydraulic cylinders, hydraulic power packs, hydraulic press, hydraulic jack and hand pump, hydraulic spare parts, hydraulic scissor lift, hydraulic scrap baling press and log splitter machine.

Contact:

Hydrotronics Industries, District Navsari
Tel: 02634-281163, 320492
Mobile: 09825154492 Email: hydrotronics.8622@gmail.com, hydrotronic_8622@yahoo.co.in

MOTOR CONTROL PANELS

Dynamic Elecpower offers DEPPL-610 series motor control panels.

Features:

- These panels have superior aesthetics, trouble free maintenance, easy motor control centers, which are made in accordance with international standards including IEC60934, 60437 IS8623.
- Spacious arrangement is made for cable termination ensuring comfortable and easy maintenance. All covers, doors inter panel jointing are provided with neoprene gasket for perfect dust protection.
- Features include bolted construction facilities modifications, retrofit extension in minimum possible time; metallic/transparent barriers are provided, within the cubicle for prevention of human contact with live part accidentally.

About the company: Dynamic Elecpower Pvt Ltd, an accredited ISO 9001-2000 (for designing & manufacturing of electrical panels) company, is a manufacturer and supplier of PCC, MCC (motor control center), PDB (power distribution boards), control desks, battery charger, relay control panel, servo stabilizers, isolation transformer, MDI panels, etc.

Contact:

Dynamic Elecpower Pvt Ltd, Jaipur
Tel: 0141-2203002 Mobile: 09413348102
Email: skl.dynamic@gmail.com

BULL GEARS

Ashoka Machine Tools offers bull gears as per different international standards.

Features:

- These gears comprise toothed driving wheel which is also largest in the mechanism; as a gear/sprocket much larger than others in same power train, these are larger of two spur gears engaged in any machine.
- Gears are checked for interference as well as dimensional accuracies; expertise in offering solutions as per given designs and drawings; expertise in also offering load analysis and stress analysis on gears using finite element analysis for checking appropriate selection of materials and geometrical designs.
- Reverse engineering and designing support for generating drawings exactly as per sample as well as obtain accurate geometrical sizing.

About the company: Ashoka Machine Tools Corporation started with the manufacturing of open gears and machine job works, in 1968, and currently manufactures, supplies and exports heavy duty industrial equipment including ball mills, sugar crushing mills and stone crushers, vertical shaft and rotary kilns, etc.

Contact:

Ashoka Machine Tools Corporation, Greater Noida
Tel: 0120-2340031, 2340032
Email: gkhanna@ashokamachines.com

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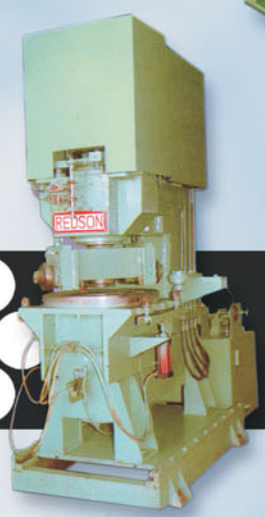

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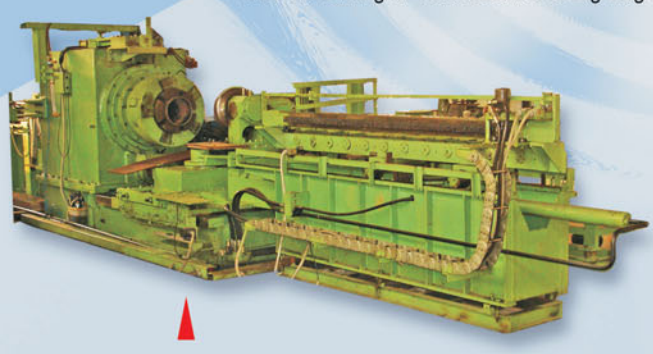

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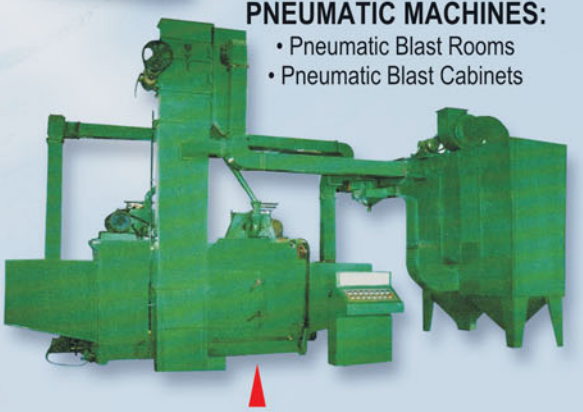

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IRON REMOVAL FILTERS

Clear Aqua Technologies offers iron removal filters.

Features:

- They are used for removal of dissolved iron, present in the form of lower oxides. In order to restore the media, they must be periodically regenerated with potassium permanganate.
- They are designed in line with international quality standards.
- The range includes reverse osmosis plant, seawater desalination plant, ultra violet purifiers and sterilizers, ozone generators, demineralisation plant, ion exchange, ultra filtration system, water softening plant, packaged drinking water plant, sewage treatment plant, RO chemicals, water treatment chemicals and wastewater treatment plant.

About the company: Incepted in 2005, Clear Aqua Technologies Pvt Ltd is engaged in manufacturing and offering consultancy for the commissioning of water treatment plant, which address to the urgent requirements of portable drinking water for commercial and industrial use.

Contact:

Clear Aqua Technologies P Ltd, Tiruchirappalli
Tel: 0431-6501912 Mobile: 09842276000
Email: clearaqua2003@hotmail.com, info@clearaquatechindia.com

FRP NATURAL DROUGHT COOLING TOWER

Wetpoint Aqua Equipment offers optimal quality FRP natural draft cooling tower.

Features:

- These cooling towers work on water jet principal. They offer low maintenance due to fan less-fill less construction.
- The product is designed with the aid of supreme-quality components and cutting-edge machineries.
- Its features include: temperature resistance; finely finished and durability. It is designed for operating economically and negligible maintenance. The special characteristics of fiber-reinforced plastic provide excellent resistance to corrosion.

About the company: Incepted in 1996, Wetpoint Aqua Equipments Pvt Ltd manufactures and supplies an incomparable assortment of timber double flow model, splash bar, gear box, flow control valve, fan cylinder, flexible coupling, FRP natural draft cooling tower, fan blade, rubber bush, etc.

Contact:

Wetpoint Aqua Equipments Pvt Ltd, Gwalior
Tel: 0751-3290436, 2432676
Mobile: 09302214784, 09826214784
Email: ceo@wetpointcoolingtowers.com, sales@wetpointcoolingtowers.com

PVC CABLE TRUNKING

Shree Gopal Industries offers a broad consignment of PVC cable trunking.

Features:

- It is manufactured from specially formulated high impact unplasticised poly vinyl chloride.
- The product, which is highly economical as compared to steel/aluminium trucking, is designed to enclose all types of cables i.e. power, data, telecommunications, etc.
- PVC cable trunking provides total electrical insulation; allows good looking and systematic wiring; permits faster fault tracing and rectification; and avoids bunching of wires.
- It is widely used in homes, offices and commercial establishments for open wiring; used for wiring in telecom industry, buses, railway coaches, ships, aircrafts, etc.

About the company: Shree Gopal Industries, started in 1998, is a manufacturer, exporter and supplier of PVC channels, cable ducts, PVC cable management systems, PVC sleeves, PVC cable markers, spiral wrapping bands and PVC compounds, etc.

Contact:

Shree Gopal Industries, Distt Alwar
Tel: 01493-512245 Mobile: 09309493122
Email: enquiry@sgiindia.in

HYDROBEND HYDRAULIC PIPE BENDING MACHINES

SMA Kapadia & Co provides a wide range of pipe and bus bar bending machines in types of hydraulic and motorised operations.

Features:

- These operated hydraulic pipe bending machines are offered in various technical specifications in terms of size, pressure capacity and formers.
- The ejecto-matic hand operated pipe bending machine is provided with standard formers and accessories and is available in sizes of 1/2" to 3", 1/2 to 4" and 2" to 6".
- Motorised hydraulic pipe bending machines are from hydrobend and ejecto-matic.
- These are ideally suitable to bend pipes upto 8". The bus bar bending machines offered in horizontal type is ideally suitable for bending copper, aluminium and mild steel bars.

About the company: Established in 1960, SMA Kapadia & Co is engaged in providing solutions for hydraulic based equipment and accessories as an importer, distributor and stockiest.

Contact:

SMA Kapadia & Co, Chennai
Tel: 044-25224832 Mobile: 09840598867
Email: info@ydropowerengineering.com

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Our MW/MS Series Twin and Single spindle automated turning machines and MD series turning centers have more than 10,000 installations worldwide. We are proud to say that, "MURATEC MOVES YOUR CAR".

MURATEC machines are available in a wide range of chuck sizes: capacities ranging from 6" to 15" chuck size. These advanced, precision turning machines come with highly reliable, integrated, intelligent CNC 3 axis servo controlled gantry loader for smart, fully automated, flexible workpiece load/unload operations. Complete solution includes machine plus peripherals and options to achieve full automation for unmanned operations on 24 x 7 basis, standardized and customized units to JUST-FIT the customer's productivity needs.

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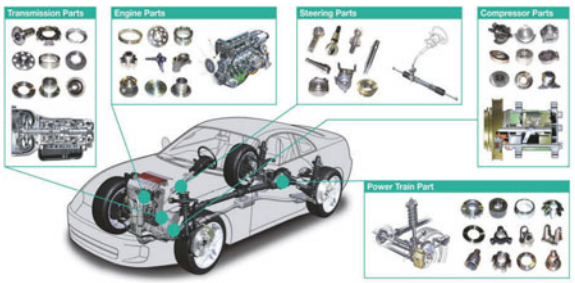

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MURATEC Solutions for Sheet Metal Punching

Muratec, world's first manufacturer of servo driven ram turret punch press introduces leading innovation in sheet metal industry MOTORUM 3048TG. MOTORUM series does more than to achieve high reliability and high speed processing. This machine enhances overall productivity through process integration of bending, forming, tapping and other processes, together with reduction of time needed to set-up and program.

MOTORUM

MOTORUM series punch presses are available in various models to meet diversified needs of sheet metal industry. These machines are worldwide popular for its design features, rigidity, high speed productivity, environment friendly design features of minimum power consumption, low noise and high profitability to customers. Motorum series machines have more than 1,350 installations worldwide. MURATEC the leading name in automation is fully prepared to offer sheet metal automation solutions to meet the growing production demands in India.

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E-mail: office@meibanengg.com, www.meibanengg.com

HYDRAULIC CYLINDER

Hydropower Engineering Systems offers hydraulic cylinders, designed and manufactured for dependability and in hydraulic applications.

Features:

- Hydropower can offer standard cylinders, single and double acting, tie rod, welded construction in bore dia of 40 to 500 mm. Stroke lengths up to 3,000 mm and operating pressure up to 300 bar, mounting ends are designed to customer requirements.
- EN-8 materials are ground hard and chrome plated.
- BSP, NPTF or SAE O ring ports can be arranged at any position related to cylinder mounting.
- Seals: All cylinders incorporate seals suitable for use with petroleum-based fluids from -20oC to 60oC. Seal material options are PU, Viton, PTFE and Nitrile.
- Hydropower cylinders are rated for maximum 300 bar (4,200 PSI) continuous operation. Hydropower also provides cylinders for special applications requiring higher pressure.

About the company: Hydropower Engineering Systems is engaged in design and manufacturing services of hydraulic equipment and machinery.

Contact:

Hydropower Engineering Systems, Bangalore
Tel: 080-25361221 Mobile: 0984513451
Email: info@hydropowerengineers.com

HYDRALOC LOCKBOLT FASTENERS

Avlock International India Pvt Ltd offers a wide range of small dia & large dia lockbolts pin & collar fasteners.

Features:

- These are available in various sizes from 1/2" to 1". They are widely used in railways, solar, mining & power transmission industry.
- It is designed for application where access is difficult. Lockbolts are high strength steel fastener for joining composite materials to metal.
- These are heavy duty, high strength, tamper resistant, high tensile, shear strength, fast installation, vibration resistance, high grip capability, tamper resistant ideal rivet for heavy engineering applications.

About the company: Avlock International is the world's leading manufacturer in specialized fasteners and installation equipments. They are an Indo-South African joint venture company for manufacturing and supply of fasteners and installation equipments.

Contact:

Avlock International India Pvt Ltd, Thane
Tel: 022-25872300
Email: info@avlock.co.in

BELT SANDER SM-620

SS Air Tools offers a specially designed and fabricated range of belt sander, SM-620.

Features:

- This belt sander is extensively demanded in industrial production and material removing processes.
- Ideal for cutting and material removing purposes on wood, sheet metal and other metal surfaces, the belt sander is appreciated for being high performing, durable and user-friendly.
- It is ideal for sanding and grinding in narrow spaces, recessed areas and on curved surfaces; all-around versatility for grinding, sanding and polishing applications.
- Its features include automatic belt tensioning system; adjustable belt tracking; rugged cast aluminum construction ensures trouble-free performance and operation.

About the company: SS Air Tools, established in 2007, provides complete assembly solutions with an extensive range of pneumatic and electrical operated assembly tools, material removing tools, material handling equipments.

Contact:

SS Air Tools, Chennai
Tel: 044-42751740 Mobile: 09841966111
Email: info@ssairtools.com, sales@ssairtools.com

LEAD POWER FACTOR RELAY

JVS Electronics Pvt Ltd offers a wide range of lead power factor relay, Type JRR 911.

Features:

- It is software based design & single phase & 3phase measurement and it is dust proof enclosure.
- Its applications include: It is used to trip (dis-connect) capacitor bank from the line during lead power factor in the system.
- Its principle of operation is: The R,Y and B-phase line current input to relay is derived from the line CT. The R, Y and B line voltage scaled to relay rated voltage using transformers.
- The relay measures the phase angle between R, Y and B phase current and R,Y and B phase voltage, the output contact operates when PF reaches lead condition after fixed operating time of 60s.
- The output contact release when PF reaches lag condition after fixed oper- ating delay delay of 60s.

About the company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:

JVS Electronics Pvt Ltd, Ramanagara
Tel: 080-27204211/12/13 Fax: 080-28361335
Email: bangalore@jvselectronics.in

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MC BOX SYSTEM

Ruchak Enterprise offers a wide range of MC box system.

Features:

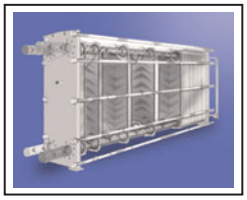
- This MC box permits pump ignition, identification of authorised users, pre-selection of dispensed quantity, management of pulse metre, management of an external switch to switch off pump at minimum level, management of micro switch connected to nozzle support, connection to an external printer.
- Panel with dual display, keyboard and I-button reader; controls up to 120 users through passwords or i-button keys.
- There is a possibility of managing up to 16 panels with one software.
- RS converter with USB socket for direct connection with PC via cable up to 1000 metres.

About the company: Ruchak Enterprise offers high quality products and innovative solutions in compressed air, pneumatic and power tools, fluid handling solutions, material handling solutions, finishing solutions, lubrication solutions, etc.

Contact:

Ruchak Enterprise, Ahmedabad
Tel: 079-66610013 Telefax: 079-26431450
Email: info@ruchakenterprise.com

PLATE TYPE HEAT EXCHANGER



Heat Chem Engineers offers plate type heat exchanger consisting of a series of plates with corrugated flat flow passages.

Features:

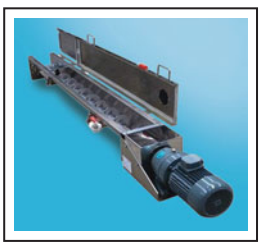
- The hot and cold fluids flow in alternate passages, and thus each cold fluid stream is surrounded by two hot fluid streams, resulting in very effective heat transfer.
- It is very economical and limited space occupying heat exchanger.
- Its features include serviceability; less downtime; safety; long life; used for heating, steam heating, cooling and heat recovery.
- Gasket plate heat exchanger, welded plate heat exchanger, and brazed plate heat exchanger types of plate heat exchanger are available.

About the company: Heat Chem Engineers Pvt Ltd is a manufacturer, designer and supplier of heat exchangers such as finned tube, internal star fins (MS/SS/copper/alum.), aluminium extruded finned tubes, oil coolers, GMP vessels, reaction vessels, receivers, condensers, chillers, dryers, packed columns, etc.

Contact:

Heat Chem Engineers Private Limited, Ahmedabad
Mobile: 09824012766, 09601262766
Email: marketing@heatchem.net, sales@heatchem.net

SCREW CONVEYORS



Shree Techno Engineers offer precision engineered screw conveyors.

Features:

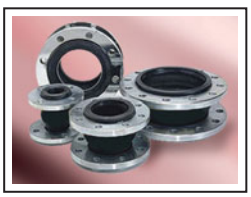
- These conveyors - offered in a plethora of sizes and specifications - are used for handling sugar, cement, biomass, ash, refuge, food stuffs, and many more types of materials.
- They are used to transfer bulk materials in horizontal or inclined direction and speed can be controlled easily by changing propulsion speed.
- They have high quality motor and gear box, with heavy duty design, large torque and low noise.
- Features include standard fitting parts, middle bearing, end bearing, splined shaft coupling; lifting eyes on each tube section, convenient for transport and installation; small diameter, great efficiency, high throughout rates.

About the company: Shree Techno Engineers manufactures and exports vacuum pumps, root blowers, pneumatic bulk material handling and conveying systems and dust collecting equipment.

Contact:

Shree Techno Engineers, Ahmedabad
Tel: 079-25892077 Mobile: 09825508262
Email: shreetechno1@yahoo.com, shreetechno1@gmail.com

RUBBER EXPANSION JOINTS



Industrial Rubber Products offers rubber expansion joints.

Features:

- These pipe expansion joints are used in systems that convey high temperature commodities such as steam or gases, or to absorb movement and vibration.
- A typical type of expansion joint for pipe systems is a bellows which can be manufactured from metal, plastic, or an elastomer such as rubber.
- A bellows is made up of a series of one or more convolutions, with the shape of the convolution designed to withstand the internal pressures of the pipe, but flexible enough to accept the axial, lateral, and/or angular deflections.
- Expansion joints are designed for other criteria, such as noise absorption, anti-vibration, earthquake movement, and building settlement.
- IRPC manufactures expansion joints from sizes 20 mm NB to 600 mm NB.

About the company: Industrial Rubber Products, established in 1990, supplies high quality industrial rubber components, rubber diaphragms, rubber bulbs, rubber o rings, rubber bellow, silicone rubber seals, etc.

Contact:

Industrial Rubber Products, Coimbatore
Mobile: 09367610958
Email: irpcbes@yahoo.co.in irpcbes@gmail.com

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Hyderabad - 500 055. Telangana. India.
Phone: 040-2309 3933 Telefax: 91 40 2309 2922
E-mail: info@srprefabs.com, srprefabs@rediffmail.com Visit Us At : www.srprefabs.com

TELESCOPIC BELT CONVEYOR

Darshini Engineers offers 20 feet telescopic belt conveyor.

Features:

- It has an expendable arm to reach the full length of truck or container; being truly mobile, it can be shifted anywhere with minimum effort man power.
- A must equipment for dispatch department; available in many options and length to suit the container or truck length; trailer penetration of 10 metres.
- Its delivers telescopic boom conveyor performance without the need for loading docks; typical trailer penetration is 10 metres nominal.
- It can load/unload cartons, sacks, bags, parcels, tyres, drums, rolls - virtually any loose item. It comes with heavy duty halogen lights for increased operator safety and comfort.

About the company: Darshini Engineers, is a manufacturer and exporter of an extensive range of equipment like pollution control system, pollution control equipment, air pollution control equipment, industrial pollution control equipment, gas pollution control equipment, etc.

Contact:
Darshini Engineers, Ahmedabad
Tel: 079-65436946
Email: info@darshiniengineers.com

OIL SEPARATOR

Innovation Filter System offers a wide range of oil separator for paint shops.

Features:

- The issue of improper adhesion of paint is solved by installing this thermal oil separator in the de-grease and pre-degrease tank and continuously circulating the alkaline solution through it.
- Apart from aesthetics, it enhances the products resistance towards corrosion.
- A floating suction arrangement is permanently installed in the degrease tank and the clean (oil-free) solution goes back in the same tank.

About the company: Incepted in 1999, Innovation Filter System is a manufacturer and supplier of various filtration systems such as high rate sand filter (crystal), micro-pure back-washable edge filtration system, industrial centrifuge machine and retrofit model for machines. Manufactured using quality materials such as steel, emulsified coolant, kerosene, white spirit and diesel, these systems are appreciated for high quality standards.

Contact:
Innovation Filter System Pvt Ltd, Pune
Mobile: 07350003958, 09970060292
Email: ifspune@gmail.com

HOSE CLAMPS

Electro Power Engineers offers hose clamps in different finish specifications.

Features:

- These clamps are developed using carbon steel/stainless steel material finish as well as in any defined sizes as per given specification.
- They are available in different material grades like 400/300 and others; band width options of 8mm/10mm and others.
- Smooth finish of outer band edge prevents hose damages. Precise stamping molding support allows for uniform stress and superior sealing ability.
- They are suitable for use in induction furnaces and pipeline systems.
- Features include high tensile strength; superior resistance to weathering condition; customised specification; and superior finish.

About the company: Established in 1995, Electro Power Engineers is a manufacturer and exporter of induction melting furnace and induction heating equipment parts.

Contact:
Electro Power Engineers, Ahmedabad
Mobile: 09825022936, 09825322936
Email: info@inductofurnace.com

ULTRASONIC LIQUID PROCESSORS

Johnson Plastosonic offers a wide range of ultrasonic liquid processors.

Features:

- These high wattage liquid processors have varied applications in laboratory like disintegration, degas solutions/deaeration, create emulsions, dispersion, homogenising, ultrasonic trans-esterification, and particle size reduction.
- They are widely used for processing liquids and lab operations.
- An advanced ultrasonic generator system and temperature sensor is available for temperature viewing.
- Vibrations can be given continuously or pulsed type; variable amplitude can be set by Johnson's advanced ultrasonic generator system.

About the company: Johnson Plastosonic, established in 2007, is a manufacturer and importer of ultrasonic liquid processors, ultrasonic plastic welding machines, ultrasonic PP corrugated box welders, ultrasonic hand press, etc.

Contact:
Johnson Plastosonic Pvt Ltd, Pune
Tel: 020-64702860
Mobile: 09225631812
Email: johnsonplastosonic@gmail.com, response@johnsonplastosonic.com

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calibervalves13@gmail.com

GAS DETECTOR (DUAL)

Abhitron India manufacturers its state of the art gas detector dual portable model DIGI – 69.

Features:

- It will come to know the accurate level of any two desired gases at a time on the display.
- This Instrument has digital LCD display for clear and accurate reading in percentage or PPM.
- It has got low & high alarm and calibration is possible at any concentration level, with built in good audibility buzzer and it is user friendly, cost saving & light weight.
- Instrument has facility of span & zero; user can adjust his own alarm for any alarm level as per his requirement.
- It indicates low battery indicator which shows 'Low Batt'. Instrument works on chargeable batteries, life of the sensor & chargeable batteries is excellent & hence no need of replacing the sensor. Can select their own gas level on the detector.
- Suitable for ambient atmosphere as well as for sampling purpose or in vessel for gas level checking.
- It hazardous gases such as NH3, CO, HCN, CNG, EO, H2, NO, SO2, F2, H2S, CL2,HCL, hexane, isopropyl alcohol, butane, methane, toluene, lpg and other 200 combustible, toxic hazardous gases can be detected.
- This operating temperature range is 2O°C to 50°C. This Instrument finds usage in Industrial sectors like food processing industries where SO2 measurement in PPM level essential Usage area for this instrument will be where continuous monitoring is not possible, oil extraction plants, pharmaceuticals, refineries, automobile plants, food industry, chemical plants, paint industry, commercial areas, five star hotels, petrochemicals, distilleries, furnaces, and municipal departments. shipping industries, glass manufacturing plants, drainage holes, pharmaceuticals plants, nuclear power stations, oil companies R&D labs, alcohol plants, mines, hospitals, brewery industries, refineries.

About the company: Abhitron India an ISO 9001-2008 certified company, since 30 years manufactures of different types gas leak detectors which can detect all toxic, combustible & hydrocarbons with LPG, CNG, ammonia, hydrogen, SO2, Benzene, CL2, H2S etc. It also manufactures digital gas detectors. Abhitron India has also designed portable (pocket type) breath analyzers for checking the blood alcohol concentration amongst workers. frivers etc. The company had more than 1,500 clients such as Govt., Semi Govt., Chemical Plants, Pharma Hotels, and Railways etc. They have bagged 5 awards. Out of which the Parke award is the most prestigious one, because it is awarded for the first innovative instrument.

Contact:

M/s Abhitron India, Mumbai
Tel: 022-26361469
Email: abhitronindia@gmail.com,
apsafetydevices@rediffmail.com

HYDRAULIC FLASH BUTT WELDER

Keje Thermoweld Equipment offers hydraulic flash butt welder.

Features:

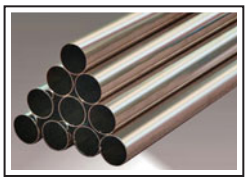
- Flash butt welding is a modern technique of joining mild steel, alloy steel and other dissimilar metals in various tubular or solid sections.
- Weld quality obtained is mechanically or metallurgically similar to the parent metal. Because of shorter weld times, the process is suited for higher production than other conventional methods.
- No additional items such as rods or gas, etc are required; thus it is highly economical.
- Features include fully hydraulically operated; forced air cooled transformer having core of high grade silicon steel confirms to IS 4804, part II; precision control on initial die opening; flash off length, time, length and final die opening; and precision time delay circuit for upset current.

About the company: Keje Thermoweld Equipment - which specialises in welding and heating - designs, engineers and manufactures a spectrum of products.

Contact:

Keje Thermoweld Equipments Pvt Ltd, Pune
Tel: 020-27120943, 27120867 Fax: 020-27120867
Email: n.mahbubani@kejetherm.com

NICKEL ALLOY PIPES & TUBES



Reliable Pipes & Tubes Ltd. offers nickel alloy pipes and tubes.

Features:

- Nickel is a versatile, corrosion resistant element that will alloy with most metals.
- Due to its corrosion resistance characteristic, nickel is used to maintain product purity in the processing of foods and synthetic fibers. It is highly resistant to various reducing chemicals and is unexcelled in resistance to caustic alkalies.
- In addition, nickel has good thermal, electrical and magnetostrictive properties and relatively high thermal conductivity of this metal has lead to its frequent use for heat exchangers.
- Nickel 201 was a modification of 200 to control carbon (.02 max) which keeps it from being embrittled by intergranular precipitates at temperatures of 600 to 1400 degree Fahrenheit in many processes.

About the company: Reliable Pipes & Tubes Ltd., established in 1975, engages as a manufacturer of seamless and welded pipes and tubes in stainless and corrosion resistant alloys.

Contact:

Reliable Pipes & Tubes Ltd., Mumbai
Tel: 022-43431313 (25 Lines)
Fax: 022-23894511
Email: sales@nickelpipes.com

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HEAVY DUTY HYDRAULIC PAVER BLOCK MAKER, MODEL SPM - 6

Sabin Enterprises is offering heavy duty hydraulic paver block maker, model SPM–6.

Features:

- This machine produces paver blocks with a capacity of 2880 to 3000 units per day (8 hrs).
- The paver blocks are strong and have applications at petrol pumps, swimming pools, parking area, courtyards, container yard, road-side, foot-path and in many more areas.
- It has an advantage of making three pavers of small size at a time and two of other paver blocks in one go.
- This machine can manufacture any type of paver blocks as per customer's specification, design and height. This machine is semi automatic.

About the company: Sabin Enterprises, established in 1993, engages as a manufacturer exporter of various construction machinery and equipments. The company exports and manufactures planetary mixers, precision planetary mixers, single planetary mixer, etc.

Contact:

Sabin Enterprises, Mumbai
Tel: 022-22703684 Mobile: 09820154283
Fax: 022-22703685 Email: sabin@vsnl.com

RUBBER MOUNT

Sigma Polymer Industries manufactures and supplies rubber mount.

Features:

- The product is an anti-vibration metal rubber, comprising cylindrical shaped rubber which is integrally bonded with metal and provides for high compression strength as well as low shear stiffness, thus, making these perfectly suited for use as anti vibration mountings.
- This easy to install product and the product can be availed in different diameters and height options.
- The product can be availed in various sizes available. The colors available are black, brown, white, blue, green, etc; Shape - O, B, E, K shape or customised.
- Its features include: High compression strength; versatile performance; allows for easy installation; available in different diameters and height options; helps in eliminating vibration, reducing noise and absorbing shock.

About the company: Sigma Polymer Industries, founded in 1995, engages as a manufacturer and supplier of an array of rubber components.

Contact:

Sigma Polymer Industries, Mumbai
Tel: 0250-2391204, 2392089 Mobile: 09322507132
Email: sigmaind@vsnl.net

COLD FEED RUBBER EXTRUDER

JRD Rubber & Plastic Technology Pvt. Ltd. is offering quality based industrial cold feed rubber extruder.

Features:

- The product is made available in various technical specifications. This industrial cold feed extruder is primarily used for extruding cables, rubber hoses and rubber sheeting.
- JRD offers range of cold feed rubber extruder in screw sizes 60, 75, 90, 120 and 150 mm.
- Cold feed rubber extruders are used for extruding automotive and architectural rubber profiles, cables, rubber hoses, sealed stripes, rubber sheeting, etc.
- This machine has low operational cost, thus, there is no warm up mill/feed requirement with use of cold feed extruders; higher quality of rubber extruded product as the L/D ratio is higher; there is a 3-4 zone temperature control on the extruder.

About the company: : JRD Rubber & Plastic Technology Pvt. Ltd., established in 1993, is a manufacturer and exporter of vacuum compression moulding machines, cold feed rubber extruder, compression moulding machine, etc.

Contact:

JRD Rubber & Plastic Technology Pvt Ltd., Delhi
Tel: 011-27234947 Mobile: 09810121208
Email: jrdrubber@gmail.com, info@jrdrubber.com

AUTOMATIC WATER LEVEL CONTROLLER

J K Instrumentation offers an assortment of auto water level controller that works fully automatically.

Features:

- When water level in the overhead tank falls below the lower sensor, pump will automatically start, and will keep running till water level reaches the upper sensor, and switches off the pump when the tank will be full.
- Suitable for jet pumps, mono block pumps, submersible pumps with single phase/three phase power supply.
- Main supply - 230 v AC/1 phase, 50 hz; operating voltage - 24 v DC max load-230 VAC/10-25 amps; robust construction, superior performance, easy operation and ergonomic design.

About the company: J K Instrumentation, established in 1996, is a manufacturer, supplier and exporter of process control instruments and allied products. Its product range includes that of reflex/tubular level gauges, gauge valves, float switches, water level controller, cable float switch, miniature float switch, bypass magnetic level indicator, flow meters, etc.

Contact:

J K Instrumentation, New Delhi
Tel: 011-65932601 Mobile: 09310229859
Email: jkidelhi96@gmail.com

CONDENSATE RECEIVER TANK

Super Steam Boiler Engineers Pvt. Ltd. manufactures a wide range of condensate receiver tank.

Features:

- These tanks are made of steel and are significant equipment in chemical, pharmaceutical and biochemical plants used to store condensed process liquid after being flashed.
- It is fitted in line after evaporator/heat exchanger.
- Its features include: vertical orientation, high temperature resistant, level indicator; easy maintenance, simple installation and low running cost.
- This range is suitable for multiple fuel option like coal, husk, and wood. To avoid large resistance to the flow of water, power term boilers have a parallel set off an arrangement of tubes.

About the company: Super Steam Boiler Engineers Pvt. Ltd. is a manufacturer and exporter of sugar plant, fired steam boilers, industrial heat exchanger, flash tank, tube boiler, boiler automation, fluid heaters, industrial grate, industrial feeder, industrial valve, etc.

Contact:

Super Steam Boiler Engineers Pvt Ltd, Navi Mumbai
Tel: 022-41412121
Mobile: 09987866990, 09987866996
Fax: 022-41412122 Email: info@supersteamboilers.com

ANALOGUE TENSILE TESTING MACHINE

Kartar Engineering Works India Pvt. Ltd. provides analogue tensile testing machines.

Features:

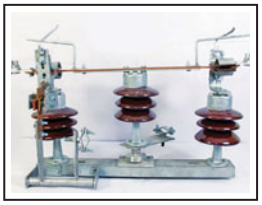
- These are used for determining tension, compression, cross breaking, bending, shear, linear bonding, gripping, peeling strength of different material.
- These machines are suitable for testing material like adhesives and tapes, rubber, wood, plywood, plastic, resins, ceramics, teflon, cardboard, latex, composites, ferrous metals and non-ferrous metals.
- There are three measuring ranges for accurate testing at different straining speeds available for proper selection..
- It has a hand operated cutting press with different sizes dies available for cutting dumbbell specimen.

About the company: Incorporated in 1962, Kartar Engineering Works India Pvt Ltd. engages in manufacturing of KEW brand of concrete moulds and Kewil brand of material testing equipments.

Contact:

Kartar Engineering Works India Pvt. Ltd., New Delhi
Tel: 011-28761646 Mobile: 09810311646
Email: kewindia@gmail.com, kartarenggworks@yahoo.co.in

LT SHACKLE INSULATOR



Rashtriya Electrical And Engineering Corporation offers a wide range of LT shackle insulator.

Features:

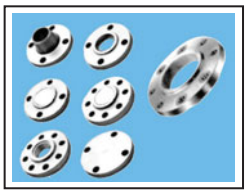
- All the components and materials used in the manufacturing of LT shackle insulators are of high quality, which results in excellent insulation in various applications.
- Manufactured from superior quality raw materials, the offered range is known for its capacity to withstand normal domestic voltage.
- These shackle insulators have semi vitreous body which requires low maintenance and offer long working life.
- The entire assortment of LT shackle insulator is widely accredited for its smooth functioning, durability, superior performance, sturdy construction, high efficiency and corrosion resistant.

About the company: Rashtriya Electrical And Engineering Corporation provides high grade engineering and electrical products.

Contact:

Rashtriya Electrical And Engineering Corporation, Ghaziabad
Tel: 011-23860070 Mobile: 09999904753
Email: sales@rashtriyaelectrical.com

FLANGES & ROUND BARS



Steel Tubes (India) Pvt Ltd offers an array of flanges and round bars.

Features:

- The range includes stainless steel flanges, alloy steel flanges, carbon steel flanges, industrial carbon steel flanges and industrial alloy steel flanges.
- The flanges are designed for heavy duty industrial applications and the metals of construction have been selected for high tensile strength and superior toughness.
- All flanges have standard bolt hold drilling patterns; the round bars offered are in stainless steel, carbon and alloy specialty steels supplied in rolled, annealed and normalised forms.
- The range of round bars are used in many industries such as chemicals, cement, sugar mills and distilleries, fats-fertilizers, paper, etc.

About the company: Steel Tubes (India) Pvt. Ltd., commenced its operations in the year 1992. The company offers pipe fittings, butt weld pipe fittings, forged steel pipe fittings, stainless steel pipes, flanges and round bars, fasteners in carbon steel and low temperature carbon steel, alloy steel, nickel alloy, etc.

Contact:

Steel Tubes India Pvt Ltd, Mumbai
Tel: 022-61432000 Mobile: 08764000000
Email: stindia@stindia.co.in, stindia@vsnl.com

AUTOMATIC VOLTAGE STABILIZER

Suresh Electrical Industries is offering automatic voltage stabilizer.

Features:

- The servo controlled voltage stabilizer or automatic voltage stabilizer is known for its high efficiency and suitability for weather conditions in Indian subcontinent.
- These voltage stabilizers can easily handle the voltage fluctuations and ensures steady output. The stabilizer comes equipped with a fully solid state voltage sensing relay.
- The product has long term stability and efficiency as high as 95 per cent. It has a drive motor that has a high torque and low speed out put; short-circuit proof stabilizers; provided with output setting of /- 5 volts. It has indicators for 'power on', 'input too low' and 'input too high'.

About the company: Incepted in 1964, Suresh Electrical Industries is one of the leading manufacturer, exporter and supplier of transformers, rectifiers and voltage stabilizers.

Contact:

Suresh Electrical Industries, Mumbai
Tel: 022-28488554, 28488216
Mobile: 09324321806
Email: sei2002@vsnl.com

PULSE JET BAG FILTER

HME Boilers offers a wide range of pulse jet bag filter.

Features:

- These bags are cleaned row by row by automatic pulse jet system, even when the dust laden gas is filtered for online bag house.
- The sequence of cleaning is controlled automatically by a sequence controller.This operates the assembly of solenoid and pulse valves which direct the air flow into the manifolds,
- The holes are jig drilled for perfect alignment with the venturi centre for achieving maximum cleaning efficiency.
- Some of its advantages are such as efficient working, high on performance, supreme quality and easily to install.

About the company: Established in 2003, HME Boilers Pvt. Ltd. is a manufacturer of industrial thermic fluid heater, industrial steam boiler and hot water generators. Other than this, the company also offers belt conveyors, pollution control equipment, industrial coils and hot air generators.

Contact:

HME Boilers Pvt Ltd, Ahmedabad
Tel: 079-25840215 Mobile: 09824052714
Email: hmevipul@yahoo.com

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PH. : 0565-2490736 / 2490719
EMAIL : hitechmathura@brijbasi.in
brijbasi_hitechmtr@yahoo.co.in

MUMBAI OFFICE
111, ARUN CHAMBERS,
TARDEO ROAD, BOMBAY - 400 034
PH. : 022-23516976 / 66602329
E MAIL : bhulrbs111@gmail.com
brijbasihitech@yahoo.in

COMPACT ELECTRICAL PUMP FOR LUBRICATION

Systematrix Engineering Services manufactures and supplies compact electrical pump for lubrication.

Features:

- The compact electric pump makes it possible to mount the same on a machine like any other pump.
- Unlike manual pump they do not require any force for operation and unlike pneumatic pump it does not require any compressor or solenoid valve for its operation
- The specification are 0.25 cc per stroke and pump speed of 24 rpm
- This pump can develop a pressure up to 400 bar special pumps as per flow and pressure requirement are available.

About the company: Systematrix Engg Services, founded in 1990, engages as a manufacturer, supplier and exporter of centralised lubrication system, storage lubrication system, industrial lubrication system and steel industries lubricating system.

Contact:

Systematrix Engineering Services, Mumbai
Tel: 022-40111258 Mobile: 09821166438
Fax: 022-67706077
Email: lubrisys@hotmail.com

ABRASION TESTING MACHINE

Rupson Industries offers a wide range of abrasion testing machine.

Features:

- This abrasion testing machine conforms to specifications and tolerance in accordance to IS 2386 part IV, for determination of resistance to wear by small size coarse aggregate and crushed rock.
- The machine consists of a hollow drum mounted on a sturdy frame on ball bearing; detachable shelf which extends throughout the inside length of the drum catches the abrasive charges and does not allow to fall on the cover.
- Complete with abrasive charges consists of 12 hardened steel/cast iron spheres approx 48 mm diameters and weighing between 390 to 445 gm.

About the company: Rupson Industries, established in 1975, is a manufacturer, supplier, exporter and trader of a range of soil testing instruments, meteorology equipment, bitumen and petroleum and mineral oil testing instruments, cement and concrete and aggregate testing instruments, rock and strength of materials testing instruments and laboratory appliances.

Contact:

Rupson Industries, New Delhi
Tel: 011-23512093, 23677774
Mobile: 09278989896, 09310646767
Email: vijayrupson@rediffmail.com

SCAFFOLDING PROP SLEEVES

Taha Fabricators are manufacturers and traders of high performing scaffolding prop sleeves.

Features:

- These barrels can be seen at construction projects supporting all kinds of frameworks, beams, and wall columns.
- The offered prop barrels are developed from premium grade material with compliance to the top industrial standards.
- These prop barrels are available in both heavy and light duty fabrication and has remarkable grip, sturdy design, light in weight, and fine handling.
- They are available in customized tube size and length as per requirement. It comes in thicknesses - 3, 3.5, 4 mm or can be tailor-made.

About the company: Established in 1983, Taha Fabricators engages as a manufacturer and trader of a wide range of construction equipment. The company has a range of material handling equipment such as scaffolding products, barrows and trolley, lifting products and concrete mixers.

Contact:

Taha Fabricators, Mumbai
Tel: 022-25828768 Mobile: 09870044663
Email: taha.int@hotmail.com, tahafabs@hotmail.com

MAGNETIC WATER SOFTENER

Sai Aquafresh offers a wide range of water softener.

Features:

- This device induces instant charge in the water stream resulting breaking of the weak molecular bond of elements and compounds present in the water.
- The positive and the negative charges hit each molecule present in the water, helping water to reduce its surface tension which results in more penetration of water molecule in the object, where water is being used for carious applications.
- This gives instant physical change to the water molecule and the changes remain effective till water retain the charge through magnetic cage approximately the effect remains up to 90-120 hrs.
- This kind of physical treatment to the water removes even the old scale from the pipelines; no such product has this quality earlier.
- It has strong magnetic cage consisting of permanent rare earth magnets which has longevity and retains the strength up to 99 years.

About the company: Established in 1995, an ISO 9001:2000 certified company, Sai Aquafresh engages in manufacturing and export of water purifying systems.

Contact:

Sai Aquafresh, New Delhi
Tel: 011-25881093 Mobile: 09810119774 Email: info@saiaquafresh.com, saiaquafresh@outlook.com

FLEXO PRINTER WITH SLOTTER

Samrat Engineering Works has a range of chain feed flexo printer and slotter machine on offer.

Features:

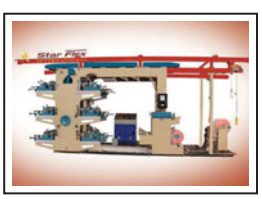
- The offered item is manufactured with the help of finest-grade material and plastic under the visionary supervision of able specialists.
- All the drive gears are skewed tooth and adopt high frequency quenching and part of them are cementite treated.
- After milling, grinding and sprinkle lubricating, the driving precision and using life are greatly improved; the mainframe, blower, phase motor, etc, adopt transducer control; the speed adjusting is steady, and it can save electricity and it is correct and reliable.
- Each set has emergency stop switches, which ensure the safety of the operators and can be availed in automatic stacker option.

About the company: Incepted in 1977, Samrat Engineering Works engages as a manufacturer, exporter and supplier of heavy duty cutting machines.

Contact:

Samrat Engineering Works, New Delhi
Tel: 011-45596876, 28116814, 28113553
Mobile: 09810203147, 09982652628
Email: rishi_vasal@rediffmail.com

PP/HDPE SACK PRINTING MACHINE - ROLL TO ROLL



Star Flex International has a wide assortment of PP/HDPE sack printing machine roll-to-roll.

Features:

- This woven sack printing machine gives high production performance. The simplified controls are easy to operate and provides a high quality output.
- This machine is ideal for mass printing of materials that includes PP/ HDPE sack.
- It has helical gears for smooth running and long life. It also comes with a newly designed wind tunnel with drying system for high speed operation; quick changeover of plate cylinder to reduce the down time.
- Repeat print of plate cylinder 400mm -1200mm as standard model; surface rewind (floor winding type); web guide (pneumo hydraulic) – EPC; extended unwinder (optional); two unwinder with four roll rewinder for non stop printing (optional).

About the company: Star Flex International, ISO 9001:2008 certified, engages as a manufacturer of flexographic machines of high quality.

Contact:

Star Flex International, New Delhi
Tel: 011-28765588, 43563747
Mobile: 09310307888
Email: info@starflex.co.in, starflexo@hotmail.com

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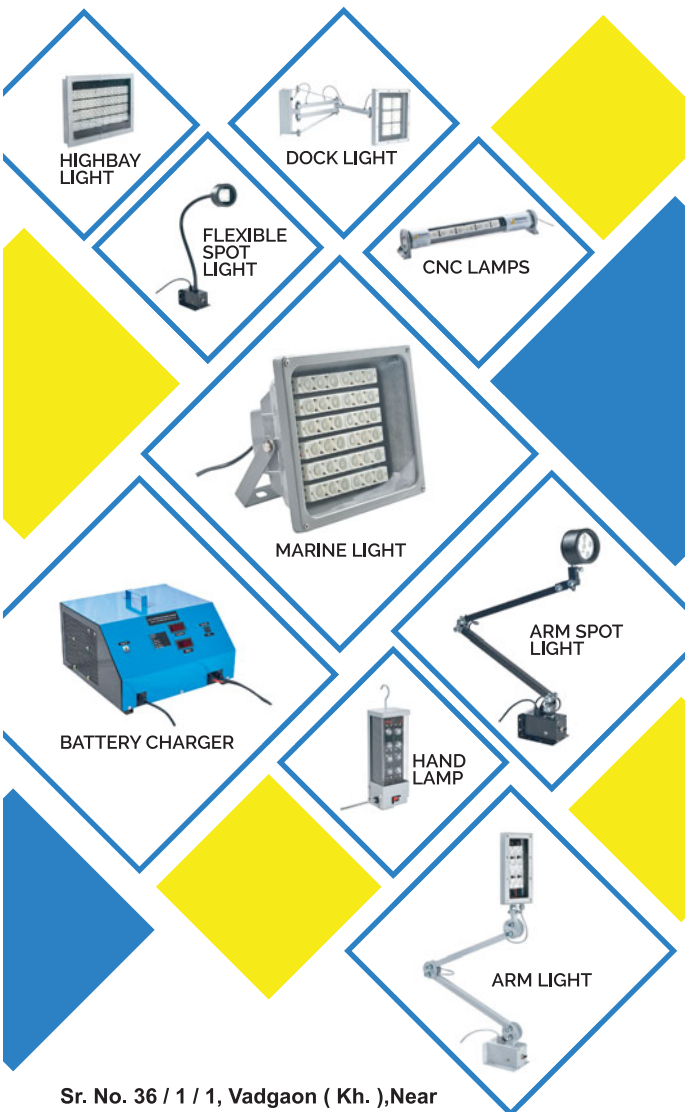

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STORAGE TANKS

Yashodeep Fabritech provides various kinds of storage tanks.

Features:

- These tanks are highly durable and robust in construction.
- Since most liquids can spill, evaporate or seep through even the tiniest opening., special care is taken for their safe and secure handling.
- This floating roof rises and falls with the liquid level inside the tank, thereby eliminating the vapor zone.
- Floating roofs are considered a safety requirement as well as a pollution prevention measure for many industries, including petroleum refining.

About the company: Established in 2002, Yashodeep Fabritech, engages in manufacturing a wide range of screw conveyor, fermenters, heat exchangers and pressure vessels. Its portfolio includes that of flexible screw conveyors, screw conveyors, powder transfer system storage tanks, and flow-pads. This wide range meets the demands of petrochemical, chemical and pharmaceutical industries.

Contact:

Yashodeep Fabritech, Pune
Tel: 020-64100298, 66305961
Mobile: 08806701650, 09561775177
Email: yashodeepfabritech@yahoo.com

POWDER BLENDER

Zeutech Engineers Pvt Ltd is offering a wide range of powder blender,

Features:

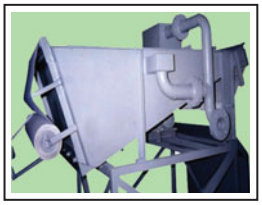
- Powder bender saves time by reducing re-circulation requirement. Its high shear rates reduce blend times and ensure consistent product result.
- Zeutech powder mixer provides quick, high-performance blending of wet and dry ingredients into a fluid stream.
- Consists of proven pump and blender system that's convenient to use, efficient that saves time and lessens the hardship.
- The liquid ring pump creates consistent suction at the bottom of the funnel to prevent plugged and maintain powder rate, as viscosity increase.
- The rotor-stator design of shear pump, eliminates unblended products and prevent lumps and masses for consistent batch to batch repeatability.

About the company: Incepted in 1990, Zeutech India Pvt Ltd, is a supplier of precision engineered range of hygienic pumps, industrial pump equipment and dairy equipment that serves various industrial applications.

Contact:

Zeutech Engineers Pvt Ltd, Pune
Tel: 020-27130909 Mobile: 09823020660
Email: zeutechpumps@gmail.com

TROUGH TYPE VACUUM FILTERS



Veeraja Industries is offering a wide range of trough type vacuum filters.

Features:

- These filters can be used in support with disposable/back-washable media and can be made available in different filtration capacities of 50 l/min to 300 l/min.
- These filters are best-suited for handling the demands of finer filtration with comparatively less paper consumption, thus also making them economical in terms of usage.
- Some of its features are such as low on maintenance, fully automatic operations, compact on design, ideally for individual machines.
- Simple operation and easy maintenance, suitable for finer filtration, paper consumption drops by 80 per cent. It can be used with disposable and back-washable media and without conveyor.
- Used for steel grinding, cast iron grinding; honing; lapping - in combination with back washable candle filter.

About the company: Incepted in 2003, Veeraja Industries involves in providing coolant filtration and filtration equipment such as industrial agitators, filter cartridges, industrial stirrers, flat bed pressure filters.

Contact:

Veeraja Industries, Pune
Tel: 020-25291229 Mobile: 09822064046
Email: response@veerajafilters.com

DG CONTROL & SYNCHRONIZING PANELS

Accusoinc Controls offers a wide range of DG control and synchronising panels.

Features:

- These panels are used for AMR applications as well as generator parallelity and mains and generator synchronising.
- Powder coated enclosure; modular design; state of the art generator controllers; controller suitable for all the alternator/engine makes; type 2 coordinated component selection; easy busbar maintenance bus-bar system upgradeable at site.
- Optional common outgoing feeder for synchronised generator power optional mains feeder; panels also available for one; generator and multiple electricity board feeder for AMF function.

About the company: Accusoinc Controls Pvt Ltd is a provider of electrical panel and power distribution equipments for more than two decades.

Contact:

Accusoinc Controls Pvt Ltd, Pune
Tel: 020-25236666
Email: info@accusonic.net

PRESSURE TRANSMITTER

Pyrotron India is a manufacturer and supplier of a wide range of pressure transmitter.

Features:

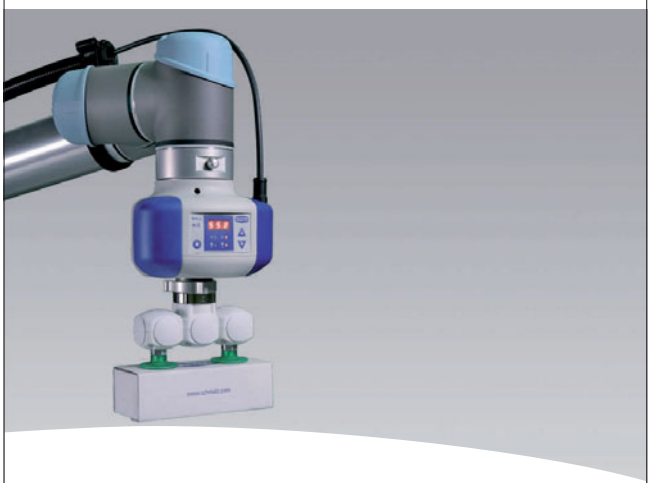
- In order to adapt the increasing improvement and development of domestic automation standard the series of products have an exquisite design.
- These transmitters are highly accurate. Its span and zero points include those of outside continuous and regular table; good stability; positive shift can amount to 500 per cent negative shift can amount to 600 per cent; two-wire system..
- Standard 4-20 ma with digital signals based on hart protocol, remote operation; support the upgrade of on-the-spot main line and technology based on on-the-spot control.

About the company: Established in 1995, Pyrotron India is a manufacturer and supplier of a wide range furnace and ovens, digital display, motion control, analytical instruments, timer and counter including A/C drive, techometer, digital timer small, counter, high temp furnace, vaccum oven and many more.

Contact:

Pyrotron India Inc, New Delhi
Tel: 011-23643812 Mobile: 09899654377
Email: pyrotron@gmail.com

SCHMALZ



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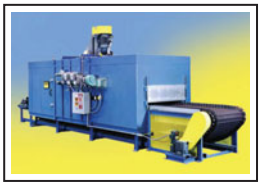
INDUSTRIAL OVENS CONVEYOR



Prime Precisions is offering industrial ovens conveyor.

Features:

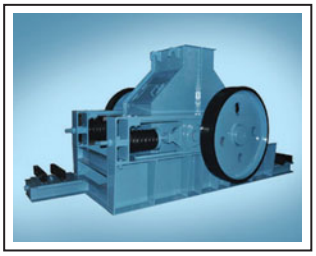
- These consist of various zones in where in same temperature can be provided in the zones along the path of the belt.
- Curing conveyor oven operates in a continuous manner; the curing oven chamber is divided into two individual zones of control to allow more flexibility for the process requirements.
- The maximum operating temperature of the curing conveyor oven is 221 degrees F; a pre-heat section is included prior to the heated chamber to allow the product to begin the curing cycle prior to entering the forced air section of the heated chamber.

About the company: Commenced in 1996, Prime Precisions, engages in manufacturing and exporting of precision range of material handling equipment and allied components such as precision turned component, steel conveyor pulleys, metal fabricated component, conveyors, precision machined components and many more.

Contact:

Prime Precisions, Coimbatore
Mobile: 09677737122, 09842937122
Email: sales@primeprecisions.com

DOUBLE ROLLER CRUSHER



Sri Jayam Engineering Works provides industrial crushers with double roller crusher.

Features:

- These crushers are widely used in processing applications such as crushing soft and hard materials.
- Quality analyser checks the quality of products and identify that they are fulfilling the rules of international quality standard.
- High tensile strength; corrosion resistance; crushing ratio - approx 1:6; throughput capacity – up to 2.000 t/h; feed material – limestone, gypsum, coal, coke and different types of ore are some of its benefits.

About the company: Established in 2006, Sri Jayam Engineering Works is a manufacturer, exporter and supplier of a comprehensive range of industrial process equipment and material handling equipment. These equipment are widely used in industries such as automobile, paper, tea and coffee processing, and general engineering industries.

Contact:

Sri Jayam Engineering Works, Rajapalaiyam
Mobile: 09443292506, 08220576179
Email: info@pulverizermachinery.com

AUTOMATIC BISCUIT MAKING PLANT

Ultra Worldwide Pvt Ltd offers a wide range of automatic biscuit making plant.

Features:

- The machine makes and cuts biscuits into its desired shape from dough sheet supplied by the sheeters/gauge rollers.
- The dough sheet is made out of fermented dough or soft sweet dough.
- In double roll cutting machine the upper surface of the biscuit remains smooth and leveled if compared with single cutting roller unit.
- Pneumatic side tracking control with individual speed controls (VFD); independent speed control for cutting web and cutting rolls for smooth and accurate cutting.
- Scrap pick-up with cross conveyor; swiveling type panner web with individual speed control; CAS-CADE control system for full line upstream and downstream speed settings.

About the company: Established in 1995, Ultra Worldwide Pvt Ltd, is one of the leading manufacturers and exporters of food processing and other allied machines.

Contact:

Ultra Worldwide Pvt Ltd, Mumbai
Tel: 022-23481424 Mobile: 09821064899
Email: ultra_international@vsnl.com

EXTRUDED RUBBER CORD

V H Polymers provides a wide assortment of extruded rubber cord to meet the multiple requirements.

Features:

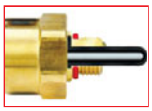
- The product shows traits like high temperature resistance (-50C to +300C); excellent resistance to oils, fuels, lubricants, and most mineral acids.
- The product is resistant to corrosive fluids compared to other polymers and has excellent resistance to atmospheric oxidation, sun and weather.
- This rubber cord resists many aliphatic and aromatic hydrocarbons, has excellent compression set values at high temperatures and resists degradation by over 300 fluids.
- These are manufactured using various raw materials such as nitrile (NBR), hydrogonated nitrile (HNBR), EPDM, neoprene, silicone, fluoroelastomer (FPM), and viton (fluorocarbon).

About the company: Established in 1981, V H Polymers engages as a manufacturer and exporter of a wide range of molded rubber components as per given requirements.

Contact:

V H Polymers, Mumbai
Tel: 022-23447285
Mobile: 09821244999, 09819929304
Email: response@vhpolymers.com

Gems Sensors & Controls



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ULTRASONIC CLEANERS

Vibronics Pvt Ltd is offering ultrasonic cleaners, high on demand by various industrial and commercial places.

Features:

- These cleaners work on ultrasonic vibrations, as these vibrations performs function of as elastic waves at high frequency, propagated, in gaseous, liquid or solid medium form.
- The range of ultrasonic waves is above audible frequency 20 khz and care should be taken of the generators intended for an ultrasonic cleaning.
- The frequency should be stable and smoothly controllable over certain range.
- Ultrasonic cleaning enables extremely high degree of soil removal at very fast rate compared to other conventional methods. It can penetrate into the most intricate and inaccessible areas where other methods of cleaning fail.

About the company: Vibronics Pvt Ltd, established in 1964, provides high end cleaning solutions like ultrasonic cleaning systems, flaw detectors and cleaning chemicals and cleaning detergents.

Contact:

Vibronics Pvt Ltd, Navi Mumbai
Tel: 022-27690440, 27690593 Mobile: 09370286090
Email: vibronicsndt@gmail.com ibronics@mtnl.net.in

INDUSTRIAL PANEL AIR CONDITIONER

Weltech Refrigeration Co offers a range of industrial panel air conditioner.

Features:

- These panel air conditioners come with condensers and evaporators, having extra large capacity. This range is compact.
- It provides 1 to 40 HP capacities, in this way; the range provides high efficiency and low energy consumption and its acoustically treated cabinet offer minimum noise and vibration.
- This panel air conditioner is provided with convectional controls or microprocessor-based controllers; during part load, the COP increases and saves energy.

About the company: Established in 1990, Weltech Refrigeration Co is a manufacturer, exporter and supplier of cooling equipment. The company's product portfolio comprise of panel air conditioner for CNC, panel air conditioner stand alone type, industrial panel air conditioner, panel air conditioner for paper, panel air conditioner for textile industry, precision water chiller, water chiller for extruder, chilling plant, etc.

Contact:

Weltech Refrigeration Co, Mumbai
Tel: 022-25663522 Mobile: 09819945138
Email: thomastech@mtnl.net.in

CAPSULE INSPECTION MACHINE

Allegro Pharmachem Equipment engages as a manufacturer of wide assortment of capsule inspection machine.

Features:

- Material used in the construction for non contact parts follows SS 304 and for contact parts SS 316.
- Table structure base is ergonomically designed for user comfort at the time of inspection, SS 316 hopper with vibrator tray transfers the capsules to the roller with controlled speed and minimal dust free product.
- The machine is designed and manufactured as per cGMP norms; robust and sturdy base with PU wheels for easy movements.
- The machine's mirror in before the user helps for efficient inspection and quality checks from all sides of capsule. It also ensures that there is no change of parts required for various shapes and sizes of capsules.

About the company: Allegro Pharmachem Equipments was founded in 2001 and manufactures sophisticated processing and inspection machinery used in pharmaceutical sector.

Contact:

Allegro Pharmachem Equipments, Thane
Tel: 0250-6450642/43 Email: allegro@allegroindia.com

LC SERIES CHAIN PULLEY BLOCK

Bakelite Electrical Mfg Co Pvt Ltd provides light compact chain pulley block.

Features:

- These blocks have applications in material handling process in various industries for carrying heavy weight loads.
- These blocks are resilient and have precise controls, as they are fabricated as per latest industrial norms.
- These blocks have robust design and are high on efficiency, who come in tamper-proof packaging at nominal prices.
- These powder coated blocks are strong and safe IS: 15560 hooks ISI marked with SS safety latches; precision splined load wheel for safety at jerk loads, duly hardened tempered; alloy steel gears duly surface hardened; lower head room.
- Trolley monoblock arrangement for lower headroom available; additional test certificate as per factory act on form 12 or IDLR test certificate.

About the company: Bakelite Electrical Mfg Co Pvt Ltd, established in 1959, involves in manufacturing, supplying, trading and exporting quality lifting accessories and other lifting equipments.

Contact:

Bakelite Electrical Mfg Co Pvt Ltd, Mumbai
Tel: 022-28683498 Mobile: 09820180331
Email: isichain@bom3.vsnl.net.in

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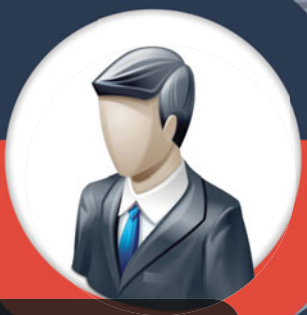

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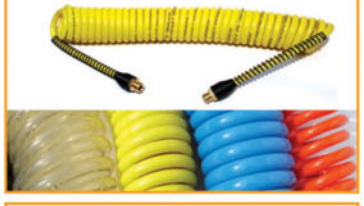

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For enquiries on product and trade please call or send a mail.

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email: saivacblr@vacpneumatic.co.in Contact Person: Vijay Mehta

Pune Office: No. C-34 and C-35, 1st Floor, Sanghvi Complex, #128/3, Mohan Nagar, Chinchwad, Pune - 411019, Tel: +91 20 27464860 / 32507458
Fax: +91 20 27464858. email: saivac@vacpneumatic.co.in Contact Person: Jay Mehta Mobile: 91-89511 01436, 90110 96668, 90366 52082 www.vacpneumatic.com

Vac®
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Air Silencers

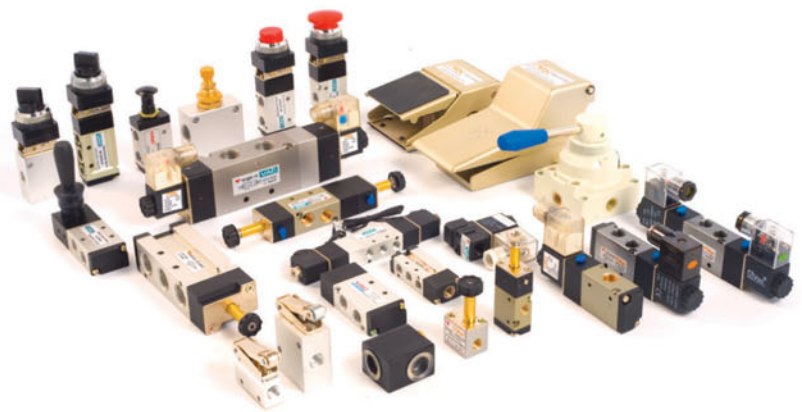
One-Touch Fittings

Spring Balancer

Air Gun

Coolant Gun

Valves from VAC



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Bangalore Office:
#05, 59th A Cross, 4th N Block,
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Contact Person: Vijay Mehta

Pune Office:
No. C-34 and C-35, 1st Floor, Sanghvi Complex, #128/3,
Mohan Nagar, Chinchwad, Pune - 411019,
Tel: +91 20 27464860 / 32507458
Fax: +91 20 27464858.
email: saivac@vacpneumatic.co.in
Contact Person: Jay Mehta
Mobile: 91-8951101436, 9011096668, 9036652082

www.vacpneumatic.com

WOOD FIRED WATER HEATER

Steelhacks Industries is offering an innovative spectrum of wood fired water heater.

Features:

- Offered water heater has insulated storage tank to keeps water hot for longer period; besides, this water heater can be in several customised options as per varied requirements.
- Maximum efficiency with minimum fuel; maximum utilisation of fuel is engineered; insulated storage tank keeps water hot for longer period; no moving parts, no wear and tear; hot water available within 10-15 minutes.
- Some of its key benefits are such as no use of electricity, pressure and leakage tested, installed outside the house; very convenient as supply can be made directly to use points; no maintenance.

About the company: In the year 1980, Steelhacks Industries was established as a manufacturer and supplier of solar water heaters and dryers.

Contact:

Steelhacks Industries, Anand
Tel: 02692-236156, 235518
Mobile: 09825049997
Fax: 02692236534
Email: unisol@icenet.net, info@unisolsolar.com

PRINTING INDUSTRY CLEANERS

Highclean Ultrasonics manufactures and supplies a distinguished range of printing industry cleaners.

Features:

- The key advantages being that components of the most complicated shapes can be cleaned efficiently, speedily and comprehensively.
- These cleaners are manufactured by making use of high-grade raw materials and high-end technology so as to maintain the set industry standards.
- The offered range is rigorously inspected by our quality inspectors against various parameters.
- The system shown will accept and rotate up to 6 rolls at 1040 face width, or 12 off rolls up to 450 face width (depending on particular rolls).
- Ability to clean up to 12 rolls at a time; super sweep can deliver up to 4 khz of sweep; corrosion-resistance; high performance; sturdy construction.

About the company: Highclean Ultrasonics, an ISO 9001:2008 certified company, established in 1992, is a manufacturer, supplier and exporter of a wide range of optimum quality ulterasonics cleaning system.

Contact:

Highclean Ultrasonics, Mumbai
Tel: 0250-2391340 Mobile: 09320161271 Email: highclean9@gmail.com, tomar@highcleanultrasonics.com

RUTF PROCESSING PLANT

Wahal Engineers offers setting up of turnkey RUTF processing systems and complete machinery.

Features:

- RUTF stands for ready to use therapeutic food, designed for specific, usually nutritional, therapeutic purposes as a form of dietary supplement.
- The primary examples of therapeutic foods are used for emergency feeding of malnourished children or to supplement the diets of persons with special nutrition requirements, such as the elderly.
- Some of its key characteristics are such as low power consumption, high performance, durability and easy operation.
- A subset of therapeutic foods, ready-to-use therapeutic foods (RUTFs), are energy-dense, micronutrient-enriched pastes that have a nutritional profile similar to the traditional F-100 milk-based diet used in inpatient therapeutic feeding programs and are often made of peanuts, oil, sugar and milk powder.

About the company: Established in 1980, Wahal Engineers manufactures and exports a comprehensive range of industrial process equipment.

Contact:

Wahal Engineers, New Delhi
Tel: 011-27821785 Mobile: 09891223802
Email: wahalparveen@gmail.com

FIBER LASER METAL CUTTING MACHINE (2000W)

Jiatai Laser Technology Co Ltd offers a wide range of fiber laser metal cutting machine (2000W).

Features:

- This laser cutting machine is able to cut metal sheet and pipe, such as stainless steel; mild steel; alloy materials; copper; gold; silver; platinum; titanium; aluminum and so on.
- This machine has cutting speeds 100 times than linear cutting machine. Small heat affected zone, good dimension stability; cutting slot flat and smooth, no need second process for cut surface, it is a highest cost performance machine for metal cutting are some of its benefits.
- Both plan cutting and surface trimming can be finished by automatic tracing system and machine can make high grade production with smooth surface, which is hard to obtain by NC punch.

About the company: Jiatai Laser Technology Co Ltd is a technology corporation offering all kinds of laser marking machines, laser cutting machines, laser welding machines and various laser machine's spare parts or consume parts.

Contact:

Jiatai Laser Technology Co Ltd, New Delhi
Mobile: 09654378126 Email: Jiatai.laser@gmail.com

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- De-scaling
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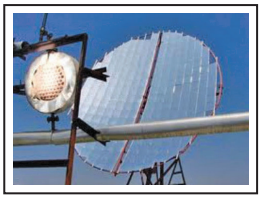
R. S. No.534/B Belagali Road, SHEREWAD-580028 HUBLI, KARNATAKA, INDIA
Krishna Khandavilli, Hyderabad
Mobile- 77999 08080 / mail-processspecialist2012@gmail.com
Shrinivas Halligudi, Hubli
Mobile- 94489 90655 / mail-shrinivas.vibhava@gmail.com

SOLAR COOLING SYSTEM



Heat Max Engineering is offering a wide range of solar cooling system by integrating vapor absorption machines with solar concentrators.

Features:

- This integrated system offers the advantage of optimising the use of electricity and maximising the use of clean, renewable, solar thermal energy, while meeting the cooling load.
- Attractive payback period; subsidy available from MNRE, Government of India; accelerated depreciation benefit up to 80 per cent in the first year.
- Zero energy cost; proven technology; seamless integration - with existing system; can be mounted on flat or inclined roof as well as ground; modular design - easy to install; maintenance free; no tracking required - non-imaging collector.

About the company: Heat Max Engineering is a manufacturer of industrial thermic fluid heater, industrial steam boiler and hot water generators. Apart from this, company also offers belt conveyors, pollution control equipment, industrial coils and hot air generators.

Contact:

Heat Max Engineering, Ahmedabad
Tel: 079-25840215, Mobile: 09824052714
Email: hmevipul@yahoo.com

EFFLUENT TREATMENT PLANT

Akshaya Enterprises engages as manufacturer, supplier and exporter of an exhaustive range of effluent treatment plants that is highly efficient.

Features:

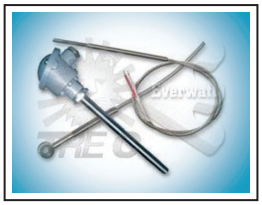
- This effluent treatment plant is designed to treat the effluent coming from different areas of the plant.
- The treatment of different effluents varies with the type of effluent; industrial wastewater contains a diversity of impurities and therefore for this reason alone, its treatment constitutes a special task.
- The treatment process may contain mechanical, biological and chemical physical process steps.
- Some processes followed are aerobic biological process, anaerobic biological process and chemical-physical process.

About the company: Established in 1989, Akshaya Enterprises, is a manufacturer, exporter and supplier of industrial processing machines, equipment, and plants. Its extensive range finds application across textile, power, garment, engineering, and automotive industries.

Contact:

Akshaya Enterprises, Coimbatore
Tel: 0422-2410272
Mobile: 09629968102, 08668079040
Email: balanakshaya@yahoo.com

THERMOCOUPLES



TRE 'C' s r l offers a wide range of thermocouples, temperature sensors operates by joining two different conductors at their ends.

Features:

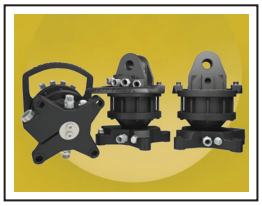
- The polarisation and intensity of the electromotive force generated depends solely on the type of the two metals forming the thermocouple and the temperature at which they subjected the two joints.
- For a given temperature, the thermocouple measuring process is necessary that the junction is at a given temperature (usually 0 degree C), so that the current loop generated in depends solely on the temperature of the hot junction.
- Temperature range in which the thermocouple may operate or maximum operating temperature; voltage supplied; these parameters depend on the materials from which the thermocouple is made.

About the company: TRE 'C' manufactures immersion electric heaters destined to primary national and foreign industries in the metallurgic, thermodynamic, oleodynamic, pharmaceutical chemistry, food, cardboard, flexographic, textile sectors, for washing systems, packaging, and in the industrial heating sectors.

Contact:

TRE 'C' s r l, Italia
Tel: (39) 02 2132078, 02 2137541
Email: commerciale@tre-c.it

HYDRAULIC CONTROL VALVE



Super Fasteners Industries is a wholesaler of a wide range of variety of hydraulic control valve.

Features:

- This latest techno-how aids the perfect manual closing and locking screw wherein its internal parts are machined accurately for trouble-free operation.
- Body and bonnet are sealed by metal to improve the seal performance this ensures the efficient working of the product.
- Body and bonnet sealed by metal to improve the seal performance; highly reliable.

About the company: Super Fasteners Industries, established in 1976, is a wholesaler of a comprehensive range of pneumatic fittings, hydraulic hose fitting, SS dairy pipe fittings, brass pipe fittings and many more.

Contact:

Super Fasteners Industries, Mumbai
Tel: 022-23438315, 23437341
Mobile: 09004686977, 09223306949
Fax: 022-23437341
Email: info@superfastenersindus.com,
superfastenersindus@yahoo.co.in

LINEAR BOTTLE WASHING MACHINE

Laxmi Pharma Machines is offering a wide range of linear bottle washing machine.

Features:

- This washing machine is used for high pressure spray nozzles that ensure providing perfect wash to the vials.
- No requirement of changing parts for washing of bottle, thus, saves time of change over.
- Further, as all parts that come in contact with wash zones/jet come made in SS 316 material. This also ensures durable finish values in these machines.
- High pressure spray nozzles ensures perfect wash of vials. It has completely fabricated material from SS materials, including the basic frame and no change parts required for washing of bottle saving time of change over.

About the company: Laxmi Pharma Machines, is involved in manufacturing, supplying and exporting a wide assortment of superior-grade sealing, labeling and allied machinery.

Contact:

Laxmi Pharma Machines, Ahmedabad
Tel: 079-22900488,
Mobile: 09825723235
Email: sales@laxmipharmamachines.com

ELECTRIC HOT AIR GENERATORS

Saz Boilers offers a wide range of prime electric hot water generators.

Features:

- These electric generator are automatic thus very easy to operate; electric generator are customised as per given requirement i.e modulating, on-off type.
- Capacity – 10,000 kcal/hr to 4,00,000 kcal/hr; temperature – range 95 degree C for standard unit and 200 degree C for pressurises unit; smokeless combustion; Fuels – electric; efficiency – overall efficiency of 98 per cent (-2 per cent) on NCV; easy for installation; fully automatic operation.
- Some of the key benefits are such as compact and easy to operate; minimum maintenance cost; single button start and stops with automatic control; easy for installation and commissioning.

About the company: Saz Boilers, a 22-year-old, ISO 9001:2008 certified company, is a manufacturer, exporter, and supplier of steam boilers, hot water generators, thermal fluid heaters, hot air generators, etc.

Contact:

Saz Boilers, Pune
Tel: 020-26970420
Mobile: 09822036995, 08605013451
Email: saz@vsnl.com

FOOD HEAT EXCHANGER

Mark Engineers is offering a wide range of food heat exchanger.

Features:

- Food heat exchanger comprises latest technology based equipment that finds application in efficiently removing heat from high-temperature fluids with support of processes involving convection and conduction.
- Coming with counter-flow as well as parallel heat exchanging possibility, these heat exchangers also come with vacuum brazing at high temperatures that provides in them permanently sealed working interface.
- Optimum functionality based heat exchangers finding suitability in pharmaceutical industry sector; featuring use of thin acid-resistant stamped SS plates with brazed gasket support.
- All plate packs brazed with end plates and connections.

About the company: Mark Engineers engages as a manufacturers and exporters of heat exchanger, heater for textile processing machine, tray dryer etc.

Contact:

Mark Engineers, Ahmedabad
Tel: 079-40083134,
Mobile: 09825012504
Email: markheatcool@gmail.com

EXTRA HIGH VOLTAGE CABLES

Universal Cables Ltd. offers extra high voltage (EHV) XLPE cables.

Features:

- They are of highest reliability to ensure uninterrupted power supply and Unistar EHV cable can guarantee this requirement.
- These are manufactured using VCV technology with proven know-how from Furukawa Electric Co Ltd and also having in-house engineering expertise for system designing, cable jointing and installation.
- The key cutting edge features of this technology as true simultaneous triple extrusion with single (common) cross-head, dry cure dry cooled process, dimensional accuracy for perfect geometry with zero eccentricity/ovality of the insulation, class 1000 cleanliness level with completely closed material handling system.

About the company: Universal Cables Ltd. (UCL), has a wide range of products such as low voltage, medium voltage and extra high voltage XLPE power cables up to 500 kv grade, PVC and rubber insulated power cables up to 11 kv grade, control and instrumentation cables and specialty rubber cables.

Contact:

Universal Cables Limited, Satna
Tel: 07672-257121 to 27
Email: sales@unistar.co.in

SPIRAL HEAT EXCHANGER

Equitek Process Solutions are providing spiral heat exchanger.

Features:

- Ideal for heating or cooling slurries or sludge; fluid distribution is good; fouling rate is low, if fouling does occur it can be cleaned easily.
- Spiral plates can achieve heat recoveries in a single unit; spiral plates avoid problems associated with differential thermal expansion in non-cyclic services.
- Self-cleaning effect result in low maintenance; compact in size; energy efficient; high efficiency; smooth functioning; easy to handle.

About the company: Equitek Process Solutions, is known for manufacturing, trading and exporting agitators and heat exchangers. Used in various chemical industries, the offered range consists of heat exchanger, hot water system and top entry agitator.

Contact:

Equitek Process Solutions Pvt Ltd, Pune
Tel: 020-65281618
Mobile: 09075588855, 09371277405
Email: tusharnpatil@gmail.com

ELECTROMAGNETIC BEARING MOUNTED CLUTCH

Pethe Industrial Marketing Co Pvt Ltd offers electromagnetic bearing mounted clutch.

Features:

- These clutches are designed to have a stationary coil, single surface plate and are used in dry conditions.
- They are light in weight, compact and have high torque at low wattage. There are three parts to a clutch such as stator (clutch body) which is fitted on the driving side, rotor which fits over the stator and armature plate which is fitted on the driven side.
- The transmitting torque is generated on supply of DC voltage to the stator.
- The clutch has a dia range of 63-250mm. Its torque capacity varies between 7 and 440 nm.

About the company: Pethe Industrial Marketing Company Pvt Ltd involves as a manufacturer and supplier of brake motor, clutches, clutch brakes, gearbox, couplings, industrial automation, power transmission solutions, disc type brakes, geared brake motors, flame proof brake, AC/DC brakes.

Contact:

Pethe Industrial Marketing Co Pvt Ltd, Mumbai
Tel: 022-24223976, 24220923, 24224592
Email: response@petheind.com, petheind@yahoo.com

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email : info@swatipulley.com / klp_pulley@swatipulley.com / klp_pulley@bsnl.in

Wanted Dealers across India

ASEPTIC FILLER

HRS Process Systems Ltd. is offering a wide range of aseptic filler.

Features:

- This integrated system which combines their innovative hygienic piston pump, unicusreg; dynamic heat exchangers.
- Ecoflux corrugated tube heat exchangers depending on the process and their bag-in box bag-in-drum aseptic fillers.
- Versatile filler suitable both for liquid and liquid with diced products; compact, efficient; durable design, corrosion-resistant construction.
- Microprocessor-based controls; flowdesign, mass or weight control; vacuum cycle pre-fill; inert gas purge post-fill.

About the company: HRS Process Systems Ltd is a part of HRS Group, which operates in the field of thermal processing and is one of Europe's leading heat exchanger specialists.

Contact:

HRS Process Systems Ltd, Pune
Tel: 020-25663581, 66047894
Mobile: 08600007412
Fax: 020-25663583
Email: info@hrsasia.co.in, mktcom@hrsasia.co.in

GAS TURBINE COOLING SYSTEM

Aerotherm Products offers a wide range of gas turbine cooling system.

Features:

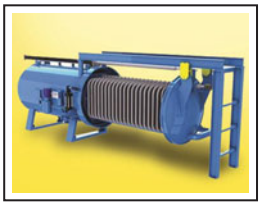
- The offered range of intake air cooling systems is made utilising high grade raw material and highly advanced technology in complete adherence with the international quality norms.
- Additionally, this range is offered in different customised designs, shapes and allied specifications to comprehend and meet the diverse requirements.
- Extremely efficient power saving tool; waste heat used to generate chilled water by vam; intake air cooled from 40 degree C to 15 degree C.
- Enhance power generation by 10-15 per cent Ü Ügas turbines, air compressors and N2 compressors.

About the company: Incepted in 1986, an ISO 9001:2008 certified firm, Aerotherm Products engages in manufacturing, supplying and exporting a wide range of heat and air transfer equipment.

Contact:

Aerotherm Products, Ahmedabad
Tel: 079-25841663,
Mobile: 09879104473
Email: info@aerothermproducts.com

HORIZONTAL PRESSURE LEAF FILTER



Sparktech manufactures a wide range of horizontal pressure leaf filter.

Features:

- Automatic cake discharge with mechanical or pneumatic vibrator options and spray nozzle for wet cake discharge and ideal replacement for plate and frame filter.
- 1-100 m2 filtration area offered as per requirement; stainless steel filter elements, hence no repetitive cost, washing and maintenance of filter cloth; filtration rate are 2-3 times higher on same filter area.
- This leaf filter, closed system, no maintenance due to SS filtration mesh, low retention of oil, less occupancy of space, etc; very low per cent of unfiltered liquid retention in cake. It has simple & economical bottom opening with 100 per cent opening and optional butterfly valve for vertical PLF.

About the company: Sparktech, engages as a manufacturers, exporting and wholesaling of machines and equipment for food industry. The range of products includes that of heat exchanger, vegetable oil refinery plant and solvent extraction plant.

Contact:

Sparktech, Mumbai
Tel: 022-26465920, Mobile:9820443509
Email: amitw@sparktech.biz

AGITATOR REACTION VESSELS

Rahul Engineering Company offers process reaction vessels and agitators for corrosive applications.

Features:

- It incorporates different types of reaction vessel such as jacketed, limpet coil, top open type, top dish type, etc.
- Its features include: highly efficient; economical; simple in construction; operates at low power; insulated; vertical orientation; horizontal orientation; high temperature resistance
- Used for chemical plants; pharmaceutical plants; dyes industry.

About the company: Rahul Engineering Company, started in 2005, engages in offering a wide range of storage tanks, vacuum chambers, pressure vessels, brewery equipments, chemical plant reactors. The company also offers chemical plant crystallisers, heat exchangers, condensers, evaporators and air receivers. This entire range undergoes extensive testing such as hydro, pneumatic and dye penetrate test to ensure quality standards.

Contact:

Rahul Engineering Company, Pune
Mobile: 09890087871, 09822345588
Email: rahul@recpune.com

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Tel: +91 8422874016

Mr. Tanveer Padode
Manager Operations
Email: Tanveer.P@FIRSTConstructionCouncil.com
Tel: +91 9324579821

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407, 4th Floor, Lakshmi Bhawan, 72 Nehru Place, New Delhi 110019, Tel:011 46561818

www.FIRSTConstructionCouncil.com

HOT FILLING CAPPING MACHINE

Adhi Sakthi Projects Pvt. Ltd. offers hot filling capping machine.

Features:

- Hot filling line is used to fill gel/ ointment in containers and the system comprises of base heating tank of 30 lbs capacity SS 304 with heaters.
- The base tank is provided with stirrer to keep the material homogenously and the circulation pump enables constant pressure head for gravity filling.
- VFD is provided to vary the filling conveyor speed to very filling volumes while speed of filling varies according to volume of filling.
- Residual time inside the duct may be altered using speed of conveyor by VFD. The duct is covered with SS 304 and duly insulated with puff with top lids.
- Weights of nozzle are adjustable through PLC while all product contact points are made of SS 304 and covered suitably. PU belts with bottom scrapers are provided for easy cleaning.

About the company: Adhi Sakthi Projects Pvt. Ltd., product range comprise of cosmetics plant and machines, pharmaceutical machines, packaging machines, soap and detergent plants, detergent powder plants, cutting and stamping machines and auto case packers.

Contact:

Adhi Sakthi Projects Pvt. Ltd., Porur
Tel: 044-24765162
Mobile: 09443203221
Email: cskannan@aspro.in, adhisakthi_projects@yahoo.com

SOLVENT RECOVERY HEAT EXCHANGER

Airec Energy India offers a range of solvent recovery heat exchanger

Features:

- The product is manufactured with quality raw material, using latest technology. The product removes latent heat from boilers by solvent recovery method.
- Some key benefits of the product are such as rigid construction, long operational life cycle, and precise formulation.
- Structure – plate heat exchanger; voltage – 220V, 380V; type – ventilation; power saving type – sensible heat; heat recovery type – crossflow; heat exchanger type – aluminium.

About the company: Established in 2010, Airec Energy India is involved in activities such as manufacturing, exporting, importing, distributing, trading and supplying the heat exchangers.

Contact:

Airec Energy India, Vadodara
Tel: 0265-2363921, Mobile: 09824057498
Email: info@airec.co.in

MAGNETIC DEBURRING & POLISHING MACHINE

Secon Technological Solutions Inc offers highly functional, high quality, high reliability product, from M/s. Holding Electronics Co Ltd., Taiwan, magnetic deburring & polishing machine.

Features:

- The magnetic deburring & polishing machine makes use of innovative and patented magnetic field power to induce the stainless steel media (pin) to rotate rapidly for work piece grinding and get high-efficiency de-burring, polishing, cleaning and grinding effects.
- Its advantages and features: The patented grinding pins work for holes, seams, concave right angles, threads and other fine parts of the work piece with a very high speed. It takes only about 5 to 20 minutes to finish the grinding.
- Its strong special grinding effects: Specially design for irregular-shaped parts. De-burring, polishing, cleaning and grinding simultaneously; high speed grinding, easy and safe to operate, requiring no consumable and low cost; the grinding never deforms the work piece, never damages the surface and never affects the accuracy of the precision of the work piece remove oxide films & tool marks.
- Its applications include: CNC lathes processing the parts; aluminum, zinc pressurizing part; precision stamping parts; precision springs, spring bands; aerospace, medical equipment parts; electronic component.

About the company: Secon Technological Solutions Inc. is engaged as a manufacturer, trader, service provider, distributor of CNC machines tools, preventive maintenance and consultancy services. They can supply various types of machines quantities ranging from 1KG to 12KG of Grinding capacity. Secon is committed to customer satisfaction that is reflected in each aspect of business activity, be it interacting and negotiating withmanufacturers or customer service. The adoption of innovative and practical approach to independent distribution enables Secon to deliver its promise of quality consistently on time. Secon Technological Solutions Inc has built a reputation for itself as highly reliable Sales & Service providers in the Machine Tools market. Secon organization that has grown more than a decade old to support the manufacturing sector with proper high quality, highly reliable modular products from Taiwan to produce the high quality CNC Machine Tools / SPMs.

Contact:

Secon Technological Solutions Inc, Bangalore
Telefax: 080-23575752
Email: secontech2000@gmail.com, secontech@hotmail.com

ONLOAD CHANGEOVER SWITCH

FTC Switchgear Pvt Ltd offers onload changeover switch.

Features:

- These switches are disconnectors with independent manual operation capable of making, carrying and breaking currents under normal circuit condition such as those of short circuit for a specified time.
- Its wide applications include those of wherever the reliability of electrical supply from the utilities is low and are used in lighting/motor circuits wherever continuity of supply is necessary, for switching to an alternative source from main supply and vice versa.
- These switches are modular in construction, compact in size and suitable for stringent utilisation category AC-23A/B.

About the company: FTC Switchgear Pvt Ltd, is currently a manufacturer of control and signaling devices, pilot lamps, (bulb, LED, neon), push button, push button stations, HRC fuse holders, bases, links (2amps to 630 amps), terminal blocks din type (polyamine and melamine), power terminal din type, 2 c/o, 3 c/o relays plug in type, cam operated rotary switches, toggles switches, terminal strips, busbar supports, cubicle onload changeover switches, bypass switches & load break switches.

Contact:

FTC Switchgear Pvt Ltd, Haryana
Tel: 01276-267020
Email: ftcindia@gmail.com

ULTRASONIC MOLD CLEANING MACHINE

Waveultrasonics offers ultrasonic mold cleaning machine.

Features:

- High temp ultrasonic machines (with a temp range up to 80 degree C for continuous process); chilling ultrasonic machine (with temp less than at 10 degree C from normal room temp).
- Digital temp controller; low cost and optimised machine for specialisation requirements; power controller – step less 10 per cent to 100 per cent power control which allows to select the power level; tank size – 9"x6"x4" (H); tank – 3.3 litre; U/s power – 100 watts.

About the company: Waveultrasonics is a manufacturer, supplier and trader of cleaning machines and equipment, ultrasonic tank, ultrasonic cleaning machines and laboratory cleaning machines.

Contact:

Waveultrasonics, Bengaluru
Mobile: 09902910322,
Email: waveultrasonics@gmail.com

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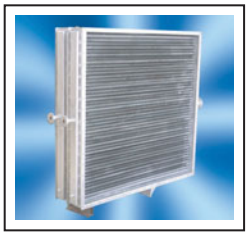
STEAM RADIATORS



Thermal Energy Systems offers high quality steam radiators.

Features:

- These radiators are used for multiple applications for hot air. Here thermic fluid oil radiators are used for continuous flow of air at a desired temperature.
- These radiators are also made suitable for heating with steam or hot water; specially selected extended surface tubes are used for as heat transfer elements; special care is taken to prevent the material from corrosion ensuring durability.
- Material of construction of tubes are carbon steel seamless; high efficiency aluminium fins are used; the normal working pressure is 8 kg / cm2, however the units are tested at a pressure of 16 kg/cm2 air side/ on tube side for leak free operation.
- The radiators are designed to ensure the maximum heat transfer per square feet of surface.

About the company: Thermal Energy Systems, engages as a manufacturer and exporter aluminium extruded finned tubes and heat exchangers.

Contact:

Thermal Energy Systems, Chennai
Tel: 044-42112599
Mobile: 09487117599
Email: thermalenergysystems@gmail.com

WOOD FIRE THERMIC HEATER

Sanjivan Industries manufactures and exports a wide range of wood fire thermic heater.

Features:

- Thermic fluid heating system can be used in all types of industries, replacing electricity and steam. The thermic fluid heater is an ideal electricity saver as it consumes only about 5 per cent of electric power as compared to an equivalent electric system.
- For higher temperature application thermic fluid heating system is the best solution compare to steam; thermic fluid can be heated up to about 300 degree C at near atmospheric pressure in standard units and up to about 370 degree C in special units.
- Semi automatic/automatic, vertical/horizontal coil type thermic fluid heater with external furnace; option available for solid fuel as well as FBC.
- Thermic fluid used in the system, remains in the liquid phase in the entire operating range of the system; thermic fluid is circulated in a closed loop circuit, imparting heat to the users equipment and returns to the unit for heating and circulation again.
- Thermic fluids temperature is kept low preventing oxidation and degradation, expansion due to elevated temperature is taken care of and vapors and gases are liberated preventing cavitations in the pump by the specially designed expansion cum deaerator tank.
- Thermic fluid consists of nest helical coils housed in a rugged steel shell, specially designed with large furnace volume & grate area for good combustion of fuel and sufficient residence time for thorough mixing of fuel and combustion air
- Provided with an induced draft/forced draft fan for efficient combustion of fuel; provided with sufficient controls, safety interlocks, indicators, etc. in a control panel box; optional air pre heater for increasing the efficiency.

About the company: Incepted in 1996, Sanjivan Industries engages in manufacturing and exporting a wide range of food processing machines and equipment. The range includes mava machines, khoya mawa machine, steam boiler, namkeen machinery, sweets and snacks machineries, ice-cream machine, mango pulper, potato chips cutting machine, vegetable cookers, chatni machine, thirmic plant machineries, milk boilling machine, etc.

Contact:

Sanjivan Industries Pvt Ltd, Vasai
Tel: 0250-2481955
Mobile: 09820998248, 09987187747
Email: sanjivan@sanjivanindustries.com

INDUCED DRAFT COUNTER FLOW COOLING TOWER

United Cooling Systems (P) Ltd provides induced draft counter flow cooling towers.

Features:

- These are the common timber type cooling towers, frequently required by all the major sector customers.
- The cross flow cooling towers are having mechanical fan and the water is cooled with the help of mechanical fan motor; mechanical cooling towers provides better thermal performance, low drift loss suitable for the current water scarced world.
- These cooling towers are having the highest delta T and greater efficiency and lower and easy maintenance cost; these cooling towers have both single side and double side air intake.
- The woods used for manufacturing the cooling towers are completely seasoned chemically treated and light-weight.

About the company: United Cooling Systems (P) Ltd., manufactures exports and supplies cooling tower, heat exchanger, industrial cooler, etc.

Contact:

United Cooling Systems (P) Ltd, Coimbatore
Tel: 0422-2676082, 2673175 Mobile: 09443301342
Email: info@unitedcoolingtower.com

FRP SQUARE TYPE COOLING TOWER

Jeni Equipments is offering a wide range of FRP square type cooling tower.

Features:

- The fan creates air movement vertically up the tower across the fills in opposition to the water flow; hot circulating water enters the water inlet headers and sprays through non clogging PP spray nozzles.
- Some of its characteristics are such as weather resistant, low power consumption, durable finish standards and corrosion resistant; square shape cooling towers operate on the induced draft counter flow principle operation.
- Water distribution is even; well designed PVC drift eliminators are fitted to reduce drift losses.
- Square fiber glass cooling towers are provided with inspection door for easy access.

About the company: Jeni Equipments, founded in 2008, engages in manufacturing, supply and export of cooling tower, heat exchanger, hydraulic silencer, air compressor, process chiller, gas storage tank and many more.

Contact:

Jeni Equipments, Coimbatore
Tel: 0422-4377056 Mobile: 09585531978
Email: sales@jeniequipments.com

REVERSIBLE HAMMER CRUSHER

Masyc Projects Pvt Ltd offers a wide range of reversible hammer crusher.

Features:

- These crushers are manufactured based on proven technology, in-house strict quality control.
- It has unique design feature such as welded casing, screwed liner with high carbon steel plates, hammer heads made of chrome alloy cast steel or manganese steel depending upon the application.
- Rotor shaft is made out of forged steel, hammer grinding path with wear resistant plates which are mechanically/hydraulically adjustable and dust proof spherical roller bearing.
- This reversible hammer mill is used for hard coal, lignite, cooking coal, lime stone, cypsum and other soft and medium hard material.
- It also can offer reversible hammer crusher upto a capacity of around 700 TPH and having rotor diameter of 2000 mm.

About the company: Masyc Projects Pvt Ltd an ISO 9001:2008 certified company, is active in bulk material handling systems and equipment segment.

Contact:

Masyc Projects Pvt Ltd, New Delhi
Tel: 011-28115453 Fax: 011-28116850
Email: masyc@masycproject.com

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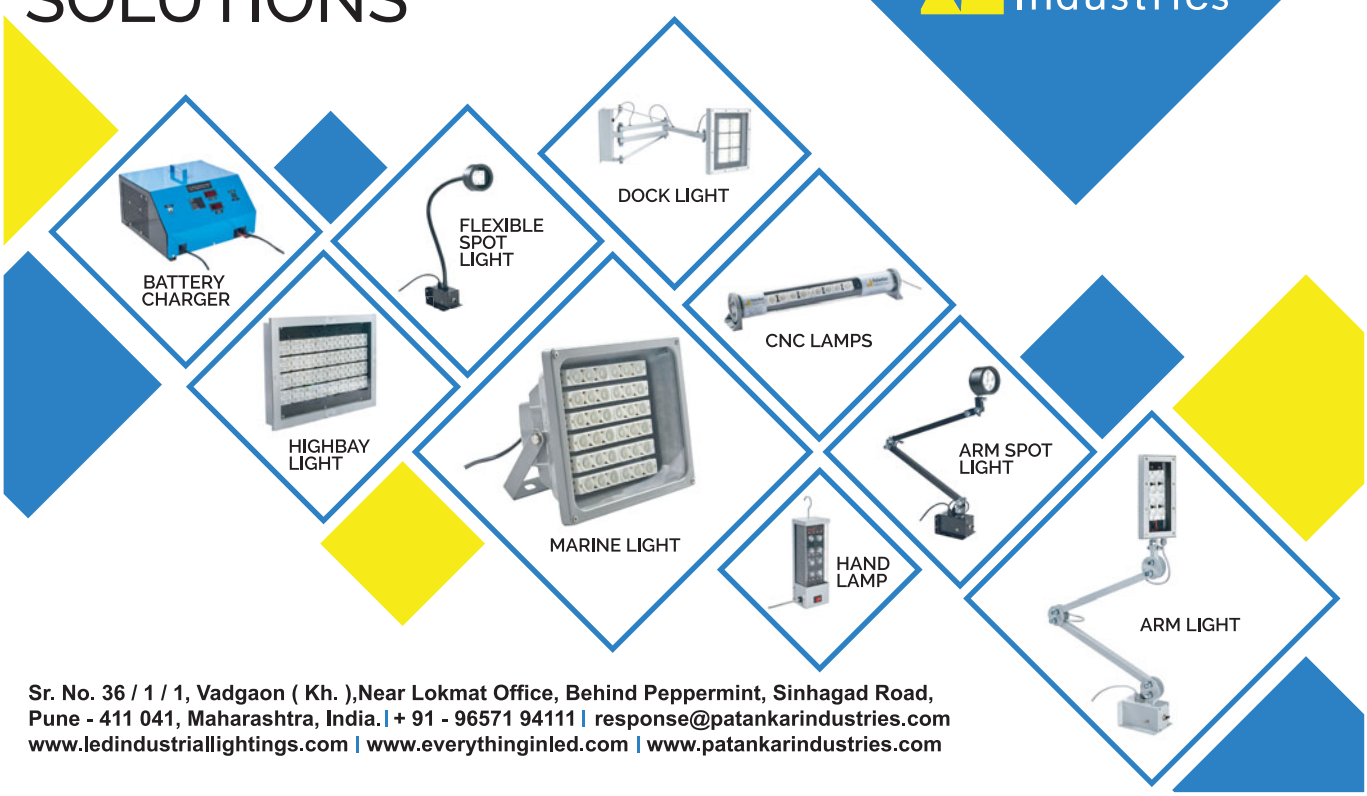

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www.ledindustriallightings.com | www.everythinginled.com | www.patankarindustries.com

MULTI MILL

Rikon Pharma manufacturers and supplies a wide range of multi mills.

Features:

- It is a self contained portable unit used for high-speed granulating, pulverising, mixing, shredding, chopping applications.
- As compared to the four common principles of size reduction, this machine utilities the principle of variable force swing hammer blades having both knife and impact edges rotating with a carefully selected screen to control reduction.
- Flow path of material in vertical rotor machine is streamlined; during comminuting, material entering the chamber travels to the periphery and passes through the screen tangentially and radially avoiding choking and rise in temperature.
- All contact parts comply with SS304 / 316 / 316L AISI quality; machine can handle continuous operation; high output with process uniformity.

About the company: Rikon Pharma, is a manufacturer and supplier of pharmaceutical equipment, manufactured using high-grade raw material.

Contact:

Rikon Pharma, Thane
Mobile: 09819588846
Email: info@rikonpharma.com

HEAVY DUTY BATTERY PALLET TRUCK ND-EP-RPT SERIES

Nido Machineries Pvt. Ltd. is offering heavy duty battery pallet truck.

Features:

- It is stand-on driving type electric truck suitable for high strength condition use. It provides users safe, comfortable, reliable logistic solutions.
- This maintenance-free AC driving motor provides constant strong operation. It is equipped with the large 210Ah capacity battery with a side way battery design, convenient for customer to replace the battery and metal cover provide strong protection.
- Size reduced cover plate, more sense of design, easier maintenance; full steel cover protects from scrapes, reinforced safe assurance to core parts.
- All frame parts are laser cut, high on accuracy, neat and clean. 30 per cent faster in fork falling.

About the company: Nido Machineries Pvt. Ltd., an Indian division of ALE International LLC, a UAE-based group. NIDO is the supplier of all equipment required post production till dispatch weigh/ fill/ pack/lift/move.

Contact:

Nido Machineries Pvt. Ltd., Mumbai
Tel: 022-42256225, Mobile: 08691018201,
Email: sales@nidoworld.com

FILTER CLEANING MACHINE

Ultramax Hydrojet Pvt. Ltd. provides efficient filter cleaning machine.

Features:

- The filter cleaning machines are used for washing medium and small sized AHU filter with micron size range from 3μ to 20μ.
- High pressure water spray helps clean efficiently; washing and drying in single chamber and multi chamber machines available; proven machine and had customer purchase repeatedly; air pre clean, water spray and hot air drying process.
- Multi program can run in the same machine for different type of filter and different process; after loading complete automatic process door closing, cleaning, drying process and door open and no powder dust on cleaning room.

About the company: Ultramax Hydrojet Pvt. Ltd.engages as a manufacturer, exporter, wholesaler, trader and importer of component cleaning machine, component washing machine, parts cleaning machine, degreasing machine, parts washing machine, etc.

Contact:

Ultramax Hydrojet Pvt. Ltd., Chennai
Tel: 044-42852262, 42852264
Mobile: 08903335093, 08903335095
Email: marketing@hydrojet.co.in

PP PUMPS

Southern Thermal Engineering Company provides a wide range of PP pumps.

Features:

- These PP pumps are high on performance based on polypropylene pumps and find suitability for transferring of corrosive chemicals, acids, alkalis.
- They are manufactured using advanced technology and supports flawless working. They come with single piece injection molded impeller and shaft thus avoiding possible damages to base shaft from acid fumes.
- They are suitable for use in adverse working environment including presence of highly corrosive chemicals.

About the company: Southern Thermal Engineering Company, is a manufacturer and supplier of wide array of industrial furnaces. Its product portfolio comprise of tower furnaces, RBT furnaces, melting furnaces, furnace lining, furnace relining and thermal insulation work.

Contact:

Southern Thermal Engineering Company, Chennai
Tel: 044-60503779,
Mobile: 09884935359
Email: info@southernthermal.net

POWER CHUCKS

Jayesh Enterprises is a manufactures a wide range power chucks.

Features:

- These chucks are manufactured in 2, 3, 4, 5, 6, 8 and 12 jaw type upto 800mm diameter. Its range: 80mm to 800mm in close centre type; 135mm to 800mm in high speed hollow type.
- The chuck body is made of alloy steel-robust construction, the hard jaws, base jaws, wedge are hardened and ground to suit customer needs.
- Its feature include: front opening design saves cleaning and servicing time since chuck does not need to be taken off from spindle.
- Its technical features include: Body: alloy steel; guide ways: hardened and ground; wedge: hardened and ground on all surfaces; base jaws: guided in deep, wide, hardened slots on the body with serration on the top surface; hard jaws: case hardened and ground.

About the company: Jayesh Enterprises specialise in the manufacture of jaws as per customer drawings / requirements – in special as well as standard.

Contact:

Jayesh Enterprises, Pune
Tel: 020-26877842/43 Fax: 020-26877846
Email: jaws@jawsindia.com

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- Stellite 6 / Stellite 21
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- CNC / VMC Machined components
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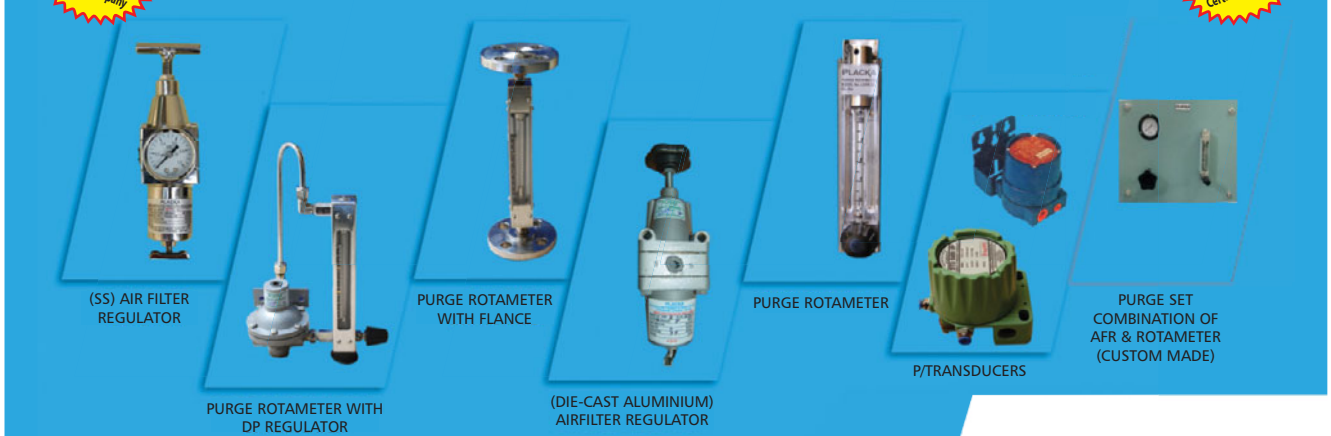

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For More Details

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ACTIVATED CARBON FILTER

SG Enviro Technologies manufactures, supplies and exports of activated carbon filter.

Features:

- These products are widely used to eliminate turbidity and odor in water.
- These products are also used to remove contaminants and impurities hence providing cleaner water that can be used for various industrial purposes.
- Rigorously tested by experts to ensure high standards of quality and safety
- Some of its key characteristics are such as fine performance; odor control; good clarity; long life; easy to erection, installation; material – MS with Internally FRP coating, SS 304; liquid flow as per requirements; pressure for design – max 10 kg/cm2; improved iodine value activated carbon.

About the company: SG Enviro Technologies is a manufacturer, supplier and exporter of air pollution control equipments, waste water treatment plants and their spares. The company also provides consultancy services in the same domain.

Contact:

SG Enviro Technologies, Coimbatore
Tel: 0422-6552355, Mobile: 09363261222
Email: webmanager@pollutioncontrolequipments.net

ASPHALT DRUM MIX PLANT

Hindustan Road Equipments is offering asphalt drum mix plant.

Features:

- In order to meet up the set quality standards, the procured plant is designed with modern drum mix technology due to which it is able to proffer high production rate.
- The offered drum mix plant is tested on a number of parameters to assure flawless performance.
- The mixer has computerised control panel board; proper asphalt coating and saving; high production rate; easy operation and less maintenance; designed for the international market; modern drum mix technology.
- Some of its benefits are those of high production rate, portable stationery, emits less dust, correct drying and homogeneous mixing of aggregate, modular design for containerised transport.

About the company: Hindustan Road Equipments, an exporter and trader of a range of road construction equipment. These products offered are known for their commendable performance and long functional life.

Contact:

Hindustan Road Equipments, Ahmedabad
Mobile: 09725044815
Email: info@hindustanroadequipments.com

INDUSTRIAL MISTING SYSTEM

Inventa Cleantec Pvt. Ltd. engages as a manufacturer and supplier of wide range of industrial misting system.

Features:

- 70 bar FOG modules ECO (for line) from 12 to 470 nozzles. Galvanised plate frame with stainless steel to cover high pressure pump with three ceramic pistons and brass head 3-phase electric motor 1450 rpm, 50 hz unloader valve.
- Solenoid valve 230v-50 hz, low pressure inlet water solenoid valve 230v-50 hz, high pressure to unload the HP line.
- Transformer 380/220v it is ready to be connected to device (thermostat, humidistat and other safety devices).

About the company: Inventa Cleantec Pvt. Ltd. is a manufacturer and supplier of cleaning equipment, cleaning machine, industrial cleaning equipment, industrial cleaning machine, upholstery cleaner, vacuum cleaner, wet vacuum cleaner, dry vacuum cleaner, etc.

Contact:

Inventa Cleantec Pvt. Ltd., Noida
Tel: 0120-4727210, 4727272
Mobile: 09910486950, 09910113504
Email: inquiry@inventa.in

ULTRA HIGH PRESSURE WATER BLASTER

Magna Cleaning Systems Pvt. Ltd. is offering ultra high pressure water blaster.

Features:

- This water blaster is created with advanced technology and use of industry standard components. It has applications in the removal of rust, rubber, chemical, and oil paint without causing any damage to the surface.
- This has recently replaced the use of conventional pneumatic sand blasting or shot blasting technology usage.
- Pump – triplex reciprocating pump with ceramic pistons and stainless steel pump head; cooling – integrated internal cooling; inlet pressure – water inlet to the hp pump through a booster pump; mounting – trolley mounted.

About the company: Magna Cleaning Systems Pvt. Ltd., provides a broad selection of premier heavy duty high pressure water jet cleaners, high pressure hot water and steam jet cleaners, etc.

Contact:

Magna Cleaning Systems Pvt. Ltd., Navi Mumbai
Tel: 022-25411454
Mobile: 09320033242
Email: info@magnacleaning.com

CYLINDRICAL PFC CAPACITORS

Standard Capacitors is offering cylinder PFC capacitors or PHI cap series.

Features:

- These capacitors are available in MPP/gas filled design. In order to ensure safety, these capacitors come with self-healing overpressure disconnector isolated terminal (IP20).
- These capacitors comply with set industrial standards.
- These products are known for its performance up to six kvar per case for single-phase applications; high pulse current withstand capability (200*IR); long useful life, > 100 000 hours; up to 30 kvar per case for three-phase applications.
- The capacitors are used for power factor correction (PFC); automatic switched capacitors banks; fixed PFC applications, e.g. motor compensation; de-tuned PFC systems.

About the company: Standard Capacitors provides capacitors for various applications for power consumers and industry. The offered capacitors have various electrical applications.

Contact:

Standard Capacitors, New Delhi
Tel: 011-65181490,
Mobile: 09810049253
Email: standcap@gmail.com

POWER TRANSFORMERS

TMA International engages as a trader and exports a range of power transformers.

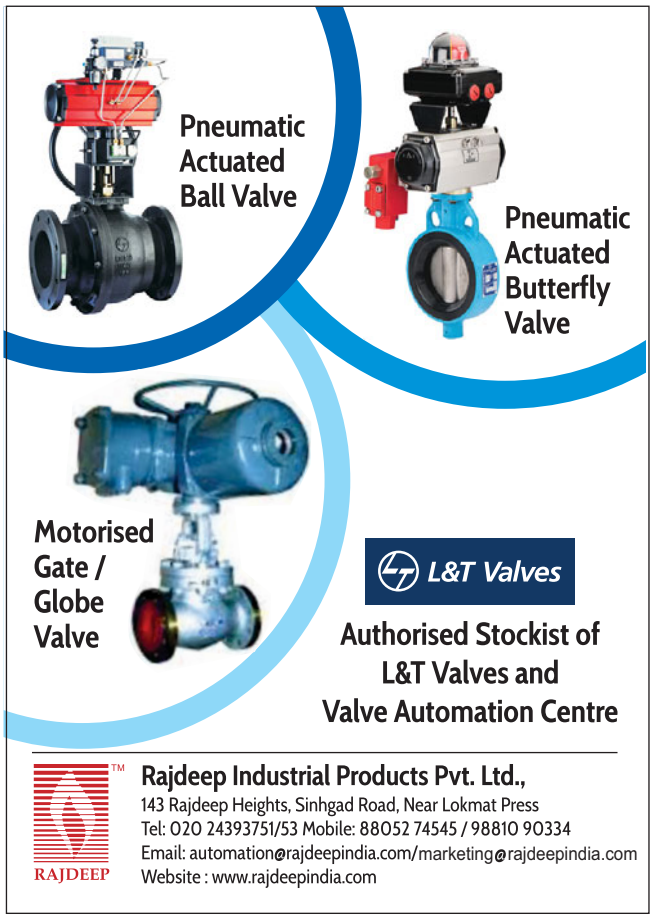
Features:

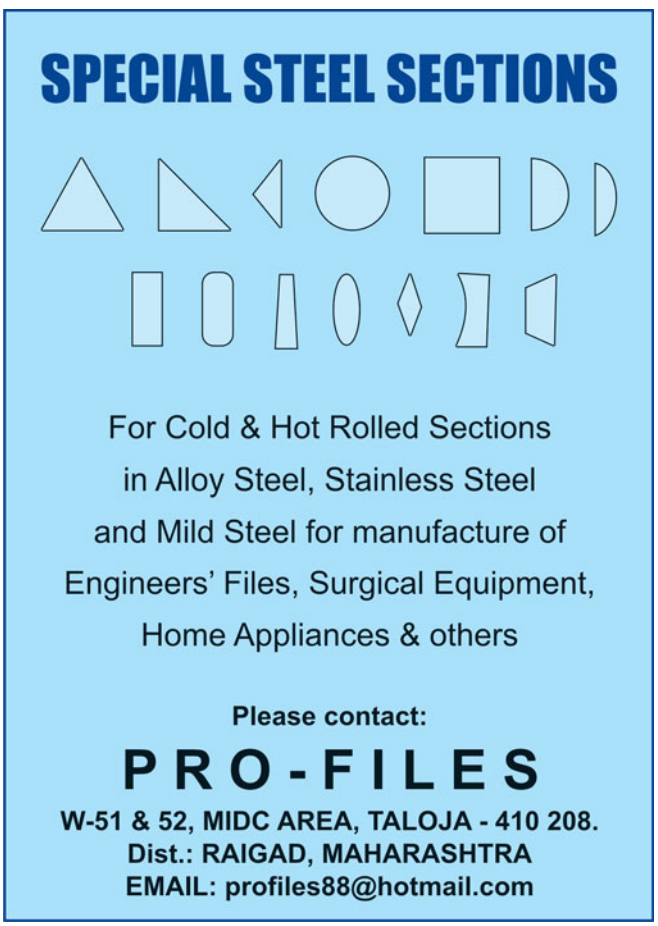
- Electromagnetic induction produces an electromotive force within a conductor which is exposed to time varying magnetic fields.
- Transformers are used to increase or decrease the alternating voltages in electric power applications.
- A varying current in the transformer's primary winding creates a varying magnetic flux in the transformer core and a varying field impinging on the transformer's secondary winding.
- This varying magnetic field at the secondary winding induces a varying electromotive force (EMF) or voltage in the secondary winding due to electromagnetic induction.

About the company: TMA International, established in 1983, engages as a trader and exporter of mechanical products & accessories. Its product portfolio comprise of steel strips, cold rolled steel sheets and galvanised steel strips, company offers a wide range of metal products in various sizes, designs and thicknesses.

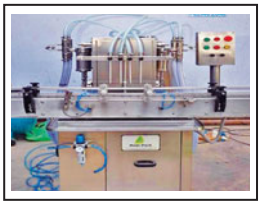
Contact:

TMA International, New Delhi
Tel: 011-46540506, Mobile: 09873938066
Email: tma@airtelmail.in





PET BOTTLE FILLING MACHINE



Medi-Pack Process & Technologies offers pet bottle filling machine.

Features:

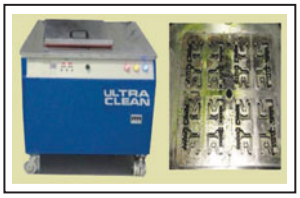
- This bottle filling machine comes with filling way piston as well as pneumatic and electric operation support.
- This fully automatic machine has stainless steel construction finish, for durability and long lasting performance.
- Some key advantages of the machine are such as suitable for filling of liquid, paste products and other processed materials. It has a multi filling nozzle support, allows for easy adjustment for different bottles, auto cleaning support, filling speed can be adjusted as per material density and viscosity, choice of adjusting conveyor speed, auto counting system and others.
- Industrial bottle filling machine work on volumetric principle with diving nozzles and the unit is made compact, versatile and enclosed in stainless steel elegantly matt finish body, of SS slat conveyor, reciprocating nozzle with self-centering devices and SS Syringe.
- Conveyor drive consists of A/C motor with synchronised variable A/C frequency drive; ± 1 per cent filling accuracy on single dose; no bottle no filling system.
- Rigid vibration free construction for trouble free performance; SS elegantly matt finished body; elegant and easy control panel for total control on operation; minimum change overtime, from one size to another container or fill size.
- Self lubricating UHMW-PE guide profile for SS slat chain provides low friction wear surface, smooth and noiseless conveying; error code display on AC frequency drive on control panel; drain tray around machine platform.
- Drip tray under the conveyor; pneumatic bottle stopping arrangement; synchronised two nos A/C drive for main motor and conveyor belt; safety guard for conveyor gear box, motor and pneumatic cylinders.
- MCB for over load protection, and prevention against short circuit; inbuilt protection against over current, voltage fluctuation, short circuit in AC frequency drive.

About the company: Medi-Pack Process & Technologies is a manufacturer, exporter and trader of products like quality bottle capping machine, bottle filling machine, bottle labeling machine, bottle washing machine, bottle inspection machine, packing conveyor belt, automatic liquid filling line, turn table, etc.

Contact:

Medi-Pack Process & Technologies, Ahmedabad
Mobile: 09979929599, 07984755621
Email: info@medipackprocesstechnologies.com, sales@medipackprocesstechnologies.com

ULTRASONIC MOLD CLEANER



Leela Electronics develops ultrasonic mold cleaner.

Features:

- Ultrasonic mold cleaner is easy to use and assures 100 per cent effortless cleaning.
- Sizes range from tabletop tank and generator systems that are effective at cleaning inserts, core pins and small molds, to fully integrated wash/rinse/drying systems for larger molds.
- Aqueous cleaners, solvent base cleaners, vapour degreasing, degreasers, spray washing machines; micro-controller base digital timer; with latest Mosfet/ IGBT base technology; automatic frequency tuning for maximum output.
- Extensively protected electronics circuits for longer and safe operation and frequency 25khz/33khz/40 khz + 3 khz and input voltage range of 170ac-270ac.50 hz.

About the company: Leela Electronics, engages in the development and manufacturing of ultrasonic cleaners. The company has developed in-house its ultrasonic cleaner.

Contact:

Leela Electronics, Mumbai
Tel: 0251-6515131, Mobile: 09820574207
Email: leelasonic@gmail.com

HEAVY DUTY VACUUM CLEANER

Biznustek Systems Pvt. Ltd. manufactures a wide ramge of heavy duty vacuum cleaners.

Features:

- The turbines in the machine are designed and developed for handling higher vacuum ranges and flow rates.
- They comply with global standards and uses CE certified systems. These machines are robust and have a high operational efficiency. They produce very less sound levels of about 60 to 65 db.
- These machines have applications in diverse sectors such as engineering, foundry and abrasive industries, PCB, rubber industry, food and pharmaceutical.
- They are available from 1500 mm WC/200 CMH up to 5000 CMH/1500 CMH suction pressure and flow-rates respectively.

About the company: Biznustek Systems Pvt. Ltd., engages as manufacturer of industrial cleaning equipment. Company's range of equipment includes floor scrubbers, manual sweepers, scrubber driers (auto scrubber driers) heavy duty vacuum cleaners, etc.

Contact:

Biznustek Systems Pvt. Ltd., Bengaluru
Tel: 080-23409666, 23148839 Mobile: 09481247171, 09448372941
Email: sales@benvacsystems.com

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ELECTRO STRIPPING UNIT

Fine Rhodium provides a wide range of high-quality electro stripping unit.

Features:

- The offered products are rigorously checked for quality with assurance procedures, to ensure a defect-free range.
- These units are manufactured in compliance with the industry set norms, using cutting-edge machinery.
- Some of its key specifications include such as 220 /110-volt single phase power input, 30 volt / 100 amp power output, 1050 mm x 750 mm x 750 mm machine size, 85 kg of approx weight, rectangle tank shape, 5 liters tank capacity, and 1 Titanium jig is given of 6 hooks 250 WT among the accessories.
- Silicon with temperature control; 1-5 mins process time that depends on items, full recovery, thus, weight loss is saved.

About the company: Fine Rhodium is a manufacturer, exporter and retailer of electroplating equipment. Its product range comprises of cleaning machine, plating machine, jewellery making machines, and rhodium machine, etc.

Contact:

Fine Rhodium, Mumbai
Tel: 022-28065612 Mobile: 09920864003
Email: virmati2000@yahoo.com

SINGLE DISC MACHINE (SUPER DISC DUO CLEANING MACHINES)

DC Associates engages as trader and supplier of single disc machine (super disc duo cleaning machines).

Features:

- This swiss precision high quality single disc machine with the ability to switch RPM as per the required operation.
- It has low noise levels and is optimum for inside use and can do a job of two machines due to its dual-RPM ability.
- Poly V-belt drive and off-centric motor provides extremely balanced and user-friendly operation.
- This dual speed machine comes in 180 or 380 RPM options switch; extremely low noise; off-set motor for balanced operations
- Its features include: centre water feed; ergonomic based friendly handle with controls.

About the company: DC Associates, involves in trading and supplier of a quality approved range of aroma diffusers, aroma essential oils, industrial equipment and house keeping products.

Contact:

DC Associates, Chandigarh
Tel: 0172-2660448, 2668293, Mobile: 08146146975
Email: jasneetsingh08@gmail.com

AUTO CLAMP VACUUM WAX INJECTOR

Ankitst Exim Inc provides auto clamp vacuum wax injectors.

Features:

- This injector has a user friendly interface and delivers optimised performance at much lower operational costs.
- Good filling vacuuming of the mold before injection ensures good filling for fine filigree and difficult designs; accurate temperature control.
- Wax tank temperature and nozzle temperature are individually controlled, so that accurate injection temperature is obtained.
- This model has a 99-hour heater-on timer to start work at a specific time and improves electricity cost, increasing efficiency.

About the company: Ankitst Exim Inc is a manufacturer, exporter, importer and stocks casting machines, polishing machines, filling machines and consumables for the jewelry industry, lasers, dental units and industrial cleaning and other process machines.

Contact:

Ankitst Exim Inc, Mumbai
Tel: 022-42724057, 42724061
Mobile: 09821124093, 09167694569
Email: ankitst01@gmail.com

OVERBAND MAGNETIC SEPARATOR

Permanent Magnets Ltd is offering a wide range of overband magnetic separator.

Features:

- Overband magnetic separators are placed above open conveyors to arrest ferrous objects and fines found in grains, feedstuffs, raw and processed products, dry chemicals, salt, ceramics, clinkers in cement industry, coal conveying in power plants and many other products.
- They can be used to separate big ferrous particles like lugs, nuts, bolts, rivets, MS plates, angles, channels and tools from the moving material over the conveyor.
- The product has1500 ± 200 gauss of flux density, up to 300mm/12inches of attraction distance and about 245 mm height of overband/suspension magnet.
- The product can sustain 450 degree C of maximum operating temperature. The product uses best grade ST ferrite magnets in the overband magnet.

About the company: Permanent Magnets Ltd., engages in manufacturing, supplying, importing, exporting, service providing and trading superior quality magnetic assemblies and systems.

Contact:

Permanent Magnets Ltd., Thane
Tel: 022-29452127, Mobile: 09930142441
Email: sales@pmlindia.com

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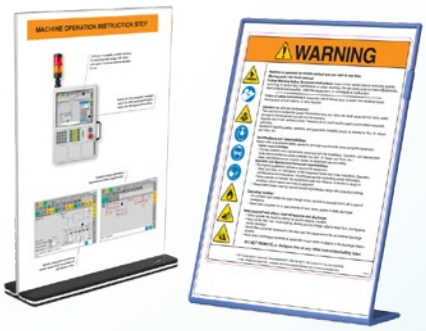

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PINCH VALVES, PNEUMATIC

Jay Ambe Engineering Co offers pneumatic pinch valves.

Features:

- These pinch valves have applications in handling corrosive slurry, abrasive media, liquid with solid suspensions and many others, which are difficult to handle with seat valve.
- The flange of the pinch valve can be supplied in accordance to BS, DIN, ASA and IS dimensions.
- The range for the valve is from 15 to 300 mm.
- The valve can be supplied with electrical, pneumatic and hydraulic actuation other than manual operated hand wheel.

About the company: Established in 1996, Jay Ambe Engineering Co, an ISO 9001:2008 certified company is involved in manufacturing chemical process centrifugal pumps. The product range also comprises of polypropylene chemical process pump, pinch valve and centrifugal chemical process pump. The company offers design, application understanding to most suitable, reliable and reasonable quality product within a shortest time frame.

Contact:

Jay Ambe Engineering Co, Ahmedabad
Tel: 079-22894562, 22874508
Email: sales@jecwoodland.com

TURNING INSERTS

Kennametal India supplies a wide range of high-performance turning inserts.

Features:

- Finishing geometry with precision coolant technology, light cutting action, high positive rake face for chip control in long chipping materials.
- Finishing geometry is utilised when edge line sharpness is critical such as high-temperature and stainless applications, finishing wiper when surface finish is of highest importance.
- Medium geometry with positive rake face for chip control in difficult materials.
- Used in multiple material groups, chip breaking geometry for PcBN, ELF geometry for lower cutting forces to avoid built-up edge.

About the company: Kennametal India Ltd is a supplier of tooling and industrial materials with product range comprising fuel control systems, landing gear for the aerospace industry, camshafts, crankshafts, cylinder heads, rotors, callipers, stabilisation tools, and tunnelling equipment, etc.

Contact:

Kennametal India Ltd., Bangalore
Tel: 080-22198444, 43281444
Email: bangalore.information@kennametal.com

CONTINUOUS CHIP WRINGERS

Amey Engineers' manufacturers a wide range of continuous chip wringers.

Features:

- These wet chips are continuously fed in the chip wringer with use of a screw/belt/bucket conveyor.
- The machine is smartly designed in such a way that the time for which chips are held in the machine is just enough to separate out the oil to the 80-90 per cent dryness.
- At output side, dry chips are collected in a trolley or they are transported to the desired area through conveyors. This system directly loads the chips in to a waiting truck.
- These are ideal to cater cutting oil reclamation of a single multi operation CNC machine or a shop floor where wet chips are collected and transported from all machines through a conveyor system.

About the company: Amey Engineers is a manufacturer, exporter and supplier of automatic shredders and cutting oil reclaimers.

Contact:

Amey Engineers, Thane
Tel: 0251-2871114, Mobile: 09821287910
Email: ameyengr@vsnl.net

HYDRAULIC SCISSOR LIFT TABLE

Amit Engineering provides hydraulic scissor lift table under numerous specifications.

Features:

- These tables are equipped with adjustable trap prevention safety trip bars and are widely demanded for their operational fluency, ease of operation and safe usage. These products are highly popular in the market.
- Comprehensive program of accessories and options for customisation of the lift tables and 24 V DC control unit and operating device with deadman's switch.
- Safety spacing between all moving parts of the lift table and IS approved electrical system.
- The platform has adjustable trap prevention safety trip bars on all four sides with 200 to 10,000 kg lift table load capacity, 900 to 5000 mm lift table platform length in standard model, and 24 V DC control unit.

About the company: Amit Engineering is a manufacturer, service provider and suppliers of a fine compilation of material handling equipment.

Contact:

Amit Engineering, Pune
Tel: 020-27491070 Mobile: 09422306343
Email: sales@amitlifttrucks.com, amitengineering@gmail.com

PACKING CONVEYOR

Anmol Pharma Equipments offers a range of packing conveyor.

Features:

- The packing conveyor belt has stainless steel table top with moving endless sandwich belt in the center.
- Tabletop is fixed to the same structure made out of SS square pipe and supported on adjustable bolts.
- Tabletop has 12 inch work space on both the sides of the conveyor belt for final visual inspection and packing into the box.
- The conveyor belt brings the container or products from the labeling/blister/strip machine, operator in turn pickup.
- These bottles/products and visually inspect the bottles/products and doing necessary action like primary packing, secondary packing, picking and placing at proper place.

About the company: Anmol Pharma Equipments are primarily engaged in conceptualisation, process engineering designing, equipment designing, fabricating, supplying and commissioning galore of pharmaceutical and chemical processing plant and machinery as turnkey projects.

Contact:

Anmol Pharma Equipments, Thane
Mobile: 09867154769
Email: info@anmolpharma.com

EOT CRANES

Apex Industrial Equipments manufactures quality range of EOT cranes.

Features:

- These cranes are manufactured by using leading techniques and optimum quality material under the strict supervision of professionals.
- It is light weight, easy for operations and maintenance. These cranes are available in numerous specifications as per the demand of customers.
- These cranes are tested on various quality parameters to assure that it is free from manufacturing defect.
- The product has 0.5 to 30 tonne capacity of standard model of hoist and 5 to 40 mtrs span range. The product comes with MS fabricated and stress relieved rope drum with standard IEC frame motors and 150 per cent fail safe AC disc type brakes.

About the company: Established in 2010, Apex Industrial Equipments is a manufacturer, exporter and supplier of a wide array of material handling equipment. The product range are material handling cranes, lifting machines and rope hoist.

Contact:

Apex Industrial Equipments, Chennai
Tel: 044-23700083 Mobile: 09444077083
Email: apexcranes01@gmail.com

TUMBLAST SHOT BLASTING MACHINE

Krishna Engineers provides of tumblast shot blasting machine.

Features:

- The operation of machine is simple and automatic. This machine can be made to the size of customer requirements up to 28 cubic feet capacity.
- This machine has one motorised tumbler made from endless belt in the blast chamber. The blasting chamber principally will have an endless belt that is constructed in such a way that it will form a cupped shaped tumble.
- The cupped shaped will be provided to the endless belt by passing it on the drum disc of 500mm diameter and the support rollers; the fragile jobs can be tumbled without damage.

About the company: Krishna Engineers is engaged in manufacturing, supplying and trading an exemplary range of portable abrasive blasting machine, blasting cabinet, industrial dust collectors and consumable spare parts.

Contact:

Krishna Engineers, Jodhpur
Mobile: 09660511187, 09928042727
Email: info@krishnaengineers.co.in,
krish_engineers@rediffmail.com

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COMPACT PICOSECOND LASER

Rofin Baasel Laser India offers compact picosecond laser called powerLine pico.

Features:

- The picosecond laser powerLine pico is available as a laser source as well as a laser marker.
- The laser is dedicated to laser marking and engraving as well as thin film ablation and structuring; the powerLine pico can be easily integrated in customer specific systems due to all-in-one design.
- Via TCP/IP, USB as well as RSS 422 interfaces, the laser can be quickly and easily operated; the PowerLine Pico is offered in wavelengths of 1064 nm, 532 nm and 355 nm.
- The product has low thermal penetration depth and generates excellent process quality. Being high on efficiency and easy to integrate, has 40 years of experience in laser technology.

About the company: Rofin Baasel Laser India Pvt. Ltd. has technology and application portfolio with respect to process knowledge for high performance lasers and laser systems for industrial use.

Contact:

Rofin Baasel Laser India Pvt. Ltd., Navi Mumbai
Tel: 022-27671251/2/3 Fax: 022-27671254
Email: reception@rofin.in

PLATE LIFTING CLAMPS, HORIZONTAL

JBM Industrial Corporation is offering horizontal lifting plate clamps.

Features:

- These products are manufactured using modern machines and the quality raw materials.
- Some of its advantages are such as rust free, high on strength, sturdy construction. These products are manufactured professionally.
- Each plate clamp is checked for quality before delivery. These clamps are available in varied sizes and dimensions.
- These products are known for their qualities such as rugged design, high durability, simple installation, superb strength and premium quality.

About the company: JBM Industrial Corporation, established in 2003, engages in manufacturing a wide range of material handling products. Their products comprise of polyester slings, alloy steel chains, wire rope lifting products, material handling equipment, material handling trolleys and wheels, lifting equipment, etc.

Contact:

JBM Industrial Corporation, Faridabad
Mobile: 09810893489
Email: sanjaypandey.kb@gmail.com

VERTICAL BAND SAW MACHINE, TILTING TABLE

Multicut Machine Tools manufactures, exports and supplies a wide range of vertical band saw machine with tilting table.

Features:

- This machine is used in casting applications for long productive life and operates in reliable manner. This machine is available in various specifications as per requirements.
- This economical machine has special swing cut operation for fast cutting and is specially designed heavy-duty gearbox.
- The machines can cut between 200 to 2000 mm capacity ranges and may vary according to the models. The company has a sophisticated infrastructure that includes large production units.

About the company: Multicut Machine Tools, engages in the manufacturing, supplying and export of band saw machines. The product range includes automatic band saw machines, vertical band saw machines and semi automatic band saw machines.

Contact:

Multicut Machine Tools, Vadodara
Mobile: 09879611699, 09712957667
Telefax: 0265-2640809
Email: sales@multicutmachine.com

COMPACT SEWAGE TREATMENT PLANTS

Enhance Envirotech manufactures compact sewage treatment plants.

Features:

- These products are based on hybrid biodegradation and sedimentation technology. It is exceptional due to its compactness and performance in reverence of volumetric competence.
- These technologies are collective in a prefabricated skid mounted or containerised tank system with variable sizes for easy transportation.
- Some key benefits of these products are such as easy to mount, higher capacity, low on maintenance, strong construction, durability, application specific designs.

About the company: Enhance Envirotech, established in 2002, is a manufacturer and supplier of waste water treatment and water treatment plants, air pollution treatments, waste management and water treatment components and chemicals.

Contact:

Enhance Envirotech, New Delhi
Tel: 011-45130320, 45140320
Mobile: 09811065735, 09811065635
Email: enhanceenvirotech@gmail.com

CENTRAL DUST COLLECTORS

Fine Fab India offers wide range of industrial central dust collection systems.

Features:

- These systems can be effectively used for multiple collection points and where the quantity of dust is being huge.
- These products play a vital role to help the focused factory, lean manufacturing etc., maintain code-compliant indoor and outdoor air quality.
- Multiple suction points and less space utilisation; high capacity dust handling and discharge; automatic filter cleaning and disposal of dust.
- Remarkable savings if the dust is recyclable; filter bag specification – 120(d)*2000mm; air flow – 540~10800m3/h; outlet dust concentration – 10~30mg/m3; filter bag quality – 24~120 pcs.

About the company: Fine Fab India, , as a manufacturer and supplier entity of next generation blowers and fans. Their product portfolio comprises industrial blower, air ventilation and dust collectors.

Contact:

Fine Fab India, Coimbatore
Tel: 0422-2673459
Mobile: 09894341473, 09363106058
Email: finefabindia@eth.net

FUMES & DUST CONTROL

We manufacture and export a wide range of Fume Extractors, Mist Collectors, Dust Collectors, Self-balanced Extractor Arms, Electrostatic Filters, Ventilation Systems, Clean Room Systems working on the Electrostatic principle under the brand name of Fumekiller™, Dustkiller™ and DustBag™.

These Electrostatic Filters use about 40% less Electrical Power, are many times washable and re-usable, can capture fine pollutants such as mist, fumes and smoke, work at about 3 mm WG pressure drop, are modular and are stackable upto 1,00,000 CMH.

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Electronics	:	Capture of fumes from soldering, cleaning and for clean rooms.
Pharmaceuticals	:	Capture of fumes from tableting, capsuling, filling and for clean rooms.
Textiles	:	Capture of particulates in ventilation and humidification systems.
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WATER CHLORINATOR

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Features:

- These chlorinators are highly appreciated by users for excellent strength, effectiveness and long lasting durability for effectively purifying water.
- The chlorinators are very easy to use and are tested under several parameters to ensure safety and functionality of the system.
- Additionally, these chlorinators are very reliable and are available at competitive range of prices.
- Some of its key characteristics are premium quality, safe to use, very reliable, and cost efficient.

About the company: Envirospec, established in 1995, involves in manufacturing, trading and as service providers. The company's wide range of products includes such as water treatment plants, industrial water treatment solutions, water treatment products, industrial water filters, wastewater treatment systems, etc. The capabilities extend to designing, producing, testing and supplying of all requisite equipment and machinery.

Contact:

Envirospec, Kolkata
Tel: 033-24121573 Mobile: 09830028439
Email: enspek@gmail.com

PRECISE CIRCUIT SPOUTS

Epothane Civelec Engineers Pvt. Ltd. manufactures a wide range of precise circuit spouts.

Features:

- The range is widely acknowledged for its efficient performance, longevity, easy installation, robust design and precise dimension.
- The company offers these spouts in various shapes and sizes and as per given specifications. It also provides the range in various design patterns.
- The range has economical price and high quality; fine finish; low cost of maintenance and high voltage.
- These products are known in electrical industry for their performance, longer service life, seamless finish, resistance towards wear and tear, precise engineering and robust design.

About the company: Epothane Civelec Engineers Pvt. Ltd., established in 1987, engages as a manufacturer, exporter, importer and supplier of epoxy resin cast components and insulators. The product range is inclusive of switchgear components, post insulators and circuit spouts.

Contact:

Epothane Civelec Engineers Pvt. Ltd., Ghaziabad
Tel: 0120-4731002, 4731003 Mobile: 09810764633
Email: epoxy@epothane.co.in

TRANSMISSION TOWERS

Eros Metal Works (P) Ltd. engages in manufacturing transmission towers.

Features:

- The product is made with high quality steel, brought from reputed retailers of the market.
- All these products are manufactured on advanced tools and machines in line with global standards.
- The towers can be availed at affordable prices; high strength; corrosion resistance and easy to mount.

About the company: Eros Metal Works (P) Ltd., founded in 1976, is a manufacturer, supplier, trader and exporter of highway guard rails, hot dip galvanised cable trays, cable ladders, tractor drawn agriculture implements, tractor trailers, transmission and telecommunication towers, steel and wooden furniture, etc. The company is part of Eros Group, which has diverse business interests in automobiles, transmission line towers, furniture, light engineering products, viz., hot dip galvanised cable trays, crash barriers, metal beam guard rails, tractor drawn agriculture implements and tractor trailers, etc.

Contact:

Eros Metal Works (P) Ltd., Nagpur
Tel: 07104-662991, 662969
Mobile: 09372627270, 09371490163
Email: emwpl_ngp@sancharnet.in

SWITCHGEAR, CABLES, MOTORS & ELECTRICAL PRODUCTS

Electro Care (India) Pvt. Ltd. is offering switchgear, cables, motors and electrical products.

Features:

- The low voltage products and systems includes such as contactors and protection relays, power circuit breakers and switches, DIN rail modular devices, power quality (capacitors and reactors) panel boards and switchboards, motor starters, and power energy and monitoring (meters).
- The industrial automation and control range covers like HMIs; interface, measurement and control relays; motion and drives; PLCs, PAC and dedicated controllers; pushbuttons, switching and joysticks; sensors and RFID system; and signalling devices.

About the company: Electro Care (India) Pvt. Ltd., engages in electrical industrial equipment distribution to provide switchgear, circuit protection systems, cables, motors and other control equipment from brands such as Schneider Electric, Lapp Kabel, KEI, Selec and Bharat Bijlee.

Contact:

Electro Care (India) Pvt. Ltd., Navi Mumbai
Tel: 022-27619049, 27619050
Email: sales@elecare.in

VANE AXIAL COOLING FANS

Blowtech Engineers provides a range of vane axial cooling fans.

Features:

- These are fabricated from mild steel plates and have been provided with foot mounting arrangements and flange on both ends that facilities installation of the fan; 1000 to 70000 CFM capacity and pressure range up to 60 MM WG.
- In single stage and as well as in multistage construction. T.he dynamically balanced impeller of axial flow fan is manufactured using mild steel and aluminum alloy; the induction type standard AC motors are provided with squirrel cage appropriate for temperature up to 40úc.
- Also, motors and flame proofs vapors tight can be supplied; ball or ball roller bearing has been used.

About the company: Blowtech Engineers Pvt. Ltd., is engaged in the manufacturing and exporting of world-class industrial air pollution control equipment and ventilation systems such as centrifugal blowers, axial flow fans, industrial air handling unit, dust collectors, air curtains and many more.

Contact:

Blowtech Engineers Pvt. Ltd., Thane
Tel: 022-28458633 Mobile: 09821295016
Email: blowtech18@gmail.com

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PRECISION TRANSMATIC DEVICES PVT. LTD.
B-48, MIDC, Satara - 415 004. **Phone:** 02162 244454 / 246245 **Web:** www.precisionfreewheel.com **Email**: sales@ptdin.com

ISO 9001-2000 Certified

CNC CYLINDRICAL EXTERNAL GRINDING MACHINE

Champkraft Machine Tools offers a CNC cylindrical external grinding machine, model EG 150.

Features:

- This box structure design of graded cast iron for higher rigidity and better damping characteristics; machine incorporates various safety features and interlocks for safe operation; workhead – spindle rotates on anti-friction precision bearings with poly V-belt; wheel head – spindle rotates on bush type bearings and splash lubrication available both angular or straight wheel configuration.
- The infeed slide moves on anti-friction guide ways to provide stick slip free movement; and worktable – the table slides on precisely hand scrapped guide ways duly Turcite B lined with continuous.

About the company: Champkraft Machine Tools, manufactures a range of CNC external grinding machine, CNC external track grinding machine, CNC internal grinding machine, hydraulic cylinder grinding machine.

Contact:
Champkraft Machine Tools, Surendranagar
Tel: 02752-241881/2
Email: sales@solcogrinder.com

VERTICAL MILLING MACHINES

Astro Tools India manufactures and exports a wide range of vertical milling machines.

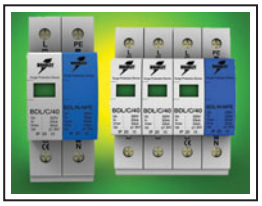
Features:

- These machines are commonly used for removal of extra and unwanted particles from the surface of materials.
- These milling machines are provided with a rotary cutting tool, which moves perpendicular to the axis; the machine operates on the materials, to shave off chips from the material surface.
- The milling machines are corrosion resistant; withstands shear; withstands strain; and easy to operate; Other accessories: vertical adjustment of table; head swivelling to both sides; durable; and convenient to use.

About the company: Astro Tools India is involved as an exporter and manufacturer of hobbing machine, milling machine, rotary table surface grinder, machine vice, compound sliding, etc. These products known for their hassle free operation, performance and functionality.

Contact:
Astro Tools India, Ludhiana
Tel: 0161-25440664
Mobile: 09417040664
Email: info@astrotoolsindia.com

SWITCHING SURGE PROTECTOR



JMV LPS Ltd. is offering a switching surge protector.

Features:

- This Class C switching surge protector is designed under the zone from LPZ 1-2 offering protection from switching surges or transients current discharge in 8/20 μs.
- Complying with IEC 61643-1 and UL 1449 standards, this switching surge protector is designed specifically to protect an AC power application against harmful switching surges.
- This class of surge protectors has been designed based on the equipment coming under LPZ 1-2 for single phase and three phase lines.

About the company: JMV LPS Ltd., provides electrical safety products across the industry segments. The company products are such as grounding systems and copper clad steel conductors, lightning protection systems, surge protection devices, exothermic welding systems and gel based cable jointing kits from designing till installation.

Contact:
JMV LPS Ltd., Delhi NCR
Tel: 0120-4590000
Mobile: 09910398538
Email: sales@jmv.co.in, info@jmv.co.in

RENEWABLE ENERGY PRODUCTS

HBL Power Systems Ltd. offers quality renewable energy products.

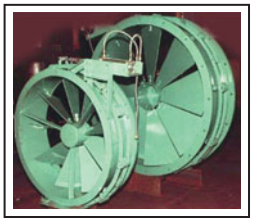
Features:

- HBL renewable energy products comprise of photolite tubular technology-based lead acid solar batteries. These are custom built to meet to support back up power and high quality multi crystalline silicone gel technology based PV modules.
- Sujala, a solar water pump solution to meet growing demand of irrigation and agriculture pumping, drinking water to individuals/ community, drip irrigation, etc; grid interactive net metering systems.
- Solar petrol pump is a customised solution, which consists of panels, mounting structure, battery, PCU, etc., from a single source thereby reduce any inconveniences associated with integration of system.

About the company: HBL Power Systems Ltd., engages in design, development, manufacturing of specialised batteries, power electronics, defence electronics, and renewable energy.

Contact:
HBL Power Systems Ltd., Hyderabad
Tel: 040-66167777 Mobile: 08096907149
Email: sankaran.balasubramanian@hbl.in

VARIABLE INLET VANE DAMPER



Amaricar Engineering & Systems Pvt. Ltd. offers variable inlet vane (VIV) damper.

Features:

- The product is designed with mechanical principle of adjustment.
- Inlet guide vanes are adjustable in the same angular position by a connecting element. Adjustment can be made either automatically via an adjusting element from pulse generator by hand; energy savings with fans utilising variable inlet vanes.
- This brings about a reduction in the capacity, static pressure and BHP; the amount of BHP savings at reduced capacity is determined by the type of system and type of fan-vane combination.
- For every inlet vane position there is different capacity V/s static curve and capacity V/s brake horsepower (BHP) curve generated by the fan.

About the company: Amaricar Engineering & Systems Pvt. Ltd., established in 1978, is engaged in supplying and trading a vast and qualitative range of kitchen equipment, hotel equipment, etc.

Contact:

Amaricar Engineering & Systems Pvt Ltd, Chennai
Tel: 044-28554689, 28554230
Email: amaricar@gmail.com

Micro System Foundations

Innovation in Industrial IOT

Welding Machines are the most unmonitored machines in the industry, we are unaware of it Productivity, Quality of Welding, Cost of Production and also the Condition of the machine.

Smart weld addresses these issues by providing an IOT solution. Weld Current, Voltage are monitored for Quality with Alarm Notifications in case the values are not in range. Inbuilt RFID readers provide Operator Login facility so that Operator Efficiency with respect to Arc ON times and Alarms is linked. Wirefeed in kg is sensed so that costing for the job can be calculated. Condition Monitoring thru Machine Temp is additionally provided so that preventive maintenance can be done before breakdown occurs.

Quality Report of the Job Weld can be provided as a Chart for the Weld Current, Weld Voltage and Wirefeed Rate (kg/hr), enhancing the genuinity of the weld for your customers.

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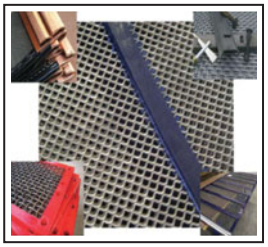
Mob: - +919819701524
Email: - sales@potential.net.in
Web: - www.potentialengineering.com
Contact : - Mr.Deepam Sheth

WOVEN WIRE SCREENING SYSTEMS



Mesh Tech Engineering Pvt. Ltd. designs and manufactures a range of woven wire screening systems.

Features:

- The company offers heavy-duty wire screens specially designed for extremely rugged operating conditions in scalping, sizing or processing heavy abrasive materials such as ores, crushed stones, sand, gravel, metallic and non-metallic minerals, coal slag, etc.
- It offers these screens in to suit particular applications.
- Screens are woven accurately to any mesh size and of any diameter wire or rod; these screens are used by manufacturers of filtration plants, as a part of original equipment.

About the company: Mesh Tech Engineering Pvt. Ltd. is a provider of heavy-duty wire screens, designed specially for rugged operating conditions in scalping, sizing or processing heavy abrasive materials.

Contact:

Mesh Tech Engineering Pvt. Ltd., Thane
Tel: 0251-2620298, Mobile: 09820045553
Email: meshtech@rediffmail.com, info@meshtech.net

PROTECTION RELAYS

Avana Electrosystems Pvt. Ltd. is offering a wide range of protection relays.

Features:

- This includes numerical protection relays, monitoring relays and electromechanical relays.
- Numerical design; slim case in DIN sized cut-out; communication facility; size 50 x 160 x 160 mm (W x H x D); and cut out 45 x 92 mm (W x H) with 2 holes.
- These types of relays is: NPV 122 – combined OVR and UVR; NPA 122U – unbalance current relay (UBCR); NPD 121 – restricted earth fault relay (REFR); NPV 122N – neutral displacement relay (NDR); NPA 122N – inverse/definite time earth fault relay; NPA 122 – single pole inverse/definite over current relay
- NPH 222 – frequency monitoring relay; NPH 232 – frequency monitoring relay with df/dt; NPV 222N – combined OVR, UVR and NDR; NPV 222U – combined OVR, UVR and UBCR; NPA 141 – directional over current relay; NPA 141N – directional earth fault relay; and SPM 403 – fuse failure relay

About the company: Avana Electrosystems Pvt. Ltd. provides solutions for designing, manufacturing, testing and commissioning of control and relay panels, and automation panels for system voltage from 415-220 kV.

Contact:

Avana Electrosystems Pvt. Ltd., Bangalore
Tel: 080-28392188 Mobile: 09686205066
Email: panish@avanaelectrosystems.com

PCC PANELS

Samcon Industrial Controls Pvt. Ltd. manufactures and supplies a wide array of PCC panels.

Features:

- These are made up of 14/16 SWG CRCA material semi bolted structure firmly supported; the desired breaking capacities, temperature rise and IP protection is assured.
- There is enough space for incoming and outgoing cable termination; outgoing terminals are stud type as standard practice; all starters are type two co-ordinated; CT terminals, cable alley illumination lamp, space heaters with thermostats are standard features of these panel boards.

About the company: Samcon Industrial Controls Pvt. Ltd., is involved in manufacturing and supplying of electrical control panels required for HVAC, engineering, power distribution and process industries. These products meet the global quality standards, like those of IS-13947-1993 Part I to V; IS-8623-1977 Part I; IS 5133-1969 – Part II; IS 694-1990; and IS-3043-1987.

Contact:

Samcon Industrial Controls Pvt. Ltd., Thane
Tel: 022-25856701 Mobile: 07506355683
Fax: 022-25888451
Email: spa@samcon.co.in, nlk@ samcon.co.in

CANDLE FILTERS

Sap Filter Pvt. Ltd. manufactures a wide assortment of candle filters.

Features:

- These provide pressure filtration as well as heel, filtration in an enclosed and pressure tight housing.
- The filter media can be any type of cloth with clean removal efficiency in the 1-5 micron range; as the cake builds up on the candle, the efficiency improves to less than 1 micron.
- The cake discharge is via back washing or blow back by gas; after discharge, the cycle begins again.
- Its application include: recovery of catalysts like nickel, platinum, palladium, etc; removal of activated carbon, charcoal in pharma plants; bleaching earth remove in vegetable oil plants; resin filtration; filtration of hazardous liquids; and all types of polishing filtration.

About the company: Sap Filter Pvt. Ltd., engages as a manufacturer of a range of filtration equipment such as vertical and horizontal pressure leaf filters, candle filters, polishing filters, tubular centrifuges, bag filters and sparkler filters, etc.

Contact:

Sap Filter Pvt Ltd, Palghar
Tel: 0250-2023040, 3208273
Mobile: 09322832377, 09167970201
Email: info@sapfilter.com, sales@sapfilter.com

METAL DUST COLLECTOR

Hindustan Engineers engages to provide a range of metal dust collector.

Features:

- This collector is equipped with motor, tank and pulley; also, it is manufactured according to the industry standards that involving ultra max II 695/795/1095/1595.
- Furthermore, zero dead-band at lower dusting pressures makes this line of collector ideal for fine finish collection.
- Apart from it, this collector is built using stainless steel cylinder, and proven design and rugged construction.
- Some of its benefits are such as micro processing control; dimensionally accurate thickness spray; high capacity and performance; used for fertilizer processing; chemical companies; construction industry.

About the company: Hindustan Engineers, established in 1998, is a manufacturer and supplier of a wide range of environmental control and solid handling systems. Their range is fabricated using best grade raw materials, procured from certified vendors in the market.

Contact:

Hindustan Engineers, Chennai
Tel: 044-25941188, Mobile: 09884480707
Email: hindustanengineerss@gmail.com

COMPONENT CLEANING MACHINE

Real Technologies Engineering offers a quality range of industrial component cleaning machine.

Features:

- These aqueous based industrial component cleaning machines are used for various high precision cleaning applications.
- These come with advanced filtration and oil removal coaling systems for better functionality in filtration process.
- The component cleaning machine and bin/tray cleaning machine achieves the required milli pore value of the auto or engine components, etc..
- Pneumatic canopy opening and closing; high precision cleaning to meet stringent millipore requirement; meet production rate in time; no manual intervention between load and unload stages of component.

About the company: Real Technologies Engineering Pvt. Ltd., engages as a manufacturer and supplier of a wide range of individual coolant filtration systems like vacuum filters, up flow filter and flat bed pressure filters.

Contact:

Real Technologies Engineering Pvt. Ltd., Pune
Tel: 020-25463094,
Mobile: 09850579403
Email: realtechnologies@rediffmail.com

INDUSTRIAL PULSE JET BAG FILTERS

Whizz Engineering Services is offering reverse pulse jet bag filter

Features:

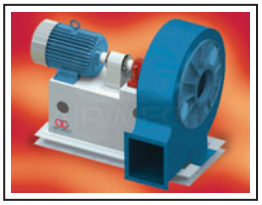
- Recovery of particulate matter from exhaust gas is vital for any industry and in many instances a bag filter is deployed to separate fine particles from air/gas to recover, finished product and/or to limit the particulate pollution of flue gases emitting from the plant.
- Very low pressure drop due to pre-settling of dust in chamber; high particle size collection efficiency up to 99.99 per cent for 1 micron; can be used with any type of dust and with temperature ranges from 0°C to 540°C.
- Bottom hopper mechanical force operated dust dislodgement arrangement; strong cage design, solid fabricated/casted ventury and positive locking arrangement for long and trouble-free operations.

About the company: Whizz Engineering Services Pvt. Ltd., is engaged in manufacturing, supplying and exporting range of material handling and air pollution control and equipment, recycling plants and accessories for PET bottle recycling.

Contact:

Whizz Engineering Services Pvt. Ltd., Pune
Tel: 020-24230992, Mobile: 09860706792
Email: mktg@wespl.com

SISW BLOWER FANS



Air Mech Industrial Technologies provides SISW (single inlet single width) blower fans.

Features:

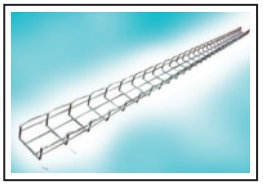
- It is a subcategory of volume blower. These fans are manufactured in a wide range to provide various combinations of airflow and pressure.
- SISW fans are designed with a single suction and have standard single width impeller within its housing.
- These fans are capable of facilitating air flow from 1000 to 100000 m3/hr and generating static pressure from 15 to 175 mm wgp.
- These fans are available in various drive options to suit given requirements; applications such ventilation, vapour exhaust, smoke exhaust, fume control, drying, odour control, incineration, etc.

About the company: Air Mech Industrial Technologies provides complete solutions to attain efficient working environment to various industries. The company's products portfolio comprise such as fans, blowers and dust collectors among others range from small mobile units to centralised systems.

Contact:

Air Mech Industrial Technologies, Palghar
Mobile: 09222220996
Email: info@airmech.in

WIRE MESH TYPE CABLE TRAY



Pratik Cable Tray System is offering wire mesh cable tray (WTCT).

Features:

- This tray is easy to use between critical cable lines. Wire mesh cable trays make convenient mounting, applying minimum accessories as well as excellent ventilation of the cable routing.
- Some of its key specifications in dimensions are such as 50 to 150 mm height, 50 to 600 mm width, 2000 mm length and 4, 5 and 6 mm thickness, and many others.
- This tray is cost effective, quality approved and comes with a fine finish. It is used for various fitting purpose in industrial plants and have superior finishing.

About the company: Established in 2008, Pratik Cable Tray System, engages as a manufacturer of all types of cable trays like perforated, ladder, raceway/box type, wire mesh, (pre GI, hot dip GI, MS, SS, aluminium, powder coated and painted) with all accessories of cable trays. It also provides all related support accessories as per given requirements.

Contact:

Pratik Cable Tray System, Dist Pune
Mobile: 09850335029, 09850330042
Email: info@pratikcabletray.com

SPIN FLASH DRYER

SSP Pvt Ltd. provides a wide range of spin flash dryer.

Features:

- The material is fed by a screw feeder through a variable speed drive into the vertical drying chamber where it is heated by hot air and at the same time, is disintegrated by a specially designed disintegrator.
- The heating of air may be direct or indirect depending upon the application.
- The dry powder is collected through cyclone separator/ bag filter or with combination of both.
- The dryer is used for amino acid, pigments, starch, palm kernel, DCP, gluten, effluent, bleach clay, organic salt, H-acid, dye and dye intermediates.

About the company: SSP Pvt Ltd. is a process engineering company and provides an extensive range of projects, equipment and innovative process solutions. The company caters to the needs of customers in the food, dairy, beverages and chemical industries. The company provides highly energy efficient and cost effective projects/ equipment for dairy, food and beverage industries.

Contact:

SSP Pvt Ltd., Faridabad
Tel: 0129-4183700
Fax:0129-4183777
Email: info@ssp.co.in

FLUSH BOTTOM TANK VALVES, BALL TYPE

Amarama Engineers offers ball type flush bottom tank valves.

Features:

- It used for discharging of material from reactor vessels and tanks.
- Available in full bore, reduced bore, manual and actuated with FLP solenoid valves, limit switches, manual override, positioners and other accessories.
- Full bore wafer design (sandwich type) ball type flush bottom valves are available in 3"(80NB) and 4"(100NB), which allows the material in the vessel to discharge faster without any reduction for the further process.
- Manual flush bottom valves come with off centre handles which doesn't foul with the vessel's insulation.

About the company: Amarama Engineers engages in the production of industrial and engineering valves for diverse applications. The company manufacturers, exporters and fabricates high quality flame arresters, industrial valves, safety relief valves, sight flow indicators, strainers, equipments and pipe fittings, filters, stainless steel fittings, and other components for multiple industrial applications.

Contact:

Amarama Engineers, Mumbai
Tel: 022-28470079, 28471933
Email: sales@amaramaengineers.com

STACK MONITORING KIT

Entech Consultants is a manufacturer, supplier and service provider of stack monitoring kit.

Features:

- The principle of operation is to take ISO-kinetic samples of the pollutants.
- All stack are monitored using standard stack monitoring kit, envirotech APM – 621.
- The scope of monitoring consists of determination of the following parameters in gaseous emissions like stack gas velocity, gas temperature, suspended particulate matter, gaseous pollutants such as sulphur di oxide and nitrous oxide, etc.
- The determination of particulate matter in a moving stream in confined space such as ducts, chimneys and flues of qualitative and quantitative measurement.

About the company: Entech Consultants, is engages as a manufacturer, supplier and service provider of pollution control plants. Their range of industrial testing plants like air testing plants, energy testing plants, noise testing plants, pollution control systems contribute to the containment of health hazardous effluence in water and pollution in the atmosphere with technological devices.

Contact:

Entech Consultants, Chennai
Tel: 044-24896783, Mobile: 09600113222
Email: entechconsultants@yahoo.com

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INDUSTRIAL RO SYSTEM

Cristal Aqua Systems engages to provide a wide range of industrial RO system that is used to treat a wide range of brackish waters.

Features:

- The system uses quality parts and technology, following industry standards.
- Modular design-capacity can be increased to suit requirements. The system has fully assembled skid, tested prior to shipment, ease of installation and beneficial use; non-corrosive low pressure piping-virtually maintenance free.
- This low on energy consumption and user friendly unit is used for ultra pure water for electronic industries and ultra pure water for pharmaceutical industries; process water for manufacturing plants.
- Some key applications are such as boiler feed water; drinking water; waste water; bio-technology.

About the company: Cristal Aqua Systems is engaged in the manufacturing, wholesaling, trading, retailing and supplying a quality approved collection of water treatment plants which includes water softening equipment, dosing products and industrial filters.

Contact:
Cristal Aqua Systems, Chennai
Mobile: 09840042565
Email: cristalaqua@gmail.com

CRYOGENIC SAMPLER

Cryoquip India offers a wide range of cryogenic sampler.

Features:

- The cryogenic sampler is the first and most successful design of its kind capable to receive, vaporise, contain and transport a sample of cryogenic gas for laboratory analysis, received patent number: 3,123,982 on march 10th of 1964.
- The shielded cup sampling method prevents contaminant concentration in the sample and permits an accurate analysis of the supply source purity.
- This sampler is suitable for all cryogens. The sampler unit is equipped with a burst disc, pressure gauge and a case that requires no over-packing for shipment.
- The product is shipped certified clean for oxygen service and may be put in service immediately.
- The sampler can also be availed in ATA-300 cat 1 and DOT31-FP certified case apart from the standard case.

About the company: Cryogenic India, Cryoquip is engaged in design, engineer, and fabricate directly from customers process specifications and P&ID's or from existing fabrication drawings.

Contact:
Cryoquip India, Vadodara
Tel: 0265-2830114
Email: sales.in@cryoquip.com

DIAMOND CUTTING DISCS

CSAP Tools manufactures a broad store of diamond cutting discs.

Features:

- These can be fasten on any sort of cutting apparatus for making intrinsic stones and various other composites.
- These discs are offered in varied diameters and dimensions as they are highly appreciated and recommended in the industry.
- This range of disc are used for the materials like inherent stones such as granites, marbles and sandstones which are of different abrasiveness/ hardness and origins; composites that are of graphite/ metal oxide and organic binder.

About the company: CSAP Tools is a manufacturer, exporter, supplier, and service provider various cutting tools and allied equipment. Their product line comprises diamond cutting machine, diamond core cutting machine, brick cutting machines, concrete cutting machines, concrete groove cutting machine, diamond cutting tools, core drill bits, concrete kerb cutting machine, diamond drill bits, diamond segment saws, lapping compounds, refractory brick cutting machine, etc.

Contact:
CSAP Tools, Kolkata
Tel: 033-25551454, Mobile: 09830088852
Email: info@csaptools.com

ACRYLIC BODY ROTAMETER FLANGE TYPE

CVG Technocrafts India is a manufacturer and supplier of acrylic body rotameter flange type.

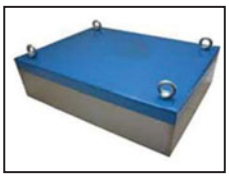
Features:

- Used for inline installation with flanged or screwed connection with several options of materials for wetted parts, company offers this rota meter in various stipulations according to the customer's requirements.
- This rota meter is processed by utilising the finest quality material and updated technology.
- The offered rota meter range is delivered within given time at reasonable rates
- Suitable for inline installation with flanged or screwed connection with several options of materials for wetted parts
- Some of its key benefits include such as high durability, excellent functionality, and low maintenance.

About the company: CVG Technocrafts India is a manufacturer and supplier of a wide array of quality measuring instruments. Their product range comprise of U tube manometer, acrylic body rotameter and glass tube rotameter.

Contact:
CVG Technocrafts India, Mumbai
Tel: 022-26741043, Mobile: 09323807296
Email: response@cvgtechnocraft.com

PERMANENT SUSPENSION MAGNETS



Jupiter Magnetics Private Limited offers permanent suspension magnets.

Features:

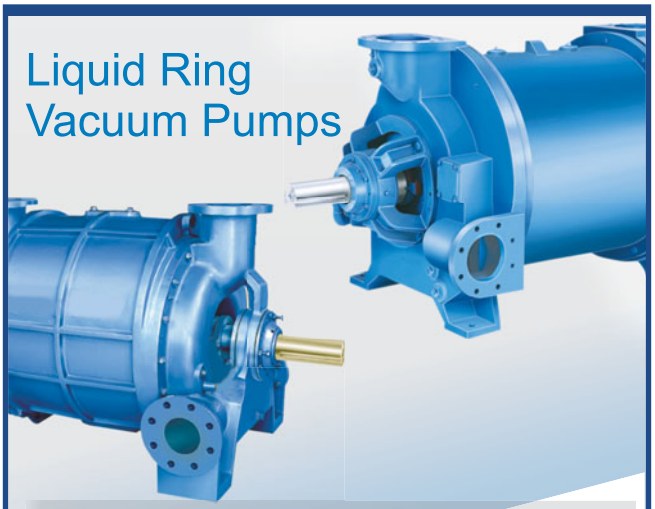
- These magnets are mainly designed to use on conveyor lines and are mainly used for the purpose of removing iron impurities mixed with the products that are moving on the particular belt.
- These are known for separating the non-ferrous material from tramp metal from the material that is carried by a conveyor belt.
- The suspension magnet is highly recognized among its users because of its bells and whistles that make it very easy to use without having a lot of technical knowledge.
- Some of its common applications include iron removal from coal, stone, ores, and fertilizers and to name a few, where contamination by the tramp is irregular.

About the company: Jupiter Magnetics Pvt Ltd has a vast experience in the industry, and is the foremost magnetic head pulley manufacturer, with focus on quality, quantity and adding characterisation to the products.

Contact:

Jupiter Magnetics Pvt Ltd
Mobile: 09810744839
Email: magneticsdl@gmail.com

Liquid Ring Vacuum Pumps



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TIER LAMP

COOLANT PIPE

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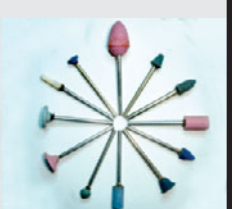
MOUNTED POINT

CONTINENTAL COMMERCIAL CO
1/C, 59, Bibijan Street, (Nagdevi), Mumbai - 400 003. Tel.: +91-22-2343 3808, Telefax: +91-22-2340 0875
Mob.: 093231 33808, E-mail: sales@contiflex.in, Website: www.contiflex.in

MICRO PULVERIZER

Dagoba Engineering Works is offering vishwas micro pulverizer (model VPS/2) at competitive prices.

Features:

- These pulverizer is made by heavy metal plate grinding chamber in which rotor with moving blades are continuously rotate at 3600 RPM.
- The rotor screen (different mesh size) is fixed. Its screen is interchangeable. Its fixed blades are fitted at top of the chamber and a blower attached with grinding chamber that lift the powder material from chamber and delivered into cyclone drum.
- Material feed through the hopper in the grinding chamber by rotating blades material broken into fine particles and blower sucked the powder material and delivers it in the cyclone drum.
- Used for grinding of various types of dry material like- chili, turmeric, spices, coriander, cumin seeds, husk, etc; available in various models by varying in different output capacity and horse power (HP).

About the company: Dagoba Engineering Works, incepted in 1979, is a manufacturer and supplier of qualitative agro equipment such as pulverizers and threshers.

Contact:

Dagoba Engineering Works, Nagpur
Tel: 0712-2769678
Mobile: 09860777888
Email: info@dagoba.com

ROTARY CREASING SLITTING MACHINE

Darshan Sales Enterprises manufactures rotary creasing slitting machine.

Features:

- This 4 bar rotary creasing machine creases and slits (cuts) corrugated sheets, vertically and horizontally to the required length and width. The machine comes with easily adjustable creasing dies and cutters in two halves.
- Two gauges (left/right) fitted on the feeding table to use both ends. This heavy-duty machine with 4 shafts comes fitted on ball bearings for smooth running.
- This machine has 4 sets of creaser heads, 4 sets of trimming heads with the manual shifting of heads. It also has an efficiently designed lubrication system.

About the company: Darshan Sales Enterprises is engaged in manufacturing machinery required for a full range of box making plant like heavy duty die cutting eccentric slotters, slitting machines, 4 bar rotary cutting and creasing machines, pasting machines and board cutters.

Contact:

Darshan Sales Enterprises, Mumbai
Tel: 022-26873455, Mobile: 09920667979
Email darshansales@vsnl.com

CONICAL FILTERS

Dairy Pharma Chem Liners offers conical filters manufactured by state-of-the-art unit well equipped with sophisticated machinery that facilitates in the production.

Features:

- These conical filters are designed for perfection and are known for compact size, robust design, low pressure drop and easy maintenance.
- These filters are with conical strainer also known as suction strainers are installed in housing is generally used on suction side. These Y type strainers are made of cast stainless steel and bears pressure (PSI) steam of 150 at 565 degree F.
- These Y type strainers are designed in adherence to the given specifications utilising innovative techniques

About the company: Dairy Pharma Chem Liners is a manufacturer and exporter of premium quality valves, fittings, components, precision turned component, three way ball valves, stainless steel caster wheels, pipe reducers, butterfly valves, diaphragm valves, and many more.

Contact:

Dairy Pharma Chem Liners, Mumbai
Tel: 022-40162835, Mobile: 09320211777
Email: info@dplvalves.com

CENTRIFUGAL GEAR PUMPS

Das Engineering Works offers centrifugal gear pumps designed and developed using latest technology support and provides consistent work performance.

Features:

- These pumps are manufactured in various configuration options and these gear pumps come backed by CE certificate, copper wire and brass impeller support as well as stainless steel shaft finishes so as to provide for lasting and consistent service support.
- Cold-rolled silicon steel sheet based finish; gear driven centrifugal pumps suitable for handling liquids which have low viscous and non-corrosive chemically neutral media.

About the company: Das Engineering Works is engaged in manufacturing varied construction equipment, mechanical seals, marine products, industrial valves, pipes accessories, water storage tanks, pipes and pipe accessories, marine products, ice cube machines, industrial valves, construction equipment, mechanical seals, stainless steel flanges.

Contact:

Das Engineering Works, Mumbai
Tel: 022-26741127, Mobile: 09322504620
Email: daspumps@gmail.com

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Lubricants

FOUR POINT TOP DISCHARGE CENTRIFUGE

Apollo Machinery offers a wide array of four point centrifuges.

Features:

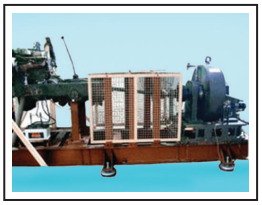
- This bottom driven manual top discharge comes with a fabricated outer body with interlock safety cover. It has dynamically balanced SS 304 / 316 inner basket.
- It has a bearing housing from graded CI with SS lining and manual band brake and has main shaft - EN 24, hardened and ground. It comes with supporting system, having inertia plate of 50 mm MS lined by 2mm SS 304 with visco damper.
- It has a clutch pulley/fluid coupling to reduce initial heavy load on motor and provide gradual acceleration with help of necessary belt drive.

About the company: Apollo Machinery engages as an exporter, manufacturer, supplier of horizontal pharma peeler centrifuge, manual top discharge centrifuge, bottom discharge centrifuge, horizontal peeler centrifuge for starch, bag lifting centrifuge, top driven bottom discharge centrifuge, for vertical high speed in basket.

Contact:

Apollo Machinery, Ahmedabad
Mobile: 09824357110, 09327722282
Telefax: 079-25831900, 40083040
Email: sales@apollomachinery.com

ENGINE DYNAMOMETER



Application Systems manufacture engine dynamometer

Features:

- Eddy current dynamometers to test engines are manufactured up to 900 kw, up to 5000 nm torque capacity, speed up to 30000 rpm.
- Engine dynamometers are offered with PC based control panel with engine testing software for Scada based data acquisition control.
- Accessories like fuel measurement, temperature measurements, pressure measurements, crank angle position detection, engine mounting test bed with T slot having X, Y Z adjustment for length, width height adjustments, anti vibration mount pads, to accommodate engine with gearbox under test dynamometer.

About the company: Application Systems offers comprehensive range of products such as drive systems, brakes and clutches, dynamometers, custom built machines, weld backing tapes, ceramic weld backing tapes, fiber glass weld backing tapes, aluminum backing tapes etc.

Contact:

Application Systems, Thane
Tel: 022-32420541, 25383001
Mobile: 09323724866, 09768760154
Email: response@applicationsystems.net

PRESSURE BOOSTER SYSTEM

Aquaion Technology Inc. manufactures diverse range of hydro pneumatic pressure booster system.

Features:

- This system cuts manual intervention and is known for low maintenance and system's ability to set various time slots of operation, using the timer function.
- It can auto-change over its set timing of the individual pump. It can also digitally indicate the number of pumps running and power consumed by pump. Consumption is represented in voltage taken and number of working hours of each pump.
- These pumps can be leveraged to set constant pressure via the PLC controller to ensure maximum comfort.
- Some key product benefits are such as saves energy, minimum water wastage, customised design, easy to install, and is technologically advanced.

About the company: Aquaion Technology Inc manufactures and supplies of a wide array of water treatment plant and equipment. These products encompasses waste water treatment plants, reverse osmosis plants and turnkey mineral water plants.

Contact:

Aquaion Technology Inc., Ahmedabad
Mobile: 09979867670, 09825940123
Email: aquaion@eth.net

FLAT BED HEAT TRANSFER PRINTING MACHINE

Appeal Print N Pack Systems Inc is a provider of flat bed heat transfer printing machine.

Features:

- This printing machine comes with smooth functioning, durability and excellent performance features that tend to create a wide coverage of demand in industrial verticals.
- These machines are delivered after a stringent check system. These machines carry high strength and exceptional finish and easily made available via online booking system.

About the company: Appeal Print N Pack System Inc is a manufacturer, exporter, importer and supplier of sturdy and user-friendly machines. The company deals in a large variety of garment sublimation printing and garment screen rinting, textile screen printing systems and consumables.

Contact:

Appeal Print N Pack Systems Inc, New Delhi
Tel: 011-23641465
Mobile: 09811159652, 09582911464
Fax: 011-41600833
Email: appealprintpack@yahoo.co.in

CHROME PLATING TANKS

Innovative Tech Trics Equipments provides consummate assortment of chrome plating tanks.

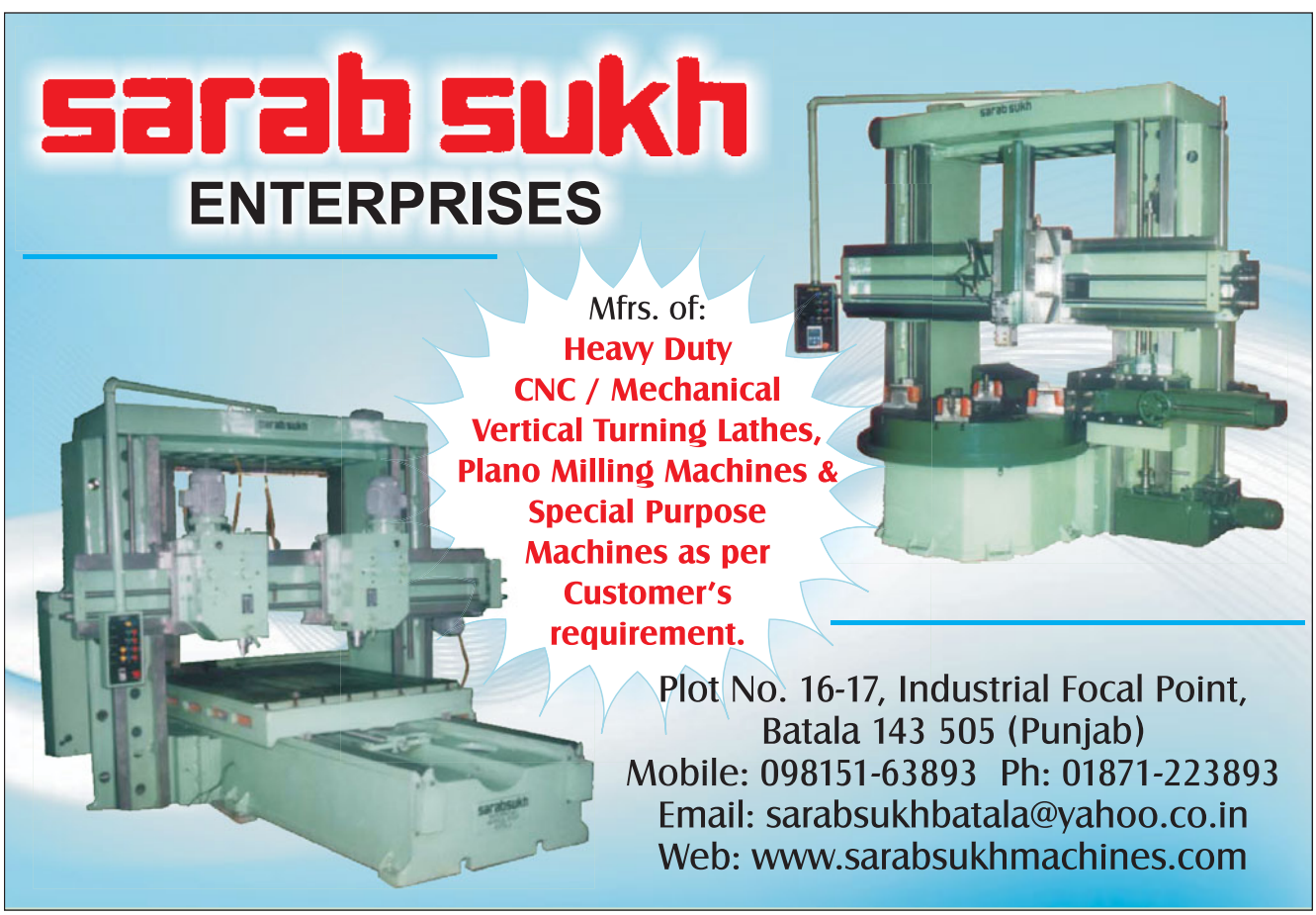
Features:

- These tanks have numerous applications in auto sector.
- These products are known for their longer service life and its anti-corrosion technology.
- Some of the product advantages include those of resistance to corrosion; long lasting; easy to maintain; easy to install; toughness; aterial – chrome; thickness – 1 to 2 cm; type – open mouth; color – grey.

About the company: Innovative Tech Trics Equipments, manufactures, supplies and exports a gamut of storage tanks, anti corrosive flooring, ducts and gutters. The company offers FRP tanks, FRP molded tanks, FRP acid tanks, FRP acid storage tanks, acid proof flooring, FRP gutters, rainwater gutters, polypropylene gutters, etc. These products are known for their excellent resistance against corrosion and abrasion, strong steel adhesion, superior thermal conductivity, durability, reliability and various other features.

Contact:

Innovative Tech Trics Equipments, Chennai
Tel: 044-49593600 Mobile: 08220445500, 09962435000
Fax: 044-24850980
Email: frptanksindia@gmail.com



TOWER AVIATION LIGHTS

Aquila Engineers Pvt. Ltd. offers a wide range of tower aviation lights.

Features:

- These products have applications in aviation, marine and traffic warning systems in order to indicate runway edge, aids to navigation signs and barricade markers. They are equipped with high capacity mono cells and glass encapsulation.
- Some of its specifications are such as 100ma maximum forward current, 8.8 W maximum at 230V AC of typical power consumption, can withstand fluctuation of ±25 per cent input voltage variability, LEDs internally protected against rev voltages up to 1 kV of PIV protection, >200 megohms at 1000V of insulation resistance, 2.5 kV of dielectric strength, terminal provided inside body for earthing, ET 19mm cable entry, and I Luminance @ 3300 Lux.

About the company: Aquila Engineers Pvt. Ltd, engages as a manufacturer, supplier and also in designing and developing reliable and cost effective electrical and electronic products for diverse applications.

Contact:

Aquila Engineers Pvt. Ltd., Vadodara
Tel: 0265-2646701 Mobile: 09898026697
Email: aquilaengineers@yahoo.co.in

PLASTIC CUTTING MACHINES

Archana Extrusion Machinery Manufacturing provides a wide range of plastic cutting machine.

Features:

- The products is widely used in the pre-crushing process for rubber, plastic and other materials.
- The machines comprise of a system comprising motor, V belt pulley, machine frame, screen supporter, screener; machine designed to provide for superior crushing effect.
- It comes with hard alloy/wear-proof steel blades to grind various kinds of hard material coarsely with output size controlled by screen.
- Machine's water cooling function controls temperature and ensures output 600r/min. of main shaft speed.
- This machine has ≤200*30 mm feeding size, 4 to 20 mesh output size and motor power options like 3.75 and 22 kW.

About the company: Archana Extrusion Machinery Manufacturing is a manufacturer, exporter and supplier of wide range of plastic processing machinery including extrusion plants.

Contact:

Archana Extrusion Machinery Manufacturing, Ahmedabad
Tel: 079-22745089 Mobile: 09979856891
Email: sales@archanaextrusion.com

SLAT CONVEYOR

Array Machineries manufactures and trades a wide range of slat conveyor.

Features:

- These conveyors transfer bottles/cartons in filling, capping machine line and it can be straight or 90 degree bend type depending upon the filling machine positions.
- These conveyors are suitable for labeling applications. It operates on variable up to 25 mts/min speed with VFD.
- Some key benefits of the product are such as 500 to 3500 mm of conveyor length, 82 to 190 mm of slat width, SS slat material used, if acetal, delrin; bonfiglioli/panasonic.¼ HP motor/gearbox, 3 phase, 50 Hz; telemecanique/delta drive, moc SS 304.

About the company: Array Machineries is engaged in manufacturing and trading of industrial conveyor, pouch packing machine, filling machine, cartoner machine, sorting machine, deblistering machine, labelling machine, collating machine, inspection machine, bottle unscrambler, form fill seal machine and flow wrap machine.

Contact:

Array Machineries, Thane
Tel: 022-25331437
Email: info@arraymachines.com

FLEXIBLES DROPS

Aruna Agencies supplies quality fire flexible drops sprinklers.

Features:

- This flexible drop equipment is made of quality raw material.
- These fire products posses incredible designs and can be availed at specific specifications based on the requirement
- Its key benefits are such as high on performance, different designs; easy to install and use, and is temperature resistant.
- The product portfolio comprise of fire extinguishers, dry chemical powder DP25, fire solutions, minimax water Co_2, minimax ABC stored pressure, fire hoses, short branchpipe, triple purpose nozzle, 4-way inlet breeching, double outlet type landing valve, hose reel wall mounting type, hose box, two-way inlet breeching, water jet monitor, oblique type landing valve-stainless steel, smoke detectors, repeater panel, fire alarm panel, etc.

About the company: Aruna Agencies, involves as a wholesaler and supplier of a range of automation products, fire security systems, security systems and safes and vaults.

Contact:

Aruna Agencies, Hyderabad
Tel: 040-65178724 Mobile: 09866148724
Email: arunnex@yahoo.com, arunex@rediffmail.com

AIR WASHER

A M Clean Air Engineering Pvt. Ltd. manufactures evaporative cooling air washer.

Features:

- These products are available as double skin configurations and single skin configurations using cellulose pads.
- They are removable panels; space saver; quiet and vibration free; easy to install and service; available in various sizes.
- High static fan for high efficiency filters; water are circulation system; whether proof; adoptable to wide range of applications such as pharma, food industries, clean rooms, comforts and process.
- Metallic or masonry type; type – ozone generator; capacity (CFM) – 99.9%; voltage (V) – 220.

About the company: A M Clean Air Engineering Pvt. Ltd., is a manufacturer, supplier and service provider of air handling units, pollution control equipment, clean room equipment and ventilation equipment. These equipment is manufactured using high grade MS sheets, (GI, CR, and HRCA) Cu tubes, Al foils, PUF chemicals, fasteners, fans and motors.

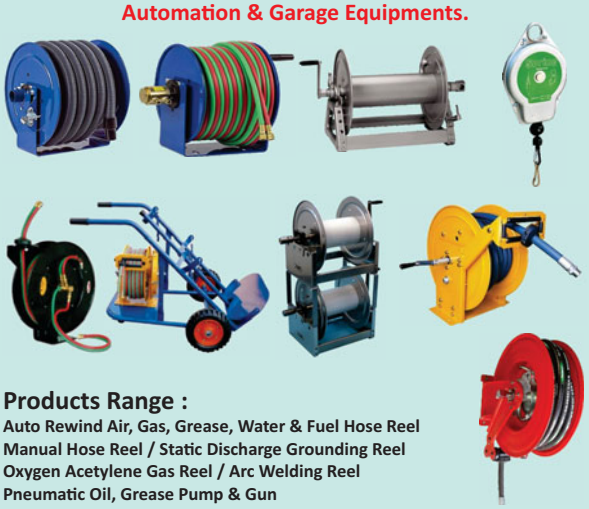
Contact:

A M Clean Air Engineering Pvt. Ltd., Chennai
Mobile: 09381053037, 09884873037
Email: chennaiairtech@yahoo.com

BRIGHT INDUSTRIES

MAKE IN INDIA

Manufacturer, Trader & Service Provider Of Industrial Automation & Garage Equipments.



Products Range :

Auto Rewind Air, Gas, Grease, Water & Fuel Hose Reel
Manual Hose Reel / Static Discharge Grounding Reel
Oxygen Acetylene Gas Reel / Arc Welding Reel
Pneumatic Oil, Grease Pump & Gun
Spring Balancer / Impact Socket & Mechanical Torque Wrenches
Quick Release Coupling / High Pressure Water Gun
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Address : Building No. 2, Gala No. 103, 1st Floor,
Shubham Industrial Estate, Dhumal Nagar, Waliv, Vasai (East),
Palghar, Pincode - 401 202. MAHARASHTRA (INDIA).
Mobile : 07977632109, 9323945419.
Email : brightind27@gmail.com & info@brightindustries.in

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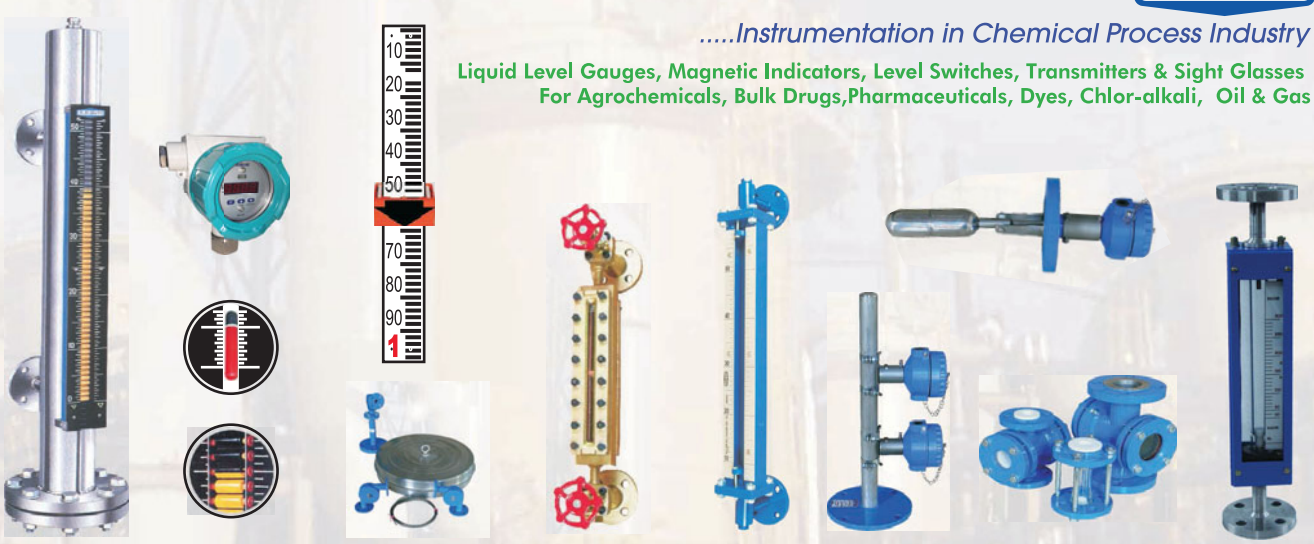

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Email: pisales@rkdutt.com / marketing@rkdutt.com

Website : www.rkdutt.com

CONVEYORIZED INFRARED OVEN

Arvind Industrial Product Corporation offers conveyorised infrared oven.

Features:

- The company specialises in designing, manufacturing and installing custom designed conveyor oven for manufacturers of different kinds of hardware like locks/door handles/fancy brass or zinc components which are coated with electro-phoretic lacquer or powder coated and needed to be dried.
- Infrared heaters are used to dry the components which are continuously moving inside the oven through conveyor. Jigs are hanged over conveyor and passes through length of oven where heating is done in radiation as well as by hot air.
- IR dries lacques from inside-out to reduce the drying time.

About the company: Arvind Industrial Product Corporation engages in design and manufacture of a wide range of industrial products like power and motor control center, distribution boards, feeder pillars, etc.

Contact:

Arvind Industrial Product Corporation, Faridabad
Tel: 0129-2230153 Mobile: 09811004152
Email: jpjain@arvindproduct.com, info@arvindproduct.com

AUTOMATIC STRAPPING MACHINES

Ascent Packaging Systems Pvt. Ltd. provides automatic strapping machines.

Features:

- The machine is used in strapping and packaging of cartons, calcium-plastic cases, books, soft and hard packages as well as all kinds of article in square, cylindrical or circular shape.
- This range of strapping machine is available in two different models, namely, semi automatic strapping machine and automatic strapping machine.
- These CE marked machines are 1440 straps per hour speed, no lubrication required as it has aluminum alloy die-casted main body block and rust free/high consistent performance level.
- Very low power consumption-720 W - three phase/ single phase models available.

About the company: Ascent Packaging Systems Pvt. Ltd., engages as a packaging venture. The company commenced its operation since 2004.

Contact:

Ascent Packaging Systems Pvt. Ltd., Pune
Mobile: 09960634349, 08600108692
Email: marketing@ascentpackaging.com

FATIGUE TESTING MACHINE FOR CONCRETE BEAMS

Ashian Engineers Company India provides fatigue testing machines.

Features:

- It is used to test the fatigue strength of materials and to draw S-N diagram by research institutes, laboratories, material manufacturers and various industries. This machine is a rotating beam type machine where load is applied in reversed bending fashion.
- The standard 8 mm dia specimen is held in special holders at its ends and loaded such that is experiences a uniform bending moment. The specimen is rotated at 4200 rpm by a motor and a complete cycle of reversed stresses in all fibers of the specimen is produced during each revolution.
- The bending moment is applied with a lever system and can be easily changed by moving a weight over the lever.

About the company: Ashian Engineers Company India, engages as a manufacturer and exporter of an extensive range of laboratory equipment and testing machines.

Contact:

Ashian Engineers Company India, New Delhi
Mobile: 09871112859, 09212112859
Email: info@ashianengineers.com

AMF PANELS

Asian Power Systems (I) manufacture high quality DG/ Grid synchronising/AMF panels.

Features:

- This is widely used in the electrical, electronic, telecommunication and allied industry; the panels are indoor type synchronising and load sharing panels that are fully compartmentalised and desk type construction with IP42/52 degree of protection.
- Premium electrical components are used such as aluminum/copper busbar, insulator, wires/cables, PVC channels transformer, SMPS, meters and switches for fabricating the panels.
- To be operated in parallel are fast/reliable and synchronising and precise kW load sharing inbuilt protections for engine, generators and mains like over current, overload, earth fault.
- With this machine GRID paralleling is possible with import/export control PLC for system logic configurable input/output as per requirement.

About the company: Asian Power Systems (I) Pvt. Ltd is a manufacturer of electrical and instrumentation control panels for various industrial applications.

Contact:

Asian Power Systems (I) Pvt. Ltd., Pune
Tel: 020-46768440, Mobile: 09850827470
Email: sales@asianpower.in, doifode@asianpower.in

CNC SHEARING SERVICES

Crish Metal Works offers shearing services using quality standard of shearing machine.

Features:

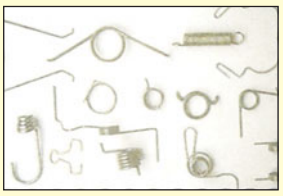
- The hydraulic NC shearing M/C is used for shearing of the metal sheets along the required length and width (x & y axis).
- The shearing m/c is hydraulically operated in all function and movements. The angle of the blade is known as rake angle changes from 0° to 3° depending upon the thickness of the sheet metal to be sheared.
- The maximum thickness capacity of the sheet to be sheared is about 6mm. Machine blade clearance for shearing of a particular thickness of the sheet metal is also varies from 0-6mm. The accuracy of the machine is on the shearing length is about +/-0.5mm.

About the company: Crish Metal Works Pvt. Ltd. is a provider of high quality precision sheet metal products and components. Their product range encompasses sheet metal components, electrical enclosures, metal electrical enclosures, sheet metal electrical enclosures, sheet metal cabinet, server rack, industrial cabinets and control panel.

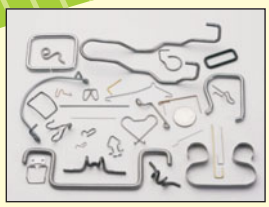
Contact:

Crish Metal Works Pvt. Ltd., Navi Mumbai
Tel: 022-27782751/54
Email: sales@cmwpl.com

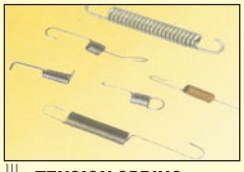
Reliable Spring Industry



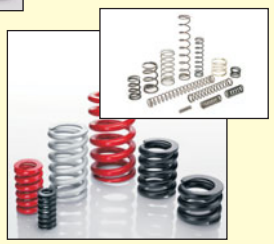
TORSION SPRING
Range From:
Wire dia 0.25 mm to 12 mm
Length upto 300 mm
Material: IS 4454, Part I, II, III, IV
IS 1570, EN 42, EN 45, EN 47
Phospher Bronze, Brass, Etc.



WIRE FORMS
Range as per customers requirements & application



TENSION SPRING
Range From:
Wire dia 0.25 mm to 16 mm
OD 1.2 mm to 300 mm
Length upto 10,000 mm
Material: IS 4454, Part I, II, III, IV
Phospher Bronze, Brass, Monel, Inconel Etc.



COMPRESSION SPRING
Range From:
Wire dia 0.25 mm to 32 mm
Dia of Spring 2 mm to 300 mm
Length upto 1000 mm
Material: IS 4454, Part I, II, III, IV
IS 1570, EN 42, EN 45, EN47
Phospher Bronze, Brass, Etc.

SPECIAL FEATURES

1. Springs are manufactured on fully automatic and semi automatic machines
2. Complete in house Testing Facilities:
   a) To test raw materials, chemical and physical Characteristics
   b) Load Vs Deflection test for compression, tension, torsion and endurance test
   c) Internal Test Report provided on request

Reliable Spring Industry
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Phone nos. 040-23192703, 040-23090408.9291203210, 8074113270 E-mail: reliablespring@gmail.com, reliablesprings@rediffmail.com

UNDERSLUNG EOT CRANE

Atlas-Crane Pvt. Ltd. offers underslung EOT crane.

Features:

- This kind of load movement is not possible with the conventional top running EOT cranes and transferring the loads directly from crane to crane or by fixed transfer sections, these cranes are appreciated for optimum lifting capacity.
- These cranes can be availed in options of hand operated and electrically operated crane motions and this range of underslung EOT cranes comprises a bridge girder to end trucks operating on the lower load carrying flange of the runway girder.
- This is always supported from the building roof trusses, to meet the loading and span needs, the range of underslung EOT crane is available in single girder and double girder construction.

About the company: Atlas-Crane Pvt. Ltd. engages in manufacturing, exporting and supplying of material handling equipment such as cranes, hoists and winches.

Contact:

Atlas-Crane Pvt. Ltd., Chennai
Tel: 044-32919997, 32919998
Mobile: 09443097385 09383735566
Email: atlascranesindia@gmail.com

ASPHALT MIXING PLANT

Atlas Equipments offers mobile counter-flow asphalt mixing plant.

Features:

- It is for additional fuel savings and better quality of hot mix asphalt with the counter-flow asphalt plant and complete mobility.
- Critical projects require frequent shifting of the plants and to make high volumes of HMA. This mixer is designed for maximum mobility and its compact design to support frequent shifting long-term projects.
- It promises erection and dismantling in short time.
- This machine is the separate zones of heating and mixing; the first drum is the heating zone which heats the aggregates in a counterflow process.
- In the second drum, heated aggregates are mixed with bitumen and filler material; addition of recycled asphalt is also very easy on this equipment.
- Reclaimed asphalt pavement (RAP) can be added to the second drum to mix it with the virgin material.

About the company: Atlas Equipments, is engaged in manufacturing, supplying and exporting of a wide range of the road and civil construction machines.

Contact:

Atlas Equipments, Mehsana
Tel: 02762-224383 Mobile: 09879554550,
Email: contact@atlasequipments.com

DECANTER SEPARATOR

Auric Techno Services Pvt. Ltd. offers decanter separator.

Features:

- The decanter is based on the difference in densities of the components using centrifugal force to carry out separation of phases.
- These decanter centrifuges are solid bowl type and have various unique features like open scroll, removable feed pipe and scraper mechanism, etc.
- Used for fruit and vegetable processing for clarification of fruit pulps and juices
- In the pharmaceutical and biotechnology segment the product is used for fermentation broth separation/ clarification of various process liquids.
- Choking of decanter due to sticky solids is eliminated; sturdy construction, easy and complete cleaning possible in situ; on line optimising of separation efficiency

About the company: Auric Techno Services Pvt. Ltd., is involved in import and wholesale products and represent various brands like Teknofanghi products, fan products, savi-screen products, and screen and pieralisi decanter and centrifuge.

Contact:

Auric Techno Services Pvt. Ltd., Pune
Tel: 020-4078 9558, 65008168
Email: info@auricent.com

SERVO AUGER FILLER, MODEL AMP 1300

Auro Machines Pvt. Ltd. manufactures and exports a wide range of servo auger filler, model AMP 1300.

Features:

- Some of its advantages are such as high accuracy and higher consistency, increased productivity, wide variety of product applications, man-machine interface for setting timing and other features.
- The machine comes with an audio and video fault indicator and annunciator. It also has a variable frequency driver film pulling and stirrer and static charge eliminator for efficient sealing.
- Level sensor to maintain the product level in the hopper and product conveying arrangement to the hopper by screw conveyor (optional); pouch transport conveyor (optional).

About the company: Auro Machines Pvt. Ltd., a manufacturer and exporter of pouch packaging machines, form fill and seal machines, powder packing and liquid filling machines, packing of free flowing and non sticky course.

Contact:

Auro Machines Pvt. Ltd., Faridabad
Mobile: 09810529141 Telefax: 0129-2307875, 2307876
Email: info@auromachines.com,
flexiblepouch@rediffmail.com

ULTRASONIC HANDGUN-CR-1000 (SPOT WELDING MACHINE)

Crystal Electrodynamix provides a wide assortment of ultrasonic handgun-CR-1000 [spot welding machine].

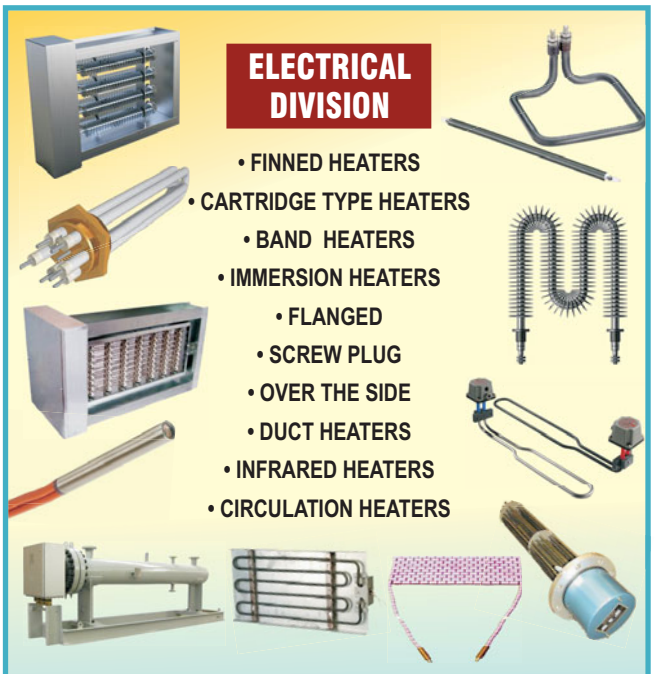
Features:

- That is extensively used in electronic and engineering industry.
- High in performance these machines are designed to perfection and are stringently checked for quality, durability and precision.
- Handgun-CR-1000 [spot welding machine] top; spot welding 20KHZ-40KHZ; for spot welding, riveting, flaring.
- Cut and seal and continuous welding; pistol type, easy to operate handgun; operating mode – auto/manual; time mode operation.

About the company: Crystal Electrodynamix Pvt. Ltd. manufactures and supplies ultrasonic (plastic) welding machines, ultrasonic cleaners, ultrasonic converters, ultrasonic tube sealing machines, ultrasonic spot welding machines, ultrasonic cleaning machine, etc.

Contact:

Crystal Electrodynamix Pvt. Ltd., Pune
Tel: 020-27031321, 20266634
Email: crystal@crelectrodynamix.com



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121/122 Udyog Mandir 1, Mahim (West), Mumbai - 400 016.
Tel.: 91-22-24449192/93/95/96
Fax: 91-22-24449194
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MOTORISED BUTTERFLY VALVE

Automation Tekniks is offering single phase motorised butterfly valve.

Features:

- This type of flow control device used to regulate the fluid which flows through a section of the pipe.
- This plate is positioned in the center of pipe and it is similar in the operation to a ball valve.
- This plate has a rod which is connected to an actuator on the outside of the valve and is manufactured in accordance of requisite norms and standards and can be personalised.
- These are integrally molded inside and are light weight and cost effective substitute. Their primary and secondary seals integral with body fittings.
- Different disc and seat combination can be availed in 50 to 600 mm size range.

About the company: Automation Tekniks is engaged in trading of the Chinese parts and supples the oilfield spares and equipment, oilfield drilling services, safety equipment, installation, laying of pipelines, fabrication of pressure vessels.

Contact:

Automation Tekniks, Pune
Tel: 020-24356674
Mobile: 09372400295, 09595959939
Email: yogeshkale7@gmail.com

WALL MOUNTED JIB CRANE

A V Industries offers a wide range of wall mounted jib crane.

Features:

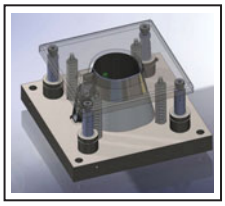
- Primarily used for long lateral movement under an overhead crane, the AVI wall traveling jib cranes provide lift under a large overhead crane without interfering with the overhead crane.
- Its features include: easy installation, robust construction and long operational life.
- End carriages made of box type steel fabrication, fully machined after fabrication to give consistent manufacturing tolerance; top end carriages has double flanged crane wheels; all the wheels are from alloy steel forgings.
- All travel speeds are two speeds in 1:4 ratio; all travel drives are fitted with fly wheel inside the motor and special alloy rotor for soft start/stop features.

About the company: A V Industries is a manufacturer, exporter and supplier of material handling equipment, material handling and lifting cranes.

Contact:

A V Industries, Bahadurgarh
Tel: 011-25927021
Mobile: 09810035422, 09810028268
Email: avindustries@hotmail.com

PUNCHING DIES



Avtar Tools offers punching dies, a versatile process for producing engineered metal parts by forcing molten metal under high pressure into reusable steel molds.

Features:

- These molds are known as dies and can be designed to produce complex shapes with a high degree of accuracy and repeatability.
- The parts can be sharply defined, with smooth or textured surfaces and are suitable for a wide variety of attractive and serviceable finishes.
- Punching dies are among the highest volume, mass-produced items manufactured by the metalworking industry.
- Die cast parts are important components of products ranging from automobiles to toys; parts can be as simple as a sink faucet or as complex as a connector housing.

About the company: Avtar Tools, is a manufacturer, exporter and supplier of die casting, sheet metal tools, sheet metal components and other engineered components.

Contact:

Avtar Tools, Chandigarh
Tel: 0172-5077467, 5077461
Mobile: 09814362504
Email: avtartools@gmail.com

HYDRO GENERATORS

Acme Process Systems manufactures and supplies hydro generators.

Features:

- These quality stainless steel hydrogenators are manufactured to facilitate easy functioning under varied operating pressures and made available in different operation capacities and pressure ratings.
- These can be availed in various operation capacities and pressure ratings. These can be manufactured in SS 304, SS316 or MS as per the specific process needs of the customers and come with perfect mechanical design that provides low maintenance and downtime.
- These are high performing fluid hydrogenators and are made available in options including standard and custom designs and the product is fabricated to deliver durable usage support as well as enhance work efficiency as well as assure optimum utilisation of the facilities.

About the company: Acme Process Systems, is a manufacturer and supplier of a range of distillation systems, industrial reactors and heat exchangers.

Contact:

Acme Process Systems, Pune
Tel: 020-69001164, 69001165
Mobile: 09545557950, 09545557935
Email: sales@acmeprocess.net

ABRASION TESTING MACHINE

Corporate Resource Group provides abrasion test machine.

Features:

- The abrasion testing machine consists of a closed hollow cylindrical steel drum rotating around its horizontal axis on ball bearing units mounted on a sturdy base framework at a speed of between 30-33 rpm.
- Supplied complete with subtracting revolution counter to preset the number of revolutions, a sample collection tray for removal of the sample on completion of testing and set of 12 abrasive charges.
- The los angeles abrasion test apparatus is fitted with 1 HP motor; suitable for operation on 440V, three phase, 50Hz, AC supply.
- Low maintenance; excellent operation; optimum performance.

About the company: Corporate Resource Group engages in manufacturing and exporting quality hydraulic and quality control testing equipment.

Contact:

Corporate Resource Group, New Delhi
Tel: 011-27619228
Mobile: 09810084725
Email: info@crgroupequipments.com

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THYRISTOR UNIT

Aykay Electronics provides imported thyristor unit

Features:

- The thyristor units are such as SPC1-35 & SPC1-50 Autonics single phase power controller model, low cost imported unit for phase angle or on/off control; SPC1-35 for 35A, 1phase load and SPC1-50 for 50A, 1phase load; with built in heat sink; soft start:0-50sec variable.
- Field settable inputs – 4-20MA, on/off external control input, 1-5VDC, external volume control input of 1 kohm from 0 to 100 per cent; user adjustable output limit from 0 to 100 per cent; compact unit of weight 1 kg. 2.CD automation 3phase power control unit.

About the company: Aykay Electronics provides products and solutions for instrumentation equipment, pressure transmitter, temperature transmitter, temperature, relative humidity, electrical parameters, pressure, level, flow, RPM, time and counts.

Contact:

Aykay Electronics, New Delhi
Tel: 011-22373333
Mobile: 09891391133
Email: ajay@aykayelectronics.com

SPHERICAL BEARINGS

Bajaj Bearings Pvt. Ltd. manufactures and exports a wide range of spherical roller bearings.

Features:

- These bearings are extremely resistant to shock loads and their self-aligning feature allows full capacity loading despite shaft deflection.
- They are very similar in purpose to self-aligning double row ball bearings, except the spherical roller bearings are designed to be more robust by carry heavier loads but at lower maximum speeds.
- These bearings have barrel-shaped rollers between the inner ring, which has two raceways, and the outer ring which has one spherical raceway.

About the company: Bajaj Bearings Pvt. Ltd., engages as a manufacturer and exporter of bearings, has the largest range of automotive bearings-taper roller bearings (MM series and inch series), cylindrical roller bearings, needle roller bearings, spherical roller bearings, water pump bearings, deep groove ball bearings, angular contact ball bearings and bearings for fork lift.

Contact:

Bajaj Bearings Pvt. Ltd., Thane
Tel: 022-28125621
Mobile: 09821418129
Email: info@bajajbearings.com

REVERSE PULSE JET CARTRIDGE

B D Fans and Enviro Engineering is a manufacturer of reverse pulse jet cartridge.

Features:

- These products are energy efficient, durable and cater to the requirements of foundries, chemical plants and paper, plywood, coal and cement industries.
- This standard filter range from 10 to 972 m2; typical airflow volumes up to 65.000m3/h, or more; robust weatherproof welded steel construction.
- Tailor-made design as per requirement can be availed to meet with pollution norms and integral pre-separation chamber, down flow inlet air pattern.
- Shot, sand and bead blasting; building materials manufacture and distribution; dust extraction for all dry free flowing powders and granular material.

About the company: B D Fans and Enviro Engineering, is a manufacturer of centrifugal blower fan, fan impeller, axial flow fan, bag filters, cyclone separator, industrial scrubber, air damper, man cooler fans, FD cooler and many more.

Contact:

PB D Fans And Enviro Engineering, Kolkata
Tel: 033-65257963, 65257963
Mobile: 09830325077, 07278553052
Email: bdair@vsnl.net

HAMMER DRILL

Beaver Engineering Corporation provides a wide assortment of hammer drill.

Features:

- These are used in bench drilling, underground production drilling, exploration and foundation drilling.
- Available in the size of 3 to 12 inches, these are known for its low maintenance and energy saving features.
- It is suitable for harsh conditions and widely finds their applications in leading industries.
- These are constructed using premium quality raw material and have sturdiness and long life performance.

About the company: Beaver Engineering Corporation is involved in manufacturing, supplying and exporting of a variety of rock drilling tools and equipment. The product range includes DTH bits, DTH drilling rigs, rotary cum DTH rigs, crawler drills, wagon drills, DTH hammers and button bits.

Contact:

Beaver Engineering Corporation, Hyderabad
Tel: 040-27121344, 65306204
Mobile: 09246537002, 09849163007
Email: info@beaverengg.com

VERTICAL SLURRY PUMPS

Creative Engineers offers vertical slurry pumps.

Features:

- These pumps have no gland box, submerged shaft seals or bearing. This eliminates requirement of sealing water, guarantees minimum maintenance.
- The bearings are fitted above the sump level with heaving double protection against slurry.
- Wear parts are available with Ni-hard, Hi-chrome, natural rubber, CD4MCU, SS316, and CF8M, etc.; capacity – 5-600 m3.hr; head – 6-55mts; discharge size – 25 to 200mm; frame size – 40, 60, 80, 120, 150, 180, 220cms.
- Rigid motor mountings come with positive and direct adjustment for vee belt drives.

About the company: Creative Engineers engages as a manufacturer of heavy duty single casting pumps, split casting heavy duty slurry pumps, heavy duty slurry pumps, vertical slurry pumps, forth pumps, hydro cyclones, creative hichrome, slurry valves, agitators, vibrating screens, multi column flotation cell and thickener.

Contact:

Creative Engineers, Bangalore
Tel: 080-23390058, 23393314
Mobile: 09900197455
Email: creativepumps@hotmail.com

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INDUSTRIAL OIL FILTER MACHINE

Minimac Systems Pvt. Ltd. offers a wide range of high-quality industrial oil filter machine.

Features:

- Quality components and spare parts are used in the machines and adheres to international quality standards.
- These products are stringently inspected on certain parameters of quality so as to rule out every possibility of defect.
- It removes sludge, solid contamination, varnish and lacquer using its surface filters installed in series and by two karol depth filters.
- If the medium is changed from fiberglass to cellulose, karol depth filters absorb water.

About the company: Established in 2012, Minimac Systems Pvt. Ltd., an ISO 9001:2008 company, is engaged in supplying, distributing, manufacturing, exporting and trading a range of oil purification and reconditioning plants, laser particle counters and allied machines. These products are highly efficient, low maintenance and has easy operation.

Contact:
Minimac Systems Pvt. Ltd., Pune
Mobile: 08975150700, 08975850700
Email: info@minimac.in

HORIZONTAL WINDING MACHINE

Beijing Holland Tech Co. Ltd. is offering high quality horizontal winding machine.

Features:

- This machine includes chuck rotation system, mobile expandable plates, pneumatic conductor clip device, operation platform, coil platform, decoiler and electrical control system.
- These are provided with high accuracy encoder for the major motor, which releases the logic relation on the coils number and also the position of coil pressing head and the platform.
- The vertical movement of the operation platform as well as the coil platforms are driven together by servo motors along with self-compensation function. This is further attached with ball screw and reducer.

About the company: Beijing Holland Tech Co. Ltd., engages as a supplier, importer and exporter of industrial process machines.

Contact:
Beijing Holland Tech Co. Ltd., Mumbai
Tel: 022-28222627
Mobile: 09892820892
Email: indiaoffice@bjholland.com

TURNING TABLE

Belton India manufactures, supplies and exports a wide range of turn table with metallic conveyor belt.

Features:

- This radius conveyor system is specially designed keeping in mind the requirements of biscuit, confectionery and other food processing companies.
- Where other turn table manufacturer uses cotton/PU belts, metalic conveyor belts are used on the offered turn tables.
- These metallic belts have longer life than pu and other belts, thus, it not only cuts the cost of other belts which requires early replacement, but also provides extra cooling time in the production process of products like biscuits and confectionery.
- Fabricated heavy body for smooth functioning, pre installed with stainless steel belt.

About the company: Belton India, engages in manufacturing, supplying and exporting a wide range of conveyor belts.

Contact:
Belton India, Mohali
Tel: 0172-2212125, 2211335
Mobile: 09417017335
Email: info@beltonindia.com

HYDRAULIC JACK

Bemco Jacking Systems is offering hydraulic jack.

Features:

- These jacks can be used in a wide range of applications such as routine maintenance, production, industrial body building, frame works, shipyards heavy civil constructions.
- Heat treated alloy steel body; ram return by spring allows working in any position; hard chrome plated ram for surface protection.
- Non skidding, heat treated saddles; collar threads, base mounting holes enable easy fixturing; designed for use in all positions.
- Tilting saddles are available on request; heavy duty, pre-tensioned springs for fast retraction; max working pressure – 700 bar.
- Cylinders tested as per ASME B30.1. Capacity – 10 to 100 ton; stroke – 50 to 300mm; max working pressure – 700 bar.

About the company: Bemco Jacking Systems is a manufacturing and exporting company. Their product range comprise of mechanical lifting jacks, industrial hydraulic jacks and specialised purpose machines.

Contact:
Bemco Jacking Systems Pvt. Ltd., Belgaum
Tel: 0831-2441019, 4202743
Mobile: 09844054864, 09740326890
Email: sales@bemcojack.com

AUTOMATIC TUBE FILLING MACHINE

Create Industries manufactures automatic tube filling machine.

Features:

- These efficient machines are immensely popular. These are used for tube filling. They have high speed of operation and 12 stations compact rotor; GMP model, which can be used to fill maximum 300ml; accuracy is approximately equal to +/-1 per cent.
- Height of the tube ranges from minimum 60mm to maximum 250mm, while diameter may range from minimum 15mm to maximum 60mm; tube cup is designed with 304 grade of stainless steel.
- Capable of keeping the product consistently in homogeneous state; filling station has a hopper of maximum 40 kilograms capacity; this filling station also possesses cut-off valve, which can be connected with the filling cylinder

About the company: Create Industries is a manufacturer and exporter of a broad range of pharmaceutical machines.

Contact:

Create Industries, Ahmedabad
Tel: 079-22977809
Mobile: 09426516783
Email: createpharma@gmail.com

MS TAIL BREAKER

Bentex Industrials is providing a high quality MS tail breaker.

Features:

- The product range of tail breakers provides hassle-free operation and flawless finish.
- Some of its key specifications consist those of MS prime plate material, graded cast iron; 205 to 355 mm sizes, as per requirement of mill.
- It comes with chocks and bearing, having a steel chock S fitted in tail breaker with spherical roller bearing and adjoining with cardon shaft.
- This gear box includes those of forged steel single helical gears with all accessories and operates through pneumatic cylinder control through DC or AC drive.

About the company: Bentex Industrials Pvt. Ltd., engages as a manufacturer, trader, supplier, exporter and service provider of a range of hot and cold steel rolling mill plant, machinery and accessories. The product portfolio comprises of rolling mill, wire rod rolling mill and steel rolling mill stands.

Contact:

Bentex Industrials Pvt. Ltd., Fatehgarh Sahib
Mobile: 09815067929, 09915717390
Fax: 01765-257678
Email: info@bentexindl.com, bentex96@gmail.com

FILTERS

Bestech Water Treatment Pvt. Ltd. supplies filters, designed for refinement of baths with minimal downtime.

Features:

- The filtration process needs is strict and diverse equirements. These filters provide superior filtration-surface areas per unit volume.
- The solid particles removal down to 0.3 micron and can be dealt by micro filters. 100 per cent oil removal can be achieved by using activated carbon/alumina filters; 304/316 stainless steel construction, borosilicate/ceramic/fiber/SS filter elements.
- 100 per cent moisture removal required for instrumentation etc., can be met by silica gel filters. Special requirement applications for air requirement such as painting, varnishing, mirroring, etc. can be met by ultra clean filters.

About the company: Bestech Water Treatment Pvt. Ltd. is a manufacturer, supplier, trader and exporter of a wide range of industrially developed and custom designed water treatment plants.

Contact:

Bestech Water Treatment Pvt. Ltd., Ahmedabad
Tel: 02717-241268
Mobile: 09825014859
Email: estechwt@vsnl.net

SCISSOR LIFT PLATFORM, HYDRAULIC

Besto Handling System Co. supplies a wide assortment of hydraulic scissor lift platform.

Features:

- The product is put through rigorous testing and quality evaluations prior to its release.
- The lift tables are widely applicable in loading and unloading of tools, dies and instruments.
- It is also used in loading and unloading from trucks and in other maintenance jobs
- The products are crafted from quality raw material. These tables are available in various sizes, capacities and lifting heights.
- These products are known for their rugged construction, long life, customised size, capacity and height options and being easy to use.

About the company: Incepted in 2001, Besto Handling System Co. is a manufacturer and supplier of dock levelers, scissor lifts, car lifts, semi electric, electric and manual stackers, industrial material handling equipment, pallet trucks, lift tables. These products provide high performance, easy operation and longer service life.

Contact:

Besto Handling System Co., Chennai
Tel: 044-26366602 Mobile: 08608699788
Email: sales@bestohandling.com

HARDNESS TESTER (PORTABLE TYPE), MHT-10

Bhagwati Hardware & Mill Store imports and exports hardness tester (portable type), MHT-10.

Features:

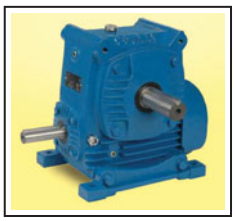
- This tester has LCD display of 128*64 matrix with back-light, showing all functions and parameters and converts to all common hardness scales (HV, HB, HRC, HRB, HRA, HS).
- The information is displayed in English and has an easy and convenient menu operation. It also has powerful PC software available and USB 1.0 interface and USB with protective membrane.
- It comes in seven types of impact device option, which need no recalibration while changing. It has memory of 600 groups data (impact times - 32~1) and lower limit setting and sound alarm.
- Cast steel material is added. HB values can be read out directly when D/DC impact device is used to measure cast steel work piece.

About the company: Bhagwati Hardware & Mill Store, engages as an importer and exporter of a wide range of precision measuring and testing equipment.

Contact:

Bhagwati Hardware & Mill Store, Delhi
Tel: 011-23219311 Mobile: 09212012856
Email: sandeep@bhagwatimail.com

WORM GEAR BOXES



Covaai Gears manufactures qualitative worm gear boxes.

Features:

- These offered gears are capable of achieving higher gear ratio in comparison with spur gears and can even operate under adverse conditions.
- Excellent quality stainless steel and other raw material is procured from certified suppliers to fabricate these quality gear boxes.
- The skilled professionals make this gearbox highly efficient by using advance technology to fabricate these gear boxes; these gears are even tested for quality several times so as to provide best outcome at customer's end.
- These worm gears are widely used in packaging machinery, material handling, machine tools, indexing and food processing. They are widely used in conveyor systems.

About the company: Covaai Gears, provides well qualified and experienced engineers, facilities and expertise in gear technology to engage as a manufacturer of gear boxes.

Contact:

Covaai Gears, Coimbatore
Tel: 0422-2449711 Mobile: 09843344935
Email: sales@covaaigears.com

POWER TOOL ACCESSORIES

Michanis tools offers wide range of power driver bits and adaptors for assembly professionals in india.

Features:

- Its offer all kinds of power drive bits for various profiles like, minus / slotted profile, phillips, pozidriv, allen, torx and torx plus etc. Also offer different kind of adaptors for various kind of work conditions.
- Also offer bit sockets/ nut runners for driving nuts without extn adaptors, from 5mm to 17 mm and length from 50 mm to 300 mm
- Bit holders and quick change adaptors for adpting sq dr to hex bits for different sq drives and hex drives.
- Magnetic bit holders and ring magnet bit holders will be used to pick up screws and tighten screw in deep location without fall of screws.

About the company: M/s Michanis tools team have got 25 years collective experience and expertise to solve end solutions for various screwing technologies.

Contact:

Michanis tools, Chennai
Mobile: 08056139035
Email: reliablepdbs@gmail.com

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B-118, Phase-1, Mayapuri Industrial Area, New Delhi - 110064
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Email: karan_mtm@yahoo.com, aditya_mtm@yahoo.com
website: www.moderntoolsmfrs.com

AMI MACHLESS®

CENTRIFUGAL DRESSER OR SIEVER MACHINE

Bharat Heavy Machines manufactures and supplies range of centrifugal dressers or siever machine.

Features:

- These centrifugal dressers are very robust and high strength machines that are highly appreciated for its excellent functionality with vibration free structures.
- The centrifugal dressers are fitted with high grade worn conveyors with high quality steel frames.
- These centrifugal dressers have corrosion resistant beaters that work rapidly and efficiently.
- The company's products portfolio comprise of vertical blender machine, automatic chilly grinding plants, automatic turmeric grinding machines, pulse jet filter unit, rotary air lock, blow through type rotary valve, bucket elevator, industrial belt conveyor, automatic saw dust grinding plants, vibro sifter.

About the company: Bharat Heavy Machines is a manufacturer, exporter and supplier of ribbon blender, impact pulveriser, ball mill, air lock, bag house, grinder and hammer mill.

Contact:

Bharat Heavy Machines, Kanpur
Mobile: 09336111261, 09935424256
Email: bhmgroup@gmail.com

SQUIRREL CAGE INDUCTION MOTOR

Bharath Electric Motors offers squirrel cage induction motor for electrical lab.

Features:

- This model is an educational model suitable for demonstrating students the complete knowledge of the basics, components, starting methods, wear-tear and maintenance of these motors packaged in small rating.
- Students can make connections of their own with the help of the terminations provided for study of features like starting methods, speed control, speed-torque, effect of phase angle, study of cogging/crawling.
- Effects of single phasing, effect of voltage imbalance operation, blocked rotor test. 3 phase AC squirrel cage induction motor TEFC, IP44, IC01, B3, Class-B, SI, casting body.

About the company: Bharath Electric Motors, indulges in manufacturing and supplying a wide array of DC motor, AC motor, cut section motor, permanent magnet DC motor, phase transformer, slip ring motor, squirrel cage induction motor, resistive load bank, etc.

Contact:

Bharath Electric Motors, Coimbatore
Tel: 0422-2250948 Mobile: 09443720273
Email: thomas_bem@yahoo.co.in

HYDRAULIC CYLINDER

Bhatawadekar Bros Pvt. Ltd. provides high-performance hydraulic cylinder.

Features:

- These hydraulic cylinders are used in civil engineering, construction equipment and manufacturing machinery.
- Square construction assembled and bolting using tie rods; simple construction enables easy change of seals.
- Available in bore sizes of 40 to 200 mm and pressure up to 220 bar and mounting accessories can also be provided on such as flange, pivot, foot brackets, trunnion.
- Cushioning possible on both ends; double acting - forward and return motion by oil; single acting-forward stroke by oil and return by load exerted on the piston rod; forward and return motion by oil; easy to service; flawless fabrication.

About the company: Bhatawadekar Bros Pvt. Ltd. is engaged in manufacturing, exporting and supplying of a wide range of filter press, hydraulic crane, crane parts, stainless steel trolleys, component for wagon tippler, stilling machine, etc.

Contact:

Bhatawadekar Bros Pvt. Ltd., Mumbai
Tel: 022-26672901 Mobile: 09869931318
Email: bandco@vsnl.com

NAUTA DRYER MIXTURES

Bifriends Engineering Works is offering a wide range of nauta dryer mixtures.

Features:

- This product is used for gently mixing chemicals and has applications in pharma industries.
- Gentle action on product through low power consumption; fast mixing times with a high degree of mixing accuracy; totally sealed and protected from contamination; quick loading and unloading.
- Provision of sampling nozzle without breaking vacuum; compact design gives excellent appearance to equipment; designed and manufactured to suit critical hygienic conditions of pharma and food industries.
- Confirming to CGMP standards, the unit is completely air-tight, avoiding pollution in environment. It can self emptied with minimum product hold up, useful for full solvent recovery, and dust free operation.

About the company: Bifriends Engineering Works, engages as a manufacturer, exporter and supplier of a wide array of industrial dryers.

Contact:

Bifriends Engineering Works, Thane
Tel: 0251-2871511, 2871683
Mobile: 09870703123, 09619735721
Email: bifriends@bew.net.in, bifriends@vsnl.net

Panasonic
BUSINESS

GLOBAL INNOVATION IN ARC WELDING TECHNOLOGY

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MIG/MAG Machine

400RX1

IGBT Based 400amps
MIG/MAG Machine

350GL4

Digital 350amps
MIG/MAG Machine
Supports Welder to achieve mature still Weld

GAS TUNGSTEN ARC WELDING (GTAW)

400TX3

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For Enquiry Contact: +91-9729900200 / Email: welding.info@in.panasonic.com
Web: www.panasonic.com/in/welding

HIGH FREQUENCY SCREENS

Masyc Projects Pvt Ltd offers a wide range of high frequency screens.

Features:

- These "Masyc" high frequency screens are of true balanced mass and rugged design.
- It has linear oscillation, positive conveying, and no sliding and has long screen cloth life and has much less power consumption.
- There is no vibration during start and stop and the acceleration / de-acceleration is very smooth. With respect to other screens, for the same capacity high frequency screens are smaller in size, lower angle of inclination which results in economical structural design.
- The high frequency screens are single deck structure with a substantial rigid design.
- The screen body consists of the two side plates with bolted transverse supports & screen mats.
- The frequency of the screen is mainly controlled by an unbalanced motor which is mounted above the screening surface and directly connected.
- The "Masyc" high frequency vibrating screens achieves a high efficiency of separation and differ from flip flow screens as it breaks down the surface tension between particles.
- Since the screen vibrates vertically, the coarser particles are lifted higher and finer particles stay closer to the screen and this increases the probability of separation.
- These screens find usage in various application of fine screening of various minerals, lumps such as sand, minerals, ores, sinter, coal, coke, pet coke , lignite, limestone, dolomite, chemical products, fertilizer, compost, refuse and refuse slags etc.

About the company: Masyc an ISO 9001-2008 certified company specialize in the field of bulk material handling system, conveyor equipment, crushers and screens etc. Their major customers include Ultratech Cement, Bhushan Power & Steel Ltd, Binani Cement, Nirma Cement, Amrit Cement, Jindal Saw, Nova Iron & steel and orient cement etc. Their product range of various conveying systems and equipments suit and match all the requirements in different processing industries like cement, steel, coal, pulp & paper, glass, fertilizers, mining, power etc. " Masyc " and its top management strongly believes in good professional ethics and ensures promised quality. They provide complete satisfaction to the customers and we believe that as the list of our satisfied customers grows so will the " Masyc " and its employees.

Contact:

Masyc Projects Pvt Ltd, New Delhi
Tel: 011-28115745, 28113383
Email: masyc@masycproject.com

STATIC DISCHARGE GROUNDING REEL

Bright Industries offers a wide range of static discharge grounding reel.

Features:

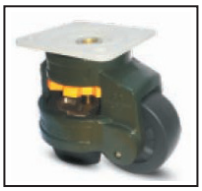
- This closed and compact model reels are suitable for storage of cable with quick payout and auto spring rewind. It is designed for safe and reliable grounding of vehicle fuel transfer trucks, aircraft and other equipment requiring static bonding. Reels are manufactured with mild steel.
- These reels are standard supply with 5, 10,15,20,25,30 metre of yellow/red PVC coated galvanised steel, stainless steel, and copper cables with single strand. finished with powder coated in blue, red, and green.
- Its features include: fully automatic spring rewind; reels are supplied with standard 4mm steel rope in 7x7 strand; 100amp earthing ground clamp.
- Its applications include: Fuel tank loading-unloading static grounding; airplane fuel filling; utility vehicle; maintenance shops; any other place where static might build up.

About the company: Bright Industries also manufacture static discharge reels in complete stainless body as per customer requirements.

Contact:

Bright Industries, Vasai (East)
Mobile: 09323945419, 07977632109
Email: brightind27@gmail.com, info@brightindustries.in

LEVEL ADJUSTING CASTER WHEELS



Jyoti Architectural Products Pvt Ltd offers a wide range of level adjusting caster wheels.

Features:

- These level adjusting caster wheels are now available from ready stock with load capacity 50kg/250/500 /750 & 1000kg/ wheel unique design allows to move the equipment on wheels whenever required.
- After positioning at desired place it will rest on rubber pad.
- This will eliminate movement & vibrations of equipment.

About the company: Established in the year 1992, "Jyoti Architectural Products Pvt Ltd", are counted amongst the prominent manufacturers, suppliers, importers, traders and exporters of caster wheels & furniture components. being appreciated for their optimum quality, perfect finish & dimensional accuracy, their products are highly demanded in residential as well as commercial application by interior designers & architects.

Contact:

Jyoti Architectural Products Pvt Ltd, Mumbai
Tel: 022-42421000
Mobile: 09320892981
Email: sales@jyotiarch.in

INDUSTRIAL HOSE

Cosmo Teck is offering a wide range of industrial hose.

Features:

- The hose is manufactured using stainless steel. It is known for its robust tensile strength and high durability, making it functional in water and chemical processing plants.
- This hose has the property of acid and alkali resistance.
- The hose is fabricated adhering to industry standards, under the stern observation of professionals.
- The product is known for its ability to sustain high pressure, adjustable grip, and corrosion resistance.

About the company: Cosmo Teck, founded in 1996, is the manufacturer, exporter and supplier of effective range of automotive spare parts. Their products range comprise of auto electrical parts, auto engine parts and automotive filters. Their products are known for premium quality, sturdy construction, uniform finish, high thermal capacity, abrasion resistant, excellent performance, high persistence and cost competency.

Contact:
Cosmo Teck, Mumbai
Tel: 022-26403687
Mobile: 09820193806 Fax: 022-26515420
Email: cosmoteck@yahoo.com

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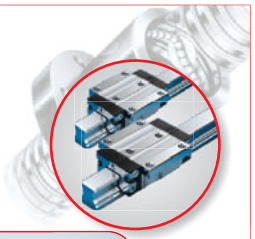
YOUR TRUSTED SOURCE FOR BALLSCREWS AND LINEAR MOTION GUIDEWAYS...



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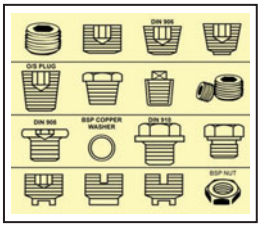
www.mmhuzeifa.com

INDUSTRIAL HEADS AND ACCESSORIES



Zenith Industrial Products offers industrial heads and accessories like Hex socket type, square HD and HEX HD type, BSP straight, tapper plug, BSPT, NPT, NPTF, MM size, hex hd washers faced collar plug, hex socket type Allen plug, BSP copper washers, BSP hex nut, BSP/BSPT 1/8 to 1.1/2", NPT/NPTF 1/16 to 1.1/2" mm size 5 to 48 mm dia.

Features:

- It can be supplied as per IS, DIN, ASTM, JIS and GOST standards or as per party's samples or drawings. h.
- Material's grades: M.S., EN - 8, 8.8GR, EN - 19, 10.9GR, brass, aluminum SS 304 - 316 and 410, HTS, RSTV grade.
- These items are used at engineering industries, machine tools, automobiles, hydraulic, pneumatic, pump and valve, etc. and such other various industries.

About the company: Established in the year 2000, ABC industrial fasteners is a manufacturer and supplier of industrial fasteners.

Contact:

Zenith Industrial Products, Mumbai
Tel: 022-28470806/28470705
Email: zenith@zip-india.com/abc@precibolts.com

EYE-MARK CORRECTION & POUCH LENGTH SETTING DEVICE

Swati Pulley Co Pvt Ltd has developed a product for packaging machines, Accuwrap 150, that enables both eye-mark correction and pouch length setting in one compact unit.

Features:

- The Accuwrap is to be mechanically connected to the paper pulling rollers of a packaging machine and electrically connected to EyeCon, logic controller.
- The pouch length adjustment can be either be done manually or remotely via an electric motor.
- The logic controller, EyeCon, gets input from a contrast sensor and a proximity sensor. The EyeCon continuously compares the timing of these inputs and accordingly commands the Accuwrap to either retard or accelerate the speed of the paper pulling rollers. .

About the company: Swati Pulley Company has been in the business of motion control for over 28 years. Their expertise in the field of speed variation and control has enabled us to reach the leading position in the market today.

Contact:

Swati Pulley Company Pvt Ltd, Kolhapur
Mobile: 08605147900 09371113382
Email: klp_pulley@swatipulley.com, info@swatipulley.com

TAPER GAUGES

Jayesh Enterprises is a manufactures high quality TIECO brand taper gauges.

Features:

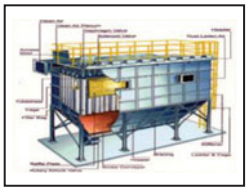
- These taper gauges are used to check standard and Non-standard tapers of bores and shafts.
- These taper gauges are available in Jacob taper gauges, Morse & ISO taper gauges.
- Jacob taper gauges are made as per I.S.10649-1983 and available in the range 6 –80 mm. Morse taper gauges are available from MT-1 to MT-6 available with or without Tang. These are made as per I.S. 2251:1986. ISO taper gauges are made as per I.S. 9475-1986 in 30, 40, 45 and 50 mm.
- And also manufacture taper gauges as per customer requirement/drawings. These gauges are calibrated in our ISO/IEC19025:2005 certified by NABL laboratory at 20°C. using the latest TRIMOS measuring instruments and QMSoft© software.

About the company: Jayesh Enterprises specialise in the manufacture of jaws as per customer drawings / requirements – in special as well as standard.

Contact:

Jayesh Enterprises, Pune
Tel: 020-26877842/43
Fax: 020-26877846
Email: jaws@jawsindia.com

BAG HOUSE DUST COLLECTORS



Masyc Projects offers bag house dust collectors.

Features:

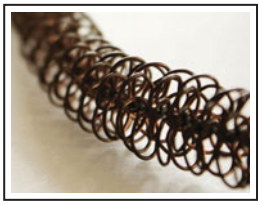
- The collectors are used for various applications in the process plants such as cement, coal, chemicals, thermal power plant, paper and pulp, mining and minerals, steel, sugar and food industries, etc.
- Masyc bag filters (dust collector) work on the principle of pulse jet technology. A powerful shockwave passes through the filter cartridge during cleaning, the dust is discharged from the filter surface and the downwards flowing air allows it to fall in to the container.
- The pulse from the valve is distributed into the cartridge via a unique laser out zigzag slot along the length of the blow pipe. The effect of the cleaning is further enhanced by the venturi shaped outlet of the cartridge.

About the company: Masyc Projects Pvt Ltd an ISO 9001:2008 certified company, is active in bulk material handling systems and equipment segment. They have a dedicated team of highly qualified and experienced professionals.

Contact:

Masyc Projects Pvt Ltd, New Delhi
Tel: 011-28115745, 28113383
Email: masyc@masycproject.com

FLEXIBLE TURBULATORS



Concept Engineering engages as a provider of a wide range of flexible turbulators.

Features:

- These are easy to fit and easy to remove. It can be cleaned and reused a few times. It is constructed so as to maximise turbulence, while minimising pressure drop.
- This is achieved by twisting wire into circular loops arranged concentrically in a 'feather duster' formation around a spine formed from the wire itself. This feather duster formation slants all the loops slightly in one direction.
- There is a hook at one end which enables for an easy pull through the tubes; as they are made from cylindrical wire, there are no sharp edges.
- As abundant measure anchors can be provided if required to further hold the turbulators in place in the face of very high pressure.

About the company: Concept Engineering engages in designing and making wire wound fin tubes and turbulators of all types. They can design heat exchangers for use in tubes and turbulators.

Contact:

Concept Engineering, Mumbai
Tel: 022-43533700/99
Email: mail@conceptengg.com

PAVER CANAL MACHINES

Unisteel Engineering Works precision engineered paver canal machines.

Features:

- These are mainly used for light weight construction, which can be easily erected and transported from site to site.
- This paver acts as a cylinder finisher to make concrete slabs that are used in streets, parking, factory floors, bridges, airports, tennis courts, canal and reservoir.
- The frames are available in the lengths of 4 feet, 8 feet and 12 feet; they have pin bolted together according to the size of the slab width; it can be incorporated in use for a working width between 3m to 20m.
- The finishing drum bracket has an ability to swivel at an angle of 20° in either direction to accommodate harsh mix for a quality finish.

About the company: Established in 1997, Unisteel Engineering Works have gained distinctive credentials in manufacturing and exporting of civil construction machineries.

Contact:
Unisteel Engineering Works, Ahmedabad
Tel: 079-25895546
Mobile: 09825023673
Email: unisteel@unisteel.net

CHARGE AIR COOLER

Brazewell Engineers supplies a wide assortment of charge air cooler.

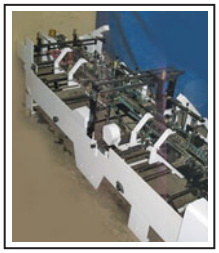
Features:

- High technology and anti-corrosive components are used in manufacturing. It has perfection in design, circuit construction and internal structure and the product is used for many engineering and electrical purposes.
- It is available in various dimensions and range, ensuring the quality, reliability and performance.
- The product is tested on set industrial norms with the help of R&D department.
- Some of the key benefits of the product are such as durability; high performance, cost effective, reliable working, optimum quality raw materials, safeguard against short circuit, protect power overloads, and used for heavy duty operation.

About the company: Established in 1990, Brazewell Engineers is involved in fabrication, supply and export of industrial products.

Contact:
Brazewell Engineers, Pune
Tel: 020-27122258
Mobile: 08308869305, 09422328330
Email: brazewell@dataone.in

AUTOMATIC CARTON PASTING MACHINE



Boxtech Bangalore engages as manufacturer and exporter of automatic carton pasting machine.

Features:

- These box pasting machines are custom built in various sizes.
- It is popular in industries like pharma cartons, food packaging, incense stick, garment boxes moreover everything in cartons.
- Some of its advantages are such as high efficiency, accuracy, and productivity is maintained; carton gluing, side flap pasting, crash lock bottom can be done on a single machine.
- Their product range includes those of high speed automatic folder gluer, high speed mini gluer, carton manufacturing machine, cache cover folder gluer, crash lock bottom carton folder gluer, etc.

About the company: Boxtech Bangalore, is a manufacturer, exporter and supplier of carton folders, carton box making machines, carton box gluing machine, carton pasting machines, which are meant for gluing small high value cartons.

Contact:
Boxtech Bangalore, Bengaluru
Tel: 080-28364387 Mobile: 09845520543
Email: info@boxtech.in, sales@boxtech.in

METAL SOLDER WIRES

B S Solders manufactures and supplies a wide range of solder cored wires and lead free solder wires and metal solder wires.

Features:

- These are manufactured using high grade virgin metals to meet the desired specification processed for high density and fine grain structure.
- It is made from 100 per cent imported metals alloy confirms to federal spec-QQ-S-571E; the metal solder wires are available with flux cored with various percentage, they are non-activated, mildly activated (RMA), fully activated (RA) and UREA water soluble flux cored wire, PB free and also can be supplied with any other type of flux according to given requirements.
- These are manufactured using tin and lead. The range caters to the requirements of electronic industry and is available in various packaging requirements.

About the company: B S Solders is a manufacturer and supplier of a wide range of soldering alloys, soldering equipment and chemical products such as solder flux, solder paste flux, no clean flux, hot air levelling flux, etc.

Contact:
B S Solders, Bengaluru
Tel: 080-23488002 Mobile: 09449008361
Email: bs.solder@yahoo.co.in, sanjana_frp@yahoo.co.in

PAN MIXER TYPE MOBILE BATCHING PLANT

Tecimequip Engineering is a manufacturer and supplier of a range of pan mixer type mobile batching plant.

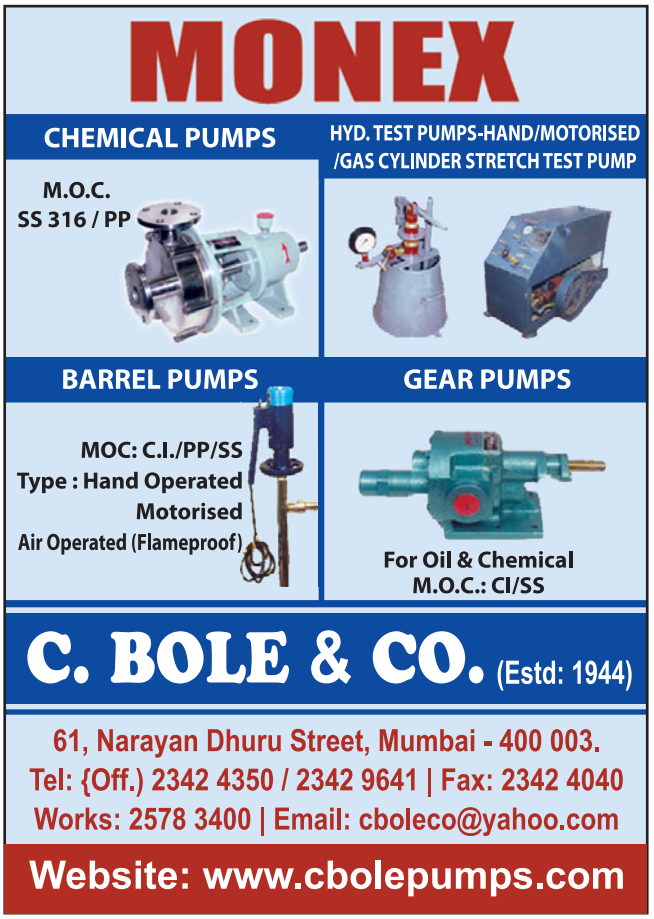
Features:

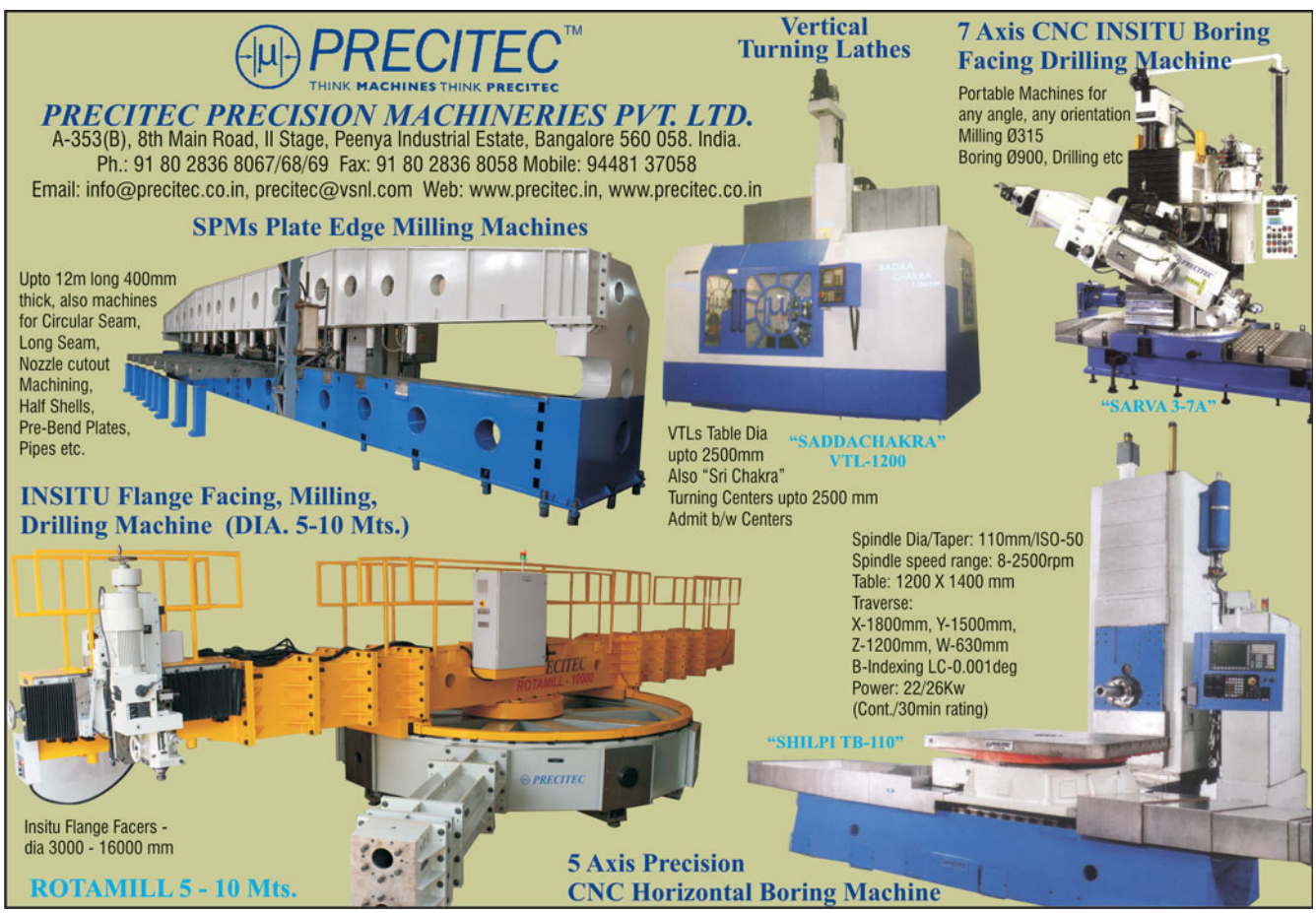
- It is available in 15-20-30 M3/HR capacity with compact design for ease of transportation and shifting by towing handle.
- A separate hopper with screw conveyor system can be added for cement and for loading of aggregate/sand. Cement in hoppers by wheel loader/manually and PLC/microprocessor-based control panel with integrated computerised batch controller accommodates 15 different mix recipes..
- Three load cells are given below the pan mixer for weighing. The whole plant can be transported in a trailer with ease.

About the company: Tecimequip Engineering, established in 1976, engaged in manufacturing, exporting and supplying wide range of batching plant, concrete mixer, power floater, construction equipment and material handling equipment.

Contact:

Tecimequip Engineering, Ahmedabad
Tel: 079-29092539 Mobile: 09825340058
Email: info@tecimequip.com, tecimequip@yahoo.com





PAINT RE-CIRCULATION SYSTEM

Bullows Paint Equipment offers paint re-circulation system.

Features:

- The company provides centralised/ localised paint re-circulation system with paint kitchen for continuous paint feeding application to eliminate color and viscosity variation, paint, manpower and time wastage.
- Paint re-circulation can be achieved by using double diaphragm pump or piston pumps positioned on centralised paint storage container with pneumatically operated agitators.
- Multi-colour lines with flushing system; 2-K component mixers; paint heating system; quick colour change facility; tri-clover clamps fittings; quick connect connectors; piping with insulation; PLC control logic for system operation.

About the company: Bullows Paint Equipment Pvt. Ltd. is engaged in manufacturing spray painting equipment and system. .

Contact:

Bullows Paint Equipment Pvt Ltd, Thane
Tel: 022-25824980, 25838047
Mobile: 09448087940 Fax: 022-25823478, 25820854
Email: sales@bullows.com

PIPE BENDING MACHINE

Bunty Enterprises is providing pipe bending machine.

Features:

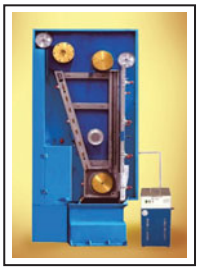
- The product is manufactured with utmost precision using hi-tech machines, the range finds its application in industries that manufacture health care equipment, children play equipment, automobile parts and many more.
- Capacity up to 38mm; machine operate with control panel; smooth wrinkle free bends; sharp bends up to 1.5D (in terms of OD); no filling of stand or spring.
- Automobiles industry for handle bars, chassis, bumpers, exhaust pipes, silencers, two wheeler accessories etc. heat exchanger tubes, boiler tube, etc.
- Front decorative bumper for cars, vans and other commercial vehicles; machines tool building for air, water and hydraulic pipe lines.

About the company: Bunty Enterprises, founded in 2003, is involves as a press, fabrication and tool room, catering to the needs of suppliers to Bajaj Auto Ltd. Currently it is one of the foremost manufactures and suppliers of jigs and fixtures, automotive parts, press parts, dyes and moulds, and other industrial components.

Contact:

Bunty Enterprises, Pune 410 501
Mobile: 09822504165 Email: bunty.ent.a39@gmail.com

IN LINE RESISTANCE ANNEALING MACHINE



Cab Device Industries offers in line resistance annealing machine.

Features:

- With the system allowing attachment with wire drawing machine and providing for uniform and synchronised wires, the end results achieved optimum finish without any tarnishing.
- The system also provides for cost effective and time saving operations involving wire drawing and annealing in a single process; the operating parameters of the system can also be custom tuned as per the specific process needs.
- High performance based inline annealer intermediate; system equipped with advanced process system that offers desired wire elongation support; system allows attachment with wire drawing machine and provides for uniform and synchronised wires.

About the company: Cab Device Industries manufactures and supplies continuous in-line resistance annealing machine, off-line resistance annealing machine, wire electro plating plant, hot dip tin coating machine, induction preheater, etc.

Contact:

Cab Device Industries, Faridabad
Tel: 0129-4041641 Mobile: 08826059696
Email: info@cabledevice.com

POPE REEL MILL MACHINERY

Excel Paper Tech Engineers provide a quality range of pope reel mill machinery.

Features:

- These pope reels are based on PLC controls and are easy to use and control. The range of pope reel, online winder, is made using the latest technology and has constant winding nip pressure throughout the pneumatic cylinders.
- These pope reels are available up to 1200 meter/ minute mill speed and are designed for easy attachment of automatic empty spool loading system.
- Primary arm transfers the loaded spool to the secondary arm automatically and manually through the pneumatic cylinder. Both sides of the primary arms rotate easily through the tie or connecting rod.
- It has large deckle width above 4.5 m and an optional over head empty spool storage structure.

About the company: Incorporated in 2006, Excel Paper Tech Engineers is involved in manufacturing, supplying and exporting a comprehensive range of paper plant equipment, industrial machinery and press section.

Contact:

Excel Paper Tech Engineers, Ahmedabad
Mobile: 09879793222, 09913328565
Email: excelpaptech@yahoo.com

DC POWER SUPPLY SYSTEM

Commerce Corporation manufactures, exports and supplies a range of 24V DC power system.

Features:

- These power supply systems are manufactured using high-grade material with the simple circuit to ensure reliability.
- These transformers are used to supply power to the linear power supply system.
- They have advantages such as sturdy construction, high efficiency, and low maintenance. This fetches demand for their products domestically and internationally.
- Some of its key specifications are 220VAC input, 24VDC or 48VDC output, 50/ 60 hz output frequency, 30A output current and tolerance towards ambient temperature changes.

About the company: Commerce Corporation, established in the year 1986, is a manufacturer, exporter and supplier of an extensive range of digital electroplating rectifier, input-output cards, DC power supply system, DC to DC converters, hydroxy generator rectifier, etc.

Contact:

Commerce Corporation, Mumbai
Tel: 022-25676956 Mobile: 09821846299
Email: kumar812@hotmail.com

BAR BENDING MACHINE

Girish Industries supplies an assortment of bar bending machine.

Features:

- This bending machine is used for bending heavy bars and applauded for its easy operations.
- These bending machines are tested by dexterous quality controllers before delivering.
- The bending machine is a semi automatic, durable, fast and cost effective machine, used for bending reinforcement bars and various forms of round bars.
- This machine effectively increases the production capacity of the steel yard, minimising the use of manual labour.
- Set on a vide body with a heavy duty gearbox, peon bar bending machines boast of a rigid design which helps maintain the performance of the machine year after year; in oil bathed gearbox with hardened forged alloy gears provide maximum strength.

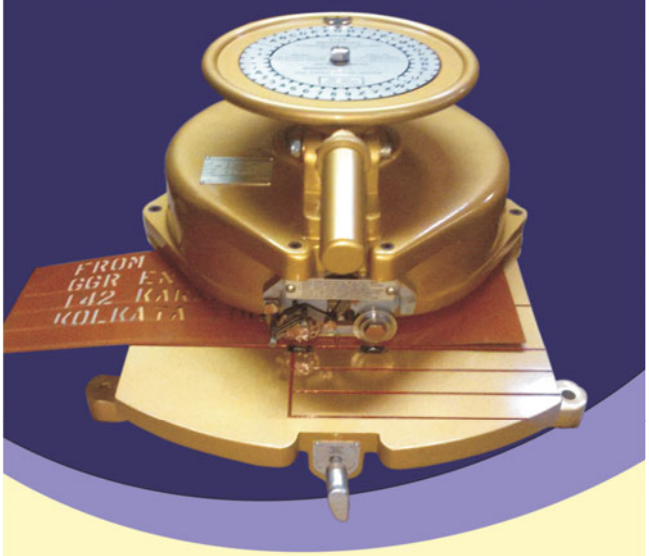
About the company: Girish Industries, incepted in 1990 as a manufacturer, exporter and supplier of highly efficient range of cream separator machine, bar bending machine, bar cutting machine, etc.

Contact:

Girish Industries, Ahmedabad
Tel: 079-25622019 Mobile: 08000202707
Email: girishindustries@gmail.com

64 YEARS OF SERVICE

GGR STENCIL CUTTING MACHINES



GGR MARKING SYSTEMS is a combination of four products. Stencil cutting machines, Stencil oil boards, Stencil inks and Stencil brushes of international quality.

GGR MARKING SYSTEMS will make positive – and lasting – impressions with our extensive selection of stenciling products on porous & non porous surfaces.

USED FOR MARKING ON OUTER CARTONS, WOODEN CASES, PALLETS, HDPE BAGS, STEEL DRUMS , PLASTIC CAR BUOYS, TUBES, PIPES, SAW PIPES, INCOMING RAW MATERIAL OR INVENTORY....

GGR STENCIL CUTTING MACHINES are used in every nook and corner of India and advanced countries world wide.

GGR ENTERPRISES has the widest range of size/s of manual stencil cutting machines with its own factory, with dedicated team and combination of traditional and CNC machines with cutting edge technology.

We have everything necessary to seamlessly match your applications and specifications on all types of surfaces.

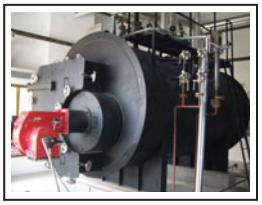
GGR EQUIPMENT IS FULL VALUE FOR MONEY AND WE NEVER FORGET OUR CUSTOMERS ... AND THAT IS OUR PROMISE.

Manufactured, Marketed & Serviced by

GGR ENTERPRISES

142 Karnani Mansions, 25A Park Street
Kolkata 700 016, India
Phone: +91-33-82760-40660 / +91-33- 2227-6951
e-mail: ggrenter@gmail.com
Website : http://www.ggrenterprises.co.in
www.ggrmarking.com

OIL AND GAS FIRED BOILERS



Thermodyne Engineering Systems offers oil and gas fired boilers.

Features:

- These oil gas fired boilers are the basic 3 pass internal furnace smoke tube type design in which flue gases are inside the tubes while water is outside the tubes in the shell.
- The combustion of oil and gas in a furnace requires atomization of the fuel.
- This fuel entering the burner in bulk amount is either in liquid or gas form, therefore it needs to be separated in fine droplets so that every last particle of the fuel could get burnt without leaving any traces.
- This process of separating the fluid particles is called atomization.
- Generally, atomization is done with the help of a high-pressure fan which also provides air for the combustion of fuel.
- Mostly burners come with the attached fan and their assembly is known as a Monobloc Burner which means fan mounted on a burner.
- The 3-pass oil/gas fired boilers are most suitable for the burn fuels like heavy and light oils & gasses.
- The high combustion volume, large water, and Steam holding capacity and superior design feature provide efficient operation.
- Difference between oil fired boiler and gas fired boiler: Oil fired boilers generally require day oil tank to store oil and this oil is transported to a burner through oil piping and oil pump.
- Advantages and Benefits: Fully automatic and high efficiency of 88 % on NCV saves running costs to the steam boilers; a large convective heating surface in the 2nd & 3rd pass tubes ensures excellent heat transfer; large water holding & steam holding space provides quick response to fluctuating steam demands; large heat transfer surface reduces the thermal stresses on the boiler surfaces; dry steam reduces the processing time, saved the steam & improved quality of processed goods.

About the company: Thermodyne Engineering Systems can help power industry and other steam processing industry by providing high-efficiency boilers, energy consultancy, and customized heating solutions. They are experienced in delivering high-efficiency boilers and heating equipment to suit the process requirements of their clients. Their collective vision is to position "Thermodyne Engineering Systems" as a solution provider to thermal energy users and help them save maximum energy and thus resulting in increased profits.

Contact:

Thermodyne Engineering Systems, Ghaziabad
Mobile: 09990226006
Email: info@thermodyneboilers.com

FINNED TUBE HEAT EXCHANGER

Simon Coil And Heat Exchanger manufacturers of a broad collection of finned tube heat exchangers.

Features:

- These offered products can be used in industries for cooling or heating of air or other gases, which flow in a duct or cooling of water and other liquids using air.
- With the use of latest machinery, we design these products using excellent quality stainless steel, procured from the certified vendors of the market under the supervision of skilled professionals.
- The range of their offered exchangers comes in multiple shapes and sizes in order to meet various requirements of clients.

About the company: Simon Coil & Heat Exchanger was established in the year 2008, they, "Simon Coil & Heat Exchanger", are engaged in manufacturing and supplying a broad array of coils, cooling units, direct expansion DX coils, condenser coil, refrigeration coil, SS tube aluminum fins cooling coil, SS tube SS fins cooling coil, aluminum core type diffuser, aluminum core type grill, etc.

Contact:

Simon Coil And Heat Exchanger, Ahmedabad
Tel: 079-22900150 Mobile: 09904341600
Email: info@simoncoil.com, simon_coil@yahoo.com

SMOKE GENERATORS

Measuretest Instruments offers smoke generators.

Features:

- The MiniColt 4SP has been designed for air flow testing, visualization tests, and particle recovery work.
- It is a completely portable unit and has the ability to produce anything from a small wisp of artificial smoke to a large plume, on and off the power.
- Pharmaceutical grade smoke chemical, stored in a one-piece aluminum canister is forced under pressure through the precision machined heat exchanger, where it is vaporized.
- The vapor condenses to form a "smoke" effect with a class-leading particle size (an order of magnitude smaller than most "conventional" smoke systems) which means that dense smoke can be achieved for a substantially lower concentration of the chemical in the atmosphere.

About the company: Founded in 1990, MeasureTest acts as authorized distributors in India for American, British and Japanese manufacturers of scientific, analytical and process control Instruments.

Contact:

Measuretest Instruments, Mumbai
Tel: 022-49701393 Email: info@measuretest.com

DUAL BED LABEL TRANSFER MACHINE

Chola Industries is offering dual bed label transfer machine.

Features:

- It is known for its robust construction and long working life. These heat transfer presses are fabricated from quality raw material and can be customised.
- They can be used for transfer the neck labels and small types of transfer stickers and can take double productivity with less power. It also has a robotic structure.
- With its global technology, uniform heat and pressure for better performance is ensured. Thus, safer handling and user-friendly.

About the company: Chola Industries is a manufacturer, supplier and exporter of a wide range of textile and curing machines. These machines are appreciated for their long functional life, robust construction, easy installation, low maintenance, light weight and high tensile strength.

Contact:

Chola Industries, Coimbatore
Tel: 0422-2534779
Mobile: 09843010822 Fax: 0422-2531958
Email: info@cholaindustries.com

VENTURI INJECTORS

C & R Fab Media Pvt. Ltd. offers a wide range of venturi injectors.

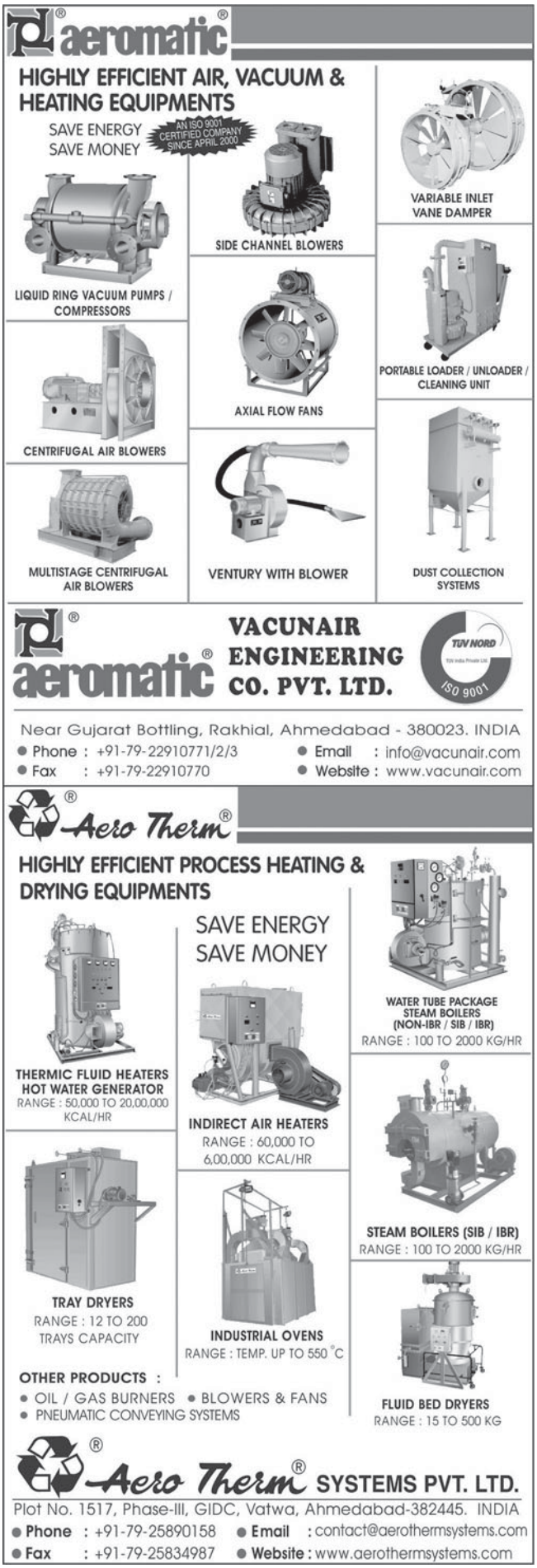
Features:

- A venturi is an integral component of some pulse-let collectors. Its primary function is to serve as a component of the pulsing system that pulls in ambient air to augment the volume of the compressed air pulse.
- The venturi directs the blast of compressed air into the center of the filter bag to reduce abrasion caused by misaligned blowpipes and turbulent air flow.
- If venturi is damaged or worn out, compressed air doesn't gain the velocity and volume required to effectively clean the filter bags and can lead to abrasion failures.
- The company is known for system upgrades with several materials available. It has supplied for many bag houses styles.
- Felt and rubber gaskets are available for proper fit between the venture and the tube sheet.

About the company: C & R Fab Media Pvt. Ltd., established in 1990, is a manufacturer, supplier and exporter of a range of industrial filters and accessories.

Contact:

C & R Fab Media Pvt Ltd, Ghaziabad
Tel: 0120-2867135
Mobile: 09810133824 Email: crfab@del3.vsnl.net.in



GLASS TUBE ROTAMETER

Process Control Devices offers a series of glass tube rotameter.

Features:

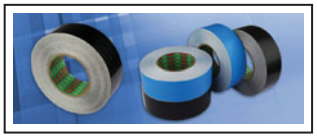
- It is designed to measures the flow rate of a fluid flowing through vertical pipelines. glass tube rotameters are using for general in line metering applications for varied liquids & gasses.
- The float uplifts smoothly up and down in tapered borosilicate glass tube.
- Its features include: accuracy +/- 2 % of full scale; overall length of 500 mm in flanged, screwed & triclover connection; top & bottom, rear, bottom and rear, rear and top; tube can be changed without disconnecting the meter from the line; white acrylic scale with flow rate in customers engineering units; standard stainless steel floats for a given size; optional high and low alarms for operating valve & pumps.

About the company: Established in the year of 2014, they Process Control Devices" are a popular organization of the process industry. Actively involved in manufacturing and supplying a broad assortment of quality measuring instruments.

Contact:

Process Control Devices, Navi Mumbai
Mobile: 08655587403
Email: sales@pcd-flowmeter.com, sales.pcdpl@gmail.com

HDPE TAPES



Tape House Pvt Ltd offers a wide range of HDPE tapes.

Features:

- These HDPE adhesive tape is a hot melt tape with heavy duty water resistance and made from Hdpe fabric providing properties such as high tensile strength, high binding capacity, strong adhesion, water and moisture proofing.
- These HDPE adhesive tape or hot melt yape is a necessity for packaging most products due to its ability to provide high safety to the product HDPE Self adhesive tape can be used for edge protection, as security seal tape, as a tamper proof tape.
- Ideal for heavy carton sealing; high shear strength. HDPE tape is used in jointing jobs in the connected industries and where HDPE cloth and bags are used so this tape Blends in each of its colours and acts as edging in monsoon sheds, covering of trucks as ribitting ends etc.

About the company: Tape House is a wholesale trading concern aimed at providing its customers innovative cost effective customized solutions in the field of adhesive tapes, packaging materials, etc.

Contact:

Tape House Private Limited, Ernakulam
Tel: 0484-4043422 Mobile: 09633065931
Email: tapehouseekm@gmail.com

COTTON ROPE

Shankar dori udyog is a dependable exporter & supplier of cotton dori and ropes.

Features:

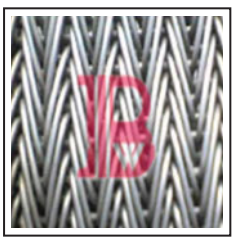
- It offers a wide range cotton ropes such as cotton twisted rope, cotton braided rope, cotton twine, candle thread, candle twine which are used for various purposes.
- These cotton dori can be used in garment Industries, sports industries, textile industries and fashion accessories.
- These cotton ropes are also used in decoration as well as for hanging purposes. It can make available cotton ropes in various sizes and colors as per buyer requirement.
- Its features include: Cotton rope is good for skin and hypoallergenic; construction: 16 standard; colour: natural grey; packing: 10-20 Kg bundle; cotton rope.

About the company: Shankar Dori udyog was established in 1988, with the aim to manufacture high quality synthetic ropes/cords. Shankar Dori Udyog is the manufacture and exporter of a wide range of product including cotton twisted rope, polypropylene braided rope, etc.

Contact:

Shankar Dori Udyog Pvt Ltd, Meerut
Mobile: 09412201883 Email: info@shankardori.com
Shankardori@gmail.com

COMPOUND BALANCE WEAVE CONVEYOR BELT



Bharat Wire Mesh Company offers a wide range of compound balance weave conveyor belt.

Features:

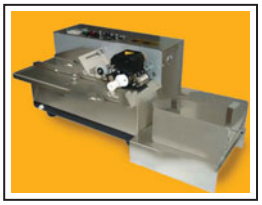
- The mesh of compound balance weave conveyor belts are very closed, so these belts are used in those application which include carring of very small parts, such as nuts bolts, screws, nails etc.
- Compound weave conveyor belt supplies extremely close and flat mesh.
- Its features include: small open area; the compound weave conveyor belt has little open area, which is suitable to conveyor the small items; high tensile strength; the compound weave conveyor belt has multiple spirals and cross rods on each pitch, so it can supply higher tensile strength than other types of conveyor belt; baffles different types of baffles can be added at the both side and center of conveyor belt for sorting and conveying products.

About the company: Bharat Wire Mesh Company is into the manufacturing of metal / wire mesh conveyor belts (S S/ G I/ M S), which are used in various industries.

Contact:

Bharat Wire Mesh Company, Mumbai
Tel: 022-25794145
Email: sales@bharatwiremesh.com

SOLID INK ROLL CODING MACHINE



Classic Industries manufactures solid ink roll coding machine.

Features:

- This high-speed label/carton stacking compact table top coder with instant dry thermo-fusible hot wax ink roll is used for registered printing of B No, Mfg date, exp date, MRP Rs, ingredients, logos, etc.
- The cartons/labels can be just left one after the other for automatic printing or can be stacked automatically picked up. Its print-dry solid wax ink system for uniform, clean sharp registered printing with no drying time gives efficiency.
- The coder has been designed to reduce to a minimum production downtimes due to cartridge re-inking, thus eliminating prolonged, costly stops.
- Also, due to heated ink, the print dries instantly, averting smudging in printing.

About the company: Classic Industries, established in 1999, engaged in manufacturing, exporting, importing and retailing quality machines and spare parts.

Contact:

Classic Industries, Faridabad 121 001
Tel: 0129-4022778 Mobile: 09810291750
Email: info@classicindustriesindia.co.in
salesclassicindustries@gmail.com

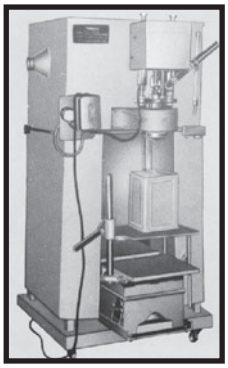
VARDHMAAN AUTOMATION

Manufacturer All Type of Self Clinching Fasteners, Blind Rivet, Blind Rivet Nuts, Weld Studs And Precision Turned Components

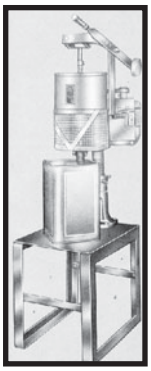
+91 9822304985
vardhmaanautomation20@hotmail.com

3& 4, Vaishnav Apartment, 892A, Raviwar Peth,
Opp. RCM School, Pune - 411 002
Email : vardhmaanautomation20@hotmail.com

PACKAGING MACHINES



'PHILIPS'
Semi Automatic Liquid
Filling & Weighing Machine



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Sealing Machine

'PHILIPS'
Auto Filling Systems
PJAW 25 Kg.

'PHILIPS'
Auto Filling Systems
PJAW 300 Kg.

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3rd Floor, Next to Century Bazar,
Dr. Annie Besant Road, Worli,
Mumbai - 400 025. Tel.No: 2493 26 53 / 2493 07 92

Estd. Since 1965

Regd. Office & Factory :
260/18-20 Sane Guruji Road,
Opp. Kasturba Hospital, Jacob Circle, Mumbai - 400 011.
Tel. No : 2308 3522, Fax: 91-22-2307 6541
E Mob: 98198 49926

PIPE FITTINGS

Gujarat Infrapipes Ltd manufacturers of butt welded pipe fittings.

Features:

- These are high quality manufacturers of elbows, tees, reducers & caps are the products of their core supplies.
- These are capable to cater annually 12000 MT of products, almost in all ferrous & non ferrous material grades.
- This supply fittings are mostly in stainless steel, alloy steel, carbon steel and duplex & super duplex stainless steel.
- These special products are made in seamless & welded constructions for which they are having distinctive facility of hot forming, cold forming & conventional manufacturing.

About the company: Gujarat Infrapipes (GiPL) is India's largest manufacturer of Pipe fittings & Piping Spools. GIPL has been catering to key infrastructural sectors like oil & gas, refineries & petrochemicals, power & energy, steel & ship-building, fertilizers, etc.

Contact:

Gujarat Infrapipes Limited, Vadodara
Mobile: 09979853166, 09687639018, 09925247415
Email: bcr@gujaratinfra.com

STAINLESS STEEL WELDED TUBES PIPES

Heavy Metal And Tubes Ltd offers stainless steel welded tubes pipes.

Features:

- These stainless welded tubes/pipes are produced out of prime quality stainless steel strips procured from reputed approved vendors.
- Strips are converted into tubular form over continuous tube mill & edges are welded using tungsten inert gas (TIG) welding technique.
- Inside weld bead is removed with bead scarfing equipment fitted on the mill. Welded tubes/pipes are subjected to solution annealing, straightening and pickling operations.
- Finished tubes/pipe undergo various testing as per the specification/customer's requirements followed by marking and packing.

About the company: Heavy metal has three separate workshop, one for producing stainless steel tubes & pipes, second for producing carbon & alloy steel tubes & pipes and third for hot finished carbon & alloy steel tubes & pipes.

Contact:

Heavy Metal And Tubes Limited, Ahmedabad
Tel: 079-27553243
Email: info@heavytubes.com

ERW PRECISION TUBES

Hansa Tubes Pvt Ltd offers ERW precision tubes.

Features:

- Its havin0 1 no's of high speed tube mills with size ranging from ½`to 3`with installed capacity of 24,000 MT P.A.
- Also exporting tubes after color coating to various developed countries. These tubes having an ultra modern plant at Derabassi. Requirement of raw material for C.R. Precious tubes is being met by its narrow cold rolled steel mill.
- These are catering to automobile and furniture industries. In bicycle industry they are supplying to worlds No. 1 bicycle manufacture hero cycle and avon cycle.

About the company: Hansa Tubes Pvt Ltd was incorporated in the year 1994. Simultaneoulsy plant was set up in the industrial belt near Chandigarh at Dera Bassi in the state of punjab with in house facility of cold rolled steel strips & coils and high frequency ERW precision tubes. It is an ISO:9001 certified company and has 2 C R mills and 1 tubes mills with fully equipped workshop & testing lab to cater the basic requirement of customers for end application.

Contact:

Hansa Tubes Private Limited, Punjab
Tel: 0172-2654925 Mobile: 09592500077
Email: arjit.hansa@gmail.com

CHEVRON CONVEYOR BELTS

Continental Belting Private Limited manufacturers chevron conveyor belts.

Features:

- Excellent choice for high capacity conveying at steep angles to prevent load slip or product roll back. Cleats integrally moulded with the top cover rubber preventing separation from the belt.
- Cleats with high abrasion resistance and elastic rubber compounds for flexibility. Various cleat heights and widths available depending on the application requirements. Unique Pattern design ensures, that, the belt has a smooth run on conventional return idlers, so no modification of the conveyor required.
- A smooth transition from a conventional flat belt to a Chevron belt can be implemented. Chevron belts manufactures, in all cover grades, viz. Abrasion Resistant M24, HR, OR, FR, White Hygienic, etc.

About the company: Continental Belting Pvt. Ltd., is today, provides a complete range of products and services by leveraging their business expertise, through their well established brands.

Contact:

Continental Belting Pvt Ltd, Mumbai
Tel: 022-49244661, 49244662, 49244663, 26864661
Email: sales@continentalbelting.com

POWERED ROLLER CONVEYORS

Precision Conveyor Systems offers powered roller conveyors.

Features:

- Its develop powered roller conveyor incorporating fine-class skate wheels, drive shaft and belt, powered by electric motors that empowers the system to function optimally and satisfactorily.
- Its construct powered roller conveyor in different configurations in terms of drive capacity like either belt or chain driven.
- This model of powered roller conveyor is immensely suitable for accumulative loads and performing merging operation. Uniformity in pace of traveling is the most important factor to be considered.

About the company: Established in 2001, Precision Conveyor Systems is a manufacturer and supplier of an exhaustive range of precision conveyor systems & material handling equipment such as conveyors, chain conveyor, roller chain conveyor, industrial chain conveyor and rotating equipment.

Contact:

Precision Conveyor Systems, New Delhi
Tel: 011-27564654
Mobile: 09810014957, 09013445492
Email: precesion@gmail.com

SCREW CONVEYOR

Jagruti Conveyor Belts Private Limited offers screw conveyor.

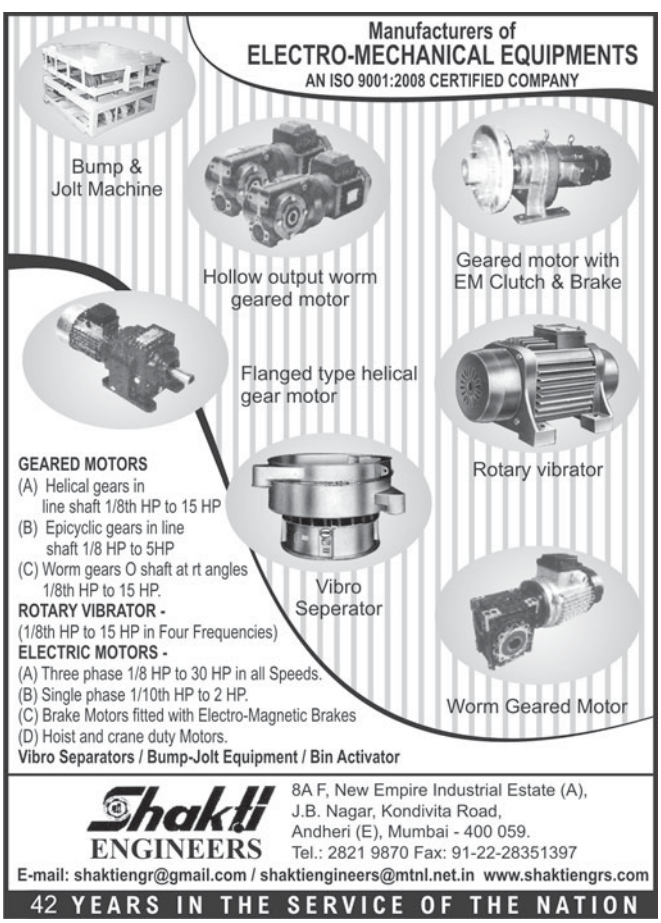
Features:

- Screw conveyor system is the most economical way of transporting the material from one process stage to another. It can easily handle semi-liquid to dry material and vice-versa. This system come's with shaft and shaft less depending on the application. Screw conveyor system are easy to handle and maintain.
- This system also comes with closed conveying to make sure there is no effect of the external atmosphere on the material.
- Its futures include: multiple point loading & unloading; homogenous mixing; inclination upto 45; controlled feeding.

About the company: Jagruti Conveyor Belts Pvt. Ltd., established as one of the conveyor belt manufacturing & vulcanising service provider company. The company provides all conveyor solutions with an assortment of products & service ranging from conveyor systems to auxiliaries equipments & machinery.

Contact:

Jagruti Conveyor Belts Pvt Ltd
Mobile: 09879747304
Email: chetan@jagruti.com



HT AERIAL BUNCH CABLES

Prime Cable Industries manufacturers HT aerial bunch cables.

Features:

- These aerial bunched cables are used for power distribution in cities where ground space is constrained.
- Its configuration: Size ranges from 35 Sq mm to 400 Sq mm, three phase cables constitute of three single core screened cables.
- The size of the messenger conductor is designed based on the weight of the cable over a span of poles. Screening: Screened by an extruded semi conducting layer - XLPE Insulated, Screened again by an extruded semi conducting layer and a copper tape. Insulation: XLPE, Phase Identification, Coloured polyester strip Red, Yellow and Blue, under copper tape, Ridges 1, 2 and 3, Outer Sheath, Overall sheathed with PVC/ Polyethylene.

About the company: Prime Cable Industries, engages in manufacturing cables. Its product portfolio comprise of industries including power generation, transmission & distribution, electricity boards, thermal power plant, oil & gas, railway, steel plant, port trust etc.

Contact:

Prime Cable Industries, New Delhi
Tel: 011-27318598
Mobile: 09811934800
Email: primecableindustries@gmail.com

MULTI CORE FLEXIBLE CABLES

Sark Cables Private Limited manufacturers multi core flexible cables.

Features:

- Sark multi-core cables are manufactured with bright annealed high conductivity electrolytic grade, 99.97% pure copper conductor and stranded together for more than 100% conductivity.
- It is then Insulated with specially designed flame retardant PVC compound, cores are laid up and overall sheathed with PVC.
- Special sheathing can be done with fire resistant (FR) or fire resistant low smoke (FRLS) PVC compound to enhance the flame resistant properties. Range: 0.5 sq. mm to 4 sq. mm. upto 61 cores, 6 to 10 sq. mm. upto 8 cores, 10 to 400 sq. mm. upto 4 cores.

About the company: Sark Cables Pvt Ltd, an ISO 9001-2008 certified company, promoted by a group of passionate technocrats, manufactures various types of cables. The company started its operations in 1996 in Kerala.

Contact:

Sark Cables Pvt Ltd,
Tel: 0422-2610326, 27
Mobile: 09447038312
Email: sarkcablescbe@gmail.com

LT PVC POWER AND CONTROL CABLES

MG Cables Industries offers LT PVC power and control cables.

Features:

- PVC (Poly Vinyl Chloride) insulated power cables have proved integral to all distribution networks in low tension, fixed installation.
- Also used as control cables for process and manufacturing industries, and in mining industries involving fixed installation. PVC Cables are suitable for continuous use between 30°C and 70°C and upto 85°C for Heat Resistant applications.
- Its features include: strong and made for easy handling; resistant to water, moisture, oils and chemicals; PVC black compounds can resist ultraviolet degradation; specially formulated PVC is flame retardant and reduces emission of halogens and smoke.

About the company: MG Cables Industries engages as a manufacturer and authorised stockist and are authorised dealers of a comprehensive range of electrical products, earthing materials, earthing chemical rods, cables & wires and cable trays etc.

Contact:

MG Cables Industries, Mumbai
Tel: 022-49733629 Mobile: 09699547310
Email: info@mgcables.com, mgcables29@gmail.com

INCLINED BELT CONVEYORS

Neo Conveyors offers inclined belt conveyors.

Features:

- Inclined belt conveyors are based on the slider bed conveyor, depending on the size and height of the product.
- The side grippers of the inclined conveyor are able to gently, yet firmly grip the products, which are being conveyed on the system, thus allowing for the continual movement of the product.
- Various drive configurations including shaft mounted motor, motorized drive drum and under slung drives are available as standard and many belt types including PU, PVC, Cut proof, Grip top, corrugated side wall, Lifters (pitch and height options) FDA approved food grade, low friction etc, are available.

About the company: Neo Conveyors, established in 2007, is a provider of custom built industrial conveyor systems and automation solutions. The company has established a state-of-the-art infrastructure facility, equipped with all the necessary amenities and machines that are required in smooth production process.

Contact:

Neo Conveyors
Tel: 0120-2807321 Mobile: 09654112235/36
Email: info@neoconveyors.com

RUBBER GASKET SHEET

Sealmax manufacturers rubber gasket sheet.

Features:

- These reputed rubber gasket manufacturer in India dealing with long-lasting rubber gasket sheet and rubber gaskets.
- In-house capabilities allow us to give you tested and certified gaskets as per your requirement.
- Sealmax is a respected rubber gasket supplier for many leading companies who require sealing solutions for industrial applications.
- Its features include: rubber gaskets provide excellent abrasion resistance; the rubber gaskets are suitable for use with alkalis and acids; different variants of rubber gaskets are available such as silicone gaskets, neoprene gaskets, EPDM gaskets etc. The performance of the rubber gasket varies as per the properties of the gasket type.

About the company: Sealmax, an ISO 9001:2015 certified company, offers comprehensive sealing solutions for industries across the globe. The company manufactures standard sealing products as well as customised solutions as per specific industry demands.

Contact:

SealMax, Vasai

Mobile: 08983059377 Email: sales@sealmax.net

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Parts after Cleaning

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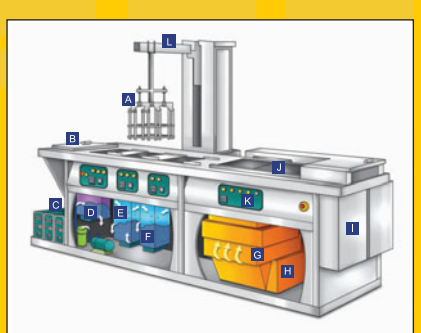


CREST ULTRASONICS INDIA PVT. LTD.
Plot No. 185, Ground Floor, Functional Industrial Estate, Patparganj, Delhi - 110092.
Cell: 09810033631 | Ph: 011-40546323, 22164532 | E-mail: info@crestultrasonicsindia.com
web: www.crestultrasonicsindia.com | www.crestultrasonicsindia.co.in

NATURAL DRAFT COOLING TOWERS

Janani Enterprises offers a wide range of natural draft cooling towers.

Features:

- These towers are not required any fan or fills, no maintenance like other cooling towers, non clogging nozzles are easy to cleaning reduce spillage and evaporation loss.
- Hot dip galvanized structural and S.S fasteners increase the lifetime as well as the efficiency of the Cooling Tower it can be installed for any range of cooling applications.
- Its features include: natural draft cooling tower especially hold attraction as solution for saving costs for large industrial plants and power stations; that require large amounts of cooling water; the needed cooling air is transported to the tower with the help of natural draft.
- Hence there is no necessity for fan or fan power. It is also used for the release of treated exhaust gas. It also implies that there is no need of gas reheating or chimney. The rates of flow come around 2,00,000m3/h per 9, 00,000gpm. PVC fills are not required by these FRP cooling towers.
- FRP louvers that are specially designed aerodynamically, minimize evaporation loss and spillage.
- The effusion and lifetime of this industrial Cooling Tower is increased with the aid of fastener.
- The tower could be installed for a variety of cooling applications.
- The needed volume of air stream for cooling is produced by stack effect.
- The economic benefit of such industrial Cooling Towers exists in their low requirement of electric energy. The costs of operation are minimal.
- These industrial Cooling Towers are highly economical for depreciation and loads of high cooling over an extended period.
- The recirculation of the rapid air causes reduced performance. This gets reduced by the high distance between the air outlet and inlet of the tower.

About the company: Incepted in 2003, Janani Enterprises, Coimbatore, engages as a manufacturers and exporters of a wide array of industrial FRP (fiber glass reinforced plastic) cooling towers, industrial heat exchanges (with bundle of copper tubes), dry cooling towers, weathers proof chillers, heat exchanges, cooling tower spares and wooden & RCC cooling towers. These are widely used in the oil refineries, distilleries and breweries plants, and fertilizer plant, cement plant, and engineering Industry.

Contact:

Janani Enterprises
Tel: 044-45558107
Mobile: 09047025249, 09840025243, 09047025240
Email: sales@jananienterprises.com

INDUSTRIAL RADIATOR ASSEMBLY

Alpha Radiators Private Limited manufacturers industrial radiator assembly.

Features:

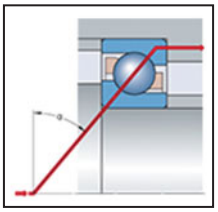
- It also provided complete industrial radiator assembly. Its have complete infrastructure for industrial application such as diesel generator set, compressor, off highway construction equipment and locomotive.
- These radiators are suitable for mobile and stationary installation also. Diesel generator radiator: wide range of heavy duty industrial radiator for diesel generating set makes us leader in replacement market.
- Compressor Radiator: Industrial radiator for compressor is specially designed for better heat dissipation and better thermal conduction. Thus their radiator for compressor is proven in the users.

About the company: Alpha Radiators Pvt Ltd manufactures copper-brass radiator core and assembly for industrial applications. The company started operations in 1997 and since then has progressed by producing cost-effective products with OE quality.

Contact:

Alpha Radiators Pvt Ltd
Tel: 02827-287444/287725 Mobile: 09825612106
Email: info@alpharadiators.com

ANGULAR CONTACT BALL BEARINGS



Roller Bear (India) offers angular contact ball bearings.

Features:

- These angular contact ball bearings have raceways in the inner and outer rings that are displaced relative to each other in the direction of the bearing axis. This means that they are designed to accommodate combined loads, i.e. simultaneously acting radial and axial loads.
- The axial load carrying capacity of angular contact ball bearings increases with increasing contact angle.
- The contact angle is defined as the angle between the line joining the points of contact of the ball and the raceways in the radial plane, along which the load is transmitted from one raceway to another, and a line perpendicular to the bearing axis.

About the company: Roller Bearing India is a highly renowned distributor and supplier of a high quality range of various precision engineered bearings like ball bearing, roller bearing, spherical roller bearing, taper roller bearing and many more, offered to clients at market leading prices.

Contact:

Roller Bearing (India), Kolkata
Tel: 033-22103118, 22314926 Mobile: 09830795654
Email: rollerbearingindia@yahoo.in

PROFESSIONAL BREATH ALCOHOL ANALYSER MODEL-M6PRO

Subtronics (India) Pvt Ltd introduces a new portable professional breath alcohol analyser model-M6PRO.

Features:

- This professional type breath analyser designed to cheque if the subject is drunk or under the influence of alcohol.
- This M6pro displays the alcohol content on an analog meter ranging from 0 to 120mg/100ml of blood.
- If the subject is tested positive, the instrument warns the user by audio visual alert.
- The 3-status registered technology makes it easy to use even for an unskilled person. The weight instrument is shipped with rechargeable batteries and houses a built-in charger.

About the company: Subtronics completed 42 years with over 4500 clients and is a recipient of 33 coveted awards for its excellence and contribution to the field of safety and offers complete solutions for detection. This Indian Patent Office registered design serves as application at security checks, drunk and drive test, BPO's call centers, food industries, factories, night shifts, clubs, medical institute, hospitals, clinical diagnostic centers, car fleet companies etc.

Contact:

M/s. Subtronics (India) Pvt Ltd, Mumbai
Tel: 022-24224461, 24303047
Email: service@subtronicsindia.com

EXTENSION TENSION SPRING

RB Spring Industries offers extension tension spring.

Features:

- The extension tension spring absorbs as well as stores the energy through offering resistance to pull the force. As a prominent extension or tension spring manufacturers in India.
- It produce extension springs with round wire, as well as close the spiral using initial tension.
- The extension applications use involves balance scales, garage doors, washing machines, cassette players, as well as other applications with need of different kinds of tensioning systems.
- The extension springs are the wire springs, which react to the forces drawing the ends separately and substantially extending the shape to try and provide a return and resistance to the close-coiled shape.
- This initial tension regulates how tightly the extension springs are coiled.

About the company: Established in 1965, RB Spring Industries is one of the top suppliers of in India.

Contact:

RB Spring Industries, Rajkot
Tel: 0281-2239290 Mobile: 09825711080
Email: info@rbsprings.com

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MORTAR GROUTING MACHINE

Visflow Helical Pumps is offering mortar grouting machine that is used for cement slurry and grout mortar to a tiled surface.

Features:

- This machine includes a rotatable, frustroconical shroud that has radially extending blades.
- The grouting machines offered are also fitted with the blades contact the tiled surface, to ensure that the outer end precedes and inner end is in the direction of rotation of the shroud.
- Each of these blades ensures that the upper edge is ahead of its lower edge in the direction of rotation of the shroud.
- These machines are known for their characteristics such as sturdy construction, application specific design, corrosion resistance, and longer service life.

About the company: Established in 2007, Visflow Helical Pumps is engaged in manufacturing, supplying and exporting a wide range of industrial pumps.

Contact:

Visflow Helical Pumps, Coimbatore
Tel: 0422-2609407, 2606068
Mobile: 09363223423, 08428183448
Email: info@visflowpumps.com, sales@visflowpumps.com

CENTRIFUGAL PROCESS PUMPS

Mieco Pumps & Generators Pvt Ltd provides an array of centrifugal process pumps.

Features:

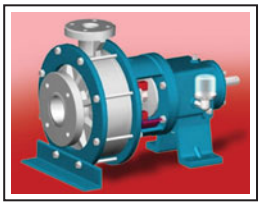
- These process pumps can be availed in various sizes, shapes and designs as per the given requirements.
- These process pumps are manufactured using quality tested components and advanced technology in line with industry norms. Moreover, these process pumps are strictly tested on different parameters.
- They are dynamically balanced impellers, thus, less noise and vibrations.
- Gun metal impeller has high resistance to corrosion and designed for maximum efficiency. They are electro dynamically balanced to give trouble-free long lasting service.

About the company: Mieco Pumps & Generators Pvt. Ltd., established in 1982, provides product such as centrifugal process pumps, cleaning machines and electric motors. Their products cater to industries like distilleries, food processing, chemical industry and pharmaceutical.

Contact:

Mieco Pumps & Generators Pvt Ltd, Bengaluru
Tel: 080-22239173 Mobile: 09845324047
Email: info@miecoindia.in, mieco@india.com

PP CORROSION RESISTANT PUMP



Propeller Pumps offers a wide range of corrosion resistant PP pump.

Features:

- This pump is a horizontal single end suction standardised back pull out process pump. PPC series process pumps are supplied with mechanical seal/gland packing arrangement covering 85 per cent of the chemical industries requirement.
- These pumps are manufactured from polypropylene copolymer which is a chemically inert thermoplastic by the use of an exclusive molding process.
- These pumps provide protection against highly corrosive chemicals. The solid molded casing and impeller ensures smooth running, minimum wear and long life.
- All pumps, shafts are fitted with sleeves of different materials compatible with the liquid handled.

About the company: Incepted in 2007, Propeller Pumps is involved in manufacturing, exporting and supplying a wide spectrum of industrial pumps like polypropylene pump, self priming pump, polypropylene process pump, self priming centrifugal pump.

Contact:

Propeller Pumps, Ahmedabad
Tel: 079-29705597 Mobile: 08758606486
Email: propellerpumps@ymail.com

INTERNAL GEAR PUMP

Gelasha Engineers engages as a manufacturer, trader and supplier of internal gear pump.

Features:

- It is manufactured from selected materials and processed to close tolerances for a long, trouble free working life. Its body and cover are made of close grained, graded cast iron while gear and shaft alloy steel, heat treated.
- Mechanical dynamic seal for high temperature and high speed use and bronze bush for low friction and long life. Static 'O' ring sealing for zero leakage; self priming; built in pressure regulator; standard mounting dimensions easy replacement.
- It is used for boilers, oil burner hydraulic drive and pressure and transfer pump; booster pump for diesel locomotive; pump for force feed lubrication; pump for filtration; pump for lubrication oil and hydraulic oil; pump suitable for IDO, FO, HSD and ISHS.

About the company: Established in 2000, Gelasha Engineers engages as a manufacturer, trader and supplier of a qualitative assortment of Kristec oil pump, fuel injection pump, rotary gear pump, bitumen pump, etc.

Contact:

Gelasha Engineers, Ahmedabad
Tel: 079-25851917 Mobile: 09426368359
Email: info@gelashaengineers.com

VERTICAL IN-LINE PUMPS

Zed Plus Enterprise offers a wide range of vertical in-line pumps.

Features:

- Pipe hangers sized for the weight of pump, piping and fittings are the only supports required. Pipe stools with vibration isolating pads can be installed under each pipe leg.
- These equivalent base mounted pumps, saves space compared to horizontal split case pumps which may take three times more floor space and the mechanical seal is the critical service item in any pump.
- There are no pump bearings to service in the vertical in-line design; series 4300 is a reliable, time-proven unit with less down time.
- Small footprint, low installation costs, reliable and easy to maintain; these features, combined with flow range in excess of 6800 m^3/hr, affirms the series 4300 as the most flexible pump design available.

About the company: Zed Plus Enterprise, established in 1998, engaged in providing an array of industrial pump sets. Their product line entails stainless steel pumps, sewage pumps, weir pumps, submersible pumps, dewatering pumps and electric motors.

Contact:

Zed Plus Enterprise, Ahmedabad
Tel: 079-26602745 Mobile: 09825069079
Email: zedplusin@gmail.com, zed_plusin@yahoo.com

SUBMERSIBLE PUMPS

Marigold Sales & Services deliver an unparalleled range of submersible pump.

Features:

- They are checked by quality personnel to ensure adherence with the industry laid norms and standards.
- Their characteristics are such as easy installation and removal, especially in deep bore-wells; reduced HP losses due to transmission; pumping system can be made fully automatic; requires very little space; noiseless running of the motor.
- It eliminates the need for elaborate foundations and pump house arrangements; suitable for sites where a pump house is not desired or cannot be built; no contamination of water by oil or grease.

About the company: Marigold Sales & Services, established in 2000, is a supplier and trader of a range of industrial pump, gland packing rope, trolley and castor wheel and grafoil packing ring. In this range, company offers submersible pump, end suction coupled pump, corrosion resistant polypropylene pump, high pressure multistage pump and submersible pump.

Contact:

PMarigold Sales & Services, Ahmedabad
Tel: 079-22172347 Mobile: 09904158767
Email: marigold_at_105@yahoo.com

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Emails: sales@aravaliengineers.com; info@aravaliengineers.com
Website: www.aravaliengineers.com / www.conveyorsindia.com

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A-86, Sector-80, Phase-II, Noida (U.P.) 201305
Mobile : 9811057556 | 9315952825 Phone : 0120-4346909
E mail : adhydro2006@gmail.com, Website : www.adhydro.co.in

HYDRAULIC DIAPHRAGM METERING PUMP

Metachem Corporation provides hydraulic diaphragm metering/ dosing pump.

Features:

- A hydraulic diaphragm pump is also a positive displacement pump.
- This model comprises of hydraulically actuated diaphragm liquid heads incorporating diaphragm actuated replenishing system.
- The hydraulically balanced diaphragm pump is a hybrid design and like the other pumps.
- Its power end and capacity control are common.
- However, it is where the similarity ends, since the plunger does not come into contact with the pumped fluid, and the actuation of diaphragm is by hydraulic power instead of mechanical power.
- The pump consists of three sections such are the drive end, hydraulic chamber end, and the liquid end (diaphragm head) the drive end mechanism for a plunger pump and hydraulic diaphragm pump is the same.
- The diaphragm head is fitted to the stroke length control mechanism.
- The plunger reciprocates within a precisely sized cylinder at an established stroke length, displacing a volume of hydraulic liquid, not the product liquid.
- The hydraulic liquid is stable and has excellent lubricating qualities.
- The plunger uses the hydraulic oil to move the diaphragm forward and backward, causing a displacement which expels the product liquid through the discharge check valve and, on the suction stroke, takes in an equal amount through the suction check valve.
- The diaphragm isolates the liquid product being contained within the liquid chamber and check valves.
- The diaphragm also acts as a perfect seal between the hydraulic oil and the liquid being pumped creating a hermetically sealed system making the pump safe for toxic fluids and other hazardous fluids.
- When properly installed and working within the recommended temperature range and not affected by corrosion or abrasion, the diaphragm has an unlimited life.

About the company: Metachem Corporation, established in 1984, is an ISO 9001:2008 company, engaged in the manufacturing and sale of chemical metering/dosing pumps. The company engineers optimal solution for every application and requirement of the industry. Client being the center of their operations, they ensure to deliver maximum benefits to them in the form of superior quality, in-time delivery.

Contact:

Metachem Corporation, Mumbai
Tel: 022-28365767
Email: sales@metachempumps.com

CHEMICAL PROCESS PUMP

Jay Ambe Engineering Co. is offering a wide range of polypropylene chemical process pumps.

Features:

- Polypropylene pumps are a horizontal single end suction standardised back-pull out centrifugal pumps.
- PPC series anti-corrosive pumps are supplied with mechanical seal or gland packing arrangement covering 85 per cent of the requirements.
- These pumps are manufactured from polypropylene copolymer, a chemically inert thermoplastic, with an exclusive moulding process.
- The solid moulded casing and impeller ensure a smooth running of the pump and long life with minimum wear.
- They can handle highly corrosive chemicals like sulfuric acid, hydrochloric acids, effluent.

About the company: Jay Ambe Engineering Co., founded in 1996, an ISO 9001:2008 company, is a provider of chemical process pump, industrial pumps, pinch valves and centrifugal pump accessories.

Contact:

Jay Ambe Engineering Co, Ahmedabad
Tel: 079-22874508 Mobile: 09825294166
Email: info@jecwoodland.com

CASTED Y TYPE STRAINERS

Fluid Flow Solutions offers a wide range of casted Y type strainer, used widely for oil, gas and chemicals in various industries.

Features:

- These products are checked against different parameters of quality to deliver the defect-free range.
- Apart from this, they are highly acclaimed for their several qualitative attributes like sturdiness and reliability.
- They are available in MOC body – cast iron/cast steel Gr WCB 216/ASTM A351 Gr CF8/ASTM A351 Gr CF8M/ASTM A351 Gr CF3/ASTM A351 Gr CF3M; perforated seat – SS 304/SS 316; mesh – SS 304/SS 316.
- End connection – flange end; pressure rating – class 150#, 300#, 600#; screen available – 2 mesh to 80 mesh; sizes available 1/2" to 10".

About the company: Fluid Flow Solutions, established in 2010, engages as a manufacturer, exporter, supplier and distributor of an array of optimum quality industrial pumps and pressure gauges.

Contact:

Fluid Flow Solutions, Ghaziabad
Tel: 0120-6518801
Mobile: 07409661144, 09999088001
Email: sales@flowsolutions.in

DUAL PLATE CHECK VALVE - METAL SEATED

Unitek Valves Pvt. Ltd. manufactures and exports a wide range of dual plate check valve.

Features:

- These are fabricated in customised options and in adherence to the industry's norms and standards
- Also these valves are available in various dimensions; these are very well known for their compact design, durable nature and this is the reason they are highly in demand by various industries.
- These valves with excellent packing options meet the exact needs of the customers.
- Its other features of these valves are longer service life, flawless finish, robustness, high strength, etc.

About the company: Unitek Valves Pvt. Ltd., established in 2011, is engaged in manufacturing and exporting a quality approved assortment of leader valves, Audco valves, and Spirax steam traps. Their product range is quality approved against the diverse quality parameters to ensure the functionality and performance.

Contact:

Unitek Valves Pvt. Ltd., Navi Mumbai
Tel: 022-28505578 Mobile: 09821390936
Email: info@unitekvalves.com, sales@unitekvalves.com

CONDUIT GATE VALVES

Y K Enterprises is a provider of a wide range of conduit gate valve.

Features:

- These valves are manufactured using latest techniques, following international standards.
- These are produced by experienced quality controllers. These products are acknowledged for their finest quality, robust design and high functional efficiency.
- They are extensively known for corrosion resistance and smooth surface finish. One can avail these in various standard sizes including 15 to 600 mm. These valves are known for sturdy construction.
- Some key characteristics of these valves are such as full port design, renewable seat rings and seal welded, burnish finish stem for low operating torque.
- They are ideal for various manual, pneumatic and electric applications.

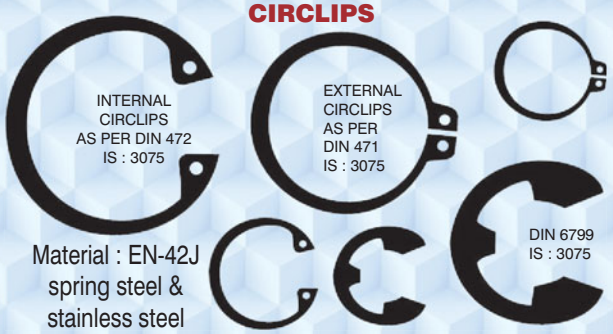
About the company: Y K Enterprises, established in 1990, is involved in manufacturing, exporting, importing, distributing, trading and supplying a wide assortment of valves and traps. Their product range comprises cast steel valves, forged steel valves and ball valves.

Contact:

Y K Enterprises, Mumbai
Tel: 022-66355900, 66355901 Mobile: 09820991301
Email: ykenter@ymail.com, merchants_kr@vsnl.com

For your requirements of
SPRING DOWEL PINS, CIRCLIPS, BEARING WASHERS & DISC SPRING

CIRCLIPS



Material : EN-42J spring steel & stainless steel

BEARING WASHERS

SPRING DOWEL PINS

DIN 1481 **IS** 5988

DISC SPRING

DIN - **2093**

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Tel.: Off.: 022-2267 1141 / 6610 4058 **Fax:** 91-22-2265 5255
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Mobile : 9892583513 / 9326027570 / 8291390336
Phone : 022-23451915 **Email :** precisionranjit@hotmail.com

STEEL HOSE CLIP

Bharat Industrial Supplier is a provider of a range of steel hose clip.

Features:

- These corrosion resistant and long lasting products can availed in various specifications.
- Clips are supplied in the sketches; simple and quick to assemble; vibration damping property due to eccentric clamping.
- Special reinforcement possible by providing extra washer spot welded at the screw fixing area; pipe clips with sleeve or coating at the pipe holding area offer flexible fastening at the same time preventing penetration of band edges in the pipe or the item it is holding and clamping; clips can be supplied with nut and bolts fitted.

About the company: Bharat Industrial Supplier, established in 1976, an ISO 9001:2008 company, engages as a manufacturer, supplier, distributor, exporter, trader, wholesaler and retailer of fasteners. It offers quality steel fasteners, metal fasteners and industrial fasteners.

Contact:
Bharat Industrial Supplier, Chennai
Tel: 044-42157776
Mobile: 07200058312, 08148058312
Email: info@bharatindustrialsupplier.com

AGROCHEMICAL SOLID AND LIQUID WASTE INCINERATOR

Vikas Engineering provides a range of liquid and solid waste combined incinerator systems.

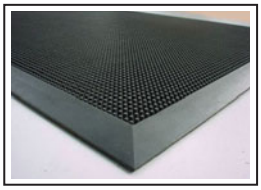
Features:

- The systems come with two stage combustion chamber. In an incinerator, the liquid is sprayed by spray nozzle and solid is automatic feeding in the solid combustion chamber.
- Some of its advantages are such as compact design, occupying least space; hassle free operation with low maintenance; scientifically designed by the experts by using advanced techniques and high quality basic materials.
- These are offered with the high-tech control panel, which makes it easy to operate and with less man power.

About the company: Vikas Engineering, incorporated in 1992, involves in manufacturing, exporting and supplying an advanced range of incineration systems like waste incinerator system, advance sludge treatment technology, incinerator for industrial waste, incinerator system.

Contact:
Vikas Engineering, Ahmedabad
Mobile: 09033896841, 09426016188
Email: info@vikasengineering.co.in

SAFETY RUBBER MAT



Namokar Enterprises offers safety rubber mat.

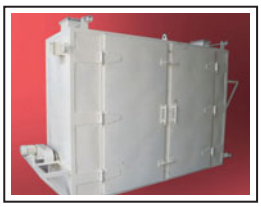
Features:

- These quality finished insulating mats are suitable for use in critical areas to meet application needs in areas like substations and power plants.
- Some of its benefits are such as providing for optimum floor covering support below control panels, allows superior workmen safety from possible leakage of current, developed from blend of synthetic polymers, suitability for areas like transformer rooms, electrical switch gears, AC plant rooms and others; resistant to acids, alkalis and transformer oil.
- These ISI marked insulating mats for electrical purpose is a critical solution to the requirements of divergent substations and power plants.
- It can be availed in 300 * 900 * 12 mm size, while colours like black, red, green, brown and so on. This 1.8 kg product can be availed in nitrile rubber and reclaimed rubber material.

About the company: Namokar Enterprises is a manufacturer, supplier and exporter of quality and performance oriented industrial pipes and hoses.

Contact:
Namokar Enterprises, Delhi
Tel: 011-30114144 Mobile: 09999683666
Email: sales@namokarenterprises.com

TRAY DRYERS



Airtech Engineers is offering tray dryers, a direct heated chamber for direct application of heat to wet solids or liquid material.

Features:

- Drying is carried out by a well designed forced cross flow type air circulating fans.
- These dryers carry moisture from the material and passes again over the heater fitted on the opposite side, thus, completing the circulation.
- The cavity between the two wall is filled with glass wool, which provide adequate insulation when the oven is operated at maximum temperature.
- These ranges are used in industries like chemical, dyes and inter meditates, pharmaceutical, and food products colors.

About the company: Airtech Engineers, established in 1995, is a manufacturer, supplier and exporter of a wide range of centrifuges (hydro extractor), cake lifting type centrifuges, pressure vessels, industrial exhausters, tray dryer, centrifugal fans, boilers, cotton processing equipment, suspended lifting bag machines, air exhausters, extractor machine, hydro generator pressure vessel.

Contact:
Airtech Engineers, Ahmedabad
Tel: 079-25854303 Mobile: 09428912922
Email: info@airtecheng.co.in

PNEUMATIC ACTUATED BUTTERFLY VALVE

Ashok Vijay Engineering Works is offering pneumatic actuated butterfly valve.

Features:

- These valves are best-suited for areas that require regulated flow of fluids using a series of pipes. These valves are also used in larger lines in form of front as well as rear suctions as well as in fire apparatus based applications.
- The company is known for its expertise in making various dimensions and specifications including in customised finish options.
- They have applications in industry sectors such as petrochemical, gas, fertilizer plants, chemicals, refineries, power generation plants and others. It can also be customised.

About the company: Incepted in 1961, Ashok Vijay Engineering Works is a manufacturer, trader and supplier of qualitative array of piston valves, ball valves, ammonia valves, gate valves, check valves, globe valves, butterfly valves and forged valves.

Contact:

Ashok Vijay Engineering Works, Ahmedabad
Tel: 079-25622238 Mobile: 09099924050
Email: ashokvijay12@rediffmail.com

PRESSURE TRANSMITTERS

Instruments And Systems is a manufacturer and exporter of pressure transmitters.

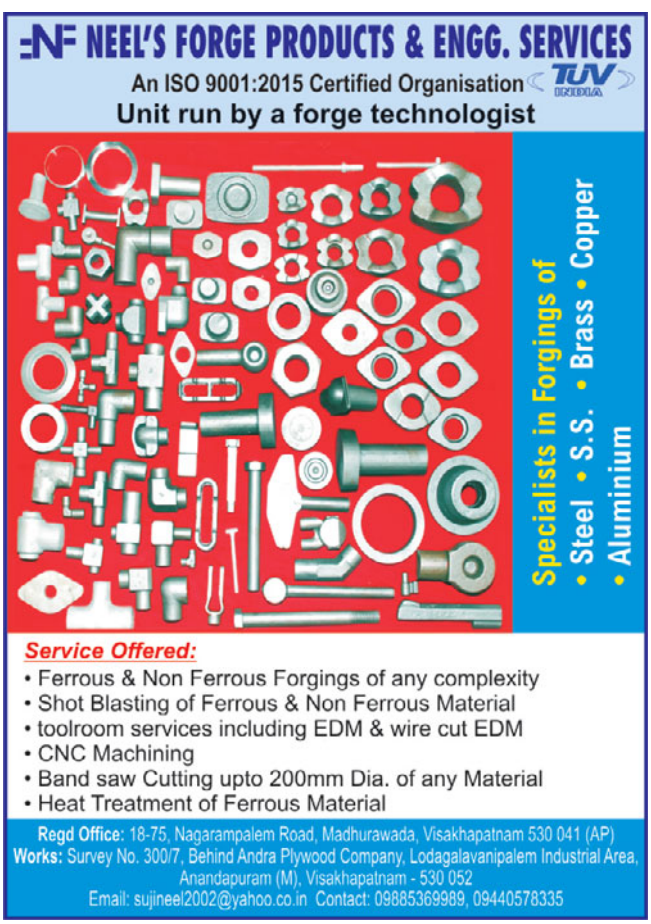
Features:

- The ISP 200 series offers combined linearly repeatability and hysteresis errors that are typically below 0.2 to 1.5 per cent FS of full scale for high & low pressure measurement, gage and absolute.
- Unit-to-unit uniformity is assured with no calibration required by the user with a pressure range of 0-1bar to 0-400bar gauge and absolute and temperature coefficient 0.1per cent per 10 degree C.
- Some promising specifications include those of zero and span adjusted, long term stability, operating temperature range of 40 to 125 deg C /- 0.25 per cent, and electromagnetic interference [EMI] protection.

About the company: Instruments And Systems, established in 1985, engages as a manufacturer and exporter of a range of measuring instruments and valves that are used in a number of industrial applications.

Contact:

Instruments And Systems, Dehradun
Tel: 0135-2641580
Mobile: 09412992347, 09997901050
Email: info@instruments-systems.com



CYCLONE SEPARATORS

Samarth Engineers offers a wide range of cyclone separators.

Features:

- These cyclone separators are used for collection of coarse dust particles and these are efficient and durable cyclones.
- Their product ranges from adequate to coarse dust content gas (100 to 100,000 fts/min). With the machine's whirling motion gases and dust particles are separated.
- Cyclone separator used for control of coarse dust of high concentration and multi cyclones can also be provided. These cyclones have high collecting efficiency.

About the company: Samarth Engineers provides a wide range of industrial manhole, industrial chimney, venturi tubes, heat exchanger, decanter and chiller for ethanol plants, cyclone, frame hood for milk separator, agitator tanks, mobile racks, etc. The company caters to the processing and other requirements of refineries, oil process plants, petrochemical plants, chemical plants, distilleries including repairing and other allied activities.

Contact:

Samarth Engineers, Pune
Tel: 020-66300305
Mobile: 09860098706
Email: response@samarthengineers.com

PULVERISER MACHINE

Jaya Engineering Co offers a wide range of pulveriser machine.

Features:

- These pulveriser comprise of an encased rotor carrying swing hammers, classifier for fineness regulation, and blower fan mounted on a solid shaft.
- Raw material to be pulverised enters the crushing chamber through the hopper or automatic rotary feeder.
- The impact of the hammer on the feed material against the liner plates reduces it into fine powder.
- These pulverisers are used for a wide range of application such as agricultural chemicals, carbon and graphite, coal, coke, coconut shell and wood saw dust, clay, dye stuff and pigments, detergents, ferro alloys fertilizers, minerals, plastics, pharmaceuticals, resins, etc.

About the company: Jaya Engineering Co, established in 1972, engaged in manufacturing and supplying a wide array of chemical and pharmaceutical equipment.

Contact:

Jaya Engineering Co, Hyderabad
Mobile: 09392493719, 09494498756
Email: info@jayaengineering.com, rameshsos@gmail.com

INDUSTRIAL DISTILLATION COLUMN

Sunrise Process Equipments is offering a wide range of industrial distillation column.

Features:

- Their products are accurately engineered from certified metal alloys for storing volatile liquids in petrochemical, chemical, pharmaceutical and distillation industries, this storage equipment can be made available in custom options, as per the given needs.
- These industrial distillation columns are stringently inspected to assure their compliance with SS304 and SS316 standards of quality.
- Some of its advantages are such as enhanced chemical resistance; low maintenance; superior corrosion resistance; chemical resistance; temperature resistance; enhanced mobility; corrosion resistance; optimum durability.

About the company: Sunrise Process Equipments is in the domain of vacuum drying equipment. The company is a professional rotary vacuum dryers exporter, manufacturer, and supplier. These dryers are suitable for drying and mixing material in the form of powder or granule.

Contact:

Sunrise Process Equipments, Mumbai
Tel: 022-28993705/06/07 Email: speqco@gmail.com
sponse@sunriseequipments.com

MIXING VESSELS

Ylem Energy offers a wide range of mixing vessel.

Features:

- These mixing vessels are manufactured using the quality materials like stainless steel (SS-316, SS-304, alloy-2205), and mild steel.
- The mixing vessels are widely used to conduct chemical reactions at pressure, temperature, or at atmospheric conditions.
- Their mixing vessels are provided at the competitive moderate prices. It comprise of a cylindrical body, various types of jacketed and outer insulated with cladding and agitators.
- Material is high quality stainless steel; SS 304L/SS 316L, based on the application, required inlet and outlet nozzles with required end fittings; quick open type manhole; T type cleaning head; sigh/light glass assembly; adjustable feet; agitator.

About the company: Ylem Energy, established in 2005 is an ISO 9001:2008 certified company, engaged in manufacturing and supplying of chemical plant and machinery.

Contact:

Ylem Energy, New Delhi
Tel: 011-28764948 Mobile: 08860021341
Email: ylemenergy@gmail.com, info@ylemparto.co.in

BLENDING AND MIXING TANKS

Ved Engineering manufactures blending and mixing tanks.

Features:

- They are used in chemical, pharmaceuticals industries, offered tanks are designed with optimum quality material and advance techniques.
- These tanks are thoroughly checked in terms of quality for ensure its flawless range; the offered tanks can be availed in several specifications at market leading rates.
- They are used for material mixing tank, heating tank, disinfection tank, aging tank, fermentation tank, agitation tank, storage tank, etc.
- They are suitable for various capacities for applications like fruit pulps, juice beverage, cosmetics, milk dairy plants, pharmaceutical and chemical industry, etc.

About the company: Established in 1994, Ved Engineers manufactures automatic CIP systems, batch pasteuriser and bulk milk cooler.

Contact:

Ved Engineering, Noida
Tel: 0120-2580507, 2584659
Mobile: 09350545996, 09717855996
Email: info@vedengineering.com

C FRAME HYDRAULIC PRESS

NVIR Engineers offers a superlative quality of C frame hydraulic press machine.

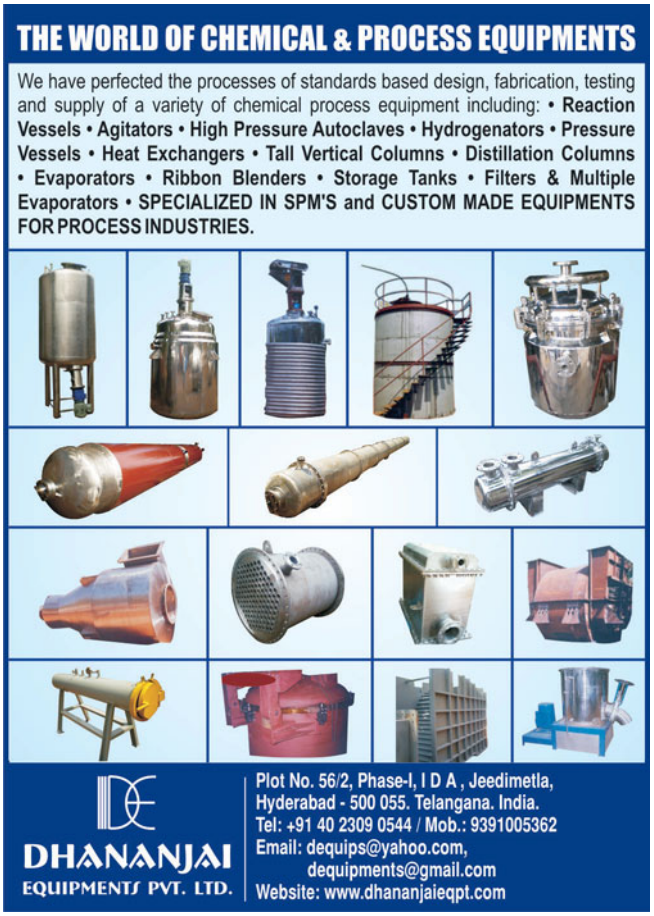
Features:

- The C frame hydraulic press is examined on rigorous quality parameters before final dispatch to ensure its precise work.
- Being manufactured employing contemporary techniques and hard-working workers, it is widely known for its sturdy construction and razor sharp performance.
- It can avail C frame hydraulic press at a reasonable price. C-frame hydraulic presses have rigid and sturdy steel welded construction for minimum deflection of the frame.
- Its compact with an inbuilt hydraulic power pack for multi productivity and operated with most advanced electronic control (PLC). C-Frame presses are easy to install, economical and operate with high speed.

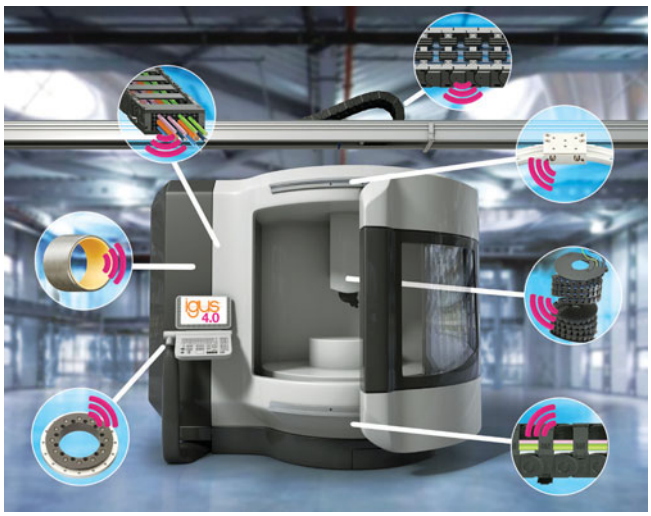
About the company: NVIR Engineers was founded in 2003, with a mission to become an international organization manufacturing hydraulic press machinery. It is a well-known manufacturer and suppliers of hydraulic deep drawing press, bakelite moulding press, hydraulic cylinders and R&D machines.

Contact:

NVIR Engineers
Mobile: 09879091905 Email: n.vireng@gmail.com



Igus smart plastics make maintenance intelligent



Intelligent maintenance in the era of Industry 4.0: with igus smart plastics, you can increase the reliability of machine tools, plan maintenance tasks and as a result, reduce costs

Maintenance in the era of Industry 4.0 means a clear change of paradigm. Instead of personnel carrying out maintenance at fixed intervals or merely reacting to a failure or a fault, so-called "predictive maintenance" makes it possible to continually monitor the status of the machine tool. Repair or replacement is only carried out when really necessary. Maintenance tasks can be planned precisely. At the same time, unscheduled shutdowns and therefore the costs of failure can be reduced due to condition monitoring.

In order to make this possible, igus has developed sophisticated smart plastics, by using diverse sensors and monitoring modules for energy chains, plain bearings, linear bearings and slewing ring bearings. For example, sensors for the measurement of abrasion or wear of the pin/bore connections of energy chains as well as sensors for the detection of breakages and the push/pull forces being applied. Due to networking with the new igus communication module (icom.plus), the sensors are integrated into the customer's own IT infrastructure, for example into production management systems such as SCADA and MES, or online into cloud solutions throughout a company.

The icom.plus is programmed with initial service life algorithms on the basis of igus configuration tools and, at the customer's request, can be operated offline without an update function after online installation. The user can therefore decide how the module is connected and how the data is managed, while establishing a balance between runtime maximisation and IT security. If online connection of the icom.plus is chosen, the service life information is continuously compared with the igus cloud in order to enable maximum machine run times with a minimum risk of failure.

The data in the cloud inter alia draw on the 10 billion annual test cycles of energy chains and cables performed in the company's own 3,800 square metre test laboratory. On the basis of these tests, the results of which are incorporated into the freely available service life calculator, it is possible to precisely predict how long an e-chain, for example, will work reliably in the respective machine tool application. Thanks to the isense components, the service life is continually updated, giving the customer additional reassurance. This is because each update takes into account the current ambient conditions of the application.

Thanks to machine learning and continuous improvement, precise information on the durability of the individually used solutions in real applications can be obtained. This information can be viewed on the screen of the machine control system and, if online connection is chosen, an SMS or e-mail can provide the relevant details if unexpected operating states occur or maintenance is impending. At an early stage, users are informed if there is a need to procure replacement parts; a wide range of scenarios such as automatic initiation of maintenance work or the ordering of replacement parts as well as "e-chain as a service" can be implemented.

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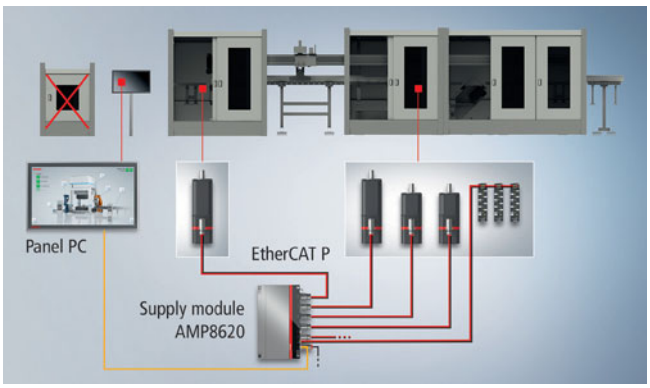
Beckhoff expands distributed servo drive system with AMP8620 supply module



Drive technology entirely without control cabinets is possible with the AMP8620 supply module in IP 65 protection

Beckhoff's AMP8000 distributed Servo Drive system provides ideal support for the implementation of modular machine concepts. With the new AMP8620 supply module in a high protection rating, the entire system can now be relocated directly to the machine, i.e. through consistent decentralisation, drive technology can be implemented entirely without control cabinets. That means maximum possible savings on material, space, costs and assembly work.

While previously with the coupling modules, the requirements for connecting distributed AMP8000 drives to the control cabinet were already reduced to just one cable, they can now be completely eliminated when the

AMP8620 supply module is used. Eliminating the need for a control cabinet further reduces the floor space and cabling requirements for the entire machine. The air conditioning resources, which would otherwise be necessary for control cabinet cooling, can also be eliminated.

The AMP8620 module is directly connected to the mains supply. It contains all circuitry components required for that purpose, such as mains filters, rectifiers and charging circuits for the integrated DC link capacitors. The supply module enables optional connection of additional distribution modules or distributed AMP8000 Servo Drives. It is equipped with two EtherCAT P outputs, through which either EtherCAT P modules can be supplied or else additional supply modules can be connected that may be required for system expansion. The safe 24 V power supply unit integrated in the supply module ensures that the logic power supply does not exceed the permissible level. The DC link capacitors integrated in the supply module store the regenerative energy of the entire system and then make it available again for acceleration processes. This ensures best-possible utilisation of the energy supplied.

Washmatic India bags IPF Industrial Excellence Award 2020

Jacob George, CEO and Director, Washmatic India Pvt Ltd, receiving the IPF Product Excellence Award for "Flight type dishwasher", from (3rd from left) Bhavesh Thakkar, Partner (Tax and Regulatory), Ernst & Young

Washmatic India won the IPF Industrial Excellence Award 2020 in the products category. The award function was conducted on January 16, 2020 at NSE Mumbai.

Washmatic got this award for its Flight type dishwasher, which washes up to 8000 plates in just one hour. Washmatic is the manufacturer of all types of ware washing machines designed to serve commercial / industrial use. In a view to offering the best efficiency to the machines, Washmatic always uses high-end design tools and skills of the team.

These Flight type machines are already being used by many well-known brands like LG, Tata Memorial Hospitals, Leela Ravis and many other factory / institutional canteens, ashrams etc.

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Tel: 0265-2370201 +91 74050 06382, Mobile: +91 92277 66422
Email: mail@neotechworld.com
www.neotechworld.com

Flight type dishwasher

These highly efficient dishwashers are easy to use and efficiently remove oil/grease and thereby provides the user a fully hygienic end result. This machine can manage huge loads in a hectic restaurant/food court ensuring fast utensil availability and maintaining the decorum of the hospitality industry.

Washmatic India Pvt Ltd holds the support of an efficient team to manufacture the best dishwashers in India. These dishwashers save a lot of water, time and chemicals (up to 70 per cent) in dishwashing and are energy efficient, serving an economical mean both at the time of purchase and through the span of usage.

Washmatic India's machines are available in most of the cities. The efficient sales and service team of Washmatic takes care customers equipment related queries accurately and swiftly. With a high-quality infrastructure Washmatic India has become an essential part of food and hospitality service.

For details, contact Washmatic India Pvt Ltd, New Delhi, on Mob: +91 88000 23044, Email: washmatic@washmaticindia.com, info@washmaticindia.com, or visit www.washmaticindia.com

SCHUNK's one-piece pull-down jaw combines precision and efficiency

With its active pull-down function, the one-piece SCHUNK pull-down jaw SNB, which is therefore particularly attractively priced and easy to clean, ensures a flat workpiece support and increased stability when machining

The attractively priced SCHUNK pull-down jaw SNB promises high accuracy on the workpiece, minimal cleaning effort and a longer service life. Unlike previous chuck jaw systems on the market with active pull-down function, the SCHUNK SNB is built in one piece. This ensures a particularly precise workpiece support, a repeatable zero point independent of the clamping force present, increased stability when machining as well as minimal wear. In particular for long workpieces, it pays off to have the active pull-down function for increased accuracy on the workpiece. Tests at the SCHUNK competence center for clamping technology in Lauffen show that more than 50,000 clamping cycles are possible with the very same chuck jaw. The smart design also prevents the accumulation of chips and stops dirt settling. In the first stage, the SCHUNK pull-down jaw is available for rough part machining on lathe chucks and chucks for stationary applications. Other versions for finished part clamping are already planned. It is offered as a straight serrated standard jaw (among others) for lathe chucks in sizes 200, 250/260, and 315. Moreover, the active pull-down function can optionally be realized with numerous SCHUNK standard jaws.

Elesa+Ganter launches new range of components for conveyors

GLA rollers with spherical contact area

GCA rollers with cylindrical shape

GLB rollers with cylindrical contact area

GLP- HT for high temperatures

Elesa+Ganter has launched a new range of conveyor components, which allows the creation of support structures for production lines in diverse industrial sectors, such as bottling, packaging and material handling. To the already available range of supports and guides, rail brackets and clamps, support bearings and connection joints, Elesa+Ganter now offers new roller sides and central guides, linear guide rails, also with shaped profile and a series of accessories. The side and the central guides together with the articulated side guides have polyethylene based (PE) technopolymer, grey colour rollers.

GLA (side guides) and GCA (central guides) series are available with anodized aluminium body, acetal resin based (POM) technopolymer support and AISI 304 stainless steel pins.

The articulated side guides GLB-1 and GLB-2 are modular self-supporting structures for the side guide of products on conveyor belts. The body is in acetal resin based (POM) technopolymer and the pins in AISI 304 stainless steel. These guides are also particularly suitable

for use in environments in the presence of liquids, subject to frequent washing or in filling areas. The joint in the roller side guides allows an external curvature radius 500 mm, internal curvature radius 350 mm. For all standard solutions, rollers can be with spherical contact area, for the guide of products in cans or in plastic containers; cylindrical rollers, for the guide of cardboard products; rollers with cylindrical contact area, for the guide of glass products. The guides are available single or double, suitable for side guide of products with limited or important vertical dimensions.

The linear lateral guides, GLP, GLR and GLT series are used for the side guide of products with different dimensions on conveyor belt. Brackets are in AISI 304 stainless steel; the guide profile in polyethylene based (HMWPE) technopolymer, natural colour. The natural colour of the material leaves no traces on the containers, while the stainless steel inserts (pins, screws and nuts) guarantee a high corrosion resistance. The linear lateral guides are characterised by a high wear resistance and the low coefficient of friction makes them particularly suitable for high-speed movements.

GLP-HT series in polytetrafluoroethylene based (PTFE) technopolymer is designed for environments where resistance to higher temperatures is required, such as ovens, fryers, steam chambers. GLS linear guide rail with shaped profile in polyethylene based (HMWPE) technopolymer, natural colour and AISI 304 stainless steel support, together with GLC series with shaped profile in black colour, are suitable for the side guide of products with different dimensions on conveyor belts, even vertical.

The range is completed by a series of accessories, including closing caps, separation blocks and technopolymer supports, as well as stainless steel profiles. Once again Elesa+Ganter proves its attention in the customer care, offering a wide variety of components with all advantages of being standard.

For details, contact Elesa and Ganter India Pvt Ltd, Noida, on Tel: 0120 472 6666, email: info@elesaganter-india.com, or visit www.elesa-ganter.in

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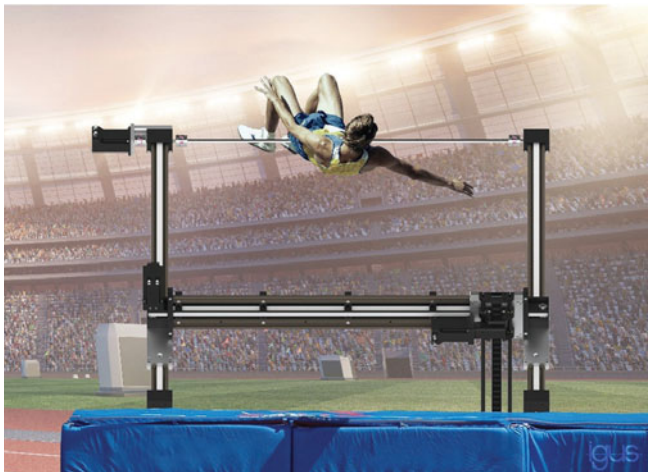
Igus offers low cost automation with lubrication-free drylin linear robots



Bigger, stronger, faster: the new igus lubrication-free room linear robot moves heavy loads across large workspaces. Loads of up to 50 N can be transported in a workspace of 800x800x500 millimetres at a maximum speed of 0.5 m/s

Simple, precise, fast processes: these are the requirements of Cartesian robots. They are used for such things as pick-and-place applications, sorting systems and medical technology. Igus has now developed a linear and room linear robot for large workspaces. The two new kinematics systems allow users to move up to five km. Both linear robots are available directly from stock. They can also be customised to suit the customer application in question – no minimum order quantity.

To survive on the market, both large industrial players and small companies need automated solutions that will quickly pay for themselves. For years, Cartesian robots have been a means of choice in automation technology. They allow users to complete their tasks quickly, easily and cost-effectively. All that is required is a little bit of programming effort. Igus' lubrication-free linear axes developed in several stage. Depending on the application's requirements, two-axis linear or flat linear robots and three-axis room linear robots can be selected. Igus has introduced a new line robot and a new room linear robot with an enlarged workspace, which allows users to move even greater loads across larger area.

The two linear robots consist of pre-configured linear modules, aluminium linear axes, NEMA stepper motors and encoders. The new line robot can transport loads of up to 50 N in a workspace of 800x500mm at a maximum speed of up to 1 m/s. "The investment risk for the line robot is manageable, so that our automated pick-and-place applications for assembly tasks pay for themselves in less than six months. This means that decision makers have a low level of risk," said Alexander Mühlens, Head of Automation Technology at igus. The new room linear robot is a good option for more complex tasks. It can transport loads of up to 50 N in a workspace of 800x800x500mm at a maximum speed of 0.5 m/s. Two ZLW toothed belt axes and one GRR gear rack axis ensure precise guidance and lubrication-free operation.

The new linear robot solutions are used in pick and place, bin picking and sorting tasks. Most of these processes have been moved to the end of the production line. This was also true at FachPack 2019 in the showcase of SSI Schäfer, the intralogistics specialist. The new drylin room linear robot automated the provision of sensitive products using a transport box with a thermoform insert. The specially developed packaging and the use of a linear robot allowed various coloured handles to be pre-sorted for the production of a household appliance. There are other linear robot use scenarios in microelectronics and automated testing.

In addition to the stock items, users can assemble their own linear robot with strokes of up to six metres at http://www.igus.in/robot-enquiry and request a quotation from igus.

The TwinCAT Analytics One-Click Dashboard saves valuable time during the engineering process

TwinCAT Analytics drives engineering efficiency with automatic dashboard generation

Many machine builders and systems integrators looking to transform their business models have identified machine and plant process data as being a core fundamental. When it comes to tailoring new data-driven services to individual customer requirements, however, they need solutions that are as cost-efficient as possible. Here, keeping the engineering as simple as possible is a key factor. Beckhoff's TwinCAT Analytics supports this kind of Engineering 4.0 approach with the One-Click Dashboard, a new feature that reduces the once time-consuming process of dashboard creation to nothing more than a simple mouse click.

TwinCAT Analytics' automated functionality for converting analysis configurations into executable PLC code now also includes dashboard generation. With One-Click Dashboard (OCD), all it takes for users to generate an entire HTML5-based analytics dashboard based on the PLC code and to load it into a selected Analytics Runtime container is a simple mouse click. When

the process completes, users receive a network address that they can then use to access the dashboard in a web browser. This ability to generate dashboards without the need to write a single line of code or design graphics is a huge time-saver within the engineering process.

Based on TwinCAT 3 HMI, the new functionality provides at least one HMI Control for every TwinCAT Analytics algorithm, each with an up-to-date tile design that follows the latest web standards. The controls contained in a dashboard can be selected individually in an algorithm's properties with the aid of a control preview. Users can also combine multiple algorithms within an individual HMI Control.

Automatically generated dashboards can be customised by configuring individual user settings. For instance, users are able to pick their own header colors and logos, and can even choose to show geographically distributed machine locations on a world map. In addition, the controls are available in a choice of layouts and themes as well as multiple languages. It is also possible to switch between light and dark themes, and to automatically set links to methods that reset the algorithms.

Despite this high level of flexibility, dashboards that are created automatically may not always meet every user's needs, so when TwinCAT 3 HMI projects are generated, they are integrated into Visual Studio® as well. This enables users to adapt their dashboards to their requirements in the graphical editor. Even with dashboards that need extensive customization, the engineering process still involves far fewer clicks than the conventional approach, saving significant time and expense.

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Concept Engineering offers high quality pneumatic tools

Concept Engineering Solutions is involved in import and distribution of professional and industrial air tools from MAS APAC International Co Ltd, Taiwan. MAS APAC manufactures and exports high quality pneumatic tools. With over 40 years of experience in product design and manufacturing, MAS APAC provides solutions to most automotive and industrial applications. MAS APAC offers superior production facilities and internationally approved quality control systems. All products are tested by their experienced technicians.

For details, contact Concept Engineering Solutions, Mumbai, on Mob: +91 93488 71450, +91 81420 76519, Email: sales@conceptes.in

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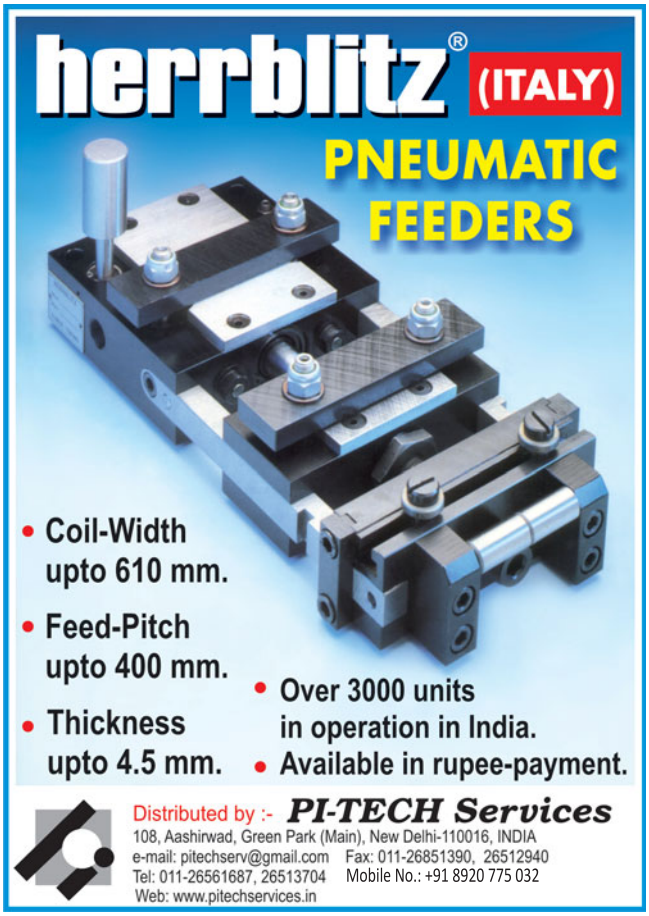

Danfoss Power Solutions opens new facility in Pune

Danfoss Power Solutions (DPS) – a world-class provider of mobile hydraulics for the construction, agriculture and other off-highway vehicle markets – has inaugurated its new facility in Pune. The company is an Indian subsidiary of Denmark-based Danfoss Group and provides efficiency catering to the rising demand for innovation and development in India's urbanisation & electrification journey. Globally, the company has been at the fore-front of developing advanced solutions to address economic and environmental efficiency across key global mega-trends such as digitalisation, electrification, food supply, infrastructure and climate change.

Domenico Traverso, President - Work Function, Danfoss Power Solutions & India Board Member, said, "Our new Danfoss Power Solutions facility in Pune is testimonial to the growth of our business in India that has been driven solely by our customers. As a company focussed on innovation and development, we believe that this facility will enable us to be a step-ahead to efficiently address the future needs of our customers and the industry in the next phase of India's technological transformation journey."

In lines with the government's Make in India vision, around 95 percent of all the products manufactured in the facility use materials and components that are made in India. The company aims to invest on increasing its product offerings in India within the next 24 months and remains firm on its mission to ensure a minimum of 50 percent localisation level for sourcing and manufacturing in their future product lines as well. IPF

COMMUNICATION FEATURE

Jay Storage Solutions: A smart way to create space

Jay Storage Solutions based out of Vasai has been at a forefront of designing and offering smart and intelligent solutions to the logistic industry. As supply chain becomes more complex, we have made it our mission to find innovative solutions that makes logistics lives better. We have invested heavily in our in-house R&D to manufacture comprehensive range that caters to a wide variety of needs across industry segments and wide applications.

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All credit for Jay's success must be attributed to its MD Mr Premal Karelia, an engineer and a technocrat by profession whose passion for innovation in logistics & supply chain solutions remain unmatched. He has been a driving force not only in product innovations but his dedicated customer-centric, problem solving approach has ensured our continued status market leaders. Over

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Tel: 9146064222/23/61/62/63/64
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(Communication provided by the management of the company)

How to make India $1 trillion manufacturing economy?

India is expected to be ranked among the top three growth economies and manufacturing destinations of the world by 2020. The country, which took 70 years to become a $ 3 trillion economy, is now aiming for a target of $5 trillion by 2025 (with $ 1 trillion coming from manufacturing alone). To achieve this ambitious target, the government will have to design and implement good policies that will bring people out of poverty and enhance their average quality of living standards to those comparable to developed economies of the world.

Since independence, India has transformed itself into a modern economy, building up its manufacturing and services sectors, in addition to agriculture. For manufacturing to reach, $ 1 trillion mark, the sector will have to grow at a CAGR of 9.7 per cent for which every industry - like defence, iron and steel, power, automobiles, construction, electrical and electronics, etc - will have to grow at the robust pace.

In the wake of GDP growth for 2019-20 likely to plunge to an 11-year low of 5 per cent (primarily due to a poor show by construction and manufacturing), questions are being raised about reaching $1-trillion manufacturing economy dream. The "Cover Story" tries to find solutions for overcoming challenges faced by manufacturing sector and turning the dream into a reality.

How to make India a $5 trillion economy?

India has the largest population in the world and a significantly large number of its population is young and aspiring for a better quality of life. While the government is aiming to make India a $5 trillion economy, **Prasanth Sakhamuri** believes that the size of the economy should be the result and not the objective.

India's objective should be focused on how to design and implement good policies that will bring people out of poverty and enhance their average quality of living standards to those comparable to developed economies of the world, which will automatically result in a $5 trillion economy. The size of the economy should be the result and not the Objective.

India has the largest population in the world and a significantly large number of its population is young and aspiring for a better quality of life. What can be seen as the strength of the economy is also its weakness as our large working population lacks skills and education to add value and enhance capacity of manufacturing, services. India's infrastructure and manufacturing technology are outdated to produce high volume with methodology that does not allow it to compete with markets across the world.

To develop an ecosystem which will take its people to required skill levels, we need to bring about policy which will meet the aspirational needs of people and establish a platform for investment and entrepreneurship at the same time.

So, what are the key factors that bring investments into the economy?

1. Political stability and good cultural practices to enhance access to capital
2. Availability of reasonable infrastructure
3. Markets for local consumption with spending power
4. Developed human resources

Small and medium businesses are the backbone of the Indian economy. The sector provides employment to over 11 crore individuals and adds to 26 per cent of the country's GDP. Since 2010 bank credit to MSMEs has declined from 17 per cent to 13 per cent. Policies such as demonetization and GST have constrained growth this sector and a lack of access to capital and credit have pushed some MSMEs to look for expensive, informal credit.

India has one the world's largest and youngest workforce with outdated labour laws. For people to be employed there needs to be a correct platform to encourage people to employ directly and not use intermediaries.

To push the sector to grow, capital markets are to be better developed to encourage these small and medium entrepreneurs (SMEs). India should be able to create a platform for domestic entrepreneurs who will complement the whole supply chain and bring about new innovation. These companies will need access to capital and also exits for entrepreneurs and evolved capital markets that are properly regulated to ensure that there is sufficient flow of funds into the related markets.

With climbing interest rates and growing NPAs, capital has become a scarce resource in India. NPAs in the small

About the author

Prasanth Sakhamuri, who has been employed by Hind High Vacuum Co Pvt Ltd (HHV) and its affiliated companies since 1986, has held positions of Production Manager, General Manager and Director. Currently, he serves as the Managing Director of HHV. Prasanth Sakhamuri received his MBA from the Institute of Rural Management in Anand, Gujarat.

and micro enterprise sectors are significantly lower than larger corporate loans. To bridge the gap between credit deployed and the need for credit the government should promote investment from domestic and foreign players by implementing policies that ensure economic and social stability. Foreign capital can bring in monetary relief and advanced technology that multiple sectors can use as a springboard for accelerated growth.

While credit allows a certain amount of growth, sustainable growth takes place when companies invest in themselves. While taxation is an important revenue source for government, corporate taxation should be balanced to ensure that profits can be utilised by MSMEs in themselves for escalated growth. Apart from profit motives stable economic and social policies are huge incentives for investment as they ensure returns to the investor.

To push the sector to grow, capital markets are to be better developed to encourage SMEs. India should be able to create a platform for domestic entrepreneurs who will complement the whole supply chain and bring about new innovation.

While subsidies have short-term benefits, they should have a clear road map. Small and medium players who do not achieve the required scale will have to be encouraged to become cooperative and work together through the creation of marketing and technology clusters. As a widely diverse society it is essential that the political process should not allow corruption, lawlessness and assault on the social and secular fabric of this country. Balanced taxation and stable policies will provide incentive for higher compliance. It builds a system of trust and mutual cooperation between enterprise, government and society.

Infrastructure is always a challenge in a growing economy. Cornering of scarce resources by a few parties especially in the real estate space has been one of the main problems in developing the economy. Investment in land is the major cost of manufacturing projects, as real estate developers have acquired land, costs of land have shot up. A land policy that incentivizes manufacturing firms to build factories can push growth in the sector. Land owned by government can be leased to factory owners which can help in regulating land use as well as generating regular income for the government.

While urbanisation takes place at a rapid rate, there is an increasing stress on city resources. Creating more cities and spreading migration and urbanization will all the country's growth to be more sustainable. While the Smart City program aims to increase the conversion of tier two to tier one cities progress has been slow and incentive to move employers to these cities has been limited

Technology plays a major role in the transition to better

infrastructure. As a country we have limited our investment in technology for long term growth. Most technology in India is implemented at scale and more often than not there is a compromise on quality due to costs. Areas with information sensitivity will have to be treated as priority segments and technology should be developed indigenously by placing a preference on domestic technology. This should also ensure that over a period of time the indigenously developed technology should be fit for exports and right policy support should be provided in this direction. Phased indigenization and integration of technological upgrades to the Indian education system can help the conversion of our education system to be more focused to the needs of the industry as a whole.

NPAs in the SMEs sector are significantly lower than larger corporate loans. To bridge the gap between credit deployed and the need for credit the government should promote investment from domestic and foreign players.

People as I said earlier are the strength and the weakness of our country. We have one the world's largest and youngest workforce with outdated labour laws. For people to be employed there needs to be a correct platform to encourage people to employ directly and not use intermediaries. The need for skill development has been talked about in many platforms but the involvement of the actual users into the policy body to help decide what is really needed is missing and needs to be corrected. Current labour law amendments have been held to ransom by trade unions whorepresent a minority of the overall workforce. This needs to change. Remember that no organization wants to lose an individual that has been invested in.

India has also suffered from a huge "brain-drain". These bright minds should be incentivized to return to India and share their knowledge, resources and ideas. When India creates jobs for everyone with the right skills and ensures that its people are above the poverty line it would have become a $5 trillion economy. IPF

Automotives: The stepping stone of $1 trn manufacturing economy

Indian automotive industry, which has been emerging as one of the high-growth sectors, is on the path to become a global manufacturing hub. According to **P Srinivasavaradhan,** the emphasis has shifted from India being just a production base to becoming an integrated manufacturing ecosystem. To boost productivity, reduce manufacturing time and make the business smarter for the future, the industry today is adopting disruptive technologies and processes.

Over the last few years, the Indian automotive industry has come of age, opening doors for various Indian manufacturers, multinational companies and providing them greater scope and opportunity to showcase and make the best use of the technologies and human capital. According to a report, India is the fourth largest automobile market in the world. This growth can be attributed to increased globalisation, higher localisation by OEMs, efficient component content per vehicle and rising exports from India are some of the phenomena witnessed by the automotive industry.

About the author

P Srinivasavaradhan is the President of TVS Srichakra Ltd, Madurai. Srinivasavardhan, who has been in the corporate sector for over 35 years, has conceptualised and steered organisation wise transformation initiatives such as TPM and Lean manufacturing. He was also instrumental in leading the key strategic initiatives that has propelled the business to its new heights. His ability to lead the vision and execute it impeccably has helped the organisation grow globally.

An era of diversification

Automotive manufacturing in India has been emerging as one of the high-growth sectors and rightfully on the path to become a global manufacturing hub. Today, the industry is adopting disruptive technologies and processes to boost productivity and improve quality, reduce manufacturing time and make the business more viable and smarter for the future. Addressing the environmental impact and growing need for electrification and the evolving consumer demand for autonomous and connected vehicles, the industry is progressing into a new era of diversified mobility, connectivity, safety and electrification among others key factors.

The automotive industry under the 'Automotive Mission Plan 2016-26' aims to contribute 12 per cent to the GDP from its current 7 per cent. The initiatives will further the vision of enhancing the road and highway infrastructure, strengthening mass transport in urban and rural areas, redefine last-mile connectivity and integrate automation and digitization to a host of services in different vehicle segments.

Auto component makers: The growth propellers

The Indian auto components industry is another important sector, which is seeing phenomenal growth over the last few years accounting for 2.3 per cent of India's GDP. The industry employs as many as 1.5 million people directly and indirectly each, and according to a recent report, the Indian auto-components industry is expected to see turnover of about $ 100 billion by 2020.

Riding on the wave, vehicle and auto component manufacturers have made focused efforts to augment productivity and quality in manufacturing through lean tools and facility upgradation programs. Facility upgradation program has helped the companies to set new benchmarks and adopt newer smart manufacturing practices, which include low cost automation, IoT, Artificial Intelligence, Machine/Computer Learning among others backed by the strong frugal engineering practices.

Companies have also adopted "Industry 4.0" which is a transformation initiative intended towards, reskilling the employees at all levels, all functions and across locations to achieve global standards of performance. It is a giant

leap towards integration of traditional industrial and manufacturing practices with the modern-day technology. It has helped in building a connected and an intelligent future for manufacturing in India and around the world. In addition, Digitization will open new avenues to address the growing customer demands and fix issues at hand in lesser time. Automotive and auto component manufacturers understand the need of an integrated digital supply chain, which can help in reducing costs significantly and engage the customer by collecting important statistics and data to and leveraging the potential of Industry 4.0.

Making supply chain robust

The processes and product varieties have played a major role in shaping up the supply chain management of the automotive companies. Supply Chain Management (SCM) brings together manufacturers, suppliers, distributors and the customers under one roof and leverage the technological and manufacturing capabilities of the companies to maximize the reach and contribute to the success of the businesses. The new industrial policies will also play a pivotal role to reduce regulatory hurdles and encourage adoption of technologies such as robotics and artificial intelligence in the industry. Listening and acting on customer's feedback through social media channels, combined with IoT will create a much-needed feedback loop to the automotive smart factory.

The emphasis has shifted from India being just a production base to becoming an integrated manufacturing ecosystem. The two-wheeler industry hopes for a better year in 2020. It doesn't rely only on creating opportunities and newer avenues, but introduce cutting edge innovation in production, planning and other manufacturing capabilities. Driven by the government's 'Make in India' initiative, manufacturers are investing in enhancing the skill levels and imparting technical training to make the workforce and manufacturing 'Future Ready'. IPF

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Aspirations for growth acceleration

India's domestic market is considered to be a good source of growth but is insufficient to fuel a growth rate of over 8 per cent consistently to reach $ 5 trillion. The growth rate can be achieved only if the manufacturing sectors contribution increases to 25 per cent from 18 per cent at present, says **Vikas Manral.**

In this challenging environment of weak economic growth, concerns over employment generation and global trade tensions, India seems to be treading the growth path - a bright spot on cloudy global horizon and claims to be the fastest growing major economies of the world today. Indian government has set the ball rolling by keeping the ambitious goal of reaching $5 trillion GDP by 2024. Banking on the foundation of keeping the economic framework at the right place, the target looks arduous but achievable.

Improving productivity & efficiency

Investments, in general, and foreign investments, in particular, are key to economic growth. Despite the fact that cost of capital in India has increased over last few years, there is no dearth of global capital that is flowing to other parts of the world. The key task is to attract this capital by incentivising and putting the right framework in place. Also, the capital formation in our country stands at around 30 per cent, which is much lower than that of China, where their capital formation was increased from 30 per cent to 45 per cent over the last 15 years which in turn resulted in a consistent double-digit growth during the period.

Furthermore, infrastructure is going to leave a conspicuous mark in the Indian growth story. Government predicts an investment of Rs 1,000 billion in this sector by the end of 2024. Infrastructure caters to a large number of unskilled or low skilled labour but at the same time characterised by high employment elasticity. The sector, however, is also struggling with a massive unsold inventory of around 1 million units. Hence, the plan should rather be to chalk out a detailed milestone-based roadmap to attain the investment in addition to defined roles and responsibilities of all entities and stakeholders.

India's domestic market can be considered as a good source of growth but is insufficient to fuel a growth rate of over 8 per cent consistently to reach $ 5 trillion. The growth rate can be achieved only if the manufacturing sectors contribution increases to 25 per cent from 18 per

About the author

Vikas Manral, Chief Strategy & Marketing Officer of SolBuggy Connect Pvt Ltd, is a bearing expert with significant experience in global bearing industry. He is a thought leader from global manufacturing industry and is presently leading a growth start-up (SolBuggy Connect) helping MSMEs in India to become competitive globally. He can be reached on Email: vikas.manral@solutionbuggy.com

cent at present. A comparison with China clearly places our domestic market to be one fifth to one tenth of theirs in any domain (aerospace, automotive, electronics manufacturing etc). Contribution of exports will play a key role to the growth of India since both investments and exports are intertwined. Investments drives productivity, productivity increases competitiveness thereby establishing the country as a preferred choice of manufacturing globally.

It should be noted that MSME (micro, small and medium enterprises) have been a backbone of our economy contributing around 30 per cent of GDP. More than 3 crore MSMEs in India are either directly dealing with manufacturing or trading of manufactured products. This sector, however, is known for low capital investment, low skill and low productivity which might result into lower cost on manufacturing but also at a (perceived) lower quality. Nonetheless, these MSMEs will have to play a major role in the growth by increasing their size there by improving productivity, efficiency and output.

Scaling up

India contributes less than 3 per cent of global market cap and only seven organisations make it to Fortune 500 list. Therefore, we need to aim at a minimum of 100 companies to be featured in Fortune 500 list by 2024. This is only possible when the medium scale enterprises transform into large scale followed by micro & small enterprises expanding even more so. Besides large firms contribute around 70 per cent to the GDP in China whereas it is only 40 per cent in India.

On the other hand as per the budget of 2019, relaxation of FDI norms and other policy measures are expected in aviation, media and insurance sector this year. The aim is to increase investments along with employment generation. These jobs (particularly in aviation) would necessitate high skills wherein our country is lacking. The challenge indeed would be skilling of human resources and increase the employability quotient to make the most out of this opportunity.

Moreover, focus on sunrise sectors like electric mobility, renewable energy and electronic manufacturing can bring long term growth sustenance. The past few years has evidenced a creation of strong communication channels and trust between industry, government & society in addition to creating a foundation for growth acceleration. Subsequently, continuous monitoring of the initiatives set by the government and flexibility to adapt feedback are positive signs for our economy. Both the nation and top leadership are upbeat about our future economic scenario; the need of the hour is to identify and focus on our roles and responsibilities for making this $ 5 trillion dream come true.

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Efficient pumps to drive manufacturing in India

While the manufacturing industry is propelling to reach higher growth levels, optimised water usage will help them cut unnecessary costs and help them invest in the future. Pumps, supported with intelligent solutions, can help to optimise water usage and increase energy savings, says **Saravanan Panneer Selvam.**

According to a report by the McKinsey Global, manufacturing is one of the major opportunities for growth and transformation in the country. India is the 5th largest manufacturing economy in the world and the sector's contribution to GDP is set to increase from 17 per cent to 25 per cent by 2025. This is expected to build a $ 1 trillion manufacturing economy and generate over 90 million domestic jobs.

India has showcased its exceptional manufacturing capabilities with global competencies. For example, between the years 2006 and 2016, the auto industry produced over 3.8 million cars a year and generated over 25 million jobs. This number has matched the auto industry in South Korea and the industry is predicted to reach Germany's level soon. Other industries such as textiles, minerals and metals are also expected to witness substantial growth in the next 5 years.

About the author

Saravanan Panneer Selvam, General Manager of Grundfos India, is responsible for the company's business and operations in India, Bangladesh, Bhutan, Maldives and Nepal. Saravanan has more than 20 years of experience in the pump industry. He joined Grundfos India in April 1998 and has held various positions in the company through the years. Prior to joining Grundfos, Saravanan worked with Al-Saghayir Steam Boilers (Riyadh, KSA) and IAEC Industries and has an overall experience of 27 years.

Water and energy in manufacturing

India's industrial sector is the second highest consumer of water. Currently, the sector uses about 13 per cent of freshwater and the demand for water and energy is expected to increase exponentially in the coming years. Considering this along with India's overall water stressed situation, companies in the manufacturing space need to consider a paradigm shift to more efficient means of consuming water and energy.

Most manufacturing companies use water and energy extensively for their production processes. Besides the conventional energy costs for utilities and other applications, water usage also has embedded energy costs. It requires tremendous energy to pump water from the ground or any other resource, transport it for various processes and reuse it. This particularly applies to water intensive industries such as textiles, paper, steel and other heavy engineering plants. It has become critical now that they optimise their usage of the current resources with the goal to attain a zero-discharge status or achieve a carbon neutral or climate positive status for their facilities.

Industry benchmarks with best practices need to be identified and established by large scale adoption. This will not only improve the efficiency of resource usage but will also influence other stakeholders and drive policy for improved efficiency of water and energy usage. Key interventions can be in the form of the right technology, water conservation and wastewater treatment processes and energy efficiency initiatives that reflect across the entire value chain.

Role of pumps

The new era of pumps offers a host of services that can be customised to the exact needs of any manufacturing process. Pumps can be used to move water around the facility for various processes, cool heated machine parts, degrease or wash parts, act as a lubricant for certain processes, and treat used water. Pumps supported with intelligent solutions will be highly efficient in terms of optimised water usage and increased energy savings.

Traditional pumps run continuously at the same power and speed. This creates energy and water wastage during low activity durations and creates wear and tear in the pump. With the help of sensor technology, intelligent pumps can understand and alter flow, speed and pressure to meet demands.

Industrial processes also handle aggressive liquids at extreme temperatures. In this situation, an inefficient pump will not be able to handle this challenge. This will lead to increased maintenance or replacement costs and involve additional downtime that will have an impact on overall productivity of the facility. The right kind of pump will be able to encounter these corrosive liquids successfully while performing optimally.

Industrial wastewater treatment is expected to grow at double the rate of industrial GDP and witness strong double-digit growth. Mid-sized companies are trying to reduce their overall water consumption by 30 per cent for the upcoming years. This can be achieved through well thought initiatives. Pumps play a critical role in helping create zero discharge facilities. Once fresh water is used in manufacturing, it is usually disposed in to the nearest water body. This has a two-fold detrimental effect as it increases the water consumption levels of the industry and pollutes water bodies. Pumps can supplement water treatment processes to help reuse the water for other processes.

For example, an auto company in Chennai has been using efficient pumps to improve its green initiatives and become a zero-discharge plant. Efficient pumps can be used to aid in water distribution and circulation, RO water treatment, wastewater treatment and in water harvesting tanks. In 2011, the government of Tamil Nadu made zero liquid discharge a mandate for the textile industry and had asked them to follow all the ZLD norms. According to these guidelines, all textile units and factories generating over 25 kilo liter of effluents daily must clean its pollutants and reuse the same water for other processes. This would avoid discharge of these toxic wastes in to natural water bodies, such as rivers or streams. This implementation has helped improve wastewater management in the industry to a large extent. Such guidelines were also introduced in other industries such as tanneries, distilleries and the pulp and paper industry.

Considering India's water condition, water accountability must become a mainstay. Individuals, organisations and public bodies need to be accountable for the water they consumer or use by making the responsible choices. While the manufacturing industry is propelling to reach higher growth levels, optimised water usage will help them cut unnecessary costs and help them invest in the future. IPF

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Take the open source road to IT transformation

It is vital for organisations to have strategies and capabilities that are flexible enough to change as per technological shifts and unpredictability of the future. Open source operation systems can provide a solution for this. **Rajarshi Bhattacharyya** offers insight into an array of open source technologies that manufacturing companies can adopt.

As technology continues to disrupt business and operations, digital transformation has become inevitable. However, the transformation of IT operations is not always easy, especially for traditionally run organizations who struggle to cope with the changes. The reason often lies in transformation projects being implemented around predictions of what the industry will look like in the future. Though it does help to upgrade the network, predictions do not always unfold as planned. Hence, it is vital for organisations to have strategies and capabilities that are flexible enough to change as per technological shifts and unpredictability of the future. Enter open source.

With the onset of 5G, machines and devices will be better connected, and processes would have become more automated, thereby generating data at enormous levels. The result is not a happy one for enterprises as this data creates complexities for data center operations in terms of storage, processing, analytics, etc. To resolve these challenges, enterprises should consider software defined solutions that enable easy management of growing data, and faster response time in an agile, stable, secure and cost saving manner.

Open Source provides many options

It is no doubt important to have future-focused strategies that address a multimodal IT world: one that encompasses traditional data centers, Software Defined Infrastructure (SDI) and cloud environments. In this context, the benefits of open source are not unknown. However, understanding how it can become the driving factor to help transform the manufacturing industry and the types of solutions that can be adopted is important for enterprises. The key to more flexible and reliable operations is to utilise open source operation systems. Given the wide array of open source technologies, here is a list of what manufacturing companies can adopt.

About the author

Rajarshi Bhattacharyya is the Country Manager of SUSE India. A strategic business leader, Bhattacharyya is, in his current role, responsible for driving the company's growth in the region, expanding its customer base and helping organisations to gain competitive advantage by transforming their IT infrastructure. Prior to joining SUSE, Rajarshi Bhattacharyya has been associated with HCL Infosystems Ltd as Account Manager (East).

Linux

Linux is the first and foremost step. It has gained the reputation of being a flexible, reliable and secure foundation for enterprise systems, business-critical applications and workloads where consistency and uptime are key requirements. The reason why major businesses rely on Linux is because of its technical superiority over others. It offers a lean, consistent, modular and fully functional code base which makes for the best operating system for a multimodal IT strategy.

Linux improves overall quality and software capabilities with less cost and no requirement of rebooting for longer periods of time. Its benefits can be best described for SAP applications that require best-in-class operation system and compute infrastructure to be able to have the high performance and uptime the business demands while being cost-effective. Streamlined SAP workload means improved manufacturing processes, increased uptime, thereby improvement in operational efficiency. This allows manufacturers to predict operation issues and address market demands quickly.

Ceph

According to analyst firm IDC, the total worldwide data is expected to grow to 175 zettabytes (175,000,000,000 gigabytes) by 2025 - 10 times more than what we have today. To analyse this vast amount of data and make the most of it, the industry has witnessed widespread adoption of AI/ML technologies. All of this combined requires businesses to consider where the data is held, how it can be stored in such a way that it is easily searchable and manageable, and at what point it can be moved into less expensive storage which suits their immediate needs. The requirement is of software-defined storage (SDS) – Ceph, that is less rigid, less expensive, and provide unlimited scalability as opposed to hardware-based storage.

Ceph will gain prominence as more enterprises turn towards cloud and container technology that allows storage to scale seamlessly.

Kubernetes

Containers are the new way of taking virtual machines to the next level. It is important to leverage container capabilities to enable digital transformation as enterprises can take advantage of Kubernetes container technology to build modern architectures made up of seamlessly scalable microservices and serverless functions to allow faster development and deployment of applications.

One of the biggest advantages of Kubernetes is that it enables businesses to benefit from hybrid and multi-cloud. Many enterprises are already running multi-cloud environments and with Kubernetes, they get the flexibility of deploying applications across public clouds, private cloud or a combination of both. This enables enterprises to put their workload on the cloud that fits best to their needs, without any vendor lock-in. For businesses, this means reduced costs, seamless operations and faster response time to market needs, resulting in improved return on investments.

Cloud Foundry

Cloud Foundry is an application delivery platform, designed to lighten the developer and operational workloads. It is an open source cloud computing platform that enables quick and easy development, test, deployment and scaling of applications providing choices on application services and clouds. By cutting across silos of capacity, enterprises can simplify their IT environments and focus on driving innovation for their business. Cloud Foundry streamlines lifecycle management of traditional and new cloud native applications and facilitates seamless and secure management of high volumes and varieties of product data, to accelerate innovation, improve IT responsiveness, and maximize return on investment.

Success depends on continued investment for transformation

Business success is always tied to a forward-looking, adaptive IT strategy. Innovation through adoption of transformation technologies make products more consumable in local and in the global markets.

Forward-thinking businesses are using the above-mentioned technologies to transform their IT infrastructure and solve challenges related to data growth, process and storage with ready to adapt software defined infrastructure and application delivery strategy. Open source solutions offer the freedom and flexibility to leverage existing investments in physical and virtual systems and drive innovation which will lead to new products and create new market demands. With continued investments in technology, Indian manufacturing can not only meet international quality standards, but also strengthen their position as competent suppliers for the global market, helping the Indian economy reach its $1 trillion mark. IPF

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A march towards $1 trillion manufacturing economy

Since independence, India has transformed itself into a modern economy, building up its manufacturing. Going forward, the target for the government is very clear - $ 1 trillion manufacturing economy. To achieve this target by 2023, the manufacturing sector will have to grow at a CAGR of 9.7 per cent, says **Prof R Jayaraman**.

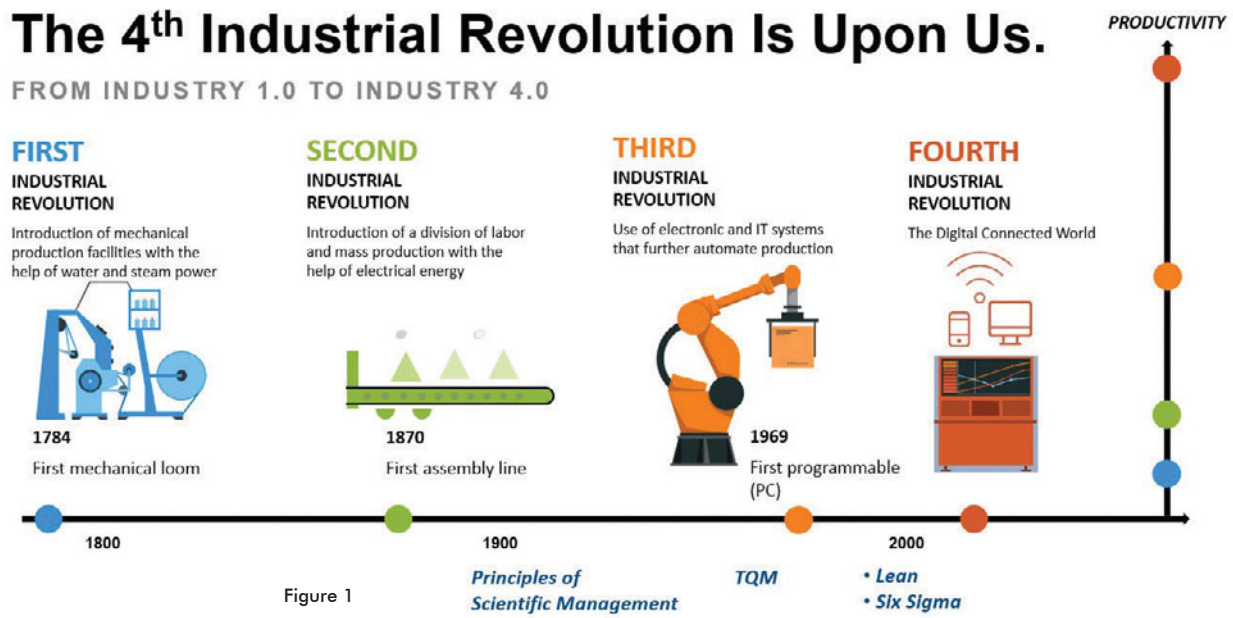


Figure 1

Historically, India appeared on the industrial map only when the British came to rule here. The British East India Company arrived in 1757, well before the First Industrial Revolution. The adventure ended in 1857, when the sepoy mutiny made the British retire the services of the company and assume direct crown control. From 1858, the British Raj started, lasting till 1947. For a perspective, Figure 1 shows the various industrial revolutions that the world has seen so far.

About the author

Prof R Jayaraman is the Professor of Operations and Supply Chain Management at SP Jain Institute of Management and Research, Mumbai. His research interests are in inventory management, supply chain, operations planning, lean management and operations strategy. Jayaraman has spent almost 30 years in the Indian industry – out of which 25 years were spent with the Tata Group in companies like Tata Steel and Tata Communications. He was a lead assessor in the Tata Business Excellence Model and the CII EXIM Bank awards process. He can be reached on email: jayaraman@spjimr.org

Industrial evolution

The first textile mill in India was established in 1854, a full sixty five years after the textile industry took birth in the US, and almost ninety years after the first textile mill in England went into production. For the next fifty odd years, the British laid railways, roads, etc, to ensure that raw materials were transported to ports like Mumbai and Kolkata for onward movement to Britain, where the value add was done, and the finished goods were shipped back for sale in India. Thus, no worthwhile industrial activity was existent in India till the beginning of the 20th century, barring the few strenuous and well-intentioned efforts, against heavy odds, by Jamshedji Tata, Birlas, TVS Iyengar and a few others.

While Britain, America and the rest of Europe were happily industrialising at a rapid pace, India was kept completely out of the picture. Macaulay's education did precious little to generate creativity in the young India of yore, it only helped produce armies of clerks who became civil servants. Thus, the western world took at least a

150-year lead in industrialisation over India. Prior to that period, India contributed close to 50 per cent of the world's GDP, it is currently a pathetic 3 per cent.

The year of independence left India with a shaky industrial foundation, a massive risk, given that the country had to feed 300 million mouths, with hardly any resource utilising factories which could produce the goods and services that were desperately needed.

So, come independence, with the huge burden of a bloody partition, and very little by way of sustenance, it is a great miracle that the country survived, and kept chugging along. That is the greatness of this civilisation - it has withstood many disasters, which, had they happened elsewhere, could have wiped out the resistance of the population, and decimated the state itself, as had happened to ancient Rome, Egypt, Babylon, and others. The hardy Indian, as he had been doing for the last 500 years since the Mughals invaded India, put his nose to the grindstone and eeked out an existence. The greatness of the Indian character was that there was no animosity between the people of India and Britain, nor with the conquering hordes from the middle east, all intermingled very soon after independence, and carried on as if nothing had happened. This is indicative of the maturity of the Indian mind. During this period, temple building and empire building activities were in full swing, and cultural advancements were immense, especially in music.

Where do we go from here?

Since independence, India has transformed itself into a modern economy, building up its manufacturing and services sectors, in addition to agriculture. The 75 years period after independence can be dissected into two eras – pre and post liberalisation (Pre 1991 and post 1991). That makes PV Narasimha Rao a central character, between the two Indias, one governed by licenses, and the other, licensed to govern. The contrast cannot be sharper, when one sees the overall development, in all spheres, of life in India.

The first era, which has already been titled as the 'licence and permit raj', or, the LP Raj, for short, by many, was nevertheless also known for the enormous advancements made in certain sectors of the Indian polity. Nehru's vision of a resurgent India, with large factories manufacturing the basic goods needed for any fledgling power - steel, power, water (dams), electrical appliances, capital equipment - was rolled out through the five year plans. This went on for some 35 years, after which Narasimha Rao ushered in the era of a liberalised India. Progress since then has been rapid, and growth rates have registered steep acceleration.

Looking beyond the year 2019, the target is very clear, "One Trillion USD", for the manufacturing sector. Let us take a sectoral look at what this means. To begin with, let us see the projections for the India GDP, for the next five years (Figure 2).

Evidently, if the manufacturing grows at a CAGR of 9.7 per cent, it can hit the target in 2023. Within the manufacturing sector, the sub sectoral figures are shown in Figure 4.

Year	GDP (billions of $)	
	Nominal	PPP
2019	2,972.00	11,468.02
2020	3,257.72	12,584.23
2021	3,577.32	13,840.08
2022	3,924.11	15,218.52
2023	4,306.29	16,736.53
2024	4,729.32	18,408.85

Figure 2: IMF's GDP projection for India

Projections of manufacturing GDP in India, based on the IMF projections			Required growth rates (annual, % over the previous year, Manufacturing Industry)
Year	GDP (billions of $)		
	Nominal	Manufacturing Industry Share at 25%	
2019	2,972	743	Base
2020	3,258	814	9.56
2021	3,577	894	9.83
2022	3,924	981	9.73
2023	4,306	1,077	9.79
2024	4,729	1,182	9.75

Figure 3: Projected Manufacturing GDP

		GVA at current prices, 2016-2017 (INR Crores)	% Share
Manufacturing industry sector		**40,54,112**	**29.29**
1	Mining & quarrying	3,32,947	2.41
2	Manufacturing	23,29,220	16.83
3	Food Products, Beverages and Tobacco	2,12,347	1.53
4	Textiles, Apparel and Leather Products	3,15,236	2.28
5	Metal Products	2,51,748	1.82
6	Machinery and Equipment	5,48,807	3.96
7	Other Manufactured Goods	10,01,081	7.23
8	Electricity, gas, water supply & other utility services	3,63,482	2.63
9	Construction	10,28,463	7.43

Figure 4: Break up of sub sectoral contributions to GVA within the Indian manufacturing sector (Source: StatisticsTimes.com)

In order to achieve the overall CAGR of about 9.5 per cent in the manufacturing, each of the component has to grow at that average rate. However, it is likely that each sub sector may grow at different rates, but, still, the overall average has to be at 9.5 per cent.

The future trends which are likely to dominate business growth will be under the watchful eyes of the whole world. Gone are the days when industries could grow for the sake of growth, to maximise shareholder value. The Triple

Bottom Line dominated, sustainable business models will become the norm soon. On the one hand, some would argue that this could lead to increase in costs of manufactured goods. For example, when the auto industry norm moved up from BS I to Bharat IV, oil companies had to procure more low sulphur crude, which took their input costs up. Similarly, coal industries had to lower the ash content of coal by more washing of raw coal, which reduces the yield and increases the cost.

On the other hand, advancements in Industry 4.0 will bring down wastes, improve efficiencies across the board and make sustainable manufacturing possible. Initiatives like Green Supply Chain, lowering the carbon footprint, environmentally friendly manufacturing, LEEDS certified buildings, ISO 14001 certified business operations, etc will help the industry to cater to the future needs of a growing population. Thus, overall, there are plusses and minuses, however, human ingenuity and good sense of leaders will make it possible for nations to negotiate the current climate change doomsayers and come out on the winning side, not by defeating them, but by convincing them that sustainable business will be the only way business will be done.

In India, the most promising sectors are: defence, iron and steel, power, passenger aircraft manufacture, automobiles and related ancillaries, construction, railway supplies, high technology goods like cell phones, sensors, IOT devices, telecom infrastructure, electrical and electronic appliances, food and beverages. Of these, I suspect that the automobiles industry will lead the pack. No doubt, the last year has not been good, but, this should soon pass. The new models, electric cars, devices and gadgets will make for the automobile industry, an exciting time ahead. The government must promote R&D in the auto sector, by tax breaks for private sector R&D, low import levies on imports to promote R&D, promote collaborations between the academia and the industry in India.

Of all the Industry 4.0 ideas, the one that India will find very useful is the 3D printer. This should be promoted seriously, as, 3D printing will put the power of manufacturing in the hands of the common man. A farmer can till the fields when required, and, in other times, produce something in the 3D for sale. Similarly, rural co-operatives could use 3D printers for local manufacture and sale. This would largely pre-empt the long felt need for a proper market mechanism for farmers products. It has been often said that farmers get very little for their produce as the middlemen take away the bulk due to a poor market distribution system. With a 3D printer, the village fair (called 'santhe') will become once again the commercial centre for village life, and prosperity will likely flow into the Indian backyards. Gandhiji's dream of 'India living in its villages' will come true. The government should support this as a cottage industry, create huge start-up power, and make this digital innovation the harbinger of good tidings. Democratisation of industry, so to say.

Focussed areas

The defence industry is a solid niche, and should be invested in. More incentives should be given to companies wanting to participate. Defence industries are heavily dependent on electronics, iron and steel, and other inputs. Thus, many ancillaries and component industries can thrive. Electronics and electrical appliances is another sector which needs to expand a lot more, to serve the growing needs of an ever expanding middle class. Similarly, the construction industry will have to grow substantially to lay the roads and other infra facilities that will be needed. Toilets construction should be taken up as is houses construction.

The government has already announced its intentions to provide housing to all by 2024. The recent bill to reduce corporate tax will do a lot of good to the industry in general. The funds so available to companies can be reinvested in industry, to make in India and build in India. Program management and monitoring by the government will be a valuable activity, which will ensure that promised investments will lead to actual action on the ground.

'Walking the Talk' by industry must be facilitated, by improving 'ease of doing business' practices. Even today, there are some 30 plus approvals needed for starting an industry. These should be simplified, and, like what was done in the case of the telecom industry in 2000, new rules should be brought in, to speed up setting up new businesses. The government should act more like a facilitator, and not get into doing business by itself.

The present government is doing a lot to stave off a depression from developing, the results of these efforts will be seen in the next few months. The future holds a lot of promise, but with huge changes in the fundamental ways in which we will live and earn a livelihood. A sensitive government will choose to do those things which will create a sustainable tomorrow. IPF

Green manufacturing: A sustainable future with regulations

Since the year 2015 we have witnessed amazing global initiatives for the betterment of the environment by the Government of India and many environmental regulatory bodies. Green manufacturing is one of the most appreciable initiatives set by the Indian government. Green manufacturing is actually a new concept that helps in maintaining a competitive manufacturing environment. In this article, **Anthony Thomas,** takes a close look at how India can move into a sustainable manufacturing country.

Over the years, the manufacturing department contributed significantly to India's GDP growth. The only problem is that this growth led to significant environmental degradation. While the government develops world-class infrastructure, it also needs to recognise that the future manufacturing leaders will be created in classrooms. So, are we teaching or skilling them to be sustainable?

Currently, it can be said, only 10 per cent of the manufacturing sector is actually on a sustainability framework as businesses are still deciding if they want to adopt sustainable measures or not. In India, the low participation of corporations in corporate social responsibility (CSR) and sustainability initiatives suggests that there is a lack of awareness.

The majority of the corporations are figuring out the alignment between their business objectives and CSR and sustainability goals by understanding the nitty-gritty of the concept and its applicability.

About the author

Anthony Thomas is the Business Development Director-South Asia & Middle East at SPECTRO Analytical Instruments GmbH, a part of AMETEK Instruments India Pvt. Ltd. He has over 20 years of experience in the analytical instrument segment like ICPMS, ICP-OES, DC-Arc Spectrometer, Spark Emission, XRF, RDE, AAS, AFS and CS & ONH Analyser for liquid & solid sample analysis as well as in Particle Size Analyser.

Role of SMEs in Sustainable Environment Development

Considered as the engines of growth, it is crucial to bring SMEs within the ambit of a sustainable development plan. As SMEs have restrictive budgets, it can prove to be difficult for them to go green while ensuring their business prospers. This is an area where government intervention is required to ensure green funds are available to them.

The SME sector has been looking at sustainability differently and is not much inclined towards environmental issues, resource conservation or energy efficiency, rather their focus is majorly on pollution control board regulations, labour laws, minimum wages, etc. In thecoming years, SMEs need to understand their role in ensuring sustainability, even though their carbon footprints are lesser. They need to adopt policies of water and energy conservation measures to reduce environmental impacts.

While India presents its case in the Conference of Parties (COP21), Paris, later this fiscal, India's manufacturing sector is under enormous pressure due to global competition, rapid technological advances, shorter product life-cycles, environmental and social damages.

To implement sustainable manufacturing, continuous research must be a priority for the manufacturing sector. CSR and sustainability measures can enhance a corporation's market credibility and lead to increased productivity, improved quality, and increased market outreach.Through business sustainability and product innovation, the manufacturing sector will not only increase its share of the GDP but also grow without hampering the environment.

According to Avram Noam Chomsky, an American philosopher, China is a great manufacturing center, but it

is mostly an assembly plant. So, it assembles parts and components, high technology that comes from the surrounding industrial – more advanced industrial centres - Japan, Taiwan, South Korea, Singapore, the United States, Europe - and it basically assembles them.

What is Green Manufacturing?

Green manufacturing is defined as the eco-friendly manufacturing practices that do not harm the environment during the manufacturing of products. It can be reducing gas releases, reuse of manufacturing components, rationalisation of materials, etc. All these efforts help in bringing efficiency in production. It does not harm anyone, either industry, employees, or our surroundings.

Green manufacturing addresses a number of manufacturing matters, including 4R's (Reduce, Reuse, Recycle and Remanufacturing), conservation, waste management, water supply, environmental protection, regulatory compliance, pollution control, and a variety of related issues. Green manufacturing involves the transformation of industrial operations in three ways:

- It majorly focuses on using green energy.
- It develops and sells environmental-friendly products.
- It helps in implementing green manufacturing for varied business operations.

Challenges in implementing Green Manufacturing

During manufacturing, a lot of waste is generated by industries because of ineffective ways of waste management, emission of harmful gases, improper disposal of industrial matters. When we all will switch to Green manufacturing, it can be made easier to meet sustainable environmental challenges by adopting intelligent ways of waste management.

Green Practices enforced by Environmental Regulatory Bodies

Environmental Regulatory Bodies has also initiated many new schemes/programs dedicated to the manufacturing sector. Setting up emission and discharge standards, Technology acquisition and development fund (TADF) or setting up Green Manufacturing Committee as per National ManufacturingPolicyis some dedicated efforts to promote green manufacturing. Agenda for India includes imperatives for the industry as well as for policymakers. Business entities must develop green manufacturing-related strategies, and make a clear business case and value proposition for sustainability.

Cluster laboratories either private or government aided can be set up in offering services to meet the norms which meets the national emission and discharge standards either at site or at their laboratories. Today technology is available in the form of portable EDXRF for onsite analysis of elemental analysis or for a detailed analysis which can be done at the laboratories with the use of ICP-OES/ ICP-AES. Manufacturers such as SPECTRO Analytical GmbH offers such instrument whose performance meets the norms as prescribed by the national bodies but also know for its lowest operational and maintenance cost.

Forces Driving Green Manufacturing

Much research has been done on finding out critical success factors (CSF) driving Green Manufacturing Practices. It has been also argued that industry focus on reducing, energy consumption, waste generation, emission reduction, reducing hazardous substances, or getting ISO 14001 as factors driving green manufacturing. Working conditions are also analyzed as Green manufacturing driving factors by some researchers and concluded that temperature at the workplace plays a critical role in productivity and labour supply.

Some research stresses on various CSFs of green manufacturing viz.meeting customer's needs, environmental trade-offs, reuse, recycle life cycle approach, green design, disposal, etc. Devashish Pujari includes environmental benchmarking and measurement, effective groundwork, cross-functional coordination, environmental database, supplier involvement, environmental policy/ legitimating as critical success factors.

Conclusion

Current situations in India are favourable to the growth of the manufacturing sector. Recognition of climate change and taking actions to mitigate ill effects is a priority for India irrespective of domestic development imperatives. The 'Make in India' initiative is ambitious to promote industry-led development, while the Government of India is making it concurrent with its global climate change efforts.

The current plans proposed by the Indian government reflect various perspectives of green manufacturing throughout. The green manufacturing implementation framework explained in documents certainly provides inputs for the industry to shift to green practices. Green processes in business operations are separately discussed.

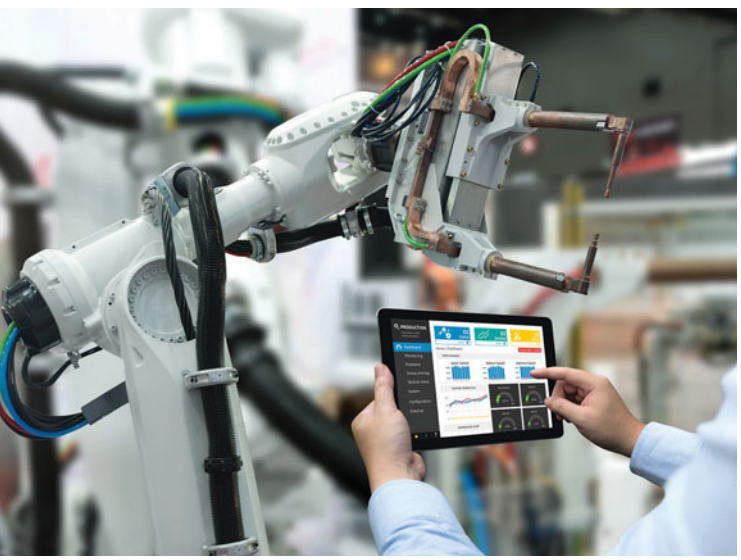
Closed-loop manufacturing and green supply chain management initiatives discussed can be the foundation for further innovation and implementation of green manufacturing. At last, by analyzing case studies and critical success factors for the implementation of green manufacturing; common green practices are enlisted which can be implemented in every industry.

Green manufacturing holds the potential to meet both manufacturing and environmental challenges butcoordinated efforts of both industries and government regulatory bodies are required to realize it. To that effect, an agenda for India is discussed which will help to shape future discussions in green manufacturing innovation, implementation and sustenance.

Many initiatives by government like PAT, CBIPM, and Zero Effects - Zero Defect are taken to make industry more efficient and sustainable. With this a good start has been made to improve manufacturing sector. Upcoming years will be crucial for implementation of announcements, and seizing the opportunity to make the right investment at industry level and making sustainability non-negotiable. IPF

Industry 4.0 optimises supply chain and manufacturing

With a large manufacturing base, a significant IT industry and a burgeoning consumer base, India is in a unique position to fully harness the potential of Industry 4.0. In this article, **Phanindra Karody,** discuss about IoT benefits for making manufacturing efficient.



The term 'Industry 4.0' is typically used to indicate a series of rapid technological transformation in production, design and distribution of manufacturing systems and products. It was first used during Hannover Messe in 2011, the largest exhibition for international companies and investors.

During the trade show, the term was used to describe how the technological development would have completely redefined the industry world in the following decade. As a consequence of this process, new business models, which were previously not considered to be feasible, based on 'cyber-physical systems' (CPS) became a reality. The use of CPSs in the production of physical goods will lead to a global change in mentality not only in the productive systems of companies, but more in general about the life and habit of each citizen.

About the author
Phanindra Karody works as a Plant Head with Continental Automotive India at Bangalore. Continental develops pioneering technologies and services for sustainable and connected mobility. The company has been present in India for close to 50 years, through technology partnerships (Continental Tires since 1974) and joint ventures for its various businesses.

Several industries have already introduced elements of Industry 4.0 in their production processes, while others are still trailing. For technology and automotive companies, the employment of such systems should be almost a need. The initial implementation of Industry 4.0 practices requires the digitisation of entire manufacturing processes and practices, as well as a change in mind-sets of employees. However, the long-term benefits of Industry 4.0 make this a valuable investment.

Smart factory

Industry 4.0 brought several relevant changes in the industrial world in terms of organisation, due to the development of various key enabling technologies and the consequent birth of new interaction between them. These technologies are the basis of the future technical world, as they allow a better industrial process: they sustain the productive chain and the industrial system.

The new kind of industrial environment created is generally called 'Smart Factory', and is enabled by the previously mentioned technologies. According to a large variety of researches and studies, their list is constantly growing with the new technological developments.

The most notable key enabling technologies identified so far include the following:

Artificial Intelligence (AI): Artificial Intelligence is the true emerging technology of Industry 4.0, and it consists of a series of methods and technologies aimed at the creation of intelligent software. With the introduction of artificial intelligence in machinery, the automation of processes that would otherwise require a considerable amount of time and human intellect helps significantly producers and manufacturers.

Internet of Things (IoT): The term Internet of Things, or Industrial Internet of Things, is used to indicate the group of technological components (such as sensors and GPSs) which can be integrated into physical objects and machinery in order to allow the transmission of data between them. This creates the commonly named 'machine to machine interaction', which main purposes are the removal of human intervention and the further collection of cloud data.

The application of IoT in the industrial field offers incalculable possibilities and untapped solutions that have never been seen before. The employment of the IoT in smart factories creates a network between different industrial units and, as a consequence of the collection of

data, improves production flexibility and the possibility of higher product customisation.

Big Data and Cloud Computing: The increasing amount of data sent by objects, products and machinery connected with each other requires improved technologies that are capable of compiling and analysing them rapidly. The term 'Big Data' indicates the technologies that allow the collection of data that, due to its larger dimension compared to past times, are not possible to be elaborated by traditional computers.

It therefore requires solutions such as cloud computing: cloud computing is the array of IT services that allow the elaboration, filing and transmission of extremely extensive amounts of data through the Internet.

Internet of things and cloud computing are two pivotal technologies for Industry 4.0, as they allow enormous packages of data to be promptly transmitted between objects to optimise the productive processes.

Cyber security: With the introduction of cloud computing and digital sharing systems, the probability of a cyber-attack has dramatically increased. It is therefore compulsory to protect the large amount of data shared between the interconnected systems, and companies have invested significantly in this matter.

Additive manufacturing and digital fabrication: The term additive manufacturing, or 3D printing, indicates the production process that, starting from the creation of the digital model of a product, creates three dimensional objects by adding layers upon layers of material. The material used is usually polymers due to the ease of manufacturing and handling polymeric objects, but thanks to the latest developments ceramic and metals can also be used nowadays. Additive manufacturing differs from precedent methods of production, which are called "subtractive" because of the removal of material from a block.

The concept of digital fabrication and manufacturing refers to the productive process that utilises technologies such as 3D printing, big data and digital simulation tools to create a finished product starting from its digital file by simulating the entire productive process before the physical start.

Programmable and collaborative robotics: One of the most surprising technological innovations in the field of Industry 4.0 is definitely collaborative robots. When compared to just a few years ago, when robots were confined in their own spaces and had no interactions with humans, the related technology made massive progress. Nowadays programmable collaborative robots (Cobots) exist, and they are able to interact and cooperate in total safety with humans and other machinery in the production process. Cobots represent the maximum grade of efficiency, precision and flexibility, as they can be easily programmed according to the desired demand.

Augmented reality and simulation: These two technologies consist in visual development for the programming of product manufacturing. Simulation and augmented reality in manufacturing mechanisms are used to simulate a product or production processes in order to try to predict possible future scenarios. At the same time, this practice reduces considerably the incumbency of errors at the same time.

Advantages of smart factories

The introduction of cyber-physical systems, Internet of Things, robotics and all of the other technological developments in the production processes has generated a series of changes and benefits for the manufacturing sector, and benefits definitely outweigh the current challenges. Industry 4.0 helps with the management and optimisation of each aspect of the supply chain and manufacturing processes. The value it brings to business is undeniable, and the return on investment is not as long term as many people would expect. However, it requires considerable investments and effort.

The most notable advantage is a growth in production flexibility and adaptability. The automation of production, the transmission of data across the manufacturing chain, and the use of cobots allows the creation of a wide array of products in the same plant.

Secondly, product assembly and general manufacturing speed has considerably increased. According to various studies, the use of digital models and digital fabrication has remarkably decreased production times.

A general increase in quality of the product and reduction of error rate is also to be linked to the introduction of these new industrial processes. As a consequence, efficiency and competitiveness rise accordingly. Industry 4.0 technologies help with the identification of issues even before they become unmanageable problems. The use of predictive software and the connection between machines and manufacturing divisions aids in solving complicated management issues at the very insurgence of them.

All these benefits are undeniably related to manufacturing processes, but the main effect is shown on customer satisfaction. The role of consumers is reinforced from the projecting phase. The concept of Industry 4.0 is focused on the production of small batches, with the objective of reaching batch-size one, consisting in the realization of unique products for each different customer. IPF

Upskilling must to make workforce ready for future smart factories

With industrial revolution 4.0 knocking the doors of every industry, there is an ever-growing need to upgrade skills according to new-age technologies. Companies are opening up newer roles such as data scientists, machine learning and predictive analytics experts, and algorithm specialist. In this article, **Shirin Hameed,** looks at means and ways to make Indian workforce more skilled and ready for smart factory era.

There is so much flexibility today in the market with an increased variety of products that cater to every need. Indeed, we are in a consumer driven economy, where the spending power has increased, and companies daily are finding new ways to address every feature or enhancement to deliver value, entice and excite the consumer.

The automation in manufacturing and delivery has ensured that companies can meet this rising demand. We may see automation at the simplest manufacturing level from a household product, like a plate, to a phone, where automation exists at a complex algorithmic level. With the advent of machine learning and artificial intelligence, automation is here to stay, and is geared to grow leaps and bounds.

The demand towards high degree of customisation / personalisation in product expected by users is bringing in exciting time for engineers designing and building them with precision and speed. Automation with an increased level of personalisation is definitely the way ahead, and what is being referred to as industry 5.0.

Going forward, the vision in Industry 5.0 is Cobots (instead of Robots in 4.0) – Human intelligence working with machine intelligence. This is key step difference from Industry 4.0, in 5.0 is to move towards human and robot sharing the shop floor. For instance, where shall see doctors with advance machines working together in the operation theatre. However, this article is aimed at addressing the current state of the industry as we are at Industry 4.0, and what does it mean, and what steps can the government take to address the current issues being faced.

What does automation mean for the economy?

Automation along with machine learning will undoubtedly see the markets being flooded with low cost, personalised goods, and the freedom of choice and design. Automation has been the driving force for several new technologies technological developments, such as artificial intelligence, machine learning and big data, and while the engineers love the new technology and everything that comes with it, economists and analysts are struggling to fully predict the future with this new technology in it.

A report released by the world bank in 2017 predicted that the jobs threatened by proportion in India is 69 per cent, in China it is 77 per cent and in Ethiopia, the percentage of jobs threatened by automation is 85 per cent.

A McKinsey study in 2017 estimates that up to 32 per cent of workers may need transition to entirely different occupations by 2030 as a result of automation. Most susceptible will be jobs performed in predictable physical environments (such as factory work, material moving machine operation, transportation, installation and repair, dishwashing, and food preparation). Declining occupations will also include those in customer

About the author

Shirin Hameed works as a Chief Marketing Officer at Detroit Engineered Products and has over 10 years of experience with a proven track record of accomplishment in planning and leading comprehensive B2B marketing projects in the B2B technology space. In the past, she has worked with Tata Technologies and National Instruments. She is currently leading the global marketing team and is also responsible for all marketing activities.

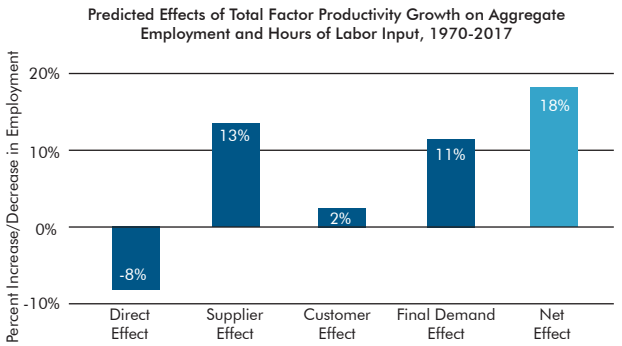
interaction, (such as hotel workers, travel agents, and cafeteria workers), and office support (such as payroll processors and administrative assistants).

Another recent analysis by Erica Groshen, Susan Helper, John Paul MacDuffie, and Charles Carson, who analysed the growing trend of autonomous vehicle and its impact found that autonomousvehicle technology could eliminate between 1.3 and 2.3 million driving jobs over the next 30 years.

A 2018 PWC report predicted that roughly 7 million existing jobs would be displaced due to artificial intelligence, while about 7.2 million jobs would be created by 2037.

On one hand, there are growing concerns- How will it affect and impact the bottom line of businesses, as this is where the biggest impact on jobs due to automation has been typically witnessed. On the other hand, there is a wealth of opportunity that can be harnessed by growing industries. And the governments cannot but ask- How can we fully utilise the opportunity it presents, while mitigating the perils it poses?

Figure A: Automation Creates Jobs, Even as Direct Industry May Lose Jobs



Source: Autor and Salomons. 2018. "Is automation labor-displacing?" Brookings Papers on Economic Activity. https://www.brookings.edu/bpea.articles/is-automation-labor-displacing-productivity-growth-employment-and-the-labor-share/.

What role can the government play?

Focus on the right skills- traditionally, automation has seen the biggest impact on the jobs of the low skill band of labor- which has made governments look at helping laborers secure their jobs through skill training and education. However, the current wave of automation, which includes machine learning, will surely see an onset of skilled jobs also being affected. For instance, one key capability of a lawyer is the ability to be able to learn the lawbooks thoroughly, and find the appropriate one suitable to the current scenario, as well as previous judgements on similar cases. Can we not predict this task being automated, thus eliminating the need for many junior skilled lawyers who spend hours pouring over case files today? The impact of machine learning led automation will be seen across sectors in the coming decade. It is important for the government to focus on the right skill sets at the right time, and ensure the population is skilled across as many domains and as flexible as possible to keep up with the changing demands of an automation led world that we are heading towards. Work disruptions from technological change may be inevitable, but we can prepare better.

Encourage lifetime learning- Currently, most government incentives and schemes are mainly focused towards the younger generation to get their first job. And once the job is secured, it ends there. What happens when a person doing a routine job that he started doing at 22, gets laid off at 35? He suddenly finds himself with nothing else to do. Governments should keep encouraging and running upskilling as well as cross skilling platforms across all age groups.

Insure wages- The advent of automation definitely creates as many jobs as it displaces, so lets move the focus from the displaced jobs to the created jobs. The concern of the new jobs being created, is not the quantity, but the wages, rather- the distribution of those wages. The divide between the lower skilled and the higher skilled is increasing hugely, and huge economic divide fueling income inequality, which is not good for the larger economy. More income inequality today erodes opportunities for the next generation, and governments can ensure the divide in wages is not so huge. India's minimum wage needs serious revision to bridge this divide. India minimum wage is currently Rs 176 per day. To give perspective, the US minimum wage is roughly 23 times that amount, at 7.25 USD/hour, assuming a standard 8 hour working day. Accounting for the difference in purchasing powers, and the cost of living, ceteris paribus it still comes to about five times that of India.

Play a leading role in the use of automation and technology by industry- Automation is here to stay, and its impact is no longer limited to only manufacturing or any specific industry anymore. Governments need to create a regulatory framework that defines how these industries operate, and what is their need to be successful. A flexible framework, driven by knowledge is the key to giving the industry the fodder it needs to thrive.

Focus across the country geographically, and support with infrastructure- While this is true for all forms of development, its importance cannot be overlooked. Any government should focus on opportunities being available to all its citizens, as well as keeping all areas geographically developed. Similar to economic divide, there must be a conscious thought on geographic divide as well. While there are several SEZs already planned and underway, the rural areas could use a lot more. The biggest factor of course being infrastructure to support these industries, and the government should focus on basic infrastructure- civil, roads, transport- to be able to keep the country growing at an even pace.

Automation is here to stay, and it is being embraced in all forms all around us. It is a blessing with its ability to relieve humans from repetitive, hazardous, and unpleasant labour in all forms. It gives an opportunity to provide a growing social and economic environment in which humans can enjoy a higher standard of living and a better way of life. IPF

Cloud and edge unleashing the potential of IoT in manufacturing

Of late, the manufacturing landscape has taken a keen interest in IoT because it offers a host of real-time benefits. IoT and 5G together are key for manufacturing enterprises to connect all stages of the planning-to-sales process. According to **Vivek Sharma,** industry is seeing the emergence of edge computing, in addition to cloud deployments, to support mission-critical activities that require minimal delay in processing.

As billions are pumped into the development of 5G networks, we can expect a new wave of possibilities – all of which are set to transform industry and manufacturing, ushering in a new era of economic growth and hyper-connectivity. 5G has huge implications for how we live and work – it is not just about downloading a movie faster but also how high-speed connectivity will support smart vehicles, devices and factories where tons of data are exchanged in the network every second. It will also propel the adoption of emerging technologies, especially the Internet of Things (IoT), which is set to catalyse connectivity beyond recognition. The often-discussed 'Industry 4.0' is actually the digital transformation of industrial markets enabled by Industrial Internet of Things (IIoT) and the resultant connectivity in every step of the manufacturing process.

About the author

Vivek Sharma is Managing Director India of Lenovo Data Center Group (DCG). His focus is on customer—centric solutions as well as manage an extensive product portfolio including server, storage, software, services and networking. Prior to joining Lenovo Vivek was with Dimension Data and Wipro. He held a leadership positions at Wipro. With over 25 years of experience, Sharma has held positions across areas like enterprise sales, alliances, distribution, telecom, cloud and data centre services.

IoT is the future of manufacturing

Of late, the manufacturing landscape has taken a keen interest in IoT because it offers a host of real-time benefits. IoT and 5G together are key for manufacturing enterprises to connect all stages of the planning-to-sales process. They allow data to flow back and forth through a multi-dimensional ecosystem, enabling suppliers, manufacturers and customers to conduct business and decision-making more dynamically. IoT-enabled devices collect massive amounts of data, assisting manufacturers in achieving higher product quality, better-informed decision making and greater foresight with predictive maintenance.

Pay-per-use model (offered by cloud service providers) is set to benefit SMEs and start-ups to avoid overprovisioning their IT infrastructure, resulting in an overall reduction in costs.

Several manufacturers across India are already using IoT to streamline their supply chain since their factories have a huge vendor presence across India and abroad. Various shipments coming in daily need to be synced into the production schedule and tracked till final delivery. This entire process needs to be arranged with precision so entire factories are being IoT-enabled with smart devices that track the position of each employee and machine.

While the benefits of the technology are vast, a quick summary of what enterprises can hope to achieve through the creation of IoT enabled networks includes:

- Identification of issues before they occur, for example, potential breakdowns
- Optimisation of supply and reduction of costs through closer observation of the production network

With IoT, manufacturing enterprises will become increasingly data-driven and cloud and edge computing will impart a high degree of 'smartness' to their operating environments.

- Improved analytics and decision making through relevant, real-time data
- Enable efficiencies of scale in areas such as inventory, production, logistics, etc.
- Increased consumer loyalty through improved products
- Prediction of issues and optimisation of inventory management by closely monitoring materials and products throughout the manufacturing process

Getting the most out of IoT with Cloud and Edge

IoT generates massive amounts of data and cloud computing is key to managing it while gaining business insights. Cloud-based solutions offer effective data storage and data security to manufacturers, as well as analytics capabilities. Another advantage of cloud computing is better collaboration with developers. They are able to store and access data remotely while managing workloads in response to operational cycle demands.

Incorporating IoT into the cloud can further connect different plants and storage clouds across a variety of locations, and the use of AI in this network can help manufacturers capture new growth opportunities. Manufacturers are now keener than ever to leverage cloud to support their digital transformation. Intelligent handling of data networks can serve as the steering wheel for this transformation, leading us into an exciting era of data astuteness.

When deployed in a judicious configuration, edge computing and the cloud have the ability to create dynamic, cutting-edge solutions for the manufacturing sector.

Many cloud service providers today charge via a pay-per-use model, which means users have access to potentially unlimited resources but only pay for what they actually use. This model is set to benefit SMEs and start-ups to avoid overprovisioning their IT infrastructure, resulting in an overall reduction in costs. Many manufacturing companies have also started implementing BYOD (bring your own device) facilities, which gives employees the flexibility to control and manage work from anywhere in the world.

We are also seeing the emergence of edge computing in addition to cloud deployments, to support mission-critical activities that require minimal delay in processing. IoT infrastructures are beginning to transition to the edge. We also see the data center evolving from the 'core-centric' data center of today to an 'edge-to-core' data center in the near future. This will have two key parts with distributed edge IT or where the 'local' work happens; and core IT where the majority of business operation work happens, which is not just limited to the data center but also encompasses how an IT organization leverages private, multi-and hybrid cloud. We believe eventually everything will become software-defined – including both in the edge and in the cloud.

The cloud has to follow the transformation of the data center, and likewise move availability and breadth of services to reach the edge of the network. Customers are looking to shift focus to service-oriented delivery, consumption and operating models. Companies are considering a multi-cloud approach by leveraging multiple cloud environments that offer specialised capabilities to better align with the technical requirements and business-level objectives of particular workloads, applications, or services.

Edge computing is a more economical way to scale up IoT adoption since the edge is not usually one location – and in the case of the manufacturing sector, it is possible to see many small deployments running autonomously.

Edge computing is a more economical way to scale up IoT adoption since the edge is not usually one location – and in the case of the manufacturing sector, it is possible to see many small deployments running autonomously. It would not be too far-fetched to expect that more manufacturing companies will increasingly adopt edge computing because of its ease of use, low latency, and cost savings.

Moving towards an Intelligent Future

With IoT, manufacturing enterprises will become increasingly data-driven and cloud and edge computing will impart a high degree of 'smartness' to their operating environments. Smart enterprises will have real-time visibility on the efficiency of factory processes and performance, thereby enabling manufacturers to refine and improve operations with relevant and up-to-date data.

While edge computing has key advantages for the manufacturing sector, the cloud will still hold the promise of managing large data workloads that will accelerate predictive analytics, machine learning and artificial intelligence. When deployed in a judicious configuration, edge computing and the cloud have the ability to create dynamic, cutting-edge solutions for the manufacturing sector. Companies that are integrating IoT and 5G technologies into their digital strategies will be able to meet the goals of their businesses today and in future and maintain competitive advantage in today's dynamic business environment. IPF

"Construction equipment sector in India to undergo sweeping changes"

Industrial slowdown and liquidity crunch are the major challenges faced by construction equipment sector today. However, as the country is undergoing development and upgradation of urban infrastructure, the future looks promising. The sector will witness higher demand amid the government's resolve to build world-class infrastructure as well as the digitalization of manufacturing processes for rolling out technically advanced equipment, says **Pradeep Sharma,** President, ACE (Action Construction Equipments Ltd). As ACE completes 25 years of engineering excellence in January 2020, the company has embarked on a journey towards weaving the ACE Growth Story 2.0 through a consistent focus on introducing high-quality innovative products and excellent customer service. In this interview, Pradeep Sharma shares his view on emerging trends in construction equipment market and plans to make ACE an international brand.

How has been the journey of ACE so far?

Incorporated in 1995, ACE (Action Construction Equipment Ltd) is India's leading material handling and construction equipment manufacturing company. With a dominant market share of around 63 per cent, ACE is the leading crane manufacturer in India and world's largest manufacturer in pick and carry cranes category. With 8 state-of-the-art fully-equipped manufacturing facilities located in Faridabad (Haryana), ACE has manufacturing capacity of 12,000 construction equipment and 9,000 tractors annually. Our impressive product portfolio is divided into five major categories, including agri-equipment, construction equipment, road construction, foundation & earth moving machinery equipment. After creating an impressive portfolio of over 15,000 customers across India, ACE is steadily expanding its global footprints by exporting its products to around 20 countries across the world - majorly catering to Middle East, Asia Pacific, South America and African regions.

Today, ACE employs more than 3,300 people and the company has its dedicated training center based at Faridabad. It is one of the India's most awarded companies and recognised as India's Top 100 Wealth Creators by the prestigious Fortune Magazine in 2019.

How is the market for construction equipment?

Major sectors driving growth of construction equipment are:

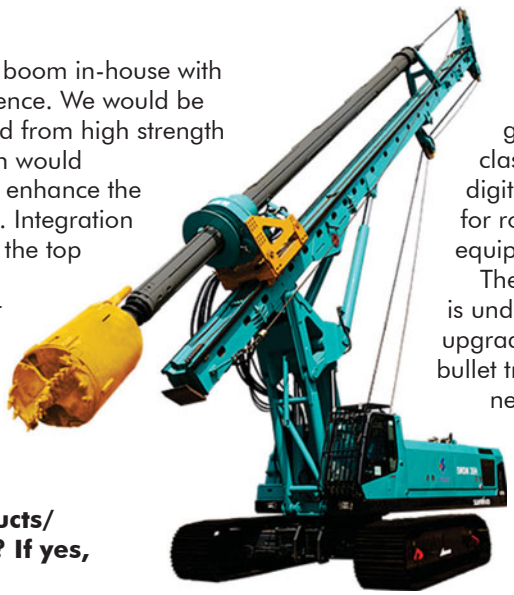
- Urban infrastructure such as metro projects across several Tier I & Tier II cities, freight corridors, airport expansion & modernisation, Clean India and Smart City projects across the country
- Infrastructure development including road sector development along (Bharatmala Project) with flyovers & bridge construction across the country
- Refinery expansion, which is currently witnessing good growth

- Affordable housing projects under PMAY (Pradhan Mantri Awas Yojna)

Automation is increasing across industries. How geared up is your company for this change in terms of (A) Making alterations in your manufacturing and business processes and (B) Offering new products and solutions to meet emerging requirements of your customers?

In view of the projected growth and government's Make in India initiative, most OEMs are upgrading their manufacturing facilities in an intelligent and innovative manner by using automation, robotics, and advanced technologies for manufacturing high-tech machines that meet global quality standards. ACE is also regularly adding new features to its product lines and expanding the product portfolio to provide holistic solutions.

We have designed the chassis & boom in-house with our engineering capability & excellence. We would be using boom assembly manufactured from high strength steel with an optimised shape which would drastically reduce its self-weight yet enhance the overall lifting capability of machine. Integration of best in class driveline along with the top notch hydraulics and in-house designed structures with high factor of safety and boom assembly differentiates our cranes from the competitors and is also a great example of Government-led Make in India initiative.



Any plans to launch new products/ application in coming months? If yes, please elaborate.

Year 2019 has turned out to be the year of launches for us. At Excon, we launched our latest product range - ACE-Sunward Rotary Piling Rigs, innovative and intelligent next-generation NX-series Cranes including NX360°-Full slew cum Pick 'N' Carry Crane and NXP-150 Pick 'N' Carry Crane cum aerial work platform (AWP) in 15 T capacity, higher capacity Truck Mounted Cranes TM450 & TM550 in 45T & 55T capacity and the all new AX-124. We intend to take our truck crane offering upto 130T so that we are able to cater more than 80 per cent of the customer needs in this segment. Similarly, in Crawler Cranes segment, currently we offer crane in 40T and the 75T capacity and intend to take it upto 160T in near future.

What are your plans to tap international market?

Currently, we export to around 20 countries across the globe - majorly catering to Asia Pacific, Middle East, Africa & Latin America regions. ACE is already the leading crane manufacturer in India and the world's largest in pick and carry cranes category.

In the next five years, we plan to establish ACE as an international brand through quality product offerings and a strong focus on after-sales service. Availability of spare parts for 10 years and an extensive network of channel partners sets us apart from our competitors in the market. Additionally, our technically advanced and extensive range of product offerings in diverse categories will also play a major role in expanding our footprints globally.

What are the challenges faced by a major CE manufacturer like you?

In current market situation, slowdown in demand and liquidity crunch are the major challenges faced by us.

What are your views on the present status of Indian manufacturing sector?

After experiencing two robust years of growth, currently the CE industry is facing subdued environment which is expected to last for 2-3 quarters. But moving forward, the Indian construction equipment sector will undergo sweeping changes. It will witness higher demand amid the government's resolve to build world-class infrastructure as well as the digitalization of manufacturing processes for rolling out technically advanced equipment.

The future looks promising as the country is undergoing development and upgradation of urban infrastructure. The bullet train project, elevated roads and rail networks being developed to the advanced level and increasing focus on pre-cast structures for enhancing the execution speed of projects will together play a stellar role in increasing the demand for construction equipment especially mobile cranes, tower cranes, backhoe loaders and piling rigs.

Also, the emerging growth areas in terms of leasing and rental of equipment, exports and increasing deployment of refurbished equipment integrated with timely service to the customers will add impetus to the growth of construction equipment industry in India.

What is your strategy to survive in tough market conditions which are currently prevailing in India and globally?

Despite the prevailing global uncertainties, rising needs for better infrastructure, modernised methods for agriculture and growing complexity of mining/ manufacturing technology will boost demand for technologically advanced equipment in these segments. The new political dispensation lends a lot of credibility and hope for the growth of infrastructure and economy in future.

ACE is fully geared-up for this forthcoming growth as the market improves. Currently, we are working at about 50 percent of our installed capacities. With the market turning around, we hope to be at 70-80 percent capacity utilisation in the next 2 years. This would help us increase our revenues while keeping our Capex to a minimum. Over the last few years, we have suitably filled the gaps in our product offerings and are ready with a comprehensive range of construction equipment, catering the diverse needs of various industries. We aspire "To be the largest company in cranes and construction equipment sector, with a global focus" & retain its position.

What are your growth plans for the company?

As ACE completes 25 years of engineering excellence in January 2020, we embark on a journey towards weaving the ACE Growth Story 2.0 through a consistent focus on introducing high-quality innovative products and excellent customer service. Moving forward, we continue to reinforce our presence in all the product segments with higher customer engagement and technological innovations.

IPF

"We are the World's Sixth Sense"

Manufacturing companies face frequent problem of critical installations getting heated up. FLIR thermal cameras help in accurately measure the temperature of these installations without touching or taking shut down. Thermal imaging cameras are the perfect tool for locating and identifying faults/failures because they make the invisible visible, says **T P Singh,** Sales Director – Instruments, Emerging Markets (India, ME, CIS, Turkey, SS Africa), FLIR Systems India Pvt Ltd. T P Singh has 26 years of experience and his educational qualifications include Degree in Electronics and Communication, Management course from IIM, Calcutta, Digital Marketing Course from DMI, Ireland. Singh takes care of Instruments Sales in Emerging Markets for FLIR. In this interview, he highlights on importance of thermal cameras and advantages of using FLIR's thermal imaging cameras.

How's FLIR placed globally and in India?

FLIR is a NASDAQ listed company having head office in USA. Globally, in 2018 FLIR did a business of around $ 1.8 billion (approximately Rs 12,900 crore, as per current USD/Rs rate). In 2018, our revenue grew organically by 6 per cent as compared to 2017. We are expecting 2019 results soon.

We say ourselves "World's Sixth Sense" as we, at FLIR, provide superpower vision, helping people around the world save lives, protect the environment, and enhance productivity. We are building more than innovative technologies; we are striving to build a more sustainable, more efficient, safer future.

Talking about India operations, wide range of products under instruments portfolio are available in India through our very strong channel partners, all of them have trained technical teams to provide best services to our potential/existing customers. We have hundreds of happy customers all over India which include electrical utilities, different manufacturing companies, service providers and integrators.

To help these customers use our products effectively, we have online/frequent offline training courses in India. Our service center is also set up in Delhi.

What is the principle behind Thermography?

Almost all objects around us emit infrared (IR) radiations which our eyes cannot see. Infrared thermography is the art of transforming an infrared image into a radiometric one; every pixel in a radiometric image is actually a temperature measurement, so temperature values to be read from the image. Thermal imaging cameras are the perfect tool for locating and identifying faults/failures because they make the invisible visible.

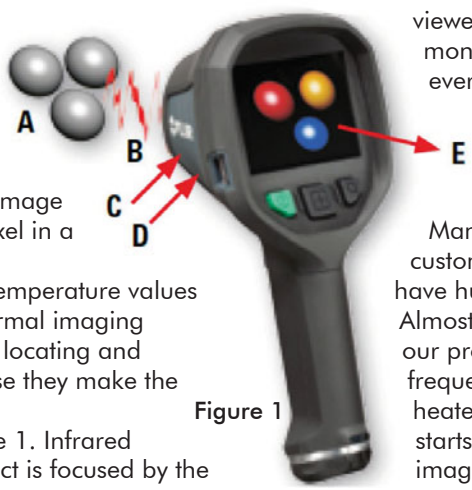


Figure 1

For understanding, see Figure 1. Infrared energy (A) coming from an object is focused by the optics (B) onto an infrared detector (C). The detector sends the information to sensor electronics (D) for image processing. The electronics translate the data coming from the detector into an image (E) that can be viewed in the viewfinder or on a standard video monitor or LCD screen. Since IR radiations are everywhere, these cameras have application almost at all the places.

What products you offer to manufacturing sector?

Manufacturing sector is one of our main customers for FLIR - globally including India. We have hundreds of products for these customers. Almost all type of manufacturing sites use and need our products. Manufacturing companies face frequent problem of critical installations getting heated up. The moment this heating phenomenon starts, temperature starts rising and FLIR thermal imaging cameras play a very important role there.

Without touching or taking shut down, these FLIR thermal cameras can accurately measure the temperature of these installations. From motors, valves, electrical contact points, belts, pipes to other electrical equipments to many other critical installations, FLIR products meet and exceed all expectations.

We have both solutions available for manufacturing sector - offline (handheld series) as well fully automated fixed type of cameras for 24 x 7 operations.

What are different products under handheld series?
Under handheld series, starting from point & Shoot Ex range to professional T series, there are number of models available to choose from, depending upon applications. If the measurement object is bigger and is very near then basic point and shoot series may help. For temperature measurement of smaller objects at longer distances, Exx and Txxx options are very useful.

Multiple new products have been added recently under this umbrella by FLIR as listed below:

- New T 8xx range of thermal cameras
- New Ex range with extended temperature measurement capabilities
- New Exx range with crisp sharp images
- New clamp and digital meters with infrared guided measurements
- Open jaw clamp meter
- Digital solutions

Please share more details about fixed type of products as well.
If someone needs 24x7 remote monitoring, then FLIR has complete range of options available to choose from F series to Pan & Tilt series. Multiple different thermal cameras can be configured over Ethernet and results can be visualised at centralised control room.

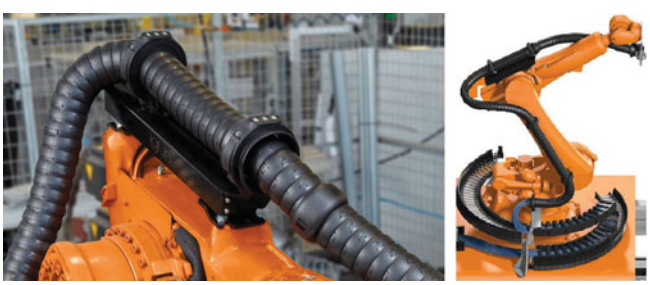
What do you think about future applications for this technology?
Since heat is everywhere and this product can visualise and measure very small change in temperature. Imagination is the only limit to use this technology. I IPF

TECH BYTE

Igus new retraction system for energy chains ensures fail-safe operation of robots

Welding, riveting, soldering: Industrial robots must work dynamically and quickly in production. Therefore, a safe and compact guidance of cables and hoses is required. This is where the three-dimensional triflex energy chains from igus are used. If the e-chains form loops in the work area of the robot, it can damage the cables and hoses as well as lead to machine failure. For this reason, igus has now developed the new low-cost TR.RSEL retraction system. The system guides the energy chain in a line on the robot, ensuring trouble-free and fail-safe operation.

Industrial robots for assembling vehicle parts in the automotive industry, for example, work with high rotations and many fast movements. Users rely on energy chains to ensure that cables for data, pneumatic and energy supply are safely guided on the robot. The triflex R e-chains from igus are very useful here because they are specially designed for industrial robotics and adapt to the three-dimensional movements of robots. However, with the growing diversity in automated production technology, it is necessary to guide not only electrical and pneumatic cables, but also hoses for bolts, rivets and screws. Since these hoses are not compatible with tight bend radii, a retraction system is required for the energy supply of the robot. For this reason igus has now developed a new, very cost-effective retraction system triflex RSEL for its energy chains. This ensures that the e-chain is kept as compact as possible on the robot arm. The system prevents the hanging energy supply system from affecting or blocking



Cost-effective and safe: The new TR.RSEL retraction system with energy chains ensures trouble-free operation of robots

the movements of the robot, even in highly dynamic applications. In the worst case, looping would damage the energy chain, the cables and hoses inside it, leading to machine failure.

Due to its standard dimensions and its very compact design, the new retraction system can be mounted directly on the 3rd axis of all common types of robots. This means that all existing triflex R series such as TRC, TRE and TRCF can be quickly and easily converted. The fixed end of the energy chain can be freely selected by the new system. Another advantage: by using the linear retraction system is the user saves additional cable length and associated costs, since no deflection is required. The triflex RSEL is available from igus as a variant with two elastomer bands in sizes 70 or 85. IPF

For details, contact Kaushik Ramanujachar (Product Manager of E-ChainSystems at igus India Pvt Ltd, Bangalore) on Tel: +91 80 4512 7828, Mob: +91 93416 35593, or email: kramanujachar@igus.net

"Gandhi Automations brings new concepts of entrance automation"

It is estimated that market for entrance automation – which helps in increasing productivity - has the potential to grow to Rs 20,000 crore from the current Rs 200 crore. Since 1996, Gandhi Automations Pvt Ltd has held a lead position in manufacturing, exporting, distributing and installing entrance automation systems and loading bay equipment that are problem free and easy to operate. In this interview, **Samir Gandhi** and **Kartik Gandhi,** Directors of Gandhi Automations Pvt Ltd, elaborate on the evolving market dynamics and their growth plans for the company.

Samir Gandhi

Kartik Gandhi

Please brief us about Gandhi Automations' global reach & latest initiatives.

We are very optimistic about local and international market. We expect India to rank 5th as the global manufacturers by 2020. We are aiming CAGR of 50 per cent being the market leader in India. It is further boosted with potential market growth in the manufacturing sector with Central Government initiatives like Make in India. Our safety and intelligent systems are at par with international manufacturing standards which helped us deliver customised products as per complying with the European Standards (EN).

Since 1996, Gandhi Automations Pvt Ltd has held a lead position in manufacturing as well as exporting, distributing and installing entrance automation systems and loading bay equipment that are problem free and easy to operate.

Gandhi Automations specialises in designing, manufacturing and installing customised products conforming to the highest safety standards complemented with reliability and energy efficiency.

Gandhi Automations Pvt Ltd, India's leading entrance automation & loading bay equipment company, has set the international ball rolling. The company's participation in international exhibitions like R + T at Stuttgart (Germany), Big 5 at Dubai, etc has amply cleared its intentions to go international in a big way.

We work closely with contractors, architects, and owners and manufacture a system that meets the customer brief or can retro-fit to meet the requirements of an existing structure.

The synergy between the different processes allows us to offer our customers high quality products. All thanks to our highly trained and experienced technicians and the use of special materials, we are able to satisfy any customer requirement. We look forward to providing most reliable solutions for any environment.

We have successfully completed 100,000 installations in 17 countries worldwide and are now looking at further expansion.

Forklift roll off barrier lip

Which are your focus areas?

Soaring investments flowing through industrial, retail, commercial and healthcare sectors construction activities in India are opening up opportunities for smart entrance doors. Growing awareness about energy efficiency and environmental impact on using automatic doors has resulted in wide acceptance in residential sectors as well as educational institutions. Technology upgradation in the automatic doors market ensures cost savings in the long run despite the higher initial cost as compared to conventional doors.

The most progressive sectors that are fast adopting to automation and efficient load houses are pharmaceuticals, food , cold storage, dairy, agro processing , plastics, packaging, paper, pulp, rubber etc. These industries see the importance of increased productive and turnaround time in the logistics and warehousing operations due to energy efficient entrances at every juncture and smooth, safe loading unloading of goods.

Our products can be customised to the requirements of the client across any industry as well as sizes and dimensions. For every application we can provide a solution to meet the demands of the ever-growing customer needs.

What are the market opportunities for your company's products in India? How do you plan to position these products?

The infrastructure for warehousing and logistics is very poor. However, with the advent of GST and implementation of GST regime, things are looking very upbeat. Companies have started investing hugely in warehouse space & logistics. This has very promising views on upcoming technology and advancements in this sector.

The emerging trends which are becoming very popular are remote operated high-speed doors and rolling shutters, the challenges here are sustainability and access. The opportunities to the Indian industry with automation is to maintain an efficient production cycle, safe inventory, cutting-edge technology, speed of movement, functionality and safety- are the must-haves for this line of Gandhi automations products. If we add the high quality of personalisation and design, they become unique elements necessary for daily logistics operations and for the visibility of customer identity.

Brief us in details about various products which you are offering?

Gandhi Automations Pvt Ltd is India's leading entrance automation and loading bay equipment company. This widely recognised position has been achieved over years of hard work, innovation, commitment to quality and reliable customer service.

The comprehensive product range of Gandhi Automations includes high speed industrial doors, dock levelers, rolling shutters, fire sliding doors, mega industrial sliding doors, sectional overhead doors, dock shelters, fire rated rolling shutters, gates & boom barriers, aircraft hangar, and doors & shipyard doors.

High speed doors - Prime Reset: Prime Reset is a unique high speed self-repairing door with the latest technology that prevents downtime of the door system. In case the curtain is impacted accidentally, it will cause the curtain to move out of the guides without damage. These doors in PVC is the most suitable solution in the field industries, it lowers the time of transition from one facility to another, avoiding any human error which can cause damage to the high-speed door, and all this thanks to the innovative 'Anti-crash System'.

High speed doors - Prime Internal Doors: Rapid Roll up Doors manufactured by Gandhi Automations (Prime Internal Door) are fast, durable, energy saver and are engineered for all kind of industrial application. These doors are used where a section of the facilities has to be isolated from other sections. This simple curtain design aids in quick opening and closure of Rapid Doors and ensure effective protection of the against heat, dust, humidity and temperature.

Industrial sectional overhead doors: Our sectional door design is best for clients who need robust, well-insulated and space-saving doors with security and offer astonishing benefits. Sectional overhead door side runners transfer vertically along the wall and parallel to the ceiling, guaranteeing best use of the available inner space. Its heat insulation and soundproofing confirmed by insulated panels, can maintain internal environment conditions and energy consumption.

Dock levelers: Dock levelers are the crucial part of your loading bay area. Usage of dock leveler aids in fast loading and unloading of goods at warehouse, moreover is also important from safety and security view. Dock leveler acts as bridge between loading bay area and truck, height difference between truck and bay area is bridged and material movement can be carried out smoothly between warehouse and truck. We manufacture dock levelers conforming to EN 1398 standards and our product is CE marked.

Isotherm Rolling Shutters: Isotherm rolling shutters are designed to reduce operational costs by improving

the energy efficiency for a variety of industrial, manufacturing, warehouse, loading bays and commercial uses. The thick door panels provide a higher insulation than the industry-standard. The high thermal properties of the doors efficiently separate climates; their precise sealing helps to eliminate drafts. They maintain the cleanliness and safety by containing debris, dust and odors, and controlling pests. They can be fabricated with Isotherm vista profiles mode of plexi glass double glazing window for visibility.

Isotherm rolling shutter

Prime Reset HSD

What is your marketing strategy for India?

With the Indian economy propelling, due to the Make in India initiative, the demand for machinery & equipment is likely to receive significant boost in the decade ahead. A report by Dun & Bradstreet states that for the period FY16-FY20, it is estimated that cross value addition of machinery & equipment to grow at an average annual rate of 14.7 per cent during FY16- FY20 and further accelerate to 17.2 per cent during FY21-FY25.

There is a clear need to add capacities in the manufacturing automation and logistic warehousing sector. The industry is moving towards increasingly sophisticated entrance automation solutions like high speed doors, automated rolling shutters, loading bay solutions, hangar and garage doors, sectional overhead doors, etc driven by demand from key user segments such as automobiles, consumer durables, aerospace, pharmaceutical, food, construction, industrialisation etc. To derive long term benefits, entrance automation manufacturers should develop capabilities to cater to this demand and promote greater investments in this sector.

Ensuring efficiency in your procurement process has a positive chain reaction within your entire organisation. The objectives of a world-class procurement organisation are far beyond the traditional belief that procurement's primary role is to obtain goods and services in response to internal needs. In fact, a successful procurement process aims to optimise the whole process to create significant business value.

Gandhi Automations, an effective service provider, is being able to tailor services so as to minimise the impact of market dynamics on a client's supply value chain. We also are able to proactively ensure compliance at all junctions of business operations. Emerging technology and the proliferation of digital technologies have opened up avenues for new business models and service delivery frameworks. We leverage such technologies in providing value added services to the clients.

What is the role of R&D activity in your company? What is the infrastructure of your company?

We, at Gandhi Automations, believe in delivering high-quality, state-of-the-art, safe and energy efficient products. It is this passion and commitment to quality that propels us to continuously strive to do better for our customers by meeting or exceeding all requirements and expectations.

Gandhi Automations specialises in designing, manufacturing and installing customised products conforming to the highest safety standards complemented with reliability and energy efficiency.

All our products are designed and manufactured with European collaboration using innovative and creative engineering technology. The product development team uses the latest software combined with technologically advanced machinery to offer our customers an excellent engineered product. To ensure superior quality and operational efficiency, the company has a state-of-the-art manufacturing and warehouse facility of 300,000 sq ft.

We lay great emphasis on exceptional customer service and provide regular programmed inspections and maintenance safeguards which increases product lifetime and reduces operational cost. We have a huge team of committed and diligent engineers & technicians; many of them are trained at advance training centers in Europe for this purpose.

Gandhi Automations Pvt Ltd is the only company in the above field with a national presence through a network of branch offices with proper back up support for installation & servicing.

Brief us what are your quality policy for your business?

Quality is a key driver of progress for us and is an integral part of every process we undertake, from R&D to product delivery. Our quality policies are constantly upgraded to meet and exceed our customers' expectations. Gandhi Automations is committed to delivering high-quality products and services to its customers and continuously strives to improve in all aspects.

Our products and services are geared towards ensuring that every delivery to the client passes through our stringent quality measures. This policy has engendered a work culture that exhibits a no-compromise attitude towards quality.

Could you brief us on Indian & global perspective of your industry?

Procurement professionals around the world are standing on the threshold of new age. Until now, the essential criteria for future-proofing procurement and supply management have never been so purposefully compiled. The old paradigm of cost reduction and cost efficiency is drawing to a close. New and revolutionary concepts are spinning from the frenzied technological leaps of our time; especially in digital transformation.

In this dynamic, complex and disruptive era, procurement leaders and experts around the world are searching for a secure and successful future. Future-proofing can deliver this security – provided the methodological and instrumental requirements this study discusses and proposes - are in place. While everyone is talking about future-proofing, only few have the operational expertise to future-proof their organisation.

The machinery and equipment industry has significant opportunities both in the domestic and export markets in the decade ahead. However, high dependence on imports, capacity constraints, outdated technology, lack of R&D focus and innovation is hampering in exploiting the sector's full potential. At the same time, demands of the user industries are expected to evolve and the demand for next generation, customised products will increase. In this scenario, machinery & equipment companies who fail to adapt to this change will be left behind. Enhancing R&D efforts will be an important step to attain manufacturing excellence for the industry in the coming decade.

What are the key technological trends that the industry?

The Indian automation industry is growing at an annual rate of 20 to 25 percent. With India's gradual integration with the world economy, automation will play an important role in bringing down the costs.

Besides costs, automation will also help increase productivity efficiency, aesthetics and delivery systems. Several international players are considering India as a development hub for automation products.

We, at Gandhi Automations, are always trying to bring this new concept of entrance automation to India for each segment.

Today many people are aware of only the concept and they do not know the working, the benefits, the safety and the savings associated with entrance automations. As the knowledge about it increases and the consumer will be educated enough, they will start to think of it as a primary requirement and treat them not as a luxury. I think five years down the line, this product will sell on facts & benefits rather than on marketing skills. On our part, we are constantly trying to educate the consumer by taking part in industrial exhibitions, doing road shows & seminars, conducting lectures, sending newsletters, etc.

Dock levelers

Market for entrance automation is around Rs 200 crores. But the potential is of Rs 20,000 crores. These systems are a must for every industry reason, main being safety and increased productivity. The only way to compete in the global market is through quality and price. These systems aid in achieving higher level of productivity. We are doing our best in educating people about the benefits of these systems. We feel the Government should give incentives for installing such systems, create norms for automation in industry and warehousing.

What is your vision for your company?

We are number 1 in the domestic market. There is huge untapped international market for our products. Our products meet international safety standards. With right kind of product portfolio, we are ready to meet the demands of this huge international market.

With increased globalisation and countries opening up for business, we see a great opportunity in neighboring countries also. For instance, in Myanmar, last few years foreign investments has increased from few million to several billion dollars ($ 5 billion 2014 to $ 561 billion in 2018). The Myanmar government has relaxed import restrictions and abolished export taxes. Such policies boost our confidence and we will venture in such countries.

Our current target for export is Gulf Countries and European Countries. In coming years, we will be aiming neighboring countries like Bangladesh, Indonesia, Bhutan, SriLanka and few African countries. I have visited few of these countries and we have better products to offer them, than the ones they are currently using. By 2020, we are targeting 50 per cent revenue from export.

IPF

"Without support of SMEs, India's growth is not possible"

Increase in manufacturing activities and number of warehouses is propelling the growth of material handling equipment market in India. Material handling equipment - used in warehouses for managing the storage and transportation of goods - improve productivity by enhancing logistics at warehouses and manufacturing plants, says **Nimesh Karelia,** Director, Jay Equipment & Systems Pvt Ltd – one of the leading players in the MHE sector. The industry, presently undergoing a tough time, is expected to increase by about 7 per cent during the next 2-3 years period. In this interview, Nimesh Karelia tracks the industrial trends and their impact on the demand for MHE market.

How is Jay Equipment & Systems serving the Indian industries?

We are the manufacturer of material handling equipment, automation, lifts and customised equipment. Our state of the art factory at Vasai, near Mumbai, manufactures product with quality standards like ISO 9001:2015 and follows best industrial manufacturing practices. We conduct regularly safety program for employees, do risk assessment and embrace occupational safety services for site based personnel and are protecting, promoting and maintaining the safety of all stakeholders in its areas of operation. Protecting the environment, preventing pollution and ensuring rigorous controls on environmental impacts are what we believe in.

We are OHSAS 18001:2007 & Environmental Management System ISO 14001:2015 compliant and our equipment are designed as per international standards and perform efficiently to suit every need. As far as quality is concerned, we are a company extremely conscious with high quality parameters to achieve the desired quality. We provide our customers high quality products by keeping multiple checks at various process stages from product planning to final delivery. Well defined process including internal quality audit, experiment & review production manufacturing and collecting and responding to market information help us excel our activities to perfection. We are committed to customer satisfaction and service.

How is the market of material handling equipment and storage solution? Which industries are driving the demand for your products and solutions?

As per the reports and market conditions, the material handling equipment market is expected to increase by just about 7 per cent during the next 2-3 years period. Developing logistic market, rising demand for incorporation of automation and modernisation in logistics & manufacturing process, expansion of other industry and demand for transparency in supply chain & flexibility in warehouse operations are some of the factors

We are one of the fastest growing material handling equipment manufacturers and service providers in the country. Since beginning, we have concentrated to provide quality and acceptable in international markets. So we now started focusing on export market and are also in discussion with many to offer them OEM solutions.

expected to drive the growth.

Material handling equipment are used in warehouses for managing the storage and transportation of goods. They ensure improved productivity by enhancing logistics at warehouses and manufacturing plants. These products offer cost effective process efficient and an accurate method for the swift transition of goods across the manufacturing plants and warehouses resulting in increased demand. The industries driving the demand for our products are E-commerce, automotive, engineering, chemical, logistics, printing & packaging, aviation, pharmaceuticals etc.

Automation in warehouses is increasing. Against this background, what kind of opportunities are you looking at?

Every business has its special needs and we at 'JAY' are eager to ensure that our clients take full advantage of our technical expertise in solution & automation technology to maximise their business potential. We are now also taking up other solutions with our clients and offering them our most modern innovative automation solutions in material handling equipment & its services.

Are you planning to tap international markets?

We are one of the fastest growing material handling equipment manufacturers and service providers in the country. Since beginning, we have concentrated to provide quality and acceptable in international markets. So we now started focusing on export market and are also in discussion with many to offer them OEM solutions. Our products are suitable for export and till date we have exported our products to more than 25 countries across the globe.

What are the challenges faced by SMEs like you?

India is a developing country and most of the India's economic are influenced by two main sectors, ie multination corporations (MNCs) & SMEs. SMEs face innumerable challenges which are more complex. As we know, India has now been growing at a steady phase. To continue at the current pace, India needs to strengthen one of its core micro factors, one of them being SME segment.

In India, some of the key challenges faced by the SMEs are scarcity of resources, availability of proper & immediate finance, lack of technology know-how & many more. But, we are hopeful that current government will resolve all this issues.

Would you like to share with us some of the R&D activities that you are currently working on?

We are glad to inform that in 'JAY' R&D is an ongoing process, as any given time we are always working on some new products. In the current year, we had introduced around 6 new products, and next year around second quarter we are planning to launch few more new products.

Any plan to launch new products/application in coming months? If yes, please elaborate

We keep innovating & introducing new products, so for this year our launch has already happened. Now in the second quarter of next year, we are planning to launch few more new products.

What are your views on the present status of Indian manufacturing sector? How can SMEs contribute to its growth?

Currently SMEs are struggling for survival due to economic slowdown. We expect in the second quarter of next year growth will be better. As SMEs are the backbone of Indian economy, India's growth is not possible without their support.

Government aims to make India a $1 trillion manufacturing economy. In order to achieve it, what should India do?

This is a very big question, but I can say there is potential to achieve $1 trillion economy, but the political will has to very strong.

What is your strategy to survive in tough industrial conditions which are currently prevailing in the market?

Even though the economic conditions are tough, India has lot of internal consumption. Being a manufacturer, we have a bigger area of operations. Due to our wide range of products and a brand value, we are doing better in these tough conditions.

What are some of the emerging trends to your industry? How are you gearing up to tap them?

Some of the emerging trends to our industry on both manufacturing as well as customer's front are Internet of Things (IoT) in industrial automation, mobile apps and multi-touch in technology in automation sector and virtualization in industrial manufacturing. We are glad to inform that the company has recently tie-up with an IT automation company for providing end to end automation solutions to our clients.

How do you intend to take your growth story forward?

The prevailing economic conditions are tough for everyone. But, on the other side, last quarter seems to be very much brighter. So let's wait for the year to end. But from next financial year, we are expecting a much higher growth than current year.

IPF

"Warrior has changed the way India looks at safety shoes"

On the occasion of the Warrior brand completing two decades in the Indian market, **Adesh Kumar Gupta,** CEO, Liberty Group is very upbeat about the growth potential of the safety shoe segment. In this exclusive interaction with Manish Pant, he emphasises that the central government will need to work proactively if it truly wishes to see India become the footwear hub of the world.

How large is the market for safety shoes in India?
It's very difficult to define the market size in India because we have a largely unorganised sector. But we can always make some guesstimates on a population base of 1.3 billion. The safety footwear market includes B2B, which includes businesses. These can again be divided into, one, the manufacturing sector and, two, the services sector that uses them as dress shoes as is the case in the airline industry. When it comes to B2G or business to government, you have the armed forces, personnel of the paramilitary and police forces, and railway staff. Then you have what is called the tenders sector. Therefore, the market for safety or, I would say more specifically say work shoes, is humongous.

In the two decades, the brand Warrior has been around, what has made it synonymous with safety?
The brand was founded on the best principles of innovation. Till its introduction, the safety footwear being sold in the Indian market was of archaic standards that were established way back in the 1930s! We, therefore, challenged ourselves to introduce a product that adhered to stringent European norms in the Indian market. This not only brought about a complete change in standards but was also instrumental in making the Bureau of Indian Standards (BIS) norms to conform to IS-15298.

You take immense pride in the fact that innovation is central to Liberty's DNA and is credited with introducing polyurethane (PU) in footwear manufacturing in the country in the early 1980s. So, was the market ready when you decided to launch Warrior?
Naturally, while introducing innovation you cannot look at the mass market. When mobile phones were introduced here, only a certain class of consumers was buying them. But over the years they have trickled down to a large base. Similarly, Warrior has trickled down from a niche segment to different classes of customers. That means people employed with foreign and Indian multinationals and companies keen to encourage

innovation among their workforce by provisioning for best industry practices.

The challenge was how to take our product to the consumers. We, therefore, did roadshows across the country to meet the leading distributors of footwear. It wasn't easy but I was eventually able to prevail upon them to also sell our footwear.

Today, besides the government, we are serving about 2,500 businesses. We are the first company that the Ministry of Defence (MoD) has placed an order for half a million pairs of shoes worth Rs 1 billion. That speaks a lot about the brand. We forced businesses to look at buying quality safety shoes locally. For instance, when

construction of Delhi Metro started, workers including its managing director, E Sreedharan were using our shoes that would have otherwise been imported. Today leading companies like Maruti Suzuki, TVS, Toyota, Mercedes Benz, ONGC, Oil India Ltd, Hero Motors, etc, all buy Warrior.

How easy was it to convince the big boys of Indian manufacturing to buy your product?
When you are offering a product of international standards why would anyone doubt you? The legacy of faith that the Liberty brand had enjoyed since 1983 was used to introduce Warrior to consumers. A lot of companies also tested our product where we delivered more than what we had promised. That resulted in consistent growth in sales year-on-year. The other factor was cost as imported shoes were expensive on account of import duties.

What are some of the main innovations in technology and design that you have introduced in the segment?
As I pointed out earlier, we have a strong foundation in innovation. Since the introduction in 1999, Warrior has continued to be a bestseller. Remember that safety footwear is not a fad. It satisfies the safety requirements of the worker and their workplace. Having said that, we have continued to invest in innovation by adding new product lines like the thermoplastic polyurethane technology. The injection moulding prevents the shoe from coming apart.

Besides, as the steel toe and steel plate (which are the foundation of a safety shoe) were not available locally, manufacturers were using moulded iron! So, we started their import from France. After three years of hard research, we are shortly going to unveil popcorn technology. Shoes made using this technology have three soles and will be introduced in Warrior's 20th anniversary year at the beginning of 2020 under the Warrior Envy brand. The product has a new logo. We have already shared our brochure with 500 businesses. As part of our 360-degree marketing initiative, we will be sharing a video specially produced for all important social media channels.

Also, has the current economic slowdown impacted the demand for safety shoes?
We have four verticals with the first being the domestic market which is B2C or fashion. The second vertical is B2B, which includes institutional and industrial clients. The third is the export market. The fourth, and which is very important, is B2G as the government is the biggest buyer all across the globe. The MoD order will help double our production. So, we can't say the consumption has reduced as our order book is almost full. Our capacity is sold out for the next year and we may have to bring in additional capacity as we are likely to see 100 per cent expansion in B2B and B2G segments. Unlike steel or cement industries, the footwear industry works on the principle of incremental growth.

Have the new disruptions in technology had an impact on your business?
Although there is much talk about Industry 4.0, the footwear industry will largely remain labour intensive. Wherever we had to take advantage of technology such as on the injection moulding side, those changes have already been incorporated. But when comes to manufacturing uppers, which comprises 80 per cent of the employment in the shoe industry, that continues to be done by hand. There are technologies like laser cutting available but their costs are exorbitant. That is why all our manufacturing facilities are called Humantech Centres as they optimise the potential of manpower and technology. Sectors like footwear, sanitaryware and apparel will always be large employers of semi-skilled labour. Even in China, these sectors that provide the bulk of employment.

Since you mentioned China, now has the Indian footwear industry fared vis-à-vis our eastern neighbour?
It's very unfortunate that though we launched the excellent Make in India concept six years ago, we have failed to see it reach fruition. The government's intent is very good but the execution is poor! I have been nominated as the chairman of the entire domestic leather manufacturing industry under the Ministry of Commerce but despite that, there has not been much movement though footwear was among the top 20 sectors that were chosen for the programme.

China's share of the industry is 60 per cent while ours is a measly 2 per cent. At the same time, despite a 1.3 billion population, the average consumption of shoes is only one pair. Now imagine if we have to produce billions of pairs over the next five years, where will the capacity come from? So, though individually we might be doing well, we will fail as an industry to meet the challenge that will be coming our way in the next few years when India would have leapfrogged to become an important hub for domestic as well as international manufacturing.

The Index of Industrial Production (IIP) numbers for the footwear industry are in the negative, imports continue despite duties being introduced in the last few budgets at our insistence and substantial tax evasion still takes place due to the existence of the two slabs of 5 and 18 per cent. But the government has so far been immune to changing its archaic thought process.

Any message to the industry as Warrior completes 20 years in the market...
Warrior is not merely a brand of the Liberty Group; it belongs to the whole nation. Be it about guarding the country's borders or working in the manufacturing or construction sectors, we are all warriors in our own right in our fight against the local environment. So, the safety aspect is inherently built into the brand name! IPF

"SunBless is money saver for all industries"

Arhan Technologies Pvt Ltd (a part of the Arhan Group) is a leading technology company based in Japan and Pune (India) providing innovative solutions and services to its clients in India and internationally. Arhan, which has rich experience in state-of-the-art Japanese engineering technologies and Indian operations, works in field of supplying advanced machine tools, automation solutions, engineering assembly line products and Japanese mechatronics parts. Arhan has design and manufacturing set-up of material handling systems in India. In this interview, **Sudesh Rokade,** Director, Arhan Technologies Pvt Ltd, elaborates on the advantages of thermo-reflective coating, importance of innovations and India's manufacturing sector.

How has this Indo-Japanese collaboration evolved?

Arhan, based in Japan for more than two decades, has developed strong associations with noted Japanese scientists, and their well established research centers and engineering industries. Arhan intends to leverage on this and, together with their help, work towards making similar advanced technology based products and services available to the Indian society.

We have a passion and aim to create effective innovations by introducing innovative technologies for growth and in the process enrich the Indian and global society. We intend to bring about an improvement in the comfort level and quality of human life, in general, through innovate and efficient solutions to address all the existing problems in the field of energy generation, energy savings, water treatment & nano-bubble healthy water production, waste treatment, chemical fertilizers/ pesticides free farming, etc. Farming production has increased with natural science technologies developed in Japan and that could help Indian society at large.

Our association with Japanese teams are for jointly working with them for the benefit of Indian as well as global society.

What are the advantages of thermo-reflective coating?

Thermo-reflective coating helps to reduce material's external temperature and effectively reducing building's/ factory's internal temperatures. Excess heat is the root cause of our problems as it leads to high energy consumption, air-conditioner usage, high fuel consumption in vehicles, uncomfortable working and staying conditions inside the room. High amount of air-conditioner usage and electricity consumption lead to pollution and global warming, besides high cost burden.

We are trying to work on root cause of this problem to address these issues.

We noticed in India and tropical countries, not only rising temperature but there are other major problems faced by the habitats. Houses frequently developed cracks due to severe heat, which then lead to water leakage during the rainy seasons. The industries suffer similar issues with their infrastructures developing water leakages, which further leads to severe damage due to rusting and weakening of the structures. The houses, buildings and infrastructures in the coastal regions have more such problems and their treatment becomes very expensive.

We realised the need of addressing all these multiple problems in one solution. There was an urgent need for a technology-based, all-pervading universal solution that would be cost effective as well as long lasting to solve infrastructure and construction industries problems.

SunBless is an all-in-one solution that is effective and

eco-friendly solution for providing relief from heat, protection from water leakage & seepage, relief from wall & ceiling mould, protection from sea salt water corrosion, relief from roof-top noise during heavy downpour, energy savings and strengthening the structures.

Which industries are the major users of thermo-reflective coating?
SunBless is a universal protective shield and money saver for all types of industries such as automobile, chemical, pharmaceutical, paper, garment, textile, food, home appliance, telecommunication, power & energy, etc. It has applications for banks, IT industries, malls, corporates, hotels, resorts and public infrastructures airports, railway/ bus stations etc. It can also be used in inter-city buses, school bus and corporates employee bus for ensuring comfortable travel and most important to save fuel and reduce pollution.

How is the demand for SunBless? What are the factors driving the demand?
SunBless has received good response from customers who have started using it and are now recommending to others. We expect huge demand from all industrial sectors as well as residential users and corporates.

Recently witnessed global warming problems of scorching sun, heat, heavy sudden rains, polluted air, etc can be addressed by SunBless by providing protection to infrastructures. By solving infrastructure problems and proving energy saving will drive the demand for SunBless.

Are you planning to tap international market?
Arhan and Group companies are already working for international sales and have a plan to start sales in all tropical countries and countries in regions like Middle East, South African, etc were hot temperature is prevalent. We have a plan to establish production plant in India to have economical production and distribute worldwide.

How do you intend to scale up?
We have a major challenge to take this innovation to all India customers (who are operating in various segments) in a short time. We have to cover wide range of institutional, corporate, industrial, and individual customers. We are considering an innovative model here too to attract business development talent who will associate with us as young entrepreneur sales partners. We will also develop distributors and dealers channel to reach all Indian and international customers.

Would you like to share with us some of the R&D activities that you are currently working on?
We are passionately working to find technological solutions that our society needs. These solutions are for reducing global warming, energy savings, to get rid of chemical based fertilisers and pesticides (that are damaging our soil, rivers and people health), new farming technologies (that will give more yield to farmers and solve all pests problem for which still we are looking for new solutions), chemical-free water cleaning and processing technologies (to make our well water, rivers, lakes, dam water clean & pure), etc. We are also working on new waste management technology that will eliminate incineration and waste burning.

These are futuristic innovative products where Japanese scientists are working and our team will introduce them in India as they get ready.

We are working for a plan to establish manufacturing SunBless plant in India by 2020 and export globally from 2021. Simultaneous we are working to introduce futuristic innovative products for different sectors that could bring prosperity to India and contribute to nation building through Make in India programs.

What are your views on the present status of Indian manufacturing sector?
Indian manufacturing sector is working to adjust to new technologies, business challenges, market needs and incorporating new solutions. We have large population and hence our challenges are also big compared to other countries.

SMEs can contribute to growth if we can start work on individual company's original product development and have unique identity similar to Japanese companies.

Government aims to make India a $1-trillion manufacturing economy. In order to achieve it, what should India do?
Our Prime Minister Narendra Modi has an ambitious plan of $5 trillion Indian economy by 2025. This is quite possible to achieve if we address root cause problems that are creating hurdles to this goal. These could be in infrastructure, quick mobility, R&D set-ups, and skill-up programs, investment friendly environment and so on.

India has a great potential with right talent and just need change in mind-set to work on innovations and do different things that world and society is looking for.

What is your strategy to survive in tough conditions which are currently prevailing?
Introducing product based solutions that "society is looking for" is a best strategy to work in any tough condition or challenging environment. We would like to introduce these solutions one by one in Indian and global market.

What are your growth plans for the company?
We are working for a plan to establish manufacturing SunBless plant in India by 2020 and export globally from 2021. Simultaneous we are working to introduce futuristic innovative products for different sectors that could bring prosperity to India and contribute to nation building through Make in India programs. IPF

"MSMEs have to be empowered to fulfil $5 trillion economy dream"

Employing more than 100 million people, micro, small & medium enterprises (MSMEs) segment forms integral part of the Indian economy. As India aims to become a $ 5 trillion economy, MSMEs are expected to play a significant role in the growth of Indian economy. In this interview, **Arjun N,** Founder & CEO, Solution Buggy Connect, explains how MSMEs can play a pivotal role to nurture new entrepreneurs & innovators who have the potential to create globally competitive businesses from India.

What is the future of micro, small, medium enterprises (MSMEs) in India?

India is expected to emerge as one of the leading economies in the world over the next decade in the light of a positive demographic and economic scenario. The micro, small & medium enterprises (MSMEs) segment is expected to play a significant role in the emergence of the Indian economy. The development of this segment is extremely critical to meet the national priorities of employment generation, inclusive growth and global reach. It can play a pivotal role to nurture development of new entrepreneurs & innovators who have the potential to create globally competitive businesses from India.

What role MSMEs can play in the $ 5 trillion vision?

MSMEs are integral part of the Indian economy. Over 6 crore MSMEs in India provide employment to more than 100 million people. They roughly contribute 30 per cent to country's GDP and 50 per cent to exports. The $ 5 trillion economy dream can only be fulfilled if we empower the MSME sector to enhance its contribution to the economy from 30 per cent to 50 per cent, employment generation from 100 million to 150 million and export contribution from 50 per cent to 75 per cent by 2025. This is a herculean task considering the diversity, technology penetration & adoption and geographical vastness of India. The whole ecosystem of policy makers, influencers, potential entrepreneurs, innovators align should with the MSME industry and create synergies for this aggressive growth goal.

What is SolutionBuggy (SB) and how it is different from other platforms?

Solution Buggy (SolBuggy Connect Pvt Ltd) understands the need to focus on SMEs manufacturing sector. The sector has been otherwise overlooked by innovators and technology leaders. The idea is to "Bridge The SkillSet Gap" by providing best "Subject Matter Experts" to the industry to solve their challenges related to financing, product development, quality, business development, exports, strategy, financing etc.

Our online platform connects industry with the Subject Matter Experts (consultants) across India to make them more efficient, productive and help them grow.

How has manufacturing sector benefitted from SB so far?

Approximately 55,000 manufacturing companies and 6,000 consultants are registered with our platform. We have solved more than 1,000 challenges (problems) of the industry. We cover more than 30 sectors and 75 skill sets. The intent is to reach to every nook and cranny of India to served the most underserved and inaccessible industries in India, understand their challenges & constraints and solve them through our expert consultants.

What are the future growth plans of SB in next 5 years?

At SB, we "Connect-Interface- Team-up". We start by connecting industry with consultants, facilitate communication between them by interfacing but intend to team-up with the industry. SB should be on "top of mind" when they face any challenge in business today or anytime in future.

The next five years will be exciting and transforming for Solution Buggy. We plan to enhance our operations in multiple locations in India, South East Asia, Middle East and USA. Next few years will witness addition of new and value added offerings from the SB and focus on the "Team-up" aspect of our platform. IPF

INTERVIEW

Piyush Garg

"We plan to grow geographically by exploring untapped markets"

...Says **Piyush Garg,** Director, Balaji Switchgears Pvt Ltd, which is aiming to achieve Rs 1000 million revenue this year. In this interview, he shares his views on new potential markets and the company's strategy.

How is Balaji Switchgears serving the Indian manufacturing sector?
We are a technology component provider to all the manufacturing sectors. With global partners, who are manufacturing switchgear and automation products, our positioning fits in almost all the sectors. We have our footprints in variable industries like food & beverages (F&B), bottling, packaging, SPMs, HVAC, building etc, which makes us a reliable choice for our customers in their respective fields.

What is driving the demand for your products & services?
Demand for our line of products and services has been pretty decent in last few years, as a lot of investment is being pouring in all the manufacturing sectors. Major demand is derived by investment in infrastructure and industries, to which other sectors are heavily dependent upon.

What are the advantages of using your products?
We have partnership with global technocrats through which we provide multiple folds of products & services. Apart from providing traditional switchgears & commodities, we are also into automation and IoT enabled solutions, which can provide an individual end-to-end connectivity for their machines with data monitoring and controlling sitting at a remote location.

How is the market for switchgears evolving in India?
Switchgear market has evolved leaps and bounds, in the last decade. Industries have evolved themselves with the latest technology and are geared to transform their entire eco-structure. Now everyone aspires to have communication capable technology in their respective businesses, which should be energy efficient and should have the features like predictive maintenance, so as to reduce downtime and failures. Balaji Switchgears' team has complete solutions for such needs and we are catering to multiple utilities for their associate needs.

Automation is increasing across industries. How is your company tapping this development?
With our unified platform of EcoStruxure (of Schneider Electric), we have a 3 layer approach for atomising and connecting you to IoT. A lot of success stories have been developed by our team, with this platform which is helping industries get the best out of their installations.

Amid slowing demand, what is your success strategy (or mantra)?
Last 5 years have been really challenging for us, as the economy has seen many ups and downs. However, because of our diverse portfolio & customers, we have managed to grow at CAGR of over 15 per cent. Predominately, the only mantra to grow is having a diversified product and customer portfolio.

What kinds of challenges are SMEs like you facing at present? Is import a threat for SMEs?
Government needs to play a very vital role in helping the SMEs, as more than 70 per cent of economy is driven by them. Major challenge faced by us is the payment recovery and non-compliance by our customers. Our mechanism for legal actions against entities which are defaulters in payments is not full proof, which generates a cash crunch in the circle and hence the entire flow stops. We need to have a policy wherein the pay cycles should be linearly monitored so as to have a healthy business environment.

The Government aims to make India a $1-trillion manufacturing economy. How important will be the role of SMEs in achieving this target?
SMEs will play an extremely important role in achieving this target as more than 70 per cent of our economy is run by them. Most of the Skill India and Make in India initiatives have been followed and regularised by this sector and hence SMEs tend to be more indigenous in their approach.

What are your growth plans for the company?
We plan to grow geographically this year by exploring untapped markets. Also our complete solution provider approach will definitely help us in getting that extra mile with which we tend to achieve our Rs 1000 million revenue this year.

IPF

"Adoption of new technologies is must for consistency in growth"

…says **Neeraj Gupta,** Director, Monotech Engineers Pvt Ltd. He believes cooperative manufacturing and devising the growth path for all can help the industry to achieve the ambitious target of making India a $ 1-trillion manufacturing economy.

Please take us through the businesses of Monotech Engineers. Which products are experiencing higher demand?
Monotech Engineers Pvt Ltd, established in 1993, pioneers in designing & manufacturing of metal finishing machines and special purpose machine for automotive component. In 2005 taken over by NS - Energy Group wherein its facet has been changed/transformed by adding hydraulic & CNC metal finishing machine which find special status in the industry, domestic and global market.

Now company enjoys 50 per cent of its revenue generated out of exports to various developing countries across the globe.

Machines like plate rolling, straightening, metal stitching, metal forming, etc are in demand.

How is the market for cranes?
It is a promising market with excellent demand in domestic and global markets.

Could you please highlight on your R&D activities?
We are always in search of new developments as to reduce process time as well as economy of operations which is exercised through machines.

Yes, innovations and improvements are always on and continuous process.

What are your views on the present status of Indian manufacturing sector?
Production in India is very poor due to solo growth target. Rather it should be focused on cooperative development wherein whole society of manufacturers is benefitted.

Are imports posing a threat to your industry?
No, not at all you need to create confidence among your end users.

What should India do to achieve the government's target of making India a $ 1-trillion manufacturing economy?
Only cooperative manufacturing and devising the growth path for all is required.

What is your strategy to survive in tough conditions which are currently prevailing in the market?
Be-contended in your activities, look for continuous development and adoption of new technologies are the only solutions for consistency in growth.

What are your growth plans for the company?
It is important to win the end-user's ultimate confidence level for real growth to follow.

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INTERVIEW

Jitender Virmani

"Ajooni aims to increase turnover by 3 folds in next two years"

With land prices becoming costly, every copmany is looking to maximise utility of the available space. Ajooni helps the big industries by providing them solutions for their storage problem which in turn help in their growth and efficiency, says **Jitender Virmani,** Director, Ajooni Storage Systems. In this interaction, Virmani explains importance of storage solutions in increasing efficiency of the industry and highlights on Ajooni's latest offerings.

How are solutions offered by Ajooni Storage Systems helping Indian industries?

Ajooni is providing top class products and services. Our motto is to provide storage and warehousing solutions to all the major industry players. As the world is getting smaller, the need and value of space has increased. Everyone wants to optimise the available space. Ajooni gives options like storage racks, mezzanine floors, mobile compacters etc. We also provide options of easy to help and hasten the process regarding product mobility like stackers, forklifts, pipe and joint racks, etc.

Which products & solutions are driving the business?

Our major business comes from palletised racking, multi-tier racking and mobile compactors. We provide the storage solutions to the logistics companies through warehousing solutions.

What are the advantages of using Ajooni rack storage systems?

Ajooni gives a 100-per cent quality of goods and we make sure even after the delivery, the post sales and other help services are provided. We give our clients quality for the money spent.

How is rise in e-commerce giving a boost to warehousing and storage systems?

E-commerce is boon in warehousing. The fact that in today's digital world everything is available on our finger tips. The people today want the things to be delivered at their doorstep. Therefore, warehousing is very integral part of this growth. Ajooni caters to these new upcoming warehouses by providing customised storage systems as per the need.

Warehouses are adopting for automation solutions. How is Ajooni reacting to this change?

Change is the only thing constant in this world. After every decade, every industry sees a spurt of growth and change. These changes accelerate the turnaround period of doing business. The automation solutions cut down the time taken to finish the product and to deliver it. We are coming up with the solutions which are semi-automatic, as well as fully automatic. These solutions will help in decreasing the retrieval time of products from the racks.

Any plans to launch new products in coming months?

Soon we are coming up with new products which will help in increasing efficiency in existing racks. Automatic retrieval racks is already provided by others in India. These light-in-demand solutions are used in Europe, but would be new concept for India.

How can SMEs contribute to the growth of Indian manufacturing sector?

Indian manufacturing sector had somewhat reached a plateau. But thanks to policies introduced by the Union Government, under the leadership of Prime Minister Narendra Modi, there has been a boost in the industry. Though the policy changes have a long-term benefit, changes can be felt even now. Companies, like us, help in increasing total manufacturing output and growth by delivering the products to big manufacturers, and many times directly to the end-users. Big players available in market don't manufacture everything in their premises. First, it's not feasible for them to manufacture each part. Second, they have to increase their infra in multi-folds. Most of the products they outsource to other companies, and that work is taken care mostly by SMEs.

What are the challenges faced by Indian SMEs?

SMEs are integral part of the Indian industrial fabric. SMEs help in upholding every major industry. For example, Maruti is supporting many SMEs by outsourcing production of parts and sub parts. All these SMEs help in making the economy stronger. Ajooni, as a SME, helps big industries by offering solutions for their storage problem which in turn help in their growth and efficiency.

Government aims to make India a $1-trillion manufacturing economy. In order to achieve it, what should India do?

India is a growing economy and we are have had an unprecedented GDP in the last we few years. Last one decade has been crucial in the growth of our economy. I firmly believe that we have the potential to be a $ 1 trillion manufacturing economy. The firm and decisive steps that the government has taken in the last few years are the stepping stone in this direction. GST, Demonetization, Aadhar card, one tax for all, etc have been very crucial to achieve this mark. I believe in the next two decades or before, we will surly and firmly achieve this bench mark.

What is your strategy to survive in tough conditions which are currently prevailing?

At Ajooni, we aim for the best product and after sales services at affordable and competitive prices. This strategy is relatively new. SMEs have helped us to survive demonetization, GST etc. These tough conditions have helped us to strengthen our foundation and made us self-reliant for every condition. We do business to serve you better.

What are your growth plans for the company?

We are planning a new manufacturing unit in near future to cater the upcoming requirements, and increase the turnover by 3 folds in next two years. IPF

COMMUNICATION FEATURE

Bright Engineering raising the quality bar of steel products

Bright Engineering Works (BEW) is one of the leading suppliers of steel products like bars, profiles, etc in various grades of steels. The company offers products like steel bars & sections (hot rolled), steel sections & profiles, steel bars cold formed profiles, and coal drawn steel sections & profiles.

BEW's plant is located at Liluah (5 km away from Kolkata, West Bengal) and has an installed capacity of 7,000 metric tonnes for making steel bars which suit a variety of industrial & non-industrial applications. BEW offers a wide range of products in different shapes/sizes such as round, square, hexagon, and flats, and in various grades of steel in mild, carbon, alloy, free-cutting & stainless steels. The products are available in sizes ranging from 8 mm to 80 mm. They suit most applications with tolerances and specifications in compliance with international standards of quality and are in accordance with the customers' stringent specifications.

In addition, Bright Engineering Works specialises in the development & manufacturing of specialised profile bars in various sections. It supplies steel bars as per the most stringent tolerance of Original Equipment Manufacturers (OEMs) as well as ASTM, DIN, JIS, BS, & IS standards. Job perfection and punctuality are an ingrained attribute in every employee at Bright. It forms an essential part of the company's work ethic program.

"The usage of Bright steel bars is witnessing a steady and sustained growth worldwide with ever increasing challenges on the competitive dynamics of the world steel industry. In order to meet these challenges, we believe in integrated activity and continuous up gradation in our manufacturing technologies, wherein a premium product is delivered with premium quality. In order to serve our customers more efficiently, the marketing department continuously liaises with production and administrative department for better coordination and timely deliveries with right quality," says P L Mohta, CEO, Bright Engineering Works. IPF

Bright steel bars

Hot rolled steel profiles

For details, P L Mohta, CEO of Bright Engineering Works Pvt Ltd, on Mob: +91 98300 41557, 98300 42152, 98300 36234, or email: bewindia@yahoo.com

(Communication provided by the management of the company)

INTERVIEW
Farooq Abdullah

"Marvel celebrating 40th anniversary in safety gloves business"

The demand for safety gloves and personal protective equipment (PPE) are increasing day-by-day. Marvel Gloves Industries has been fulfilling the safety requirements of industries ever since it was founded in 1980 when the company established its first seamless knitted gloves manufacturing unit in Gujarat. Marvel Group won two National Awards for quality products which were presented by the Honorable Presidents of India that got them recognition and fame in the safety gloves market in India and abroad. **Farooq Abdullah,** Managing Partner, Marvel Gloves Industries, shares the reason behind the company's success in the Indian market.

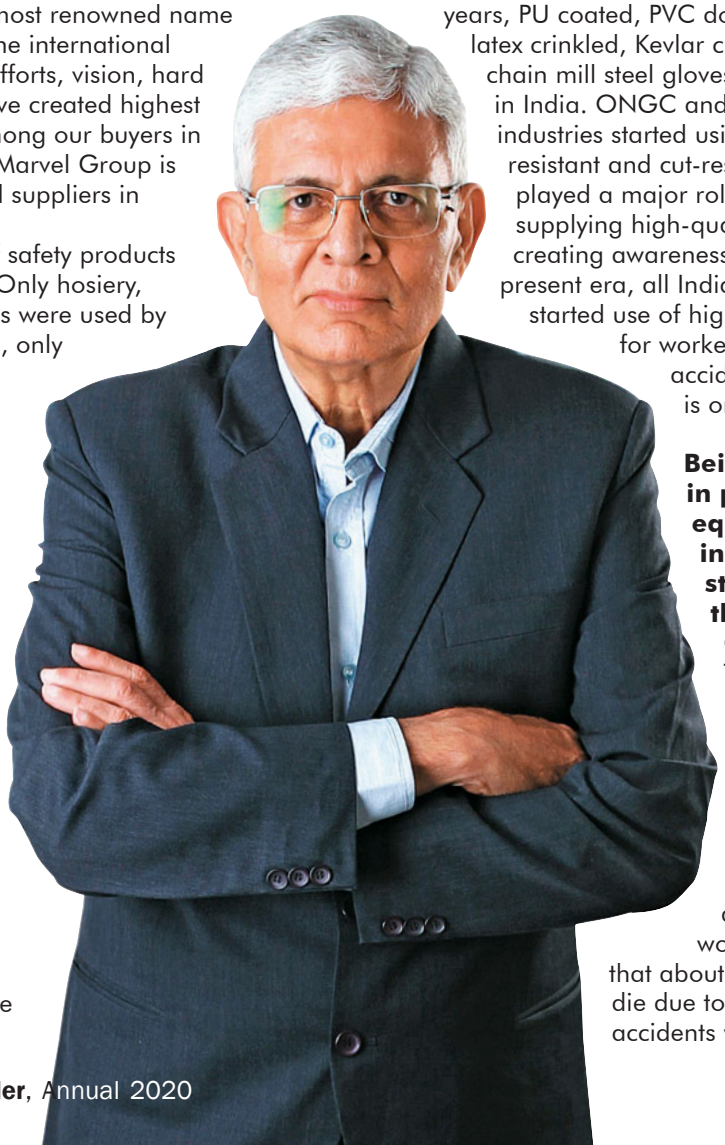
Please brief us about Marvel Gloves Industries and share your success history.

Marvel Group is celebrating its 40th anniversary this year. The company's first automatic seamless knitted gloves manufacturing unit was established in Gujarat in the year 1980. Marvel is the most renowned name in safety gloves in India and the international market. The dedicated team efforts, vision, hard work and quality of gloves have created highest confidence and reputation among our buyers in India and the global market. Marvel Group is grateful to all their buyers and suppliers in India and abroad.

In early 80s, the concept of safety products in industries had not arrived. Only hosiery, leather, asbestos rubber gloves were used by workers and industries. In 80s, only the use of cotton knitted seamless gloves and latex/ rubber gloves were started in the Indian industries. The concept of seamless knitted, rubber gloves, Kevlar gloves, knitted cut-resistant gloves started after the establishment of Maruti Udyog, Hero Honda, Kinetic Honda and TVS Suzuki in the automobile sector in India in 80s with Japanese collaborations.

During that time, we manufactured computerised seamless knitted gloves. Marvel Gloves established Shima Seiki computerised automatic seamless gloves knitting machine in India and made great efforts to introduce knitted seamless gloves for industrial workers in Indian industries.

The introduction of seamless knitted gloves revolutionised the market of gloves in India and many industries started adopting use of seamless knitted work gloves, which was very comfortable. After a few years, PU coated, PVC dotted, nitrile coated, latex crinkled, Kevlar cut-resistant gloves, chain mill steel gloves, etc. were introduced in India. ONGC and other oil exploring industries started using PVC dotted, oil resistant and cut-resistant gloves. Marvel played a major role in that era by supplying high-quality gloves and creating awareness for gloves. In the present era, all Indian Industries have started use of high quality safety gloves for workers to avoid workplace accidents. Currently, India is on the top.



Being a market leader in personal protective equipment (PPE) industry, what is your strategy to enhance the sales of Marvel Gloves?

The motto of Marvel Group is to create safety awareness in industries and workers and also reduce workplace accidents and minimise the deaths and accidents of workers. Reports suggest that about 48,000 people (still) die due to occupational accidents yearly in India.

CUT RESISTANCE

MAXIMUM PROTECTION COMFORT QUALITY

marvel

CELEBRATING 40th ANNIVERSARY

Marvel Gloves manufactures the range of Cut Resistant Gloves & Arm Sleeves for Sheet Metal, Glass & Knife Blade Hazards.

These gloves are made from HDPE/Glass Fibers & other types of High Tenacity Filament Yarn with & without Coating options of PU, Latex & Nitrile.

CPU5 Cut 5 PU Coated Gloves (Grey/White)

FOR MORE DETAILS / ENQUIRY PLEASE CONTACT

Marvel Gloves Industries

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CELEBRATING 40th ANNIVERSARY

Manufacturers, Exporters & Importers of Gloves & PPEs

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Unfortunately, the construction sector contributes 24 per cent of the fatalities as per the international report.

India is the second largest populated country in the world having millions of workers. The demand and the use for safety gloves and PPE are increasing day-by-day. Considering the increasing demand, we are regularly importing wide range of gloves and PPE from other countries to meet the increasing demand of our customers. We are therefore regularly sourcing quality product suppliers who can offer us quality products for the Indian market.

Which different markets do you serve? Who are your major clients?

Since 1995, Marvel Group has been regular exhibitor in world's best safety and security exhibitions to promote the sales and to import high quality gloves for the Indian market. Marvel Gloves is a regular participant since 1995 in A+A International Safety Trade Fair Exhibition held in Dusseldorf Germany, a bi-annual exhibition and one of the largest safety exhibitions of the world. We are grateful to Messe Dusseldorf for their excellent support to Marvel Gloves since 1995.

Marvel also participates at National Safety Council (NSC) exhibitions held in the US, and is a proud member of the NSC, which promotes safety at work and workers. With their various safety programmes and seminars conducted, NSC is promoting safety at work and workers and to reduce work accidents, accidental deaths. We need these types of more organisations to avoid workplace accidents, accidental death while at work and also at home.

We are thankful to Maruti, Hero Honda, ONGC, Toyota, Kinetic Honda, TVS Suzuki, and our European buyers who always had faith in us and our product. We also thank our Indian buyers for their support and faith in Marvel Group and its safety products.

How do you find the PPE industry in India? Is there any single product where you hold the maximum market for India?

Since 25 years, Marvel Group has been an exclusive agent of RUBBEREX, which is a globally-acclaimed industrial and household nitrile and rubber gloves manufacturer. Marvel Group is proud to be associated with RUBBEREX Gloves Sdn. Bhd, Malaysia since 1994. Their product SUPER NITRILE RNF-15 glove is the highest selling product in India, and the demand for their range of gloves is increasing in India because of their high-quality products and technical support. We express our gratitude to RUBBEREX for their continuous support.

Introduction of seamless knitted gloves revolutionised the gloves market in India and many industries started adopting use of seamless knitted work gloves, which was very comfortable. After a few years, PU coated, PVC dotted, nitrile coated, latex crinkled, Kevlar cut-resistant gloves, chain mill steel gloves, etc were introduced in India.

Marvel Group believes in creating awareness of work safety in Indian workers and continuously promoting the use of safety gloves as per their applications to avoid injuries, accidents and deaths in workplace and to enable users to work safely and efficiently, and without restriction of movement.

Please brief us about the quality policy of your business and what kind of back support do you provide to your customers?

Our quality, customer service, infrastructure and reputation in the domestic and international market are highly commendable. We are thankful all our buyers in the Indian and global market. Marvel Group believes in creating awareness of work safety in Indian workers and continuously promoting the use of safety gloves as per their applications to avoid injuries, accidents and deaths in workplace and to enable users to work safely and efficiently, and without restriction of movement. Thus it has resulted in adoption of safety measures by many industries at workplace. Thus the use of the safety gloves has increased in India and international markets.

Marvel has won the most prestigious national award for the quality products, which was presented by the then President of India Shankar Dayal Sharma in 1993 at New Delhi. This created great recognition for us in the field of safety gloves in the Indian and international markets.

Fab Industries, a manufacturer of seamless knitted gloves and dotted gloves, was established in 1996 at Gujarat. The quality efforts of the FAB Industries also were recognised by the Government of India and FAB has been conferred with the National Award for Quality Products by APJ Abdul Kalam, who was then the President of India, in New Delhi. This is the greatest achievement of FAB Industries. We always support our customers in all aspects to promote their sales in the Indian market and also offer them product feedback, samples and credit also.

Do you need to add anything else?

All of us at Marvel Group sincerely thank all our overseas and domestic buyers and suppliers for their overwhelming support and continued patronage and faith in us, which has played a major role in our success, achievements. Progress and support in our progress and completion of our 40 years in safety products and promotion safety at work and minimise accidental death at work and also at home make work safety motto of your life by using PPE. IPF

Tips to increase productivity in metal forming processes

Japanese cold welding technique and other proven protective coatings increases tool/die life and prevents rejections in metal forming operations, says **S P Shenoy**.

Protective Coatings continue to play a major role in increasing productivity and reducing costs in metal forming and treatment processes like hot forging and heat treatment. This technical paper presents details and successful case studies of three such protective coatings:

1. Die, mould and tool wear are major reasons for production downtime and increased costs in most industries. Carbide coating to protect only the wear-prone areas of dies using Japanese cold-welding technology is a practical and economical technique that has proven to increase die, mould and tool life. This technique, though similar to welding, does not pose difficulties of smoke emission, pre and post-weld heat treatment and requirement of skilled labour. It can also be carried out on the die or tool without unloading it from the forging press or such equipment, without need of a weld shop.

2. Oxidation and resultant scaling at high temperatures is caused during heat treatment of formed components and post-weld heat treatment of welded parts. Scaling leads to enormous losses by way of rejections of produce, reduced yield and increase in non-value adding operations like shot-blasting, grinding, pickling, etc. These parameters are becoming increasingly sensitive, especially of expensive grades of steel like SS, Nickel-bearing steels and aerospace parts. Anti-scale protective coatings can be used to prevent or substantially reduce high-temperature oxidation and scaling.

These techniques can be easily adopted by all metal forming units, big and small.

Carbide coating to protect only the wear-prone areas of dies using Japanese cold-welding technology is a practical and economical technique that has proven to increase die, mould and tool life.

Subject 1: Increasing die and tool life by using Japanese cold-welding technique

Problem: Die, mould and tool wear are major reasons for production downtime and increased costs in most industries. Apart from using the most appropriate die steel, a few effective treatments can be administered to dies to increase their service life.

Illustrate 1

Observation: Most of the forging dies wear out only in certain areas. The complete die impression does not wear out at once. Only sensitive portions of the die, like edges, profiles that take majority forging load, etc. wear out much faster than the rest of the die profile. Illustrate 1 shows some of the examples of these.

Technology: Carbide coating using Japanese cold-welding technique involves coating of tungsten carbide on selective wear-prone areas of dies/ moulds / tools through the special electronic Japanese cold welding technique.

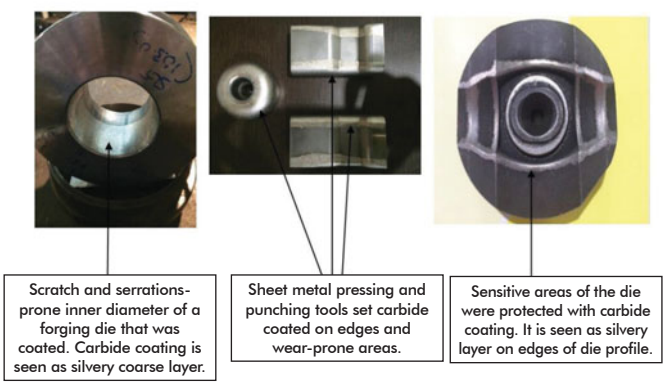
Cold welding is carried out as a 'Preventive Maintenance' technique on new dies. It is a surface hardening technique, similar to nitriding, but is administered manually using the cold-welding equipment. Hardness of tungsten carbide layer deposited by cold-welding on dies can surpass nitriding to reach hardness of more than 70 HRC.

Benefits of Japanese cold welding technology are:

1. Skilled welders not required. Can be carried out by anyone
2. Open space / ducting not required. No fumes are generated during cold welding
3. Time saving process as dies need not be removed from forging equipment
4. Pre and post welding heat treatment not necessary. No stresses are generated during cold welding as it is a cold process

Compact cold welding equipment and applicators

Carbide coating is seen as silvery, coarse coating on wear-prone areas of dies



Additional benefits of Japanese cold welding technology are:

1. Nitriding of dies not required. Hardness of tungsten carbide coating is more than 70 HRC, which is higher than hardness obtained by nitriding process (62-64 HRC).
2. Increased die life due to high wear resistance
3. Substantially reduced maintenance downtime of dies and tools
4. Ability to coat selective areas of dies that are prone to wear. Process does not require the complete die to be treated/ protected

Table 1 shows observations after implementing Japanese cold-welding technique. Demonstrations of this technique have shown encouraging results. Hence, there is no risk in terms of die/ tool breakage or reduced life. The percentage of increase in die and tool life has varied from as low as 35% in initial trials to as high as 120% in recent trials. Various parameters that contribute to success of this technique are well documented, leading to refinement of the technique.

Subject 2: Reducing rejections and costs in heat treatment using anti-scale protective coatings

Problem: Oxidation and resultant scaling leads to pit-marks and rejections. Non-value adding operations like shot blasting, grinding, etc. are costly and time consuming.

Observation: Oxidation and scaling are a function of time, temperature and the thermodynamic affinity between oxygen and metal. Recent developments in highly oxidation-prone grades like nickel bearing steels, high speed steels and stringent customer demands do not allow for scale pits, uncontrolled decarburisation and bad surface finish.

Heat treatment is an important operation in the manufacturing process of engineering components, machine parts and tools. Oxidation and decarburization of steel take place when steel is heated in an electric furnace or oil fired furnace, in the presence of air or products of combustion. Oxidation leads to numerous problems like scale pit marks, loss of dimensions, bad quality surface finish of metal, rejections, quench cracking and increased expensive operations like shot blasting, machining and acid pickling. Protection against scaling and decarburization is achieved by heating in molten salts, fluidized bed furnaces, protective gaseous media or vacuum. These measures demand heavy capital investment, highly skilled personnel and special safety

Table 1: Substantial increase in die life after cold-welding

Sr No	Description of die/ tool	Metal Forming Equipment	Not coated die life (No of parts formed)	Japanese cold-welded die life (No of parts formed)	Percentage of increase in die life
1	Sheet metal pressing die & tool set	Sheet metal press (cold pressing)	18500	25900	40%
2	Hot forging die	1000 tonne hot forging press	4000	5400	35%
3	Hot forging die	1000 tonne hot forging press	8000	12000	58%
4	Hot forging die	1600 tonne hot forging press	10000	15900	62%
5	Hot forging die	1600 tonne hot forging press	10000	22000	120%

precautions. Many companies cannot afford them, and yet they are under mounting pressure to prevent oxidation and decarburization.

Understanding oxidation and decarburization

When steel is heated in an open furnace in the presence of air or products of combustion, two surface phenomena take place oxidation and decarburization.

Oxidation of steel is caused by oxygen, carbon dioxide and/or water-vapour. The general reactions are given below:

$O_2 + 2\,Fe \rightleftharpoons 2\,FeO$

$O_2 + 4\,FeO \rightleftharpoons 2\,Fe_2O_3$

$CO_2 + Fe \rightleftharpoons CO + FeO$

$CO_2 + 3\,FeO \rightleftharpoons Fe_3O_4 + CO$

Oxidation of steel may range from a tight, adherent straw-coloured film that forms at a temperature of about 180°C to a loose, blue-black oxide scale that forms at temperature above about 450°C with resultant loss of metal.

Decarburization or depletion of surface carbon content takes place when steel is heated to temperatures above 650°C. It progresses as a function of time, temperature and furnace atmosphere.

Typical reactions involved are:

$O_2 + C \rightleftharpoons CO_2$

$O_2 + Fe_3C \rightleftharpoons 3\,Fe + CO_2$

$CO_2 + C \rightleftharpoons 2CO$

$CO_2 + Fe_3C \rightleftharpoons 2CO + 3Fe$

$H_2O + Fe_3C \rightleftharpoons CO + H_2 + 3Fe$

The equilibrium relationship depends on the ratio of carbon dioxide to carbon monoxide. It is neutral to a given carbon content at a given temperature.

Harmful effects of oxidation and decarburization

Oxidation leads to loss of dimensions and material as extra material allowance needs to be kept for scaling. Often, surface quality is deteriorated due to pitting. Metallurgical transformation during austenitising and subsequent quenching may be non-uniform. Surface hardness and strength are also lowered due to layer of scaling. Fatigue strength of heat treated product is reduced. This is especially true in case of automobile leaf springs.

Preventing oxidation and decarburization

Prevention of oxidation and decarburization is not only better than cure, it is profitable too. There are several ways to address problems caused by the two harmful reactions. Decarburized surface removal by machining operations after heat treatment, copper plating of thickness upto 0.025 mm prior to heat treatment or change of heating media to molten salt bath are some ideas. A number of protective atmospheres may be introduced like liquid hydrocarbon, dissociated ammonia, exothermic gas, nitrogen and endothermic gas. Fluidized bed furnaces and vacuum furnaces have also proven to reduce scaling. Switching over to grades which do not require heat treatment is possible in rare cases. However, most of the mentioned solutions pose a number of problems or practical difficulties. Availability of capital and human resource for using high-end furnaces is a major issue. Many small heat treatment shops cannot afford these solutions. Yet they are under mounting pressure to prevent oxidation and decarburization. Use of protective anti-scale coating has proven to be a logical solution to the problem of scaling and decarburization.

Insights into use of protective coating

Use of protective coating has been found beneficial and cost-effective. An anti-scale coating is applied on components or billets to be heated before charging them into furnace. This anti-scale coating acts as a barrier between oxygen and metal. Care is taken to apply a uniform, impervious layer of coating on the component to be heated. Coating ensures prevention of scaling and decarburization. For exceptionally long heat treatment cycles of 10 to 15 hours, the extent of scaling and decarburization mechanism is substantially reduced. Anti-scale coating also reduces decarburization on billets and ingots during hot forging and hot rolling operations. Heat transfer from heating media to metal is not affected due to anti-scale coating.

No reaction with steel surface, no release of toxic fumes during use or heat treatment or storage, non-hazardous and economical implementation are other required characteristics of the coating. Coated tools and components must be able to be heat treated in air using a box type or bogie hearth; electric, gas or oil fired furnace.

Benefits of anti-scale coating (case studies)

Table 2 shows the efficacy of the coating in an electric furnace. Coating eliminates need of salt bath or controlled – atmosphere equipment in many cases. Considerable savings in capital investment and operating costs are enabled by use of anti-scale coating. Due to prevention of decarburization, uniform surface hardness is achieved. Rejected components can be salvaged (Figure 1). Large savings are possible when plates of expensive alloy steel can be re-heat treated by using the anti-scale coating.

Table 2: Efficacy of protective coating

Type of furnace used	Box type, electric
Test Coupon dimensions	300 mm X 100 mm X 10 mm
Grade of steel	AISI – 1010
Heat treatment cycle	1000°C / 4 hrs / air cool
% scale loss when not coated	5.52
% scale loss when coated	0.7

Figure 2 explains the benefits of using coating during hot forming and solution annealing of stainless steel pipe fittings. Due to prevention of oxidation even in an ordinary oil fired furnace, pickling time could be reduced by 75%. Buffing can be eliminated or minimised in many cases. In manufacturing process of shearing blades of

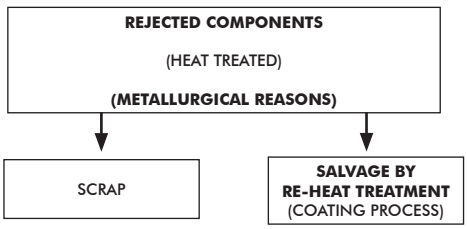


Figure 1: Ability to salvage the rejected components

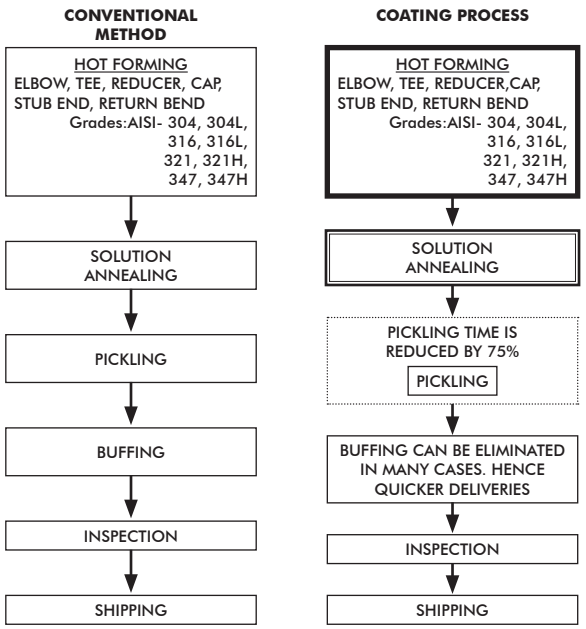


Figure 2: Benefits of using coating in processing of stainless steel pipe fittings

expensive high carbon, high chromium grade steel, grinding allowance is substantially reduced when protective coating is used during heat treatment. Some other distinct case studies are enlisted below.

1. **Prevention of quench cracks:** Forgings like knuckle joints and crank shafts when heat treated in furnaces of oxidizing atmosphere are susceptible to quench cracking. Quench cracks appear when stresses generated during quenching are higher than tensile strength of thin sections of forgings and due to differential quench severity at different areas. Chrome-moly grades of steel are most susceptible to quench cracks, which usually occur in the gear-end portion of the crankshaft. By coating the gear-end with an anti-scale coating, the cracking is prevented. (refer Image 1) By coating the gear-end with anti-scale coating, cracking could be effectively prevented. Reputed forgers of largest crank shafts in India use this technique.

Image 1: Crank shaft gear-end section prone to quench cracking

2. **Reduction in shot blasting time after heat treatment:** Operations like shot blasting, grinding, acid pickling, etc. do not add value, are expensive and time consuming procedures. These operations are necessary to remove adherent scaling from components and to enhance aesthetic appeal of forgings. Time required for these operations can be substantially reduced if a coating is applied on components before heat treatment. Aesthetic appeal of components is automatically enhanced without much effort as scaling is either prevented or reduced by using anti scale coating.

Image 2: Fully machined spindle re-heat treated by applying anti-scale compound. Zero scaling observed. Aesthetic appeal is intact

3. **Salvaging fully machined components by protecting during re-heat treatment:** Often, fully machined forgings need to be re-heat treated for metallurgical reasons. However, there is no material allowance left for further scaling to take place and for subsequent machining or shot blasting. In such cases, even small amount of scaling can render components to

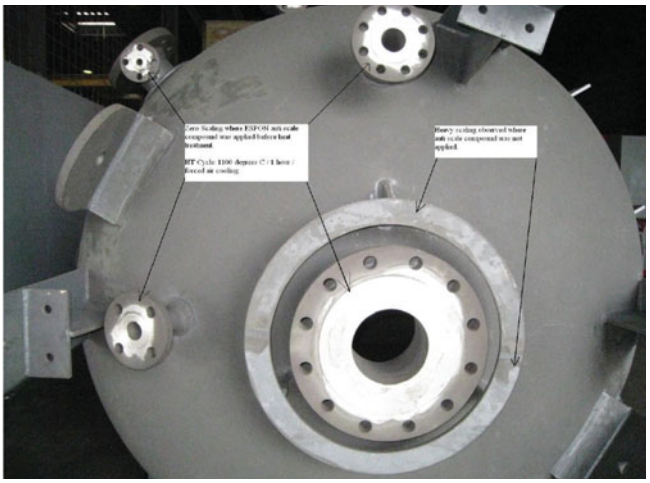


Image 3: Protection of critical valve areas during heat treatment of Pressure vessel. Coating was applied on critical areas that have turned white after heat treatment, with zero scaling

Image 4: Pit marks formed due to scaling during re-heating for re-working

Image 5: Coated with ESPON anti-scale compound before re-heating. No scale pit marks

be scrapped. Use of anti-scale compound ensures prevention of scaling during re-heat treatment. Hence, huge losses can be prevented by salvaging fully machined components. Aesthetic appeal of components is retained

Use of protective coating has established itself as an effective technique of preventing oxidation and decarburization during heat treatment, hot forging and hot rolling. It has unleashed a number of additional benefits.

(Image 2). Coating itself can be removed after heat treatment by cleaning the forging with diesel, emery paper brushing or light wire brushing.

4. **Heat treatment of pressure vessels**: Valve areas of pressure vessels are critical and need to be protected from scaling during thermal cleaning and heat treatment. This is achieved by use of anti-scale coating being applied only on areas where scaling needs to be prevented (Image 3).

5. **Salvaging of rejected forgings**: Re-heating or re-working of forgings is required due to underfill, improper metal formation and similar reasons. However, with stringent dimensional tolerances, there is a risk of components getting scrapped due to excessive scaling (Image 4). Anti-scale coating, when applied on forgings before re-heating for re-working, ensures minimal or no scaling, thereby eliminating risk of scrapping components during re-working (Image 5).

6. **Reducing decarburization during hot forging & hot rolling**: During hot rolling of special grades of steel where decarburization needs to be kept in check, unforeseen conditions like mill breakdown and unplanned downtime may arise. Even when the plant is closed for weekly holiday, furnace is shut off abruptly, leaving billets inside the furnace. In these cases, billets or ingots are left in furnace and are subjected to prolonged heating leading to decarburization. In both cases, applying an anti-scale coating ensures that billets are protected from decarburization.

Summary

Use of protective coating has established itself as an effective technique of preventing oxidation and decarburization during heat treatment, hot forging and hot rolling.

It has unleashed a number of additional benefits like ability to salvage by re-heat treatment, elimination of post-heat treatment operations like grinding, shot blasting, acid pickling, etc.

The coating process has simplified and accelerated many metallurgical heat treatment operations, saving a fortune in capital investment, reducing costs and improving quality. IPF

About the Author:
S P Shenoy is the Director of Steel Plant Specialities LLP. He can be contacted on Mob: 98204 93373, Tel: 022 6797 8060, 2555 2459, email: info@steelplantspecialities.com, or visit: www.steelplantspecialities.com

CASE STUDY

SANPAR offers turn-key air-cooling solution for auto ancillary industry

The company helps an auto ancillary unit to save energy while generating compressed air as well as treating the air.

Product: SANPAR Xerox Refrigerated Air Dryer 750 Cfm

Industry type: Auto ancillary industry

Objective: Centralised air dryer to be coupled with air compressor for maintaining a pressure dew point of +3° C to be utilised by different pneumatic systems in machines like VMC, CNC and CMM.

Solution: SANPAR suggested the implementation of a Refrigerated Air Dryer with capacity of 750 cfm at a working pressure of 7 bar g.

The air is supplied from an oil injected air compressor to the dryer inlet at +45°C. The air is cooled to low temperature of +3°C and the condensate is removed periodically by an electronically operated timer drain. The air is discharged into the line at 40°C at the outlet of the air dryer.

SANPAR has complemented the energy conservation efforts of the customer by:

- Implementing dryer with very low pressure drop less than 0.15 bar
- Reduced intermediate temperature to select smaller refrigerant compressor of lower power consumption

The material of construction of the air inlet manifold chosen is stainless steel to prevent the corrosion from untreated compressed air. The inlet air to dryer is saturated with water vapour.

An indispensable capital equipment like air dryer always needs to be protected for maximum uptime. SANPAR has provided microcontroller with provision for monitoring and regulating different temperatures along with high- and low-pressure alarms to warn against overloading and freezing of the dryer pipeline. The refrigerant compressor is protected from electrical damages through the use of high-grade safety features like MCB, MPCB, load breakers and single phase preventor.

This works out to energy saving in the generation of the compressed air as well as treating the air, thus SANPAR lives up to its tagline.

SANPAR has completed another successful project giving turnkey solution to its customer with the attention to the future of technology and organisation. The integration of superior machine quality with focus on promoting energy management has helped in optimising process efficiency and reducing the carbon footprint of the plant. IPF

NEWS SNIPPET

Agilent teams with IIT Delhi to promote biopharma research

Agilent Technologies Inc has joined forces with the Indian Institute of Technology Delhi (IIT Delhi) to promote biopharmaceutical research. Agilent and IIT Delhi signed a memorandum of understanding under which, Agilent, a leader in the biopharma space, is contributing funds to support the incubator at IIT New Delhi to support researchers at the institute establish global best practices for identifying and characterising biopharmaceuticals. The research conducted by IIT Delhi examines and reports on the quality of biotherapeutic products for the Indian market.

Visiting the campus, Mike McMullen, CEO, Agilent, spoke about Agilent's history of innovation, focus on research and academia, and vision for the future. Likewise, the institute's Director, Prof V Ramgopal Rao, spoke about the institute's mission and role in promoting collaborations between academia and industry.

Agilent will be contributing funds to the IIT Delhi incubator site, as a part of its corporate social responsibility initiative, with the goal of enhancing the quality and safety of biotherapeutics. The aim is to offer world-class training to researchers from academia and industry on protein characterisation.

The setup will be under the DBT Center of Excellence for Biopharmaceutical Technology (CBT) and will support incubated startups at IIT Delhi performing protein analysis, which results will provide critical information to policy makers for ensuring safe and efficacious biotherapeutic products in India.

"We are happy to be associated with Agilent. Agilent's broad range of technologies will further boost our efforts at the Centre of Excellence for Biopharmaceutical Technology," said Prof Anurag S Rathore (IIT Delhi), Coordinator of the CBT. IPF

Bosch ensures comfortable working conditions with HMX cooling solutions

With the installation of HMX-DMA, maintaining the desired ambient temperature in the Bosch plant has become quite easy.

A comfortable working environment can do more than make wo rkers more happy; it can boost the energy of the workforce leading to more and better output. There is always a debate on what constitutes a "comfortable working environment", but there is one factor that nobody argues about: that temperature is a key factor. At a comfortable temperature, more work is likely to get done efficiently and at ease.

Understanding the importance of the right temperature for people comfort, Bosch Rexroth (India) decided to install the best cooling and ventilation solutions at its factory in Karnataka, where external temperatures soar up past 40°C for many days a year.

Background

Established in 1975, Bosch Rexroth (India) Ltd., provides a complete range of world-class products, systems and services for drive and control technologies in various industries such as machine tool, press, plastic processing equipment, steel mill, civil engineering, materials handling, etc. in India, Bangladesh, Nepal and Sri Lanka. It has 14 manufacturing facilities in India.

Challenge

In 2014, Bosch shifted its operation to its new plant in Bidadi from Adugudi (both in Karnataka), which was spread over a sprawling 125,000 square feet area. Its primary concern was providing a comfortable working environment for its employees. Bosch's experience with conventional airwashers at its previous plant in Adugudi wasn't satisfactory as the air-washers failed to achieve the desired temperature much of the time. This forced the management to look for other cooling solutions for the new plant.

The management wanted to maintain the temperature not more than 27°C on the shop floor throughout the year to ensure high level of employee comfort and improved productivity. However, they faced two major issues during the selection of alternate cooling technology:

1. Indirect Direct Evaporative Cooling (IDEC) – with this technology, there is a limitation in maintaining the desired temperature during the monsoon season.
2. Air-conditioning – due to the generation of fumes on the shop floor, preventing recirculation of air, air conditionng becomes extremely energy intensive and hence unviable.

Solution

This is when Bosch approached HMX. Based on the inputs received from HMX, the company decided to install a three stage hybrid cooling system – HMX-DMA – to ensure that the desired temperatures are maintained throughout the year.

The system comprised of:

- Indirect evaporative heat exchanger (DAMA) in the first stage
- Direct evaporative heat exchanger (cellulose) in the second stage
- Chilled water cooling coil in the third stage

How does the systems operate?

HMX-DMA works in the following modes:

1. Indirect direct evaporative cooling mode with 100% fresh air
2. Indirect evaporative cooling + cooling coil mode with 100% fresh air (once through without any recirculation of air)

Based on the ambient weather conditions, the machine works in either of these two modes to maintain the desired conditions on the shop floor.

Result

Bosch installed 16 x 35,000 CFM HMX-DMA units each with a chilled water cooling coil of 60 TR capacity. The Table 1 below shows the excellent performance of the HMXDMA unit in the monsoon season. The unit was working in the indirect evaporative cooling + cooling coil mode (once through with 100% fresh air).

Table 1: Temperature readings taken on August 26, 2015

Unit details	Time	Ambient		Room
		DBT (°C)	WBT (°C)	DBT (°C)
HMX-DMA 35000 with 60 TR cooling coil	11.30 am	35°C	26°C	28°C
	1.30 pm	37°C	26°C	27°C

With the installation of HMX-DMA, maintaining the desired ambient temperature in the Bosch plant has become quite easy. The management is happy with the excellent performance of the HMX units. They appreciated HMX' efforts in completing the project within the specified timeframe and also complimented the company for its commitment to customer satisfaction. IPF

For Details, contact A.T.E. Enterprises Pvt Ltd (Business Unit: HMX) on Tel: +91 80 2372 1065/2372 2325, Email: ambiator@hmx.co.in, or visit www.ategroup.com/hmx

Advanced Optowave helps overcome challenges in medical device manufacturing

Complete diode-pumped solid-state laser product line of Advanced Optowave is well-aligned to help companies overcome challenges while manufacturing new-age medical device.

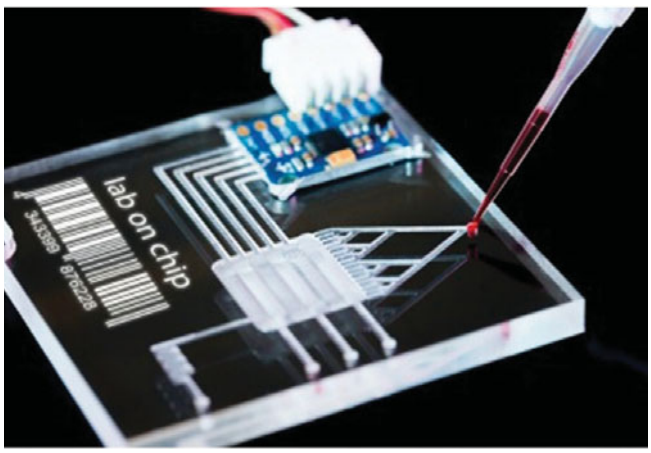
In the recent years, the advancements in new materials and new applications in the medical device world have enabled the industry to produce smaller and smaller devices to offer life-saving treatment options for the aging population.

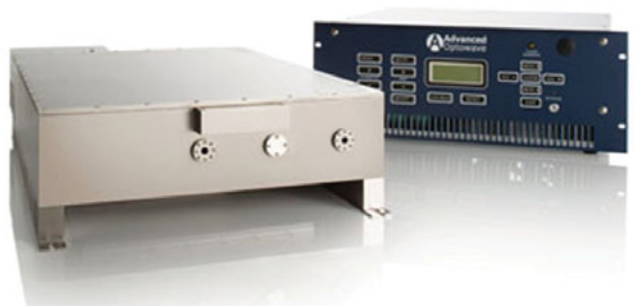
These new devices are presenting new challenges for the traditional manufacturing technologies to meet the requirements of the new devices and materials. Along with these new devices and new materials is a new regulatory requirement for every implantable device and intravenous drug to have a traceable mark; this unique device and drug identification (UDI) has added to the challenges.

The market requirement for smaller features and/or smaller devices affects passive implantable devices such as cardiovascular stents, neuro-stents, bioabsorbable devices, transcatheter heart valves, heart valves, microfluidics, transcatheter aortic valve replacement (TAVR), vena cava filters, lab on a chip (LOC), orthopaedic devices, bioabsorbable stents, intraocular replacement lenses, dental implants, cochlear implants, ophthalmic implants, implantable blood glucose monitors, pain management devices, intelligent gastric/cardiac pacemakers, implantable cardioverter defibrillator (ICD), and deep brain nerve and bone stimulators.

Advanced Optowave's complete diode-pumped solid-state laser product line is well-aligned to help the manufacturer address these challenges. With its wavelength, energy, and pulse width coverage, the company has the laser source and experience that will help the users in their R&D efforts all the way through deployment to mass production.

Advanced Optowave's ultra-short laser product line AOPico and AOFemto are designed to address the challenges experienced with these new materials and smaller devices. One of the obstacles customers are running into is part-to-part consistency and yields. Traditional mechanical and traditional laser micro-machining methods are falling short of meeting these new challenges; the A-Thermal machining nature of the AOPico and AOFemto help remove those obstacles.





Additional medical device applications are:

- Bioabsorbable polymer stent
- Heart valve frame
- Neurological stents
- Heat sensitive devices

With the AOPico and AOFemto, Advanced Optowave's goal is to offer its customers the ability to work with some of the exotic noble metals that are prominent in the medical device market, platinum, gold, and tantalum and achieve superior results.

Advanced Optowave Corporation takes pride in its consistent ability to meet the strict quality standards that most of its customers face when they are manufacturing medical device components.

Consistency in the manufacturing process and the high-quality of Advanced Optowave's lasers allow the company to make sure that high precision hole drilling, small feature cutting of struts and sidewalls, high-quality crack free marking of orthopaedic devices or temper-proof UDI marking of intravenous drugs containers are maintained throughout the manufacturing process and from part-to-part.

The company can guide medical device manufacturers in their projects, be it a prototype or large production run. With its vast experience and wide variety of laser technologies, the company can provide top-notch laser services or laser-based systems. IPF

For details, contact C And C Laser Engineering Pvt Ltd, Mumbai, on Tel: +91 22 4972 7168, Mob: +91 98331 05515, email: sawant@cnclaserengg.com, or visit: www.cnclaserengg.com

SCHUNK extends its modular system for workpiece direct clamping

Workpiece direct clamping ensures that the efficient principle will also work in the field of tool and mold making industries for free-form parts with complex geometries, small lot sizes, and high precision requirements.

The SCHUNK WDB modular system for workpiece direct clamping allows optimum accessibility and a defined clamping situation in areas such as tool and mold making

The patent-pending media feed-through of the direct clamping modules allow a reliable compressed air supply through every component of the clamping pillar

The SCHUNK VERO-S quick-change pallet modules offer a whole bundle of advantages for users when it comes to direct workpiece clamping without interfering contours: free 5-sided access to the workpiece, a defined clamping situation, high repeat and positioning accuracy, as well as high pull-down forces for challenging operations. SCHUNK further extends its modular system for workpiece direct clamping in order to ensure that the efficient principle will also work in the field of tool and mold making industries for free-form parts with complex geometries, small lot sizes, and high precision requirements.

By using SCHUNK WDB basic modules, WDS staple modules, or WDN direct clamping modules (Ø 99 mm), which can be flexibly combined with the clamping pillars in various heights, the molding plates, free-form parts, and other workpieces can be directly clamped on the machine table in no time at all. No additional clamping devices are required, so there are no interfering contours. The compressed air supply of the direct clamping modules is ensured via media transfer.

Monitoring of the workpiece presence is also possible. The clamping pillars ensure a defined clamping situation, a reliable simulation, and a collision-free, highly efficient operation. Due to the high accuracy of the clamping solution, workpiece changes can be implemented quickly. In addition, parts clamping can be done precisely and easily according to the existing retrofitting plan and the parts can be machined again.

Flexible components for free-form parts

Due to the modular nature of the product, custom solutions are not required. The new module sizes of the extended modular system from height 80 mm on are finely graduated in 10 mm steps and are easy to implement: The staple modules are available in five heights (30 mm, 50 mm, 80 mm, 120 mm, and 160 mm), and can be actuated with a hexagon key in no time at all. The force- and form-fit clamping connections lock the individual modules with pull-down forces of up to 25,000 N (at an actuation torque of 50 Nm). Thereby the integrated pull-down function ensures maximum hold, and in turn for maximum stability.

The direct clamping modules are available in three versions, that connect the clamping pil-lars with the workpiece: pneumatically actuated (6 bar) with a fixed Z-axis reference, and manually or pneumatically actuated with integrated compensating function in Z-direction (11 mm). The latter is used for deformation-free support of the workpieces. For system implementation the system on every common machine table, the modular system includes basic module versions for T-slot plates, grid plates, and VERO-S clamping stations. Standard fixed clamping pins without recess mount, cylindrical clamping pins, and conical clamping pin extensions are available as an interface to the workpiece. Special clamping pins with floating pitch compensation in one or two axes (each +/- 1mm) can be used for compensating workpiece tolerances or thermal expansion.

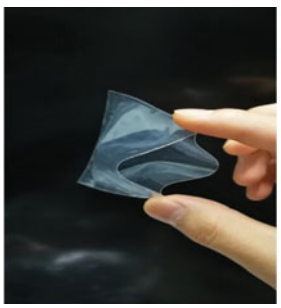
High accuracy

Every interface uses a scope-free taper centering, which ensures a repeat accuracy of < 0.005 mm. Feed chamfers at the module interfaces allow quick joining of the clamping pillars. The workpiece is clamped via spring force in a self-locking and form-fit fashion without needing compressed air. The workpieces remain safely clamped even in the case of a sudden pressure drop in the air system. In order to increase service life and process reliability, every functional part such as base body or clamping slide are made of hardened, stainless steel, are absolutely corrosion resistant and easy to clean. IPF

For details, contact Satish Sadasivan of Schunk Intec India Pvt Ltd, Bangalore, on Tel: 080 4053 8999, Email: info@in.schunk.com, or visit www.in.schunk.com

1710nm diode lasers for transparent and white plastic welding

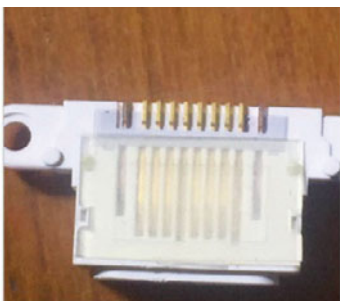
While the market share of plastic laser welding is constantly rising, the 1710nm semiconductor laser has played an emerging role in the laser welding process of transparent and white plastic materials.



Packaging bag

Sealing cap welding

Dia-filtration container weld



Electronic connector weld

In last two decades, the development of laser technology has enabled plastic welding to have a better choice of process solutions. In spite of the fact that plastic laser welding accounts for less than 20 per cent of the entire plastic welding processing market as of today, the average efficiency of plastic laser welding exceeds 2 to 3 times that of traditional welding processes, so that the market share of plastic laser welding is constantly rising. In some occasions that require high welding efficiency and perfect appearance, plastic laser welding has obvious technological advantages.

Laser welding of plastics has been widely used in the welding of medical plastic appliances, white plastic parts in household appliances and automotive plastic parts. The commonly used light sources for welding are 808nm and 980nm semiconductor lasers. On the other hand, the absorption efficiency required for transparent and white plastics in many welding applications has led to the development and application of 1710nm semiconductor lasers and 2000nm fiber lasers.

Examples of laser welding on real parts using 1710nm diode lasers are:

Laser welding of medical transparent/white plastic parts: Many plastic products used in the medical industry require laser welding, because the quality standard is higher for this industry. Furthermore, over 90% of the plastic parts for medical use do not allow laser absorbers to be added in due to health concerns, traditional laser welding cannot be applied due to the low absorption efficiency of traditional lasers by the transparent plastic materials, therefore a new generation of dedicated lasers are expected to solve this problem. The 1710nm diode laser is one kind of such "dedicated lasers", a variety of transparent and white plastics have several times to 10 times higher absorption at 1710nm than that of other commonly used industrial laser wavelengths, thus it is favored by medical plastic laser welding applications. The 1710nm laser with the same optical power and power density can achieve the same of or exceed the welding effect of other lasers coupled with laser absorbers.

Laser welding of transparent/white plastic parts for 3C products: Laser welding of transparent/white plastic parts has been widely adopted in the manufacturing of computer, communication devices and consumer electronics. Some of the examples include laser welding sealing cap, waterproof connector for mobile phones, control panel for precision equipment, etc.

Laser welding of automotive plastic parts: The percentage of plastics used in the automobile industry is constantly increasing for the cost and weight reduction purpose. The laser welding of plastics is a technique that has grown enormously within the automobile industry over recent years. Applications range from sensors, gas/oil/water tanks, and decoration parts. Some of the automotive parts with transparent plastic that can be welded using 1710nm diode lasers are plastic parts for interior and exterior decoration, instrument panel, etc.

Due to the strong absorption of 1710nm laser by transparent/white plastic, the output optical power of

Industrial applications

QPC Diode Lasers are being used for various industrial applications. As per the requirement, the wavelength of the diode is decided. For plastic welding and electronic soldering, diodes having wavelength of 808nm are used and for white plastic welding, diodes of wavelength 1470nm are used. For transparent plastic welding, diodes of wavelength 1710nm are used. High power diode lasers of wavelength 915nm, 940nm and 976nm are used for cladding, metal welding. For wind sensing Lidar and autonomous driving, diode lasers of wavelength 1550nm (Single Frequency) are used widely.

1710nm laser for transparent/white plastic welding does not require to be at least 100 watts like 808nm and 980nm lasers, generally tens of watts of optical power is enough to meet the requirement of most applications.

Currently QPC Lasers Inc is offering 400μm fiber coupled 1710nm diode laser modules at 20W, 30W, 40W and 60W, respectively. In addition, OEM laser sub-system is also available, which includes a diode laser module, a cooling unit and a laser driver with overheating protection and various control interfaces.

In summary, the 1710nm semiconductor laser has played an emerging role in the laser welding process of transparent and white plastic materials. It is undeniable that in some cases (such as in penetration welding with thicker upper layer), it has certain limitations. However, it is still a great tool for laser welding of transparent and white plastic materials, which are gradually being widely recognised and used in the industry. IPF

Automobile part weld

Plastic welding for auto industry

For details, contact C And C Laser Engineering Pvt Ltd, Mumbai, on Tel: +91 22 4972 7168, Mob: +91 98331 05515, email: sawant@cnclaserengg.com, or visit: www.cnclaserengg.com

COMMUNICATION FEATURE

ELESA+GANTER: Two companies one world of standard parts

Highly reliable products ensuring perfect functionality with a unique design represent the ELESA+GANTER distinctive quality code. The company's product portfolio of over 60,000 products speaks about its German perfection and Italian design finesse. Carrying a joint legacy of over 100 years, yet poised to cater to the every new demand of manufacturing & Industrial world.

Established in 2010, Elesa+Ganter's India Headquarters at Noida (UP) is powered with a dedicated team of qualified sales engineers and technical managers along with our pan India network of authorised channel partners. With maximum stock availability and faster delivery times alongside a robust team of technical engineers have ensured customer satisfaction par with the best in industry.

Ram Grover,
MD, Elesa and Ganter
India Pvt Ltd

Elesa and Ganter's extensive range of standard machine elements are comprised of: Operating elements, Clamping knobs, Clamping levers, U-Handles, Fixed, revolving and fold-away handles, Control elements, Rotary controls, Indexing elements, Machine elements, Joints, Levelling elements, Hinges, Latches, Toggle, power and hook clamps, Accessories for hydraulic systems, Tube clamp connectors, Castors and wheels, Retaining magnets etc.

Elesa+Ganter has a solution for virtually every application. In the unlikely case that you can't find what you need in our extensive range of products, the company can also offer you a customised, made-to-measure solution with special shapes, colours, surface treatments, product branding etc.

Elesa and Ganter products are widely used in all the industrial sectors like catering, food & dairy industry machines, printing & packaging machines, construction & material handling equipment, medical, chemical and pharmaceutical industries, automation industry, woodworking industry, textile machinery, agriculture and gardening, plastic/rubber moulding machines etc. and many more. Every product of Elesa and Ganter is like a living testimony to its tag line "Designed for Engineering". IPF

Elesa-Ganter products

For more information, Elesa and Ganter on Tel: 0120 472 6666, email: info@elesaganter-india.com or visit www.elesa-ganter.in

Well equipped for Industry 4.0

Industry 4.0 is being shaped by the continuing rise in the degree of automation, by the digitalization that includes the Industrial Internet of Things (IIoT) and by high levels of energy efficiency. In this respect, TDK presents a wide range of innovative EPCOS and TDK key components.

TDK offers a uniquely extensive portfolio of ceramic, film and aluminum electrolyte capacitors which also includes power capacitors for power factor correction, as well as for HVDC systems. Aluminum electrolytic capacitors for DC link circuits are classic components for industrial power supplies, frequency converters or solar power inverters.

New types with screw terminals offer ripple current capabilities of up to 40 percent higher than their predecessors and are available for rated voltages of between 350 V DC and 450 V DC with capacitance ranges from 1500 nF to 18,000 nF. At the maximum operating temperature of 105°C a useful life of 6000 hours is achieved.

Figure 1:
DC link capacitor with a low ESR of just 10 mΩ

Figure 2:
CeraLink in flex-assembly technology permits capacitance values of up to 10 µF in a small space

Film capacitors are also being used to a greater extent in DC link circuits. One extremely compact solution is a new EPCOS type with dimensions of just 40 mm x 58 mm (diameter x height). This offers a rated voltage of 350 V DC and a capacitance of 65 µF. Its extremely high capacitance density of 0.9 µF/cm3 permits up to 50 percent more capacitance per volume than comparable capacitors.

Innovative DC link solutions with ceramic capacitors

With the MEGACAP Type MLCCs of the CA series TDK offers a solution that achieves high capacitance and low ESR values thanks to vertically stacked capacitors. Designed for voltages of between 25 V and 1000 V, these new types cover a range of capacitance from 20 nF to 150 µF. The MLCCs are available with the temperature characteristics C0G, X7T, X7S, and X7R.

CeraLink capacitors represent the innovative basis of DC link and snubber solutions. The capacitors are available in modular flex-assembly technology. This space-saving design connects two, three or ten identical capacitors in parallel over the same terminals in order to increase the capacitance. The new CeraLink FA types are available for rated voltages of 500 V DC, 700 V DC and 900 V DC. Depending on the voltage and number of capacitors, this results in nominal capacitance values of 0.5 µF to 10 µF.

Considerable increase in efficiency due to new ferrites

The ferrite material PC200 on an MnZn basis is specifically designed for fast switching power semiconductors on a GaN basis. Thanks to new core designs additional copper losses can be reduced by up to 70 percent. The basis for this is a special core design using distributed air gaps which permits higher operating frequencies and smaller inductive components to be used in power supply systems. By reducing electromagnetic emissions, the additional copper losses at high frequencies are also significantly reduced.

Safe protection against overvoltage

For safe protection against overvoltage, the lineup of EPCOS ThermoFuse varistors has been extended with the new compact NT14 and NT20 series. The NT14 series (disk diameter 14 mm) is designed to absorb maximum surge currents with an 8/20-µs pulse of 6 kA at rated voltages of between 130 VRMS and 680 VRMS, while the NT20 series (disk diameter 20 mm) has a surge current

Figure 3:
ThermoFuse NT intrinsically safe varistors for a maximum surge current capability of 6 kA

Figure 4:
CeraCharge, the world's first rechargeable solid-state SMD battery, handles up to 1000 charge/discharge cycles

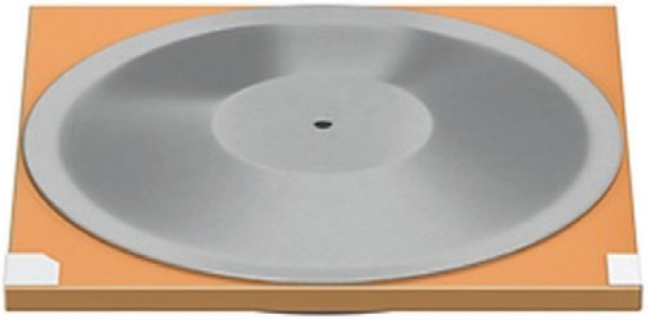


Figure 5
PowerHap 15G for haptic feedback with forces of up to 20 N and displacement of up to 200 μm

capability with an 8/20-μs pulse of 10 kA at rated voltages of between 130 VRMS and 750 VRMS.

Well equipped for industrial networking

Industry 4.0 is based on networking using LAN and WLAN. LAN cables enable not only data, but also power to be transmitted – Power over Ethernet (PoE). Specifically for PoE++, TDK offers a new series of EPCOS transformers with an output of up to 60 W at low DC resistances, which – depending on the type – can have values as low as 3.5 mΩ. The TDK ALT4532 series of pulse transformers has also been extended to include types for Gigabit Ethernet and PoE applications.

The new ALT4532P transformer is suitable for extended 2.5GBASE-T (2.5 Gbit/s) and 5GBASE-T (5 Gbit/s) LAN applications as well as for 1000BASE-T (1 Gbit/s) with 600 mA PoE applications. The type 4532H is compatible with the 10GBASE-T standard (10 Gbit/s).

CeraCharge, the world's first rechargeable solid-state SMD battery, is especially suitable for IIoT applications and is available in a compact EIA 1812 package. With a capacity of 100 μAh at a rated voltage of 1.4 V and an internal resistance of 200 Ω, the battery is capable of delivering currents of about 2 mA for short periods, say in pulsed mode, for the supply of a Bluetooth module during transmission, for example.

Sensors: The basis for industrial automation

Sensor solutions based on ultrasonics, such as the ceramic-based EPCOS ultrasonic sensor disks, also meet current trends. Depending on their geometry, these disks permit frequencies of 200 kHz to 400 kHz or 500 kHz to 4000 kHz. In industrial electronics applications the sensor disks permit the flow metering of fluids or gases, and the level sensing of fluids or bulk materials.

Haptic feedback, in HMI applications for example, is becoming increasingly important in industrial electronics. The PowerHap piezo actuators with haptic feedback, for example, now also include the miniaturized type 2.5G which has dimensions of just 9 mm x 9 mm x 1.25 mm. At the maximum operating voltage of 60 V the new actuator can achieve an acceleration of 2.5 g under a load of 100 grams. This enables a maximum displacement of 35 μm or a high force of 4 N to be achieved. The new type supplements the existing PowerHap series which includes the larger 7G and 15G types. IPF

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Special optical properties of all alumina waveguides resonators

There are many kinds of CO_2 laser resonators being produced, but if a lot of power in a small package is important, then the slab waveguide resonator is one of the best solutions. This article is intended to give some background on the optical advantages of all ceramic CO_2 laser resonator technology.

Majority of CO_2 lasers produced in the world are constructed with aluminium waveguide walls. But, when the walls are made of ceramic, only the fundamental mode is supported because of the reflective characteristics of ceramic. These intrinsic mode quality advantages will be described in this article.

Resonator design basics

There are many kinds of CO_2 laser resonators being produced, but if a lot of power in a small package is important, then the slab waveguide resonator is one of the best solutions. In a slab resonator, the waveguide applies to only one axis, while the other axis is "free-space". It follows from this that the two opposing waveguide walls can be made of aluminium (Al) plates that are excited by RF energy and act as 0 waveguide mirrors at the same time. The space between the two plates is referred to as a slab (of gain) when it is excited by the RF energy. This gain is generated in a gas mixture that provides gain only when RF is applied. Mirrors disposed at each end of the slab of gain make up the resonator where photons of light reflect between each mirror gathering optical energy from the slab gain region. The mirrors are designed to spill some of the light, resonating between the mirrors, off one edge of one mirror. This is the light that does the work in the various applications.

An alternative used by Iradion is to build the resonator with all alumina (Al_2O_3) ceramic waveguide walls and couple the RF energy into the slab of gas through the ceramic walls. The ceramic walls, in this case, also behave as waveguide mirrors. There are many technical advantages to this scheme including long gas life, but one important optical advantage is that the range of reflection angles supported on the alumina walls is very restricted verses using aluminium waveguide walls. This is critically important relative to suppressing bad, higher order modes.

Beam mode basics

There is probably no laser made that has a perfect mode. Mother nature is not that easy to satisfy! For this reason, the quality of the mode is described by M^2 terms or it's inverse K. An M^2 of 1.0 is perfect. This beam would have a divergence that is diffraction limited. Most commercial lasers have an M^2 of 1.2 to 2.0. An M^2 of 1.2 means the higher order modes mixed with the perfect mode cause the divergence to be 1.2 times greater than the diffraction limit. For the same reason, the beam of this less than perfect laser, when focused with a lens, will be a little bigger than might be possible with a diffraction limited beam.

Therefore, it is extremely important to find ways to suppress these higher order modes, while maintaining high-energy conversion efficiency (RF to optical). Higher order modes are emitted at optical angles that are greater than the main perfect first order mode hidden within the beam. The higher the photon angles, (relative to the waveguide axis) the higher the mode order. These higher order modes are emitted because the waveguide walls allow it by supporting these high reflection angles relative to the slab axis.

Waveguide wall reflection physics

Mother nature gives us a break when using Alumina as the waveguide walls! There are huge differences between the optical properties, (the n and k parameters) of Alumina vs. Aluminium. Below is a graph that shows this remarkable difference. From it, several facts can be deduced about how a ceramic waveguide will behave.

Figure 1 shows the reflectivity of a ray of light at various angles from an alumina surface (Al_2O_3) and an aluminium surface (Al). These reflections are divided, for each, into the S-polarization (from Senkrecht, in German translated to perpendicular) and P-polarization (from parallel, same in German and English). In other words, the electric vector of a propagating photon can be aligned either parallel or perpendicular relative to the

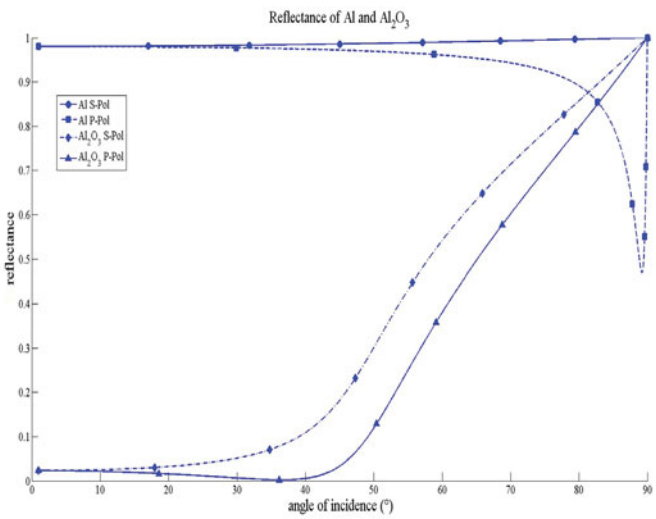


Figure 1

plane of the bounce angle.

Also note that when describing reflection angles, the convention is to define them from the normal ray. That is, a ray that is directed perpendicular to the mirror surface. In Figure 1, this ray has an angle of 0° of incidence. So, a nearly 90° reflection angle would be a ray just barely skimming along the reflector surface which is what we have in a waveguide laser.

The first most obvious fact is that the s-pol reflection is fantastically good at all angles on aluminium. (A reflectance of 1 = 100%). In fact, in a waveguide, only the bounce angles at very nearly 90° (to the normal ray) are important. The p-pol is fantastically bad at near 90°. So, an aluminium waveguide will select ONLY for S-pol reflections and create a polarized laser. This is the good news for the metal-metal waveguide, but the very bad news is that the reflections of S-pol rays of light at lower angles than very nearly 90° are also supported fantastically well. It is these lower angles (to the normal) that support bad, higher order modes. With Al_2O_3 waveguides, you can see immediately that both the S-pol and P-pol reflections are nearly equal near 90° and fall off very rapidly at lower angles. This means that when building in ceramic, you do not need to worry about the higher order modes being supported. It also means that the ceramic waveguide laser will not be strongly polarized (an advantage in certain cutting applications).

In order to solve the higher order mode issue in metal-metal waveguides, several solutions have been found through the years. One solution is to distort the waveguide surfaces by bending or machining tilts into the surface. These distortions will cause the higher order modes to become lossy relative to the perfect mode. This is because as the angle of reflection moves closer to normal by even slight amounts, the reflectivity becomes less. The resonator is incredibly sensitive to even slight losses and will shift energy into the modes that have the least loss. This method of reducing higher order modes also comes with a small power penalty since the waveguide also becomes slightly less ideal for the perfect mode, however the compromise is a good one. In the Alumina-Alumina ceramic waveguide, these waveguide distortion methods have no positive effect at all and in fact, the only effect is lower power. Therefore, Iradion does not use them.

Another way to remove the higher-order modes in a metal-metal waveguide is to accept an output full of higher order mode power and then filter it out using a spatial filter. This method is the classic method of improving the mode of any laser but is also causes the overall efficiency of the laser to be lowered because the higher-order power is removed outside the laser. Lasers that fold the beam and point it out the back of the laser contain a cylindrical lens to correct the natural ellipticity of a slab laser beam and a spatial filter to remove the bad modes combined with a beam expander. This combination of optical elements can result in a very good beam but will cost more.

Ceramic core technology naturally suppresses higher order modes, generating a high-quality beam without complicated, compromising techniques. IPF

For details, contact C And C Laser Engineering Pvt Ltd, Mumbai, on Tel: +91 22 4972 7168, Mob: +91 98331 05515, email: sawant@cnclaserengg.com, or visit: www.cnclaserengg.com

TECH BYTE

AVEVA expands into discrete manufacturing market

AVEVA, a global leader in engineering and industrial software, has unveiled its new Discrete Lean Management software to support digital transformation in the discrete manufacturing market. The new offering improves operational efficiency through the digitalization of lean work management for both manual and automated production lines. AVEVA's quick-to-deploy and easy to use digital tools enable access to production information, KPIs and notifications on dashboards, workstations and mobile devices to improve overall equipment and labor effectiveness, and to facilitate data-driven continuous improvement.

Harpreet Gulati, Sr VP, Planning and Operations at AVEVA

AVEVA Discrete Lean Management is designed to address the issues faced by operating manufacturing plants still using paper-based systems for lean and work order management, work instructions and data collection procedures. It enables physical records to be replaced with digital tools that mitigate the risk of manual processes and provides real time visibility into production performance allowing team collaboration in response to production issues.

"AVEVA Discrete Lean Management is the result of our close collaboration with Schneider-Electric and has been already successfully deployed as a digital lean system to many of their plants globally. We are excited to be able to announce the general availability of these proven lean and industry best practices to all our customers to help improve their manufacturing productivity and profitability, and also jumpstart their smart manufacturing and digital transformation journeys," commented Harpreet Gulati, Senior Vice President, Planning and Operations at AVEVA. IPF

Plastic pallets: Essential part of packaging

Plastic pallets, which have become important part in today's world, protect and preserve goods and ensure they are transported efficiently. In this article, **Jitender Virmani** offers practical tips to help customers pick the right pallets for their requirements.

Industrial packaging industry is radically changing with the introduction and push of plastic options to move the goods. With policies and practices constantly changing for manufacturers they needed an alternative to tick all the boxes being set for them.

From the manufacturer to the supplier or even to the traders, across all verticals, shipment is required for sending or receiving the material. And for packaging the material, plastic pallets have become important part - protecting and preserving goods, and ensuring they are transported efficiently. Plastic pallets aren't a new fad; it's become an essential product to consider for all warehouse environments.

Introduction

One of the toughest challenges at Ajooni Storage is organising the pallets into categories that make sense for the customers. How could this be tough, you may ask? It's because performance factors that customers look for in plastic pallets differ depending on the application.

There are a whole host of plastic resins, pallet designs and pallet forming processes that, depending on application, will perform better or worse. Ajooni strives to marry performance with cost so that the customers obtain maximum value for their pallets.

Mistakes most plastic pallet companies make

Most plastic pallet companies online organise their pallets into design categories only. This is a mistake, because it misleads the customer into thinking that design alone is what makes plastic pallets different. But design is only a piece of the puzzle.

Allow Ajooni Storage to give you the full picture

Here are the categories which need to be considered:

- **User application**: This is the single most important consideration when selecting a pallet. It's the first question we ask our customers, so it'll be the first topic we cover in our tutorial.
- **Pallet materials**: Here we'll break down the differences between virgin resins and recycled resins. The distinction is crucial, and we'll explain why.
- **Pallet design**: While this isn't the end-all be-all factor to consider when buying plastic pallets, it's still an important part of the process. We'll go through the design considerations to make before you purchase.
- **Manufacturing processes**: Unlike wood pallets, there are many processes available to make plastic pallets. All have their costs and benefits, and we'll be happy to explain them.

A simple question

To make things simple, we usually ask our customers a basic question: Will they be shipping their pallets away, never to be seen again, or will they be reusing their pallets over and over?

We ask this question immediately to determine if our customers are purchasing an expense for their business, or an asset. This month we'll walk you through pallets as an expense, and next month we'll cover pallets as an asset.

Export & shipping pallets as an expense

When a customer ships a pallet never to be seen again, the pallet is considered an expense. An operation usually bakes the cost of the pallet into the cost of the goods being sold, and the pallet expense is transferred to their customer.

In our competitive global market, transfer costs like this must be as competitive as possible, so the cheaper the pallet the better. Companies might decide to give this cost away, making it a zero transfer cost, while others might decide to add a margin to the pallet, making it an actual

Export pallets

profit centre.

Regardless of what our customer is doing, the pallet serves as a means to ship product from point A to point B. The performance characteristics required for the pallet are to maintain weight capacity in a rigid structure that will protect the product during transit. And the goal is to accomplish all of this at the lowest cost possible, so that the expense and the transfer cost are minimised.

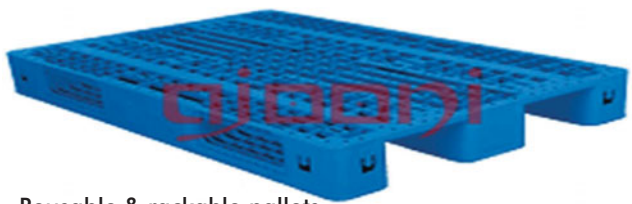
Customers' requirements down the supply chain: An important distinction to make here is that single use plastic pallets are usually demanded from customers down the supply chain. Often times our customers would rather ship on wood pallets, but their customers ask for plastic. We have many names for this type of pallet and they include shipping pallets, export pallets, one-way pallets, consumable pallets, and so on. The plastic material, design and manufacturing process for these pallets make them good solutions for their intended application.

Plastic pallets as an asset

When a customer plans to reuse a pallet over and over, the pallet is considered an asset. Plastic pallets were born of the concept of reusability so that customers could buy pallets much less often. In these applications, pallets can be accounted for as depreciable assets, and return on investment (ROI) is the key factor behind a purchasing decision.

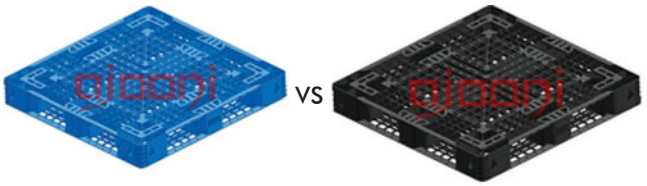
Performance characteristics for these types of pallets become very important because our customers are looking to save cost over the long run, and complex financial and operational considerations have to be made. In addition, the environment that the pallet is subjected to is typically harsher than that encountered while shipping product from A to B: care must be taken to consider how the pallet will provide ROI for the operation.

Pallet cost and RoI: Sometimes customers get sticker shock when they hear of a pallet costing Rs 3000, Rs 4000, etc. This initial cost must be ignored. The return on investment (RoI) must be the priority. For instance, a Rs 4000 plastic pallet that lasts for 3 years in an operation is far cheaper than a Rs 700 wood pallet that lasts for 3 weeks, and payback is received in approximately 8 months. These types of plastic pallets are purchased because internal operations are looking at cost reduction strategies.



Reusable & rackable pallets

We usually call these types of pallets reusable pallets, distribution pallets, racking pallets, warehouse pallets, captive pallets, and so on. The plastic material, design, and processes for these pallets are different than those for single use pallets, because the pallets have to be stronger and more durable to yield an effective RoI.



Virgin vs recycled resins

Virgin vs recycled resins

The vast majority of plastic pallets are made from HDPE (high density polyethylene) and PP (polypropylene), and recycled HDPE and PP. The distinction between virgin resins and recycled resins is immensely important.

When plastic is modified in processing it undergoes heat and pressure. Heat is required to liquefy the plastic to mould it, and pressure is required to form the liquid into an acceptable and consistent shape. The application of heat and pressure puts strain on the molecular structure of the plastic, and the more times this occurs, the weaker the molecular structure becomes.

Virgin resins are typically more durable on the molecular level than recycled resins, and they perform better when put through the correct design and processes. And that's why virgin pallets are considered to be food-grade and used for storing & shipping food products and pharma products.

Which pallet material should you choose?

The main benefit to using recycled resins is that the material is cheaper so the pallet costs less. So, if you are purchasing an expense, a pallet made out of recycled resin is generally the more competitive option.

Pallets made from recycled resins are typically more brittle than their virgin resin counterparts. As a result, most user applications that call for an asset pallet will have a very difficult time achieving a return on investment (RoI) if they purchase a pallet made from recycled material.

Another factor to consider is material consistency. Most pallets made out of recycled resins will have a material variability that makes them strong today, weak tomorrow or vice-versa.

Common mistake

A common trap that customers find themselves in is

looking at recycled resin pallets as a cheap entry into plastic. This generally proves more expensive in the long run, and we often recommend not turning a wood problem into a plastic problem.

Nestable and stackable plastic pallets

Most online sites will categorise pallets into "nestable" and "stackable" categories. Nestable means that pallets nest inside one another to make stacking more efficient. Stackable means that the pallet has a solid platform on the bottom which allows pallets to double stack with product and other pallets.

Stackable pallets for racking

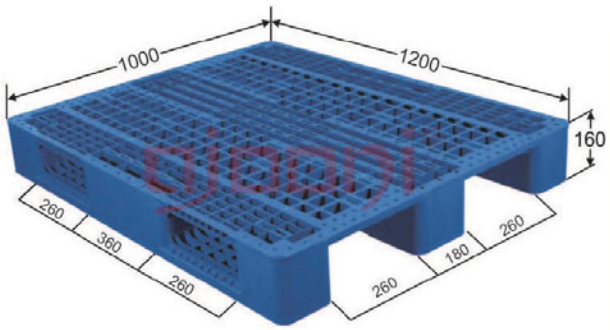
Nestable pallets for distribution: Nestable pallets are very efficient in distribution operations where the goal is to get as many empty pallets on a truck as possible. In some instances we can fit up to 2000 pallets on a 17' truck, greatly reducing return freight costs. Space saving benefits is also worth noting. Nestable plastic pallets can save up to 4 times the floor space over stackable plastic pallets and wood pallets.

Stackable pallets for racking: Stackable pallets are usually required for racking and double stacking applications. Each stackable pallet has a footprint like a traditional wood pallet. If the storage requirements call for high stacking in warehouses or racking in different rack configurations, a stackable pallet is used. Stackable pallets are used in most conveying and palletizing applications as well.

Price difference: It is important to keep in mind that nestable and stackable options differ greatly in price. The processes that produce nestable pallets are much cheaper than those that produce stackable pallets. As a result, the cost of a nestable pallet is usually 40-50 per cent less than the cost of a stackable pallet.

Other important design considerations

The above two categories are very broad. There are many other design traits to plastic pallets that factor into specific user applications. Other design considerations include deck designs for sanitation and load securement, runner designs for forklifts, pallet jacks and walkies, and dimensional lengths, widths and heights. For example, sometimes height becomes a critical dimension when the application needs to fit inside a truck. Next time you place an order with us, we'll be happy to walk you through these more specific factors and get you exactly what your application demands.



Manufacturing processes: Injection moulding

High performance pallets are usually injection moulded. Most injection moulding is done using virgin or high-quality reprocessed resin. Injection moulding is expensive, but it's also the highest speed process, and pallets can be made very quickly once the mould goes to press. Due to these factors, it makes sense to choose injection moulding when ordering a large volume of pallets. Most large orders or standardized orders are injection moulded.

Injection moulded pallets offer quality dimensions and high impact resistance from fork tine abuse. A cost to injection moulded pallets is that you must be looking for a fairly standard type of pallet. If the pallet is unique, more than likely a manufacturer will not invest in the equipment to make it, since it's not a design they'll be likely to implement often. In order to justify the investment, orders must typically exceed 50,000 units. Keep in mind that this is a general guideline, and not a hard-and-fast rule.

Other processes

There are various other processes used to make plastic pallets such as rotational moulding, compression moulding, and extrusion/assembly and blow moulding. These processes are not as common in the market but can be very efficient depending on the part being made. They are usually considered at very low volumes.

Manufacturing process has a major impact on pallet cost and performance, and is an important factor to consider when choosing the right plastic pallet for your application. IPF

About the Author:
Jitender Virmani is the Director of Ajooni Storage Systems. For more details, contact Ajooni Storage Systems, New Delhi, on 011 4545 3626 or email: info@ajooni.co.in

RS-India: Pioneers in manufacturing of high precision parts

Jaipur-based RUJ & SRM Mechanics Pvt Ltd (RS-Inida) plans to develop an in-house capability of producing all mechanical components from prototypes to large scale productions in India.

RUJ & SRM Mechanics Pvt Ltd (RS-Inida) in Jaipur was founded and established by Dr Rajendra Joshi and his wife Mrs Ursula Joshi residents of Switzerland. The company, a joint venture with 'SRM Technologies AG' - a Swiss based Organisation, was incorporated with the core objective of manufacturing and assembling high precision parts.

Stretched over 12 acres in the Mahindra World City, Jaipur, RS-India has been set up with an investment of over Rs 300 crore. The company has a state-of-the-art Swiss precision and assembly plant, installed with high-quality advanced machinery imported from Switzerland, Germany, Japan and many more. RS-India intends to have a production capacity of 5650 MT per annum production and generate employment for over 250 workers in full capacity.

Major functions and processes conducted at RS-India are milling, turning, Swiss-style lathe and turning, surface grinding, cylindrical grinding, punching, laser cutting, heat treatment, anodizing, plating, powder coating, injection moulding, assembling, etc.

With over 30 years of experience in manufacturing of mechanical components and devices, partner SRM AG plans to develop an in-house capability of producing all mechanical components from prototypes to large scale productions in Jaipur facility. At present, the company specialises in producing high-quality precision parts from small to midsize dimensions and quantities, pre-assembled and tested components. RS-India offers manufacturing solutions in sectors such as health and medical, automotive, polymechanic, machine automation, laboratory technology, photo technology and aerospace.

The company will be soon obtaining ISO 9001 and 13485 (medical services) certification along with ISO 14001 (Environmental Aspects) and OHSAS 18001 (Health and Safety) certifications.

The production site has been designed to be well equipped with facilities such as a gymnasium, a cafeteria accessible for all employees and lush green landscapes that boast unique flora and fauna. The buildings architecture has been well thought after and designed as per international standards where the company has recently applied for 'Platinum Green Building Certificate'.

The building has been designed in a 'Green Concept' and has over 2900 solar panels that generate 994.951 kWp of electricity. RS-India premises houses an effluent treatment plant, water treatment plant (WTP), bio-degradable waste plant and a clean room facility. The water treated at the WTP is utilised for manufacturing process and charges a man-made water body. The bio-degradable plant transforms upto 100 kg of bio waste at a time into manure which is utilised to maintain greenery. The clean room facility is designed to manufacture and assemble medical accessories and devices that need extremely high cleanliness standards and bacteria free environment.

RS-India follows Swiss Standards in every process and have sent employee from production to Switzerland to gain practical training experience at the SRM AG. The company is known to maintain a good work life balance.

IPF

(Communication provided by the management of the company)

Crest Ultrasonics offers advanced metal part cleaning systems

Cleaning of metal parts has become absolutely essential in modern manufacturing processes. Crest Ultrasonics offers innovative and advanced cleaning solutions for automotive industry.

Metal parts cleaning, like most metalworking processes, is experiencing ever-tightening specifications. Owing to the constantly increasing requirements in terms of efficiency, quality and environmental protection, the cleaning of industrial parts has become absolutely essential in modern manufacturing processes. It is highly critical especially in case of automotive components, aerospace parts and medical implants.

Crest Ultrasonics offers the right solution in metal part cleaning to achieve the required cleanliness level with consistency, without spoiling environment. Having the latest technology with several patents and innovation in ultrasonic cleaning technology, the lab versed with sophisticated equipment to understand and measure the contamination, as well as to find out the suitable process along equipment, Crest understands customer requirement precisely and suggests the most suitable system (as per Millipore standards or Particle counts), maintaining zero rejection level along higher productivity.

Aqueous based 4 or 5-station cleaning systems

The 4-station wash-rinse-rinse-dry is ideal for cleaning at the microscopic level. The 5-station wash-wash-rinse rinse-dry system is configured for dual process or semi-aqueous precision cleaning applications. Standard tanks sizes (for manual and automated consoles) range from 10" (L) x 14" (W) x 10" (D) to 24" (L) x 36" (W) x 20" (D). Custom tank sizes are also available. The Crest Ultrasonics Optimum Console is a cost-effective, highly flexible solution for all industrial precision cleaning applications. Engineered with a compact, space-saving design and rugged, stainless steel tubular frame, it offers the convenience of an all-inone, wash-rinse-dry design with a single-point facility connection for easy installation.

The Crest Ultrasonics Optimum Console is a cost-effective, highly flexible solution for all industrial precision cleaning applications.

Vibra bar.

Push pull resonator.

Tank, Genesis genrator and immersible transducers.

Solvent-based precise cleaning system

Crest solvent-based precise cleaning systems are passed from pollution board in California and known for negligible solvent emission with small footprint, less energy consumption and inbuilt refrigeration.

Model F-100-1010 consumes hardly one litre solvent per week and electrical energy consumption is hardly 2-3 kW only.

Ultrasonic immersion box: Rectangular immersion box can create ultrasonic energy in an existing cleaning solution tank. Crest ceramically enhanced transducers with true sweep technology ensures consistency in cleaning with long life.

Push pull resonator transducers: These patented solid resonators are great invention in transducer technology. It is solid rod transducer which can be immersed in any liquid tank. These transducers can't get puncture or leak as these are solid rod transducers.

Crest Ultrasonics can offer variety, small bench top models to large 100,000 litre tanks and aqueous/solvent-based with 25 kHz, 40 kHz, 68 kHz....132 kHz,198 kHz.....1 MHz frequency. IPF

(Communication provided by the management of the company)

Rust-proof, energy-efficient Airpipe compressed air distribution system

Instamod Airpipe entered Indian market in January 2015, when it started supplying technology of aluminum pipes, an already known product of India. Many customers rely on us from different sector like mobile manufacturer, automobile, pharma, automation, power industry, wood industry, machine tools, textile, foundry, printing, packaging, food industry and so on.

Aluminum tube (supplied in single lengths) available in 2.9 and 5.8 meters from 20 to 200 mm. Installation is flexible, quick and easy. Resistant to corrosion, vibration and heat, the air is preserved throughout the system up to point of use.

Santosh Kumar,
MD, Instamod Airpipe Pvt Ltd

Performance of the AIRpipe system differentiates itself through outstanding design, quality material and efficient production processes. Integration with existing compressed airing main systems is possible with the extensive range of pipe and fittings available. Peace of mind knowing AIRpipe is supported with a manufacturer 10 year warranty. Energy efficient low friction inner surface eliminates airflow restriction, reducing pressure drop.

A few of the most effective benefits that you could expect after renovation are as follows:

- **Corrosion proof aluminum alloy piping:** The pipe material has been engineered so as to counter the common problem of corrosion which results in scaling and porosity resulting in pressure drop and leakages. As per the latest data from prominent external body institutes, a leakage from a hole of a size of 800 micros represents a loss of Rs 80,000 annually.
- Minimal pressures drop by the virtue of long lasting internal smooth surface of the pipe resulting in laminar flow as compared to the turbulent flow of the mild steel pipe material. This results in huge energy savings. British compressed air society confirms for every 1 bar of pressure drop the compressor represents a 7 per cent increase in compressor energy cost.
- **Zero leakages:** Airpipe pipes and fittings system ensures that there are no leakages from the piping and the components and comes with a 10 years zero leak guarantee. Plus there are many more benefits such as: no water retention in the system, ability to take out drop line even when the system is charged, scientifically designed fittings which ensure full flow and minimum pressure loss at drop points, in built sturdiness and flexibility in the system to ensure any future expansions plus many more.

We have another product to offer for compressed air and for water “AQUA pipe”. We already got good no of installations in India and the technology is unique from what others are offering in India. From 15.100 mm dual pressing fittings, uniform, steadiness quick and modular and to 125-250 mm Clamp shell Union Connector for quick install & re-assembly, we have both variants for water silicon seal and for Air NBR seals.

The company can offer AQUA pipe in 304 & 316L and also as per customer demand. With this product, Instamod is eyeing big business in India since others are still using welding technology in SS. AQUA pipe have edge over the technology and we already have created impression in the market of SS by installing more than 50 projects. Instamod has started a new branch office at Coimbatore which can be used as mini warehouse and ensure better delivery in south which is demand of the hour. Instamod is planning open more branch office cum warehouse in different parts of India in coming years.

The company has got many certifications such as ISO 8573-2010 Class: I, CE, ISO 9001.2000, UL94-2013, updated TUV, FDA, NSF, EC approvals also with us for both AIRpipe & AQUApipe. IPF

For details, contact Instamod Airpipe Pvt Ltd on email: santosh.kumar@airpipe.in, sales@airpipe.in, or visit: www.airpipe.in

(Communication provided by the management of the company)

N S Thermal Energy: The growth enabler of power industry

By providing high-end engineering services like consultancy, design & engineering and project management of power plants, component manufacturing, etc, NSTEPL ensures smooth functioning of power plants.

The Ghaziabad-based N S Thermal Energy Pvt Ltd (NSTEPL) is an integral part of the NS Energy Group, which is a conglomerate of upcoming professionally managed companies engaged in design, manufacture, EPC and O&M of power plants since last two decades. NSTEPL serves industries like power & energy, agro-based, textile, paper, sugar, oil & gas, distillery, and chemical & process industry.

The vision

The company has been driven by vision "To be a premium global conglomerate with a clear focus on power generation and - application - taking a considerable attention to the environmental impacts to replace traditional carbon power plant by RE green power plants".

NSTEPL started in 2007 as a power plant construction company rendering services for erection, commissioning and O&M of small power plants. Later on, it ventured into providing high-end engineering services like consultancy, design & engineering and project management of power plants. It has two manufacturing units - Monotech Engineers Pvt Ltd and NS Terbo Pvt Ltd.

N S Thermal Energy offers solutions for refurbishment and overhauling of steam & gas turbines, relocation of power plants, EPC of T&D line 11/33/66/132/400KV & substation, and rooftop based solar PV power plant. The company provides end-to-end EPC & turnkey solutions for biomass based power plants.

Some of the focus areas for the company are:

- Solar PV based power plant
- EPC of power plants, process plants and waste to energy plants
- Erection, commissioning and operation & maintenance of power plants
- Co-generation, bio-mass, bio-gasification, solar thermal based power plants
- EPC of transmission & distribution 11/33/66/132/400 KV substation

Gas turbine refurbishment & maintenance

N S Thermal Energy Pvt Ltd undertakes erection, commissioning, renewal, overhauling, relocating, break down, AMC, consulting and trouble shooting of rotary equipment such as steam turbines, gas turbines, blowers, fans, centrifugal compressor, gear boxes and pumps, generator, diesel engines. It also offers

conditional assessment for predictive maintenance of rotating equipment by specialised NDT team with level II and level III experts.

Component manufacturing

N S Thermal Energy manufactures a wide range of high precision components for gas turbines, steam turbines and aero-engines. NSTEPL manufactures a wide range of gas turbine components for GE designed heavy duty industrial gas turbines (Frames 3, 5, 6, 7 & 9).

Rotor repair & complete overhaul services

To complement the existing capabilities of component manufacture, repairs, field services and spares supply capabilities, NSTEPL inaugurated its Rotor Overhaul facility in 2012. The facility has the capability of complete turbine and compressor rotor de-stacking, refurbishment, re-building and balancing. The company's Rotor Overhaul facility is well equipped with imported machines, tools & tackles, jigs & fixtures and measuring & inspection instruments which include a shot blasting system, vertical turret lathe, 10 meters long-50 tonne Skoda lathe, Schenck balancing machines, conventional milling machines, blade tip grinding machine, Schenck moment weight balancing machine, welding machines, radial drilling machine, a spare parts depot, along with 2 overhead cranes with a load bearing capacity of 60 and 15 tons each.

With the existing manufacturing and component repair facilities, the Rotor Overhaul facility makes NSTEPL a total gas turbine solutions provider operating from one integrated campus. IPF

(Communication provided by the management of the company)

Self-repairing doors: A technological marvel

Flexible rapid self-repairing roll-up door lowers the time of transition from one area to another in a surprising way, avoiding any human error which can cause damage to the same roll-up door.

Rapid self-repairing roll-up doors are the technological evolution of old PVC stripes or folding doors, which turned out to be inappropriate for the need's requests. It is the best technological product supplied by Gandhi Automations and it is functional, safe, quick and resistant.

Through specific certified, Gandhi Automations creates engineering works of the highest caliber that meet the issue for greater versatility desired by customers. Flexible rapid self-repairing roll-up door in PVC is the most suitable solution in the field of rapid industrial doors, it lowers the time of transition from one area to another in a surprising way, avoiding any human error which can cause damage to the same roll-up door, and all this thanks to the innovative "Anti-crash System". Gandhi Automations provides a great product in great security.

The industrial doors made by Gandhi Automations are unique and not repeatable, always be wary for copies. It adapts to all market sectors by splitting into several models:

- Rapid self-repairing door type Prime Reset BASE, suitable for max size 6000 x 5000 h curtain closing in PVC without rigid elements for indoor use
- Flexible rapid door in pvc type Prime Reset PLUS, suitable for max size 6000 x 5000 h curtain closing in PVC without rigid elements for outdoor use wind resistance 160 Km/h

All models of rapid self-repairing roll-up doors type Prime Reset can be equipped with a counterweight for full opening in case of power failure.

Rapid roll-up doors Prime Reset in PVC can be equipped with visual sectors in crystals, with large transparent sectors for a great brightness.

These types of rapid doors are curtain closures made of a perimeter structure in galvanized steel U-shape designed to accommodate the sliding of the cloth, which is by door latch and self-lubricating guide maintenance-free thanks a top roller for the collection of the cloth.

All our roll-up self-repairing doors without rigid elements are controlled by a control panel powered 230 v / 415 v single-phase / three phase inverter control, and are designed for an intensive continuous service.

In the range of rapid roll-up doors, we are able to develop sized doors with high degree of insulation with insulated cloth.

The maximum size made up on flexible roll-up self-repairing doors are width 8 mt height 7 mt wind resistance equivalent to an aerodynamic boost.

Do your facilities have a need for speed? Or a range of high-speed doors that are not only fast, they're robust and tough enough to handle any traffic, irrespective of the environment! With the added benefit of Gandhi Automations 'self-repair' feature.

Prime Reset is a unique high speed self-repairing door with the latest technology that prevents downtime of the door system. In the case that the curtain is impacted accidentally it will cause the curtain to move out of the guides without damage. The movement of the door is designed in such a way it can be recovered with a simple opening and closing operation. Gandhi Automations manufactures doors of the highest quality that meet the issue for greater flexibility desired by clients.

Our high-speed roll-up self-repairing doors are manufactured on a steel metallic plate structure with an aluminum roll-up shaft that allows the curtain to be raised with ease. These doors are the best option for all entrances and separations of different areas of a company building. They have a high level of tightness and high wind resistance, which makes them one of the most competitive models on the market. IPF

For details, contact Ronak Chauhan (Sales Manager of Gandhi Automations) on Mob: 084509 66133; or email: sales@geapl.co.in

(Communication provided by the management of the company)

Event	Date & Venue	Contact
MMT EXPO 2020	March 11-14, 2020, Bombay Exhibition Centre, Mumbai	NESCO Center, Mumbai Tel 022-66450123 Mobile: 9833110372 Email: prashant.bahl@nesco.in
PACKPLUS SOUTH 2020	March 20-21, 2020 HITEX Exhibition Centre - Hitex International Convention and Exhibition Center, Hyderabad	Next Events (P) Ltd, Navi Mumbai Tel: 022-27812093, 27812619, 27812657 Email: info@nextevents.in
SMEXPO 2020	April 17-19, 2020 Bangalore International Exhibition Centre – BIEC, Bengaluru	A & A Media, Bengaluru Tel: 080-41632554, 41632555
DIE & MOULD INDIA INTERNATIONAL EXHIBITION 2020	April 22-25, 2020 Bombay Exhibition Center – BEC, Mumbai	Tagma Tool & Gauge Manufacturers Associations, Mumbai Tel: 022-28526876/ 28508976
ROOF INIDA 2020	Apr 23-25, 2020 Bangalore International Exhibition Centre (BIEC), Bengaluru	International Trade and Exhibitons India Pvt Ltd, Chennai Tel: 044-30744444
DAHEJ INDUSTRIAL EXPO 2020	April 23-25, 2020, GIDC Bharuch	Ads Pages Pvt Ltd, Vadodara Tel: 0265-2356789/3057466
WINDERGY INDIA 2020	April 28-30, 2020, India Expo Centre and Mart Greater Noida	Indian Wind Turbine Manufacturers Association, Alwarpet, Chennai Tel: 044-24620227, 42100139, 43015773
POWERGEN INDIA 2020	May 5-7, 2020, IECC, Pragati Maidan, New Delhi	iTEN Media Pvt Ltd, New Delhi Tel: 011-43013474 Email: network@itenmedia.in
WORLD OF MANUFACTURING 2020	May 6-8, 2020 Bangalore International Exhibition Centre – BIEC, Bengaluru	PDA Trade Fairs Pvt Ltd, Bangalore Tel: 080-42505000, 25542258 Email: expo@pdatradefairs.com
SOLAR INDIA EXPO 2020	May 20-22, 2020 Pragati Maidan, New Delhi	Exhibitions India Group, New Delhi Tel: 011-42795014, 42795193, 42795000, 42795168
RIDE ASIA 2020	May 29-31, 2020, Pragati Maidan New Delhi	Udan Media & Communication Pvt Ltd, Ludhiana Mobile: 095920-48026, 09815222211
METAL WORKING EXPO 2020	June 1-4, 2020, Pragati Maidan, New Delhi	Toredo Fairs India Pvt Ltd, Bangalore Mobile: 09845363225, 09986436557 Email: info@toredofairsindia.com
PLASTASIA 2020	June 19-22, 2020 Bangalore International Exhibition Centre – BIEC, Bengaluru	Reed Triune Exhibitions Pvt Ltd, Bengaluru Tel: 080-43307474/22352770 Mobile: 09845089641 Email: info@reedtriuneexhibitions.com
28TH CONVERGENCE INDIA 2020	July 07-09, 2020, Pragati Maidan, New Delhi	Exhibitions India Group, Delhi Tel: 011-42795014, 42795193, 42795000, 42795168

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ISTFE - INDIA SURFACE TREATMENT & FINISHING EXPO 2020	August 26-28, 2020, Pragati Maidan , New Delhi	ACE Exhibitions, Delhi Tel: 011-40204421/49538601
HAND TOOLS & FASTENER EXPO 2020	August 27-29, 2020 Bombay Exhibition Center – BEC, Mumbai	International Trade and Exhibitions India Pvt Ltd, Chennai Tel: 044-30744444 Email: info@itei.in
INDEXPO HYDERABAD 2020	September 04-06, 2020, HITEX Exhibition Centre - Hitex International Convention and Exhibition Center , Hyderabad	Indore Infoline Pvt Ltd, Indore Tel: 0731-2703000, 4093000
PMTS - PUNE MACHINE TOOLS SHOW 2020	September 10-12, 2020, Autocluster Exhibition Centre, Pune	K and D Communication Limited, Ahmedabad Tel: 079-40305602
AUTO SERVE 2020	November 06-08, 2020, Chennai Trade Centre, Chennai	Confederation of Indian Industry, Guindy, Chennai Tel: 044-42444564, 42444555, 42444524, 42444520
INDIA ESSEN WELDING & CUTTING 2020	November 23-25, Bombay Exhibition Center – BEC, Mumbai	Messe Dusseldorf India Pvt Ltd. Mumbai, Tel: 022-48550062, 48550057, 48550056, 48550000
INTERNATIONAL		
INTERNATIONAL POWDER METALLURGY EXHIBITION AND CONFERENCE 2020	March 24-26, 2020 Shanghai World Expo Exhibition & Convention Center – SWEECC Shanghai, China	Shanghai IRIS Exhibition Service CoLtd, Shanghai, Tel: 86-21-61702995
CERAMICS CHINA 2020	26-29, May 2020 China Import and Export Complex - Canton Fair Complex Guangzhou, China	CCPIT Building Materials Sub-Council, Beijing Tel: +86 10 5781 1692
PRINTPACK + SIGN SINGAPORE	July 15-17, 2020, Sands Expo & Convention Centre, Singapore	BizLink Exhibition Services Pte Ltd, Singapore Tel: +65 68485938 Fax: +65 68484182 Email: oea@bizlink.com.sg
ECPAKLOG - E-COMMERCE PACKAGING & SUPPLY CHAIN EXPO 2020	Jul 15-17, 2020, Shanghai New International Expo Centre - SNIEC, Shanghai	ChinaPak Exhibition Services Co., Ltd, Shanghai, China Tel: 86-21-60673756
B-EXPO - BAOAN INDUSTRY DEVELOPMENT EXPO 2020	September 23-25, 2020 Shenzhen World Exhibition & Convention Center, Shenzhen, China	Shenzhen Gravitational Waves Technology Culture Co, Shenzhen, Guangdong, China Tel: 518048 86-755-83581250, 83581259, 83581353
WIRE CHINA 2020	September 23-26, 2020 Shanghai New International Expo Center – SNIEC, Shanghai, China	Messe Dusseldorf Shanghai Co Ltd, Shanghai, China Tel: 86-21-61698300
IMT - INTERNATIONAL MACHINE TOOLS EXHIBITION 2020	October 05-09, 2020, Brno Exhibition Centre , Brno, Czech Republic	BVV Veletrhy BrnoVA staviA tA 405/1, Brno, Jihomoravsky, Czech Republic 420-541-152818/152936
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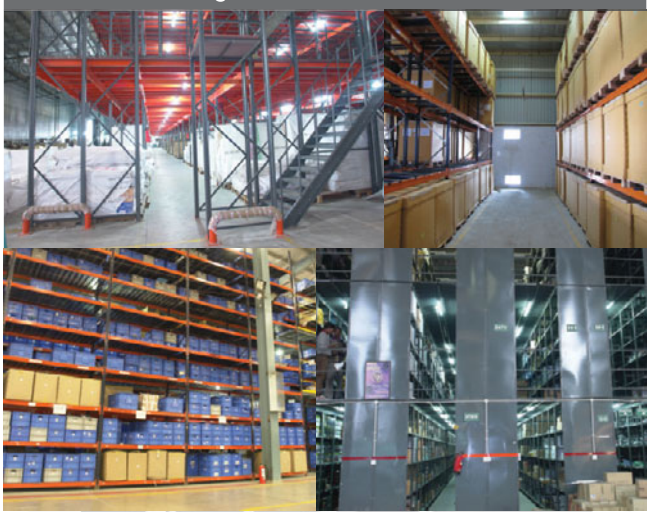

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- Bhambra has a well experienced team for installation, commissioning and trouble shooting.
- All our machines have a warranty of six months against manufacturing defects.

Bar Peeling Machines

SM Series Round Bar Straightening Machines

Bar Drawing Machines

SMH Series Round Bar Straightening Machines

Section Straightening Machines

Bar Pointing Machines

Bar Peeling Machines

Bhambra Engineering Works
237/K, Manicktala Main Road, Kolkata – 700 054. India
Ph: +91 33 2352 3439 / 4005 / 3559 Mobile: +91 9831006429
E-mail: bhambraindia@yahoo.co.in Website: www.bhambraindia.com

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SALVAGNINI MACHINERY INDIA PVT LTD
2nd Floor, No.26, R V M 2nd stage, New BEL road
Sadashivnagar, Bangalore - 560 054, India
Ref. Mr. Sharma Puneet
T. +919538872298
E. puneet.sharma@salvagninigroup.com

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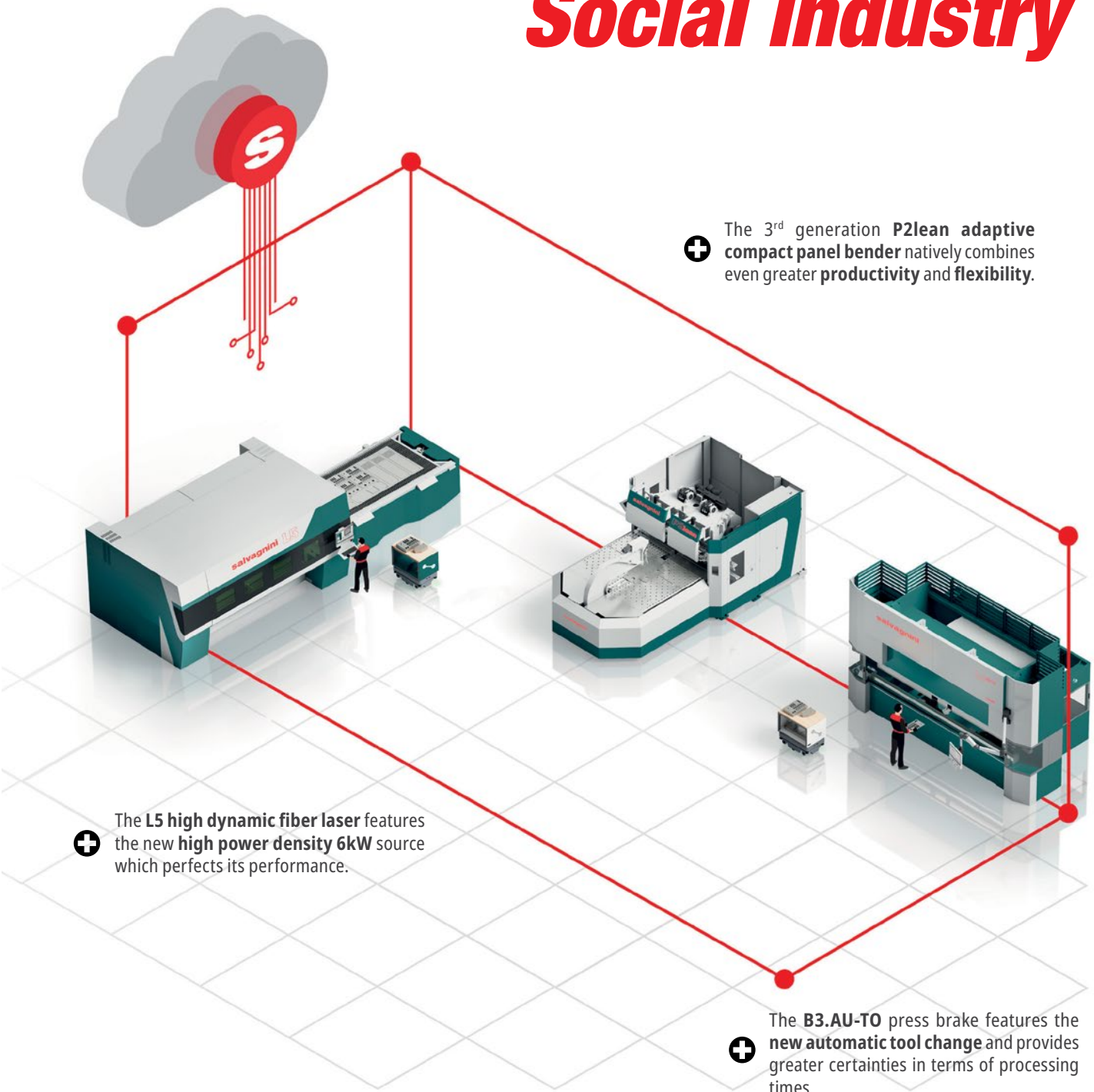

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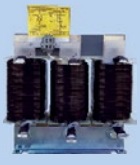
LV APFC Panel

Power Factor Controller



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