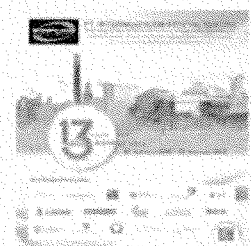
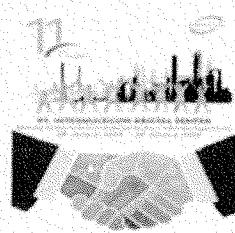
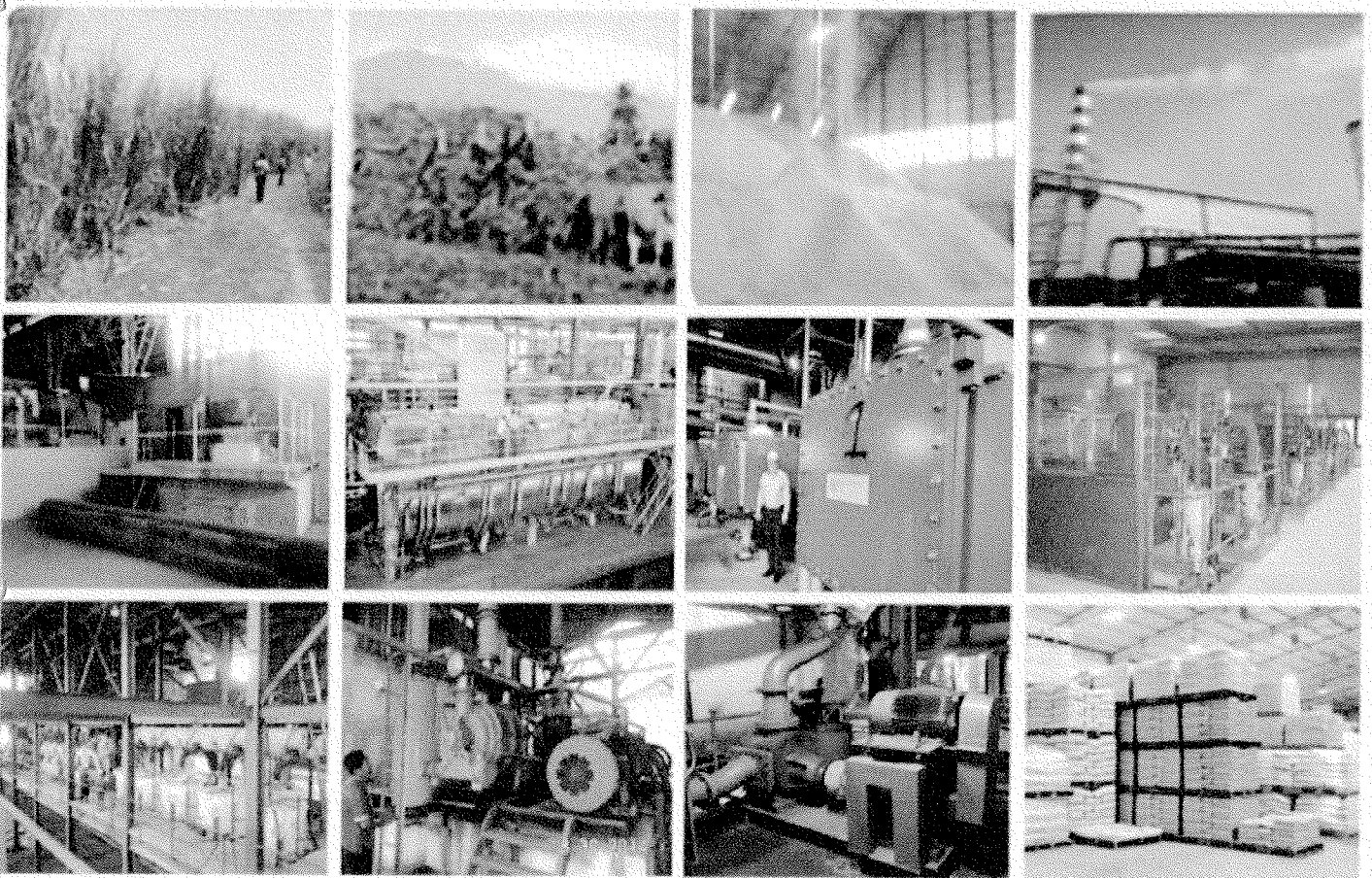
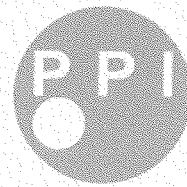


PT. INTERMULTICON KRISTAL SENTRA

Delivering the best performance products & services to Indonesian Sugar Industry



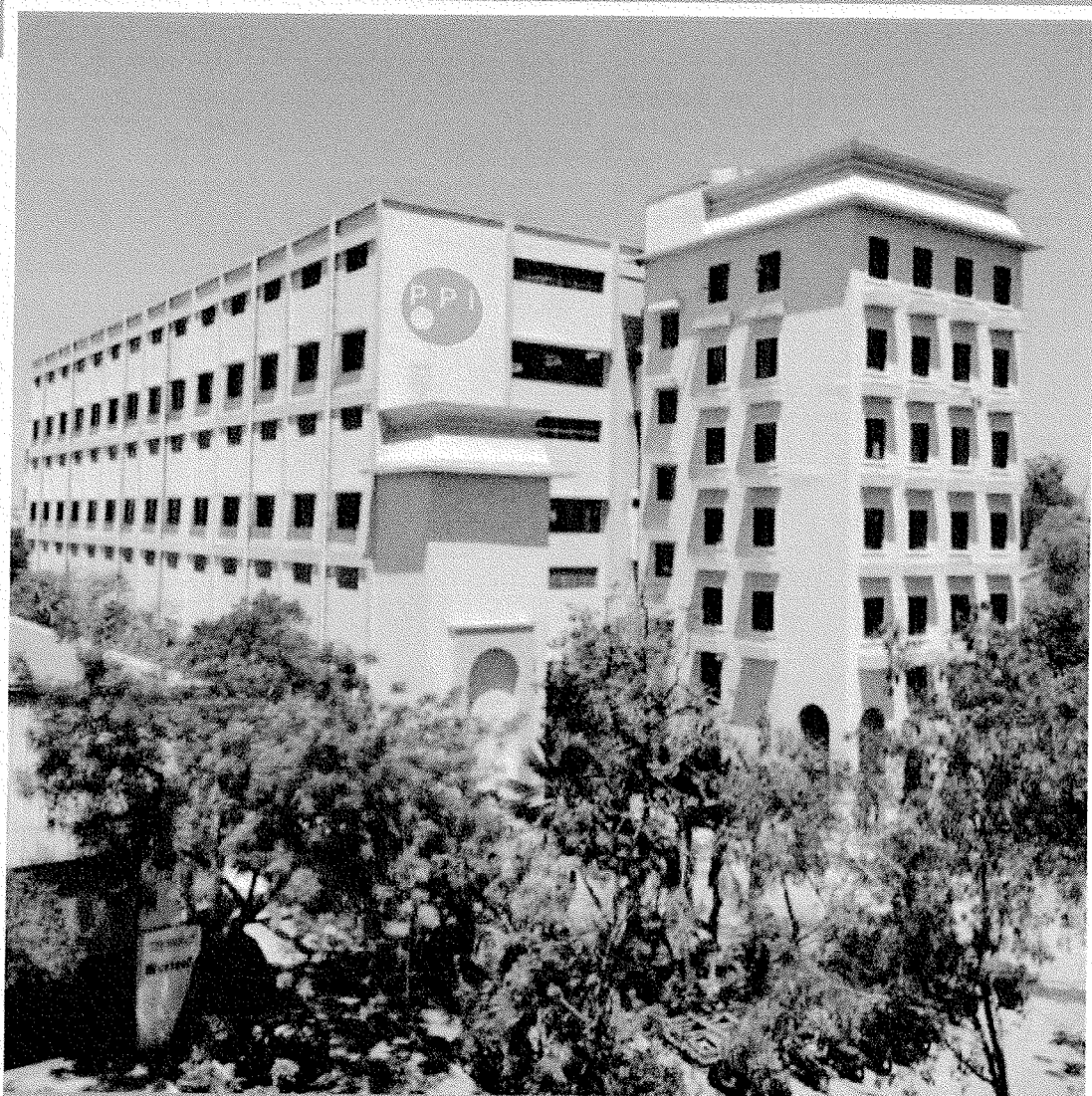
Feasibility study, project management, basic-design & engineering



Liquid Ring Vacuum Pump & Compressor

PPI PUMPS PVT. LTD. - PPI SYSTEMS

Renowned for Reliability and Service World Wide



PPI Systems is ISO 9001:2015 certified company and begun operations in 1979 with the manufacturing of vacuum pumps for capacity range up to 36000 m³/hr (1000 kw) with Different material of construction

Global Presence | Present in more than 40 countries.



Argentina | Australia | Bangladesh | Canada | Czech Republic | Egypt | Finland | Germany | Indonesia
Iran | Israel | Italy | Kenya | Lebanon | Malaysia | Mauritius | Mexico | Nigeria | Oman
Pakistan | Peru | Philippines | Poland | Russia | Saudi Arabia | Senegal | Spain | South Africa | Sri Lanka
Sweden | Syria | Taiwan | Thailand | Tunisia | Turkey | UAE | Uganda | USA | Vietnam



Wide Range of Products

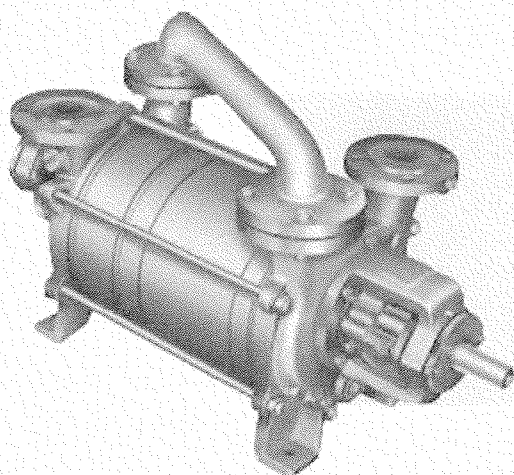
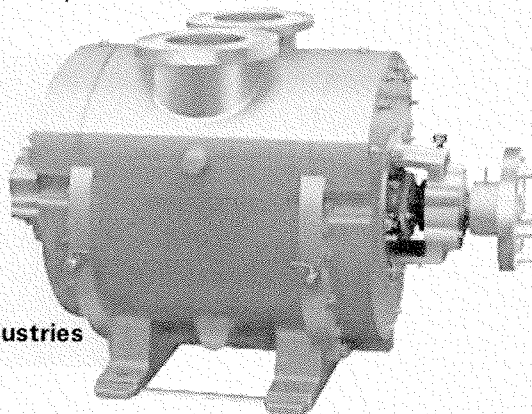
PPI Pumps offers a wide array of products that fulfill the exact requirements of customers. The different designs of pumps are developed to suit different industry and process specific requirements.

VWS Series

Liquid Ring Vacuum Pump / Compressor

Suction Capacity	: 8 to 2150 M ³ /Hr
Power Consumption	: 0.75 kW to 75 kW
Maximum Vacuum	: 710 mm of Hg (G)
Maximum Discharge Pressure	: 1.5 bar(G)

Widely used in **Chemicals, Pharmaceuticals and Process Industries**



VWS II Series

Two Stage Vacuum Pump

Suction Capacity	: 75 to 1080 M ³ /Hr
Power Consumption	: 3.7 kW to 37 kW
Maximum Vacuum	: 720 mm of Hg (G)

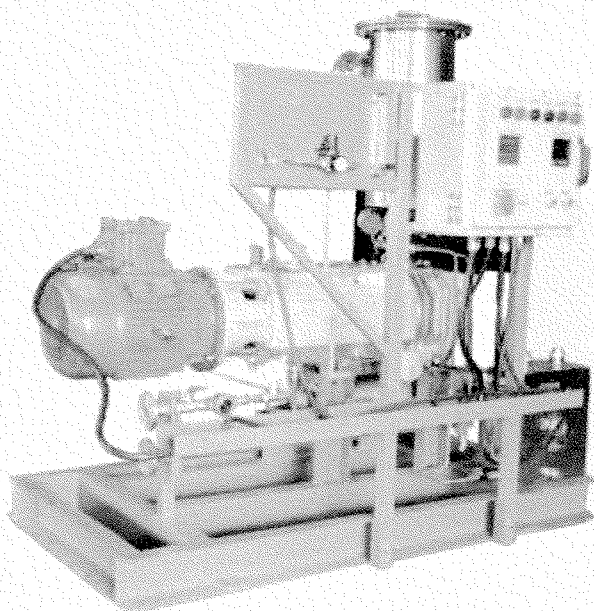
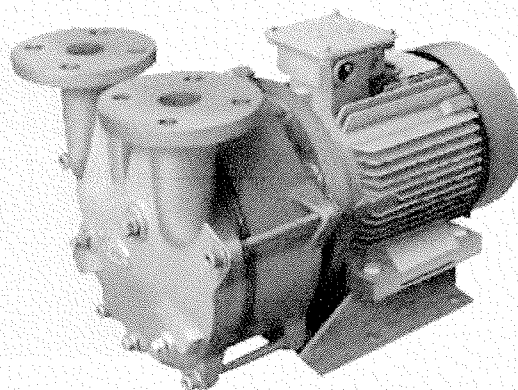
Widely used in **Chemicals, Pharmaceuticals and Process Industries**

CC Series

Close Couple Vacuum Pump

Suction Capacity	: 25 to 500 M ³ /Hr
Power Consumption	: 1.1 kW to 15 kW
Maximum Vacuum	: 700 mm of Hg (G)

Widely used in **Plastic Industries and Breweries**



Dry Screw Vacuum Pump

Suction Capacity	: up to 600 M ³ /Hr
Power Consumption	: up to 15 kW
Maximum Vacuum	: 0.5 Torr

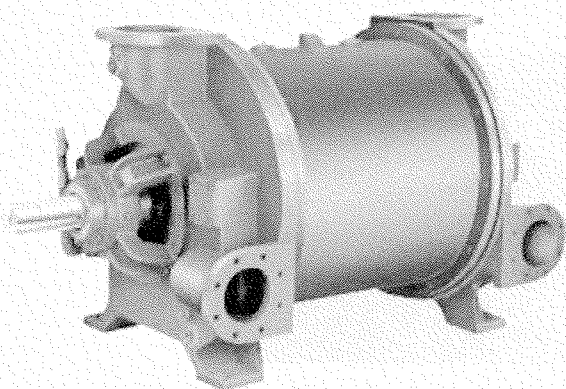
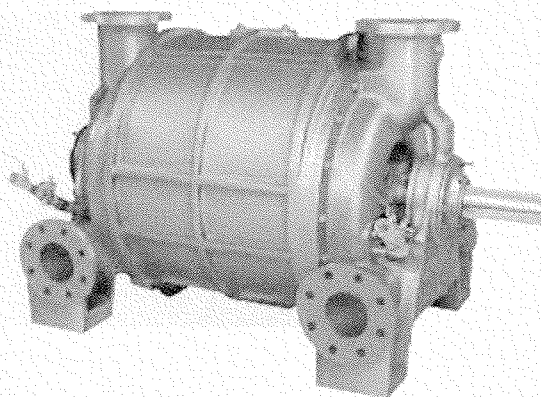
Widely used in **Drugs, Pharmaceutical and Chemical**

PL Series

Liquid Ring Vacuum Pump / Compressor

Suction Capacity : 550 to 17000 M³/Hr
Power Consumption : 15kW to 485kW
Maximum Vacuum : 700mm of Hg (G)
Maximum Discharge Pressure : up to 1 bar (G)

Widely used in **Pulp & Paper, Sugar Mill, Sugar Refinery, Power Plant and Process Industries**



PL 904 Series

Liquid Ring Vacuum Pump / Compressor

Suction Capacity : 4500 to 28000 M³/Hr
Power Consumption : 110 kW to 600 kW
Maximum Vacuum : 700 mm of Hg (G)
Maximum Discharge Pressure : up to 1 bar (G)

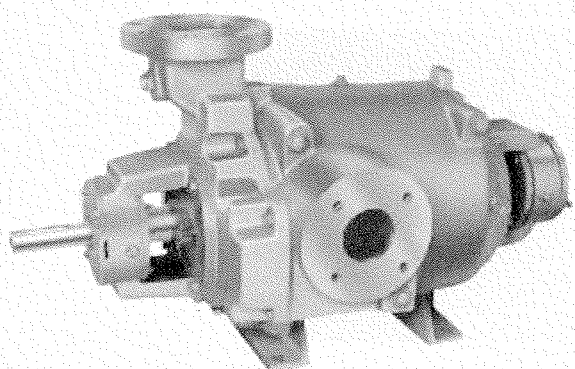
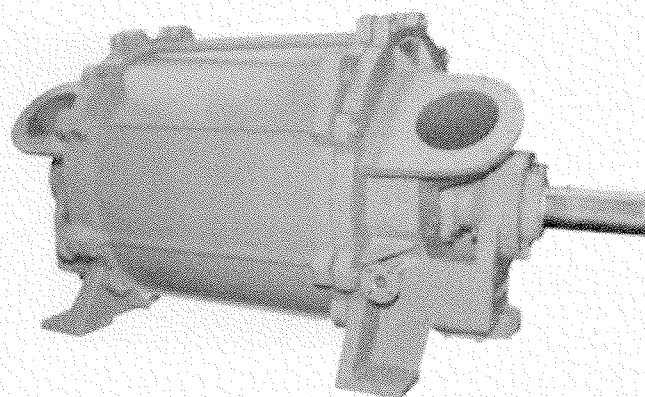
Widely used in **Pulp & Paper, Sugar Mill, Sugar Refinery, Power Plant and Process Industries**

PRV Series

Liquid Ring Vacuum Pump

Suction Capacity : 4500 to 20000 M³/Hr
Power Consumption : 110 kW to 500 kW
Maximum Vacuum : 700 mm of Hg (G)

Widely used in **Pulp and Paper, Sugar Mill**

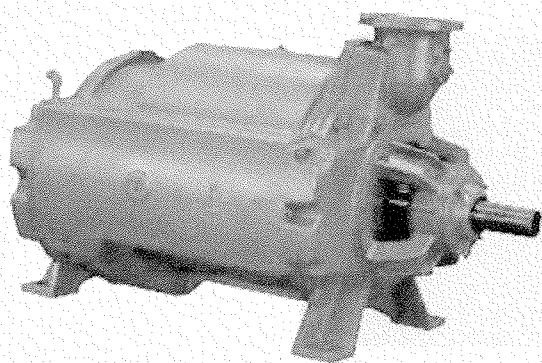


PSC Series

Single Cone Vacuum Pump

Suction Capacity : 220 to 5000 M³/Hr
Power Consumption : 7.5 kW to 132 kW
Maximum Vacuum : 710 mm of Hg (G)

Widely used in **Process Industries and Power Plants**



PTC Series
Two Stage Vacuum Pump

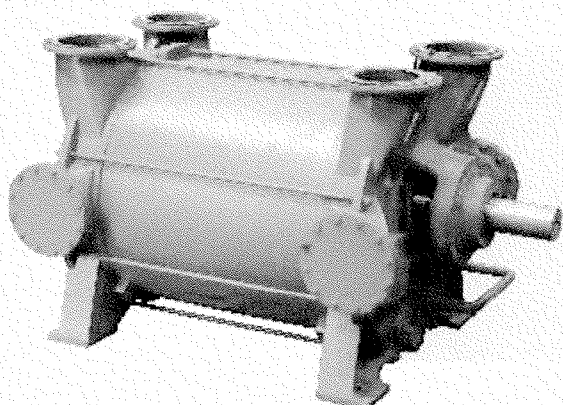
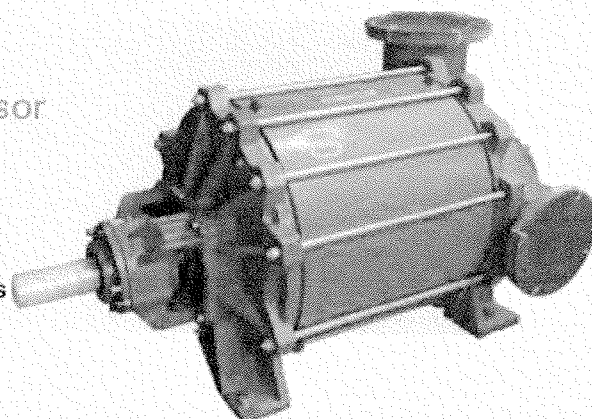
Suction Capacity : 200 to 3500 M³/Hr
Power Consumption : 15 kW to 132 kW
Maximum Vacuum : 710 mm of Hg

Widely used in **Power Plant and Chemical Industries**

PXL Series
Liquid Ring Vacuum Pump / Compressor

Suction Capacity : up to 5100 M³/Hr
Power Consumption : up to 160 kW
Maximum Vacuum : 710 mm of Hg (G)
Maximum Discharge Pressure : up to 2.5 bar (G)

Widely used in **Paper, Chemical and Sugar Industries**



2 PE Series
Liquid Ring Vacuum Pump & Compressors

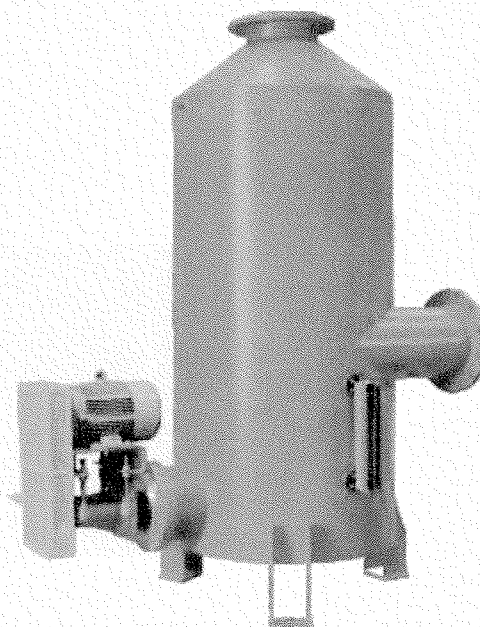
Suction Capacity : 4500 to 36000 M³/Hr
Power Consumption : up to 1000kW
Maximum Vacuum : 710 mm of Hg
Maximum Discharge Pressure : up to 1.8 bar (G)

Widely used in **Pulp & Paper, Mining Industries**

PKD Series
Extraction Pump / Filtrate Pump

Suction Capacity : Up to 3600 L.P.M.
Discharge Head : Up to 32 Meter
Power Consumption : Up to 15 kW

Widely used in **Paper / Mining Industries**



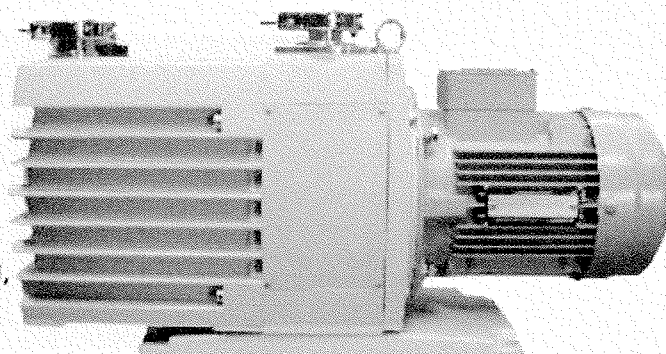
Oil Ring Rotary Vane Vacuum Pump

Suction Capacity : 10 to 300 M³/Hr

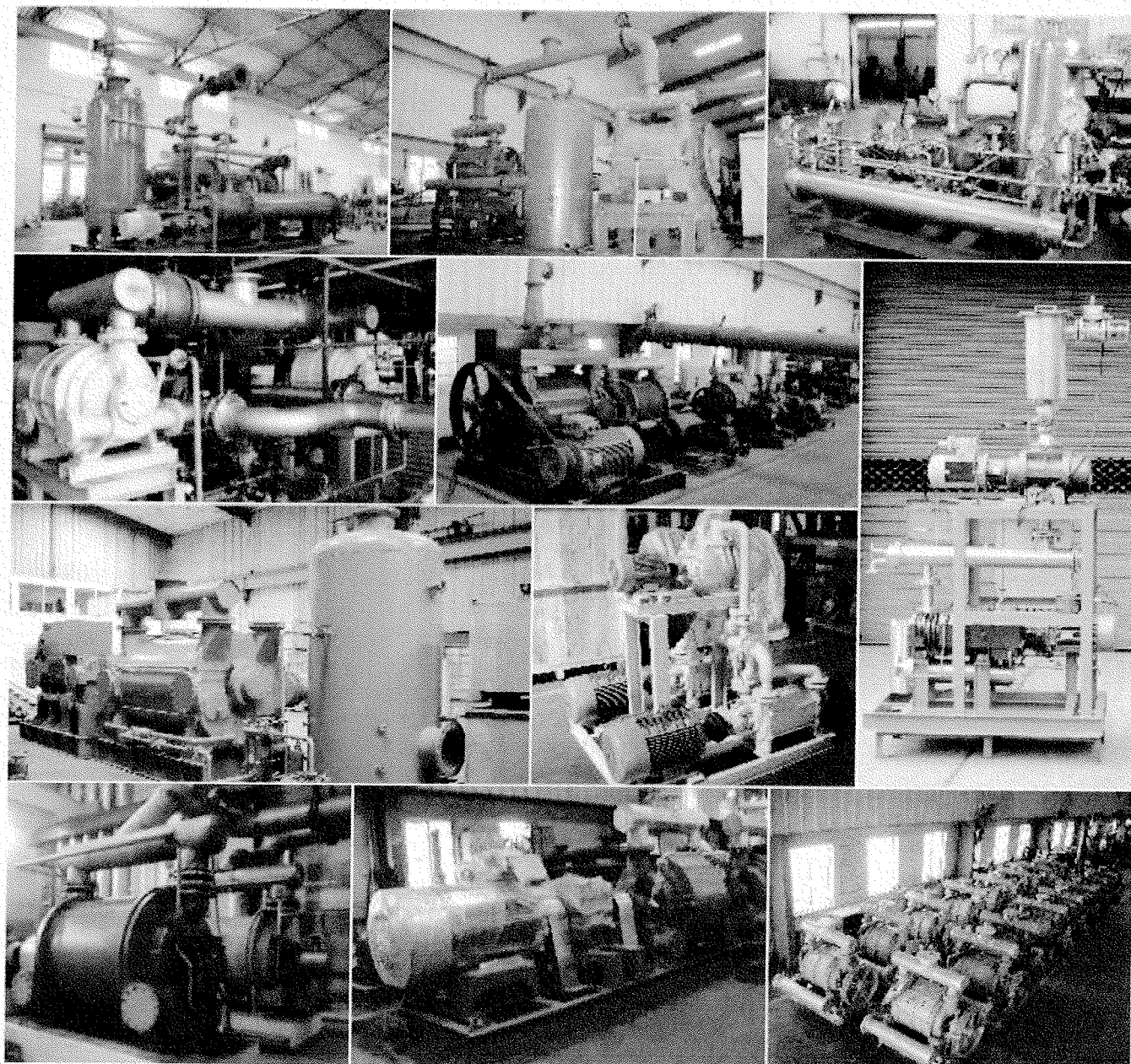
Power Consumption : 0.3 kW to 7.5 kW

Maximum Vacuum : 0.5 mbar to 2 mbar

Widely used in **Printing and Packaging, Chemical, Pharmaceutical Industries**



Installation



Group Companies

PRASAD GROUP *Excellence in Plastic Auxiliary Equipments*

Prasad Group, established in 1989, has India's largest infrastructure to produce Plastic Auxiliary Equipments.

The Company offers entire range from Plastic Raw Material Handling, Storage, Dehumidifying, Conveying, Mixing, Heating & Cooling during process, Part Handling by Robot, Conveyors and Granulators for recycling.

The group strength is strong partnership with world renowned Auxiliary Manufacturers.



PRASAD KOCH-TECHNIK PVT. LTD.
A joint venture with Koch Technik-GERMANY for manufacturing Plastic Auxiliary Equipments

PRASAD MACHINERY PVT. LTD.



Technical collaboration with MO.DI.TEC-FRANCE for Online Slow Speed Granulators



PRASAD GWK COOLTECH PVT. LTD.
Co-operation with GWK-GERMANY for manufacturing Chillers and Mould Temp. Controllers



Technical collaboration with Rapid-SWEDEN for Granulators



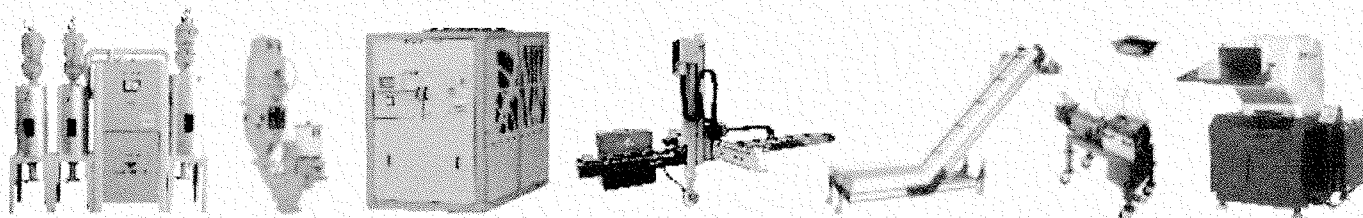
PRASAD WEMO ROBOT SYSTEM PVT. LTD.
A joint venture with Wemo-SWEDEN for Servo Robot System and Automation in Injection Moulding



PRASAD PNEUCON SOLUTION PVT. LTD.
Bulk Material Handling Systems for PVC and other Powdery material



PRASAD CRILEC AUTOMATION PVT. LTD.
A joint venture with Crizaf-ITALY for Conveyor Belts and Part Handling System



PRASHANT GROUP *Essence of Finest Fabric Making*

Prashant Group, established in 1975, is one of India's prominent Textile Machine manufacturing company with modern infrastructure.

The group has co-operations with leading European & American Textile Machine Manufacturing Companies which bring edge in updated technology and enhancement in products profile.



PRASHANT GAMATEX
Technical collaboration with Gamatex s.r.l., ITALY for Robotic Sectional Warper, High Speed Sectional Warming Machine & Creel, Beam to Beam Rolling Machine, Sizing Winder



PRASHANT FERBER LOGISTICS AUTOMATION
Joint venture with Ferber s.r.l., ITALY for Motorized and Manual Warp Beam Handling System, Computerized Vertical Beam Storage System, Cloth Roll Storage, Inspection Machine, Batching Motion



PRASHANT WEST POINT
A Joint project with West Point, USA for State of the art Sizing Machine, Warming Machine, Denim Preparation, Poly Beamer with Unrolling Creel, Indigo Rope & Slasher Dyeing Range, Direct Warper for Warp Knitting, Filament Sizing, Beam to Cone Winder



PRASHANT TEXMACH
Complete range of Narrow Fabric Machinery and Continuous Dyeing and Finishing Machine for Tapes and Ribbons



Spread across 1,00,000 m²,
the company is equipped with modern infrastructure.



PPI PUMPS PVT. LTD. - PPI SYSTEMS

ISO 9001:2015 Certified Company

Ground Floor, G.S. between Plot No. 16 and Prashant Gamatex Pvt. Ltd.,
Phase 1, GIDC Industrial Estate, Vatva Ahmedabad, Gujarat 382445

Phone : +91-79-40083251

+91-9904047775 / 9904067775

E-mail : sales@ppipumps.com

www.ppipumps.com



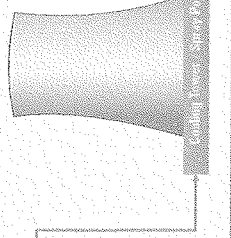
PT. INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

Website : www.kristalsentra.com

A black and white photograph of a large industrial facility, likely a power plant or refinery. The image shows several tall, cylindrical smokestacks or chimneys rising from a complex network of pipes, walkways, and structural elements. In the foreground on the left, there is a large, curved, metallic structure that appears to be part of a conveyor system or a large storage tank. The overall scene is industrial and somewhat hazy, suggesting a large-scale manufacturing or energy production environment.

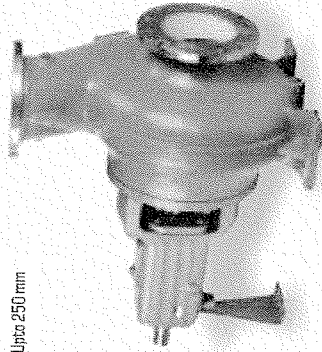
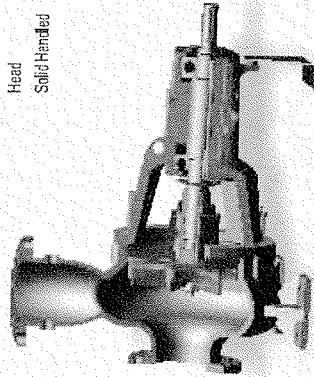
THE
ZOO



PT. INTERNUITION KRISTAL SENTRA
Email : INFO@kristalsentra.com

Range

Discharge Sizes : N.D. 25 - 500 mm
Capacity : Up to 1500m³/hr.
Head : Up to 100 Mtrs.
Solid Handled : Up to 250 mm



Special Features

- » Un-obstructed passage to the discharge size of the pump.
- » Handles large solids & long fibres.
- » Gentle pumping action, no flocs / crystal damage.
- » Low maintenance cost, no sealing rings on impeller, no small clearances to be maintained.
- » Handles abrasive slurries.
- » Handles vulnerable products like vegetables, fish, crystals etc.
- » Vibration free running due to hydraulically balanced construction.
- » Low leakage.

Constructional Features

Casing: Smooth extra heavy section designed for unobstructed flow. Abrasive or solids-laden flow goes directly into vortex of liquid and out the discharge. No close clearances between casing and impeller (as in conventional pumps) to generate wear. Nothing between suction and discharge to jam, clog, break or bind... a totally non-clog concept in pumping.

Impeller: Impeller, fully recessed out of flow path, is not subjected to wear by solids or abrasive particles churning in the flow when handling solids or slurries... greatly improving impeller life. Impellers may be threaded to shaft to provide shaft end protection.

Shaft: Heavy duty shafts are designed for maximum operational heads and low deflection and vibration.

Shaft Sleeve: Shaft sleeve is keyed to shaft and gasket sealed to stop leakage under sleeve.

Stuffing Box: Designed for gland packed arrangement fitted with neck bush and has been provided with external fluid sealing connections which enhances life of gland packing. Mechanical seals can also be provided.

Bearings: Angular contact ball thrust bearings carry radial and thrust loads. Thrust bearings are back to back mounted, locked with nuts and lock washers. Oil lubrication is standard. Constant level oiler maintains proper oil level. Bearings are well protected from dirt. Grease lubrication can also be provided.

Exclusive Advantages

Free Passage : The recessing of the T.F. Pump impeller permits unobstructed passage through the pump casing.

Non-clogging : Solids up to the full diameter size of the discharge connection can pass through the pump without danger of clogging. Also long fibrous materials will cause no problems.

Vibration-free Running : The extreme smooth running of the pump is a direct result of the hydraulic centering of the impeller in the casing recess; there is very little radial loading on the shaft and on the bearings. Therefore the T.F. Pump is ideally suited to be fitted with mechanical seals for process industry application. Even when wear on the impeller occurs this is concentric and does not affect the balance of T.F. Pump impeller.

Reliable: The T.F. Pumps are highly reliable because troublesome sealing rings have been eliminated.

Simple Design: The simple open and concentric design guarantees a trouble free service even under extreme conditions.

Wear Resistant : The new T.F. Pump casing (axispiral) ensures that the solids entrained in the flow are quickly discharged from the pump and thereby reducing abrasion.

Low Maintenance : More than 20 years experience in production and application of T.F. Pumps has shown that the Torque Flow Pumps needs less spares than any comparable solids handling pump.

Long Life : The robust and simple design as well as the correct materials for the job guarantee a long service life.

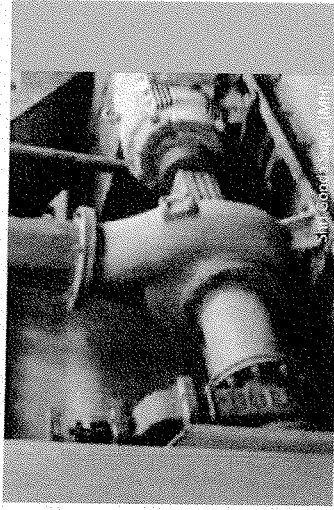
Standardized Program me : Because of a maximum interchangeability of parts in different pump-size and designs, spares can be reduced to the absolute minimum.

Material of Construction

Parts Name	All Cast Iron	Q235 Fitted	CF 8 Fitted	CF 8M Fitted	Bronze Fitted
Volute Casing	Cast Iron	Cast Iron	CF 8	CF 8M	Bronze
Impeller	Cast Iron	CF 3	CF 8	CF 8M	Bronze
Stuffing Box	Cast Iron	Cast Iron	CF 8	CF 8M	Bronze
Shaft	EN 8	SS 410	SS 410	SS 316	SS 316
Sleeve	SS 410	SS 410	SS 410	SS 316	SS 316
Bearing Housing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron

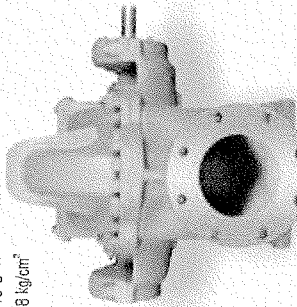
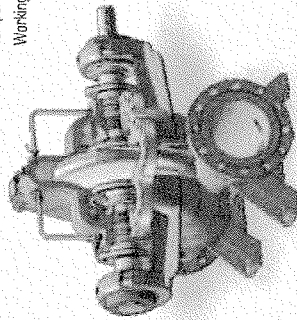
Other than above state materials pumps are available in Cast Steel, CA 15, Ni-Resist, Super Duplex, CN7M, Hastelloy and other special stainless steel alloys.

The materials of construction are offered as examples of generally accepted practice, but are not intended as recommendations of fitness for a particular purpose. The customer must determine and take the ultimate responsibility for specifying the proper materials to handle the particular fluid pumped. Unless otherwise specified, all pumps shall be furnished with the standard fitted materials.



Split Casing Pumps

Range	
Capacity (Maximum)	: 15,500 m ³ /hr.
Head (Maximum)	: 180 m
Temperature	: 110°C
Working Pressure	: 18 kg/cm ²



This range provides a higher efficiency with lower maintenance. Development of this new range followed an extensive consultation with major users. This has produced an advanced pump which provides total reliability and reduced life cycle cost.

Sintech Pumps: Reliable and Innovative

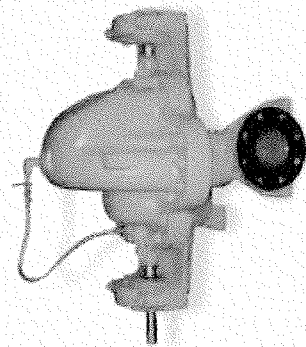
Sintech deliver innovative products. Sintech pumps utilizes the well-proven "lean production system". This single flow, lean manufacturing process with dedicated production units means less wastage and greater efficiency enabling us to provide the highest standard pumps and components.

Applications

- » Screened Juice
- » Clear Juice
- » Saltpit Juice
- » Raw Juice
- » Condensate
- » Cooling Tower
- » Service Water
- » Injection Spray
- » Fire Fighting

Salient Features

- » Compact design, easy to install
- » Extra heavy shaft
- » Both side bearing supported
- » Stable and robust design



Constructional Features

- Casing** : Axially split volute with suction and discharge branches located opposite inline in the lower half. This allows easy removal of the rotating element, without disturbing the pipe work. Pumps required for higher heads have double volute casing to minimum radial thrust.
- Impeller** : Single entry and double entry, closed type impellers are hydraulically and statically balanced.
- Shaft** : Machined from high quality steel. The shaft is sturdily proportioned to minimize deflection and provide long reliable service.
- Sleeves** : Sleeves are provided to protect the shaft and ensure longer shaft life.
- Neck Ring** : Designed with appropriate clearances and materials to minimize leakages while ensuring a long impeller life.

- Improved Hydraulics**
- Unique hydraulic passage design for optimum performance.**

Stiff Shaft Design

Large diameter shaft supported on a short bearing span minimizes shaft deflection, prolonging seal and bearing life.

Simple Maintenance

Standard pumps cartridge bearings and seals can be removed without displacing top half casing.

Increased Component Life

More corrosion allowance offers better corrosion protection and optimum lifetime operation.

Enhanced Performance

Replaceable wear ring and bush reduce leakage.

Increased Efficiency

Standard pumps coating on casing internals optimizes performance and prolongs "as new" efficiencies.

Low Hydraulic Loads

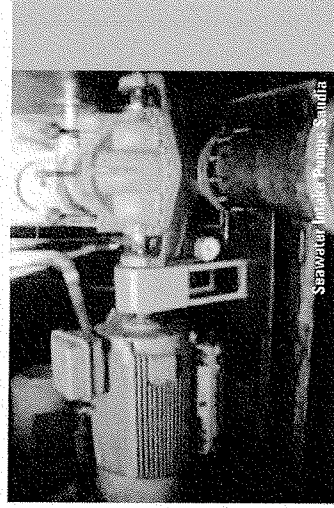
Diametrically opposed volute design reduces hydraulic loads extending seal and bearing life.

Material of Construction

Parts Name	All Cast Iron	Q235 Fitted	CF 8 Fitted	CF 8M Fitted	Bronze Fitted
Lower/Upper Casing	Cast Iron	Cast Iron	CF 8	CF 8M	Bronze
Impeller	Cast Iron	CF 8	CF 8	CF 8M	Bronze
Shaft	EN 8	SS 410	SS 410	SS 316	SS 316
Sleeve	SS 410	SS 410	SS 410	SS 316	SS 316
Bearing Housing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Casing Wearing Ring	Bronze	Bronze	Bronze	Bronze	Bronze

Other than above state materials pumps are available in Cast Steel, CA 15, Ni-Resist, Super Duplex, CN7M, Hastelloy and other special stainless steel alloys.

The materials of construction are offered as examples of generally accepted practice, but are not intended as recommendations of fitness for a particular purpose. The customer must determine and take the ultimate responsibility for specifying the proper materials to handle the particular fluid pumped. Unless otherwise specified, all pumps shall be furnished with the standard fitted materials.



Seawater Intake Pumps, Sindh

Vertical Pumps

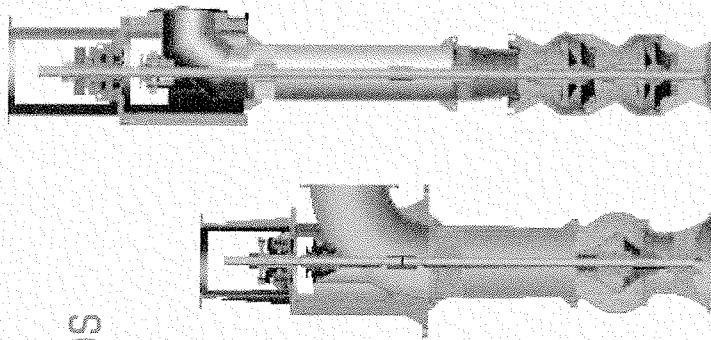
Pumps

Capacity (Maximum) : 30,000 m³/hr.
Head (Maximum) : 300 m
Temperature : 95°C

SINTECH range of vertical pumps offer widest range of selection depending upon the pumping liquid from Clear Water to varying degrees of contamination.

Hydraulic design of these pumps are based on most valuable and up to date technologies and experience available in the field.

These pumps are designed to operate at 50Hz or 60 Hz, in single or more than one stage according to head required.



Pump Introduction

These pumps consisting of Bowl Assembly, Column Pipe Assembly, Bearing Housing Assembly along with N.R.R., Non-Reverse Ratchet Assembly & Motor Stool / Driving Unit Assembly.

Bowl Assembly: Bowl Assembly consists of suction bell, impellers, bowls, and pump shaft.

Suction Bell: Suction Bell designed for smooth & steady entrance of liquid with minimum losses.

Bowl: The Bowl is a casing with diffuser vanes cast integrally to reduce the velocity of the liquid coming from impeller & increasing the pressure.

Impeller: Impellers are of open (propeller), semi-open (mixed flow) & closed (vertical turbine) type depending upon the specific speed of pumps and are accurately machined, dynamically & hydraulically balanced.

Shaft: The shaft is of high tensile strength steel.

Column Pipe Assembly: It consists of column pipe, line shaft & line shaft couplings and bearings.

Column Pipe: Casted or fabricated, it houses line shaft bearing retainer.

Line Shaft Bearing: Line shaft bearing provided in lead bronze shell with cutless rubber (natural / synthetic) bearing lubrication self or pressurized external water.

Thrust Bearing Assembly: Anti friction bearings are provided to take care of axial thrust & weight of rotor assembly as well as radial load. Lubrications with oil / grease. Non reverse ratchet is provided with thrust bearing housing assembly to avoid the rotation of impeller (pump) in opposite direction causing opening of the threaded coupling.

Discharge Head / Discharge Elbow: Either cast or fabricated designed to direct flow from column pipe to discharge pipe. It may be at ground level or below ground level.

Motor Stool: M.S. fabricated heavy duty to ensure vibration free operation.

Couplings: For line shaft, threaded barrel or muff type coupling as per requirement. For pump to motor, pin bush flexible coupling is provided.

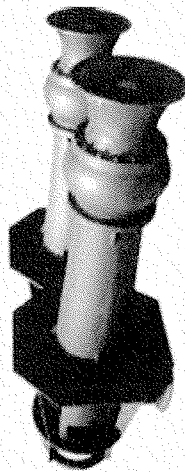
Direction of Rotation: Counter clock wise when viewed from driving end.

Applications

- » General water pumping / conveying used for various industries.
- » Spray and injection water in sugar industry.
- » Cooling tower circulation.
- » Irrigation and drainage for agriculture.
- » Cooling water pumps, HP / LP Water pumps, condensate and misc. Services pumps in power plants.
- » Fire fighting.

Special Features

- » Vertical pumps take little space in plan since the liquid is led away to the axis of shaft.
- » The impeller is submerged, so pump does not require to be primed and is always ready for use.
- » The positive suction condition also prevents the cavitation in the pump and pitting in impeller & diffuser.
- » Due to positive head at suction the pump gives its rated performance as well as high overall efficiency, whereas in Horizontal Pumps due to losses in suction line, foot valve etc. the rated performance of the pumps is not achieved.



Material of Construction

Parts Name	All Cast Iron	D2S Fitted	CF 8 Fitted	CF 8M Fitted
Diffuser	Cast Iron	Cast Iron	CF 8	CF 8M
Impeller	Cast Iron	CF 8	CF 8	CF 8M
Stuffing Box	Cast Iron	Cast Iron	CF 8	CF 8M
Shaft	EN 8	SS 410	SS 410	SS 316
Sleeve	SS 410	SS 410	SS 410	SS 316
Bearing Housing	Cast Iron	Cast Iron	Cast Iron	Cast Iron

Other than above state materials pumps are available in Cast Steel, CA 15, Ni-Resist, Super Duplex, CN7M, Hastelloy and other special stainless steel alloys. The materials of construction are offered as examples of generally accepted practice, but are not intended as recommendations of fitness for a particular purpose. The customer must determine and take the ultimate responsibility for specifying the proper materials to handle the particular fluid pumped. Unless otherwise specified, all pumps shall be furnished with the standard fitted materials.

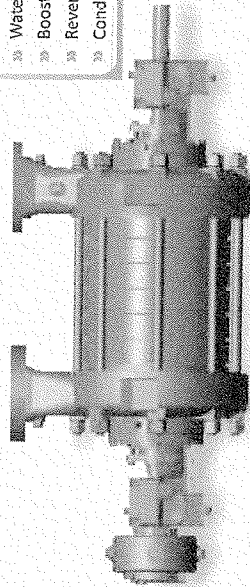
High Pressure Pumps

Range

Capacity (Maximum)	: 300 m ³ /hr.
Head (Maximum)	: 2,000 m
Temperature	: 90°C
Working Pressure	: 150 kg/cm ²

Applications

- » Fire Fighting
- » Boiler Feed
- » Hilly area water supply
- » Sprinkler System
- » Water works
- » Booster Service
- » Reverse Osmosis
- » Condensate Transfer



Salient Features

- » Suction and discharge have integrally cast centerline supports. Top suction and discharge connection are located in the same plane. Piping stressers are thereby transmitted directly to the baseplate, avoiding possible casing distortion.
- » Multi-vane diffusers maintain radial balance at all flows.
- » Balancing disc absorbs all hydraulic thrust. The faces of the disc cannot contact under any flow condition or at rest.
- » Enclosed impellers with extra long hubs are completely interchangeable. They are dynamically balanced and independently positioned on the shaft.
- » Interstage bushings for trouble-free operation.
- » Separate extra deep stuffing boxes, subject to suction pressure only. Water jackets and mechanical seals are available.

Constructional Features

- Suction & Delivery Casing:**
Horizontal radially split multistage ring section pump manufactured as a compact design unit. The stage are sealed by O rings and clamped together by the tie rods.
- Impeller:**
Closed type and accurately balanced dynamically.
- Diffusers:**
Diffusers comprise vanes which guide liquid from exit of one stage to entry of next stage. These are cast separate to middle body.
- Middle Body:**
Middle body houses the diffuser and provides pressure casing intermediate stages.
- Stuffing Box:**
Extra deep design and features a gland to simplify replacement of gland packing. All pumps have liquid sealed stuffing box and provision for an external supply of clean fluid. A choice of various mechanical seals is available to suit specific specifications.
- Shaft:**
Machined for high quality steel, the shaft is sturdily designed to minimize deflection and provide long reliable service. The shaft is supported by antifriction bearings. Shaft is protected by sleeve form wear in stuffing box area.
- Body Bolts:**
All the stage are held together by high tensile steel bolts between two end covers.

Automatic Balance Valve

The balancing valve is a simple device which counteracts hydraulic thrust and improves the overall efficiency of the pump at any flow by:

- Minimizing friction loss and wear caused by end thrust.
- Reducing wear at the shaft sleeves and gland packing by maintaining low pressure in both packing boxes.
- Eliminating the need for grease oil lubricated thrust bearing.

In the operation valve full delivery pressure from the final stage is applied to the pressure chamber easing the valve from the seating and allowing water pass into the chamber.

The valve runs on a film of water at all times and the hydraulic balancing is fully automatic and completely self adjusting

DRIVE

Suitable for coupling with an electric motor or an I.C. engine. These can be connected directly with a flexible coupling or with a belt drive.

OPTIONS

Mechanical seal in place of gland packing, any combination of materials of construction for various components are available.

DIRECTION OF ROTATION: CCW viewed from drive end.

Material of Construction

Casing	C.I.	C.I.	WCB	Cast Steel	CF-8M
Diffuser	C.I.	C.I.	WCB	Cast Steel	CF-8M
Impeller	C.I.	Bronze	WCB	Cast Steel	CF-8M
Wear ring	C.I.	Bronze	Ph. Bronze	SS-304	CF-8M
Shaft	EN-8	SS-304	SS-304	SS-304	SS-316
Shaft Sleeve	SS-304	SS-304	SS-304	SS-304	SS-316



Other than above state materials pumps are available in Cast Steel, CA 15, Super Duplex, CN7M, Hastelloy and other special stainless steel alloys.

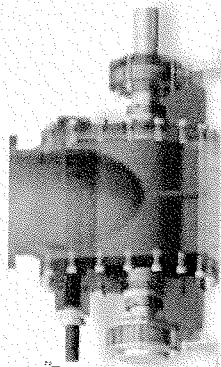
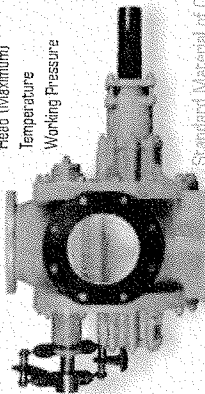
The materials of construction are offered as examples of generally accepted practice, but are not intended as recommendations of fitness for a particular purpose. The customer must determine and take the ultimate responsibility for specifying the proper materials to handle the particular fluid pumped. Unless otherwise specified, all pumps shall be furnished with the standard fitted materials.

Rota Pumps (SRP)

Specially Designed Pumps for

Magma / Masseuite

Range
Capacity (Maximum) : 100 m³/hr.
Head (Maximum) : 60 m
Temperature : 50°C
Working Pressure : 6 kg/cm²



Standard Material of Construction

Casing	Close Grained C.I.
Rotor	C.S.
Sealing Arm	C.S.
Bushes	Ph. Bronze
Shaft	EN-8

Recognizing our customer's needs today in combating skyrocketing maintenance and plant operations costs, we have succeeded through applied research technology to drastically improve our pump performance. Our leadership position will keep us abreast of competition, in way of quality, durability and savings.

Advantages

- » Improved suction branch preventing starvation and allowing easy flow of material into the pump.
- » Considerably reduced leakage.
- » Trouble free and unskilled operation.
- » Available with mechanical seal and bearing mounting arrangement.

Rota Pumps with zero leakage

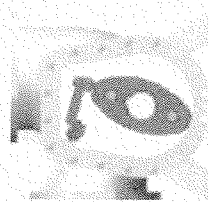
There is the only way to satisfy the customers are to provide a pump, which is absolutely leakage free. In our Rota pumps we paid special attention to avoid leakage and for that reason we designed a very special stuffing box fitted with mechanical seals. Our test results showed and proved that we mastered this leakage problem. To convince our customers we guarantee our pumps for one year.

Principle of operation

The pumping principle is very simple. An elliptical shaped rotor rotates in a cylindrical housing. The pumped medium is trapped in the cavities formed between the rotor and the housing, and is carried round from suction to delivery side. A hinged sealing arm, which follows the surface of rotor, scrapes off the pumped medium and directs it up into the delivery side. The sealing arm is spring loaded to maintain contact with the rotor. As the rotor returns to the suction side the fluid flowing through the inlet refills it. There is enough space for fluid to move towards discharge side as the fluid flows through the sealing arm.

Outstanding Features

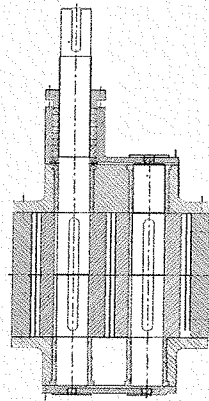
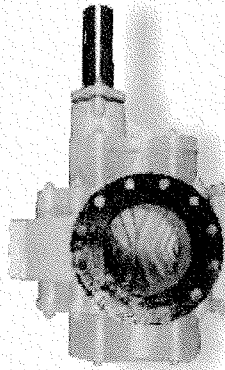
- » Anti Friction bearings reduces wear and tear of rotary parts.
- » Face sealed zero leak pumps.
- » Same pump for right or left hand drive.
- » Unique construction minimize internal leakage.
- » Power saving with improved casing design.
- » Full proof and easy assembling method.



Gear Pumps (SGP)

Specially Designed Pumps for

Molasses



Working of The Pump

SINTECH Rotary gear pump consists of a casing in which two rotary gears revolve around fixed centers at uniform speed. Gears may be spur or helical type. The fluid entrapped between gear teeth and casing is pressurized and is transferred from suction side to delivery side during its rotation.

Capacity (Maximum) m³/hr : 150
Head (Maximum) m : 100
Temperature °C : 80
Working Pressure kg/cm² : 10

Simple & Sturdy Construction

There are only two moving parts. The pump is made of best material of construction.

All components are accurately machined, carefully assembled and tested.

In addition to the above, it can handle various types of other liquids. However, these liquids should not contain abrasives or corrosive chemicals which attack the metallic portion of the pump.

Drive

Directly coupled to electric motor through flexible coupling. May be driven through reduction gear or pedestal and counter shaft 'V' belt drive arrangement in case of reduced speed of pump. Direction of rotation is clockwise when viewed from the power end.

Material of Construction

Cast Iron, Cast Steel or special material on request.

Applications

- » Molasses
- » Petroleum Products
- » Turpentine
- » Oils of all kinds
- » Dyes

Constructional Features

Case & Cover : Made of closed grained cast iron. Can also be made of special materials to meet specific requirements. Accurately machined, bolted and dowelled together.

Rotor : Consist of a pair of gears, shaft and gear can be made of stainless steel or Nickel chrome to meet specific requirements.

Stuffing Box and Gland : Stuffing box is extra deep. It is fitted with graphite packings. Wherever necessary, it can be fitted with Teflon packing. Gland is bolted type and is made of Cast Iron.

Salient Features

SINTECH has a wide range of rotary gear pumps. These pumps can handle viscous liquids upto 10000 SSU. Thus it covers a wide range of liquids normally required by different industries.

Special Features

- » Power saving combination of antifriction bearings.
- » Replaceable wear plates ensure lasting performance.
- » Improved suction design reduces cavitation and allows higher speed.
- » Modified profile for higher tooth life and lower moment of inertia.
- » Extra thick shaft for higher bearing life.
- » Equal-rating flanges allow pumping in either direction.

REVOLUTIONARY PRODUCTS FOR SUGAR INDUSTRY

(High Efficiency Cooling & Vacuum System for Water / Energy Conservation)



imitating nature



Mist Resonance Engg. Pvt. Ltd., is in the field of Vacuum Generation and Mist Cooling System for the last 25 years and has successfully commissioned over 300 units in India and overseas.

We offer various designs of our system to accommodate specific requirements of the industries.



ADVANCE MIST COOLING SYSTEM

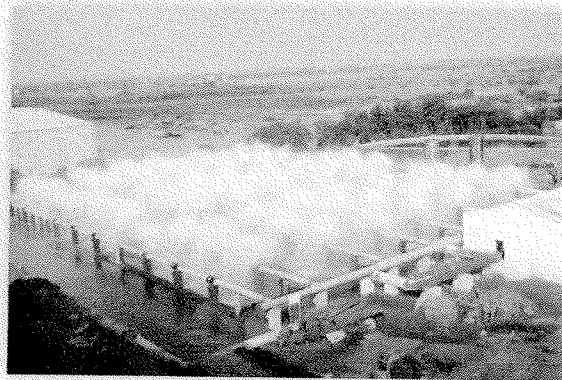
High efficiency Cooling in Pond of small size

MIST COOLING SYSTEM is used as a superior alternative for various types of spray systems and conventional cooling towers. Due to unique design of our Advance MCS, you can expand your sugar factory without any extension of your spray pond.

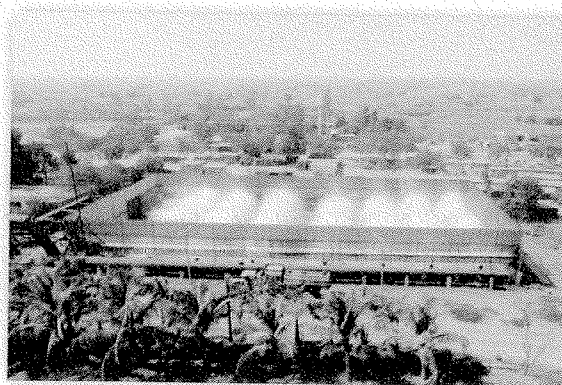
While expanding the plant capacity it becomes necessary to extend the Spray Pond, causing tremendous civil construction cost as well as consuming additional space. Considering this aspect, MREPL has introduced a new concept of Revolutionary 8-way Header Design with Enhanced Efficiency Mist Creator Nozzles. It is now possible to install entirely new MCS for Final expanded capacity of Sugar Plant by replacing old Spray System in the existing Spray Pond only, saving considerable cost and space. This is achieved without compromising the original efficiency of our Mist Cooling System.

Advance MCS ensures a constant cold water temp. of 32°C with a temperature drop of 10°C to 12°C throughout year with a very low working pressure of 0.8 to 1 kg/cm². **Advance MCS has been successfully commissioned at various plants with Gravity Condensing System also.**

You may also adopt our "Louver Type Mist Cooling System (LTMCS) Design" which requires very small area, which many Sugar Plants have started adopting



Advance Mist Cooling System.



Louver Type Mist Cooling System.

Advance Mist Cooling System - Cost Benefit Analysis

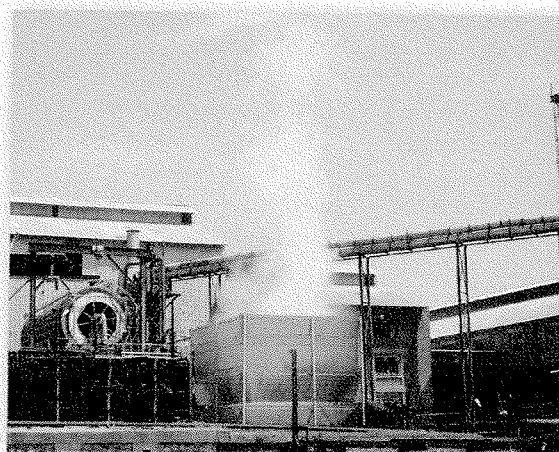
	Sugar Plant Capacity	Spray System					Advance Mist Cooling System	
		Pond Size in mtrs	Expanded Area For Spray Pond	Cost Incurred for regular expansion of Pond			Pond Size in Mtrs	MCS Cost of Equipment for Final capacity
				Civil	Spray System	Total		
CASE - A	Original - 2500 TCD	40x80	--	--	--	--	--	--
	Expanded - 5000 TCD	60x80	1600 m ²	65 Lakhs	15 Lakhs	80 Lakhs	40x80	60 Lakhs
CASE - B	Original - 5000 TCD	60x80	--	--	--	--	--	--
	Expanded - 8500 TCD	80x100	3200 m ²	125 Lakhs	20 Lakhs	145 Lakhs	60x80	100 Lakhs

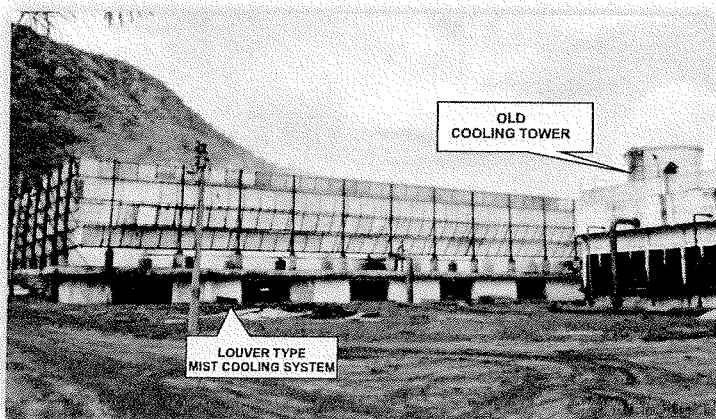
Note - The above table shows how Advance Mist Cooling System gets installed in the original pond size for final expanded capacity of plant saving huge initial investment and precious land.

MIST COOLING TOWER (MCT)

*for condensate water cooling in
Stainless Steel 304 MOC*

Mist Cooling Tower built out of complete stainless steel material of construction is effectively used to cool hot water from 90°C to around 32°C in one stroke, thus saving huge amount of pumping / fan power. Plot size required is equivalent to Cooling Tower. Due to special Material of Construction which is suitable for Hot Water Temperature upto 95°C, it ensures a minimum life of 10-15 years.

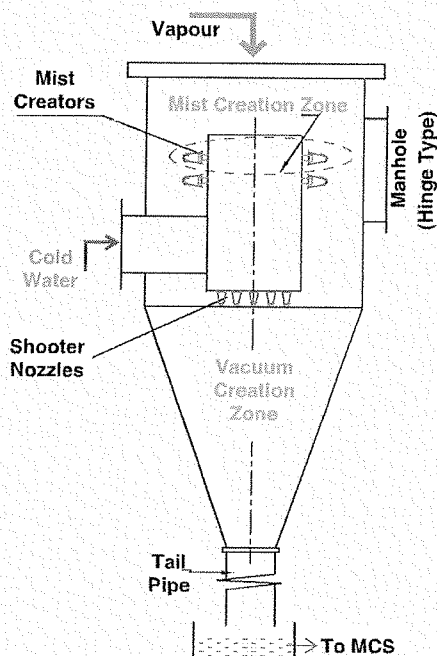




Louver Type Mist Cooling System working at Rukmini Power & Steel Ltd., at Raigarh, Chhattisgarh



BLOCK DIAGRAM



LOUVER TYPE MIST COOLING SYSTEM for Co-Generation Power Plant

Louver Type Mist Cooling System (NO FANS USED) is used for water cooling in Power Plants as a superior alternative to conventional cooling towers.

MCS ensures an approach of 2 to 3°C to WBT with a ΔT of 10 to 12°C. The head required for MCS at GL is equivalent to the height of Cooling Tower. Hence power required at Circulation Water Pumps remains same for Mist Cooling System & Cooling Tower. However MCS does not require any Fans, thus saving huge amount of Power.

This is ultimate solution for Power Plants in order to maintain designed vacuum of 0.1 ATA throughout the operation.

Due to **NO MOVING PARTS**, Choke-less Nozzle design & Fill-less / Fin-less design, MCS offers maintenance free operation throughout its lifetime.

MIST TYPE SINGLE ENTRY CONDENSER for Energy Conservation

Our uniquely designed single entry condensers work on the principal of mist formation, and ensures required vacuum of 650 mm hg with minimum water to vapour ratio of 35 to 40 kg/kg. All nozzles inside the condenser are made out of stainless steel 304 M.O.C. with chokeless design thus making these condensers far more superior than other available condensers in the market. Condensers can be offered in manual or Fully Auto mode.

Direct Benefits of Mist Type Condenser

1. Approach of **6 to 8°C** to vapour temperature
2. Steady Vacuum upto 660 mm Hg
3. Water to Vapour ratio : 35 to 40 Kg/Kg
4. Very low water consumption & hence huge saving in power
5. Pay Back Period of less than 1 year

Indirect Benefits of MCS with Mist Type Condenser

1. Higher Production Capacities
2. Huge saving in steam consumption for same capacities of boiling house
3. Better Quality and Quantity of product
4. Very low maintenance cost

Special Features

1. Mist Formation inside the Condenser
2. Quick Vacuum Development in less than 2 minutes
3. 30 to 40% Saving in Power over conventional Systems
4. Minimum life of 15 years due to high quality material used



SOME OF OUR PROMINENT CLIENTS

- ◆ Viltharao Shinde S. S. K. Ltd., Maharashtra
- ◆ Shri Chhatrapati Shahu S. S. K. Ltd., Maharashtra
- ◆ Sahyadri S. S. K. Ltd., Maharashtra
- ◆ Sonhira S. S. K. Ltd., Maharashtra
- ◆ Nira Bhima S. S. K. Ltd., Maharashtra
- ◆ Natural Sugars & Allied Industries Ltd., Maharashtra
- ◆ Udgiri Sugar & Power Ltd., Maharashtra
- ◆ Jaywant Sugars Ltd., Maharashtra
- ◆ Manjara S. S. K. Ltd., Maharashtra
- ◆ Puri Sakhar Karkhana Ltd., Maharashtra
- ◆ Pannageshwar Sugar Mills Ltd., Maharashtra
- ◆ Vaidyanath S. S. K. Ltd., Maharashtra
- ◆ Shri Vridheshwar S. S. K. Ltd., Maharashtra.
- ◆ Shri Khedut S.K.U.M.Ltd., Gujarat
- ◆ Shri Bileshwar K.U.K.S.M.Ltd., Gujarat
- ◆ HPCL Bio-Fuels, Bihar
- ◆ The Nizam Sugars Ltd., Andhra Pradesh
- ◆ ICL Sugars Ltd., Karnataka

OVERSEAS

- ◆ Sugar Corporation of Uganda Ltd. Lugazi, Uganda
- ◆ Gula Padang Terap Bhd., Malaysia

**OVER 300 INSTALLATIONS TILL DATE IN PROCESS
INDUSTRIES AND POWER PLANTS**

OTHER PRODUCTS FROM MREPL

- ◆ MCS as water spray support for Air Cooled Condensers
- ◆ Mist Evaporation System for Zero Liquid Discharge



PT. INTERMULTICON KRISTAL SENTRA

Tlp : +6231 8274222, 8274333
Email : INFO@kristalsentra.com
Website : www.kristalsentra.com



Mist Ressonance Engineering Pvt. Ltd.

Regd Office : 'Anandi', 1304-1/7, Shukrawar Peth, Bajirao Road,
Pune - 411 002. INDIA.

Tel : (+ 91 20) 2447 2726 / 2447 1184 ■ Fax : (+91 20) 2447 4972

E-mail : mistcreation@gmail.com ■ mistcool@vsnl.com

Website : www.mistcreation.com



PLATULAR® WELDED PLATE HEAT EXCHANGERS SOLUTIONS

Indonesia Agent :



PT.INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

barriquand

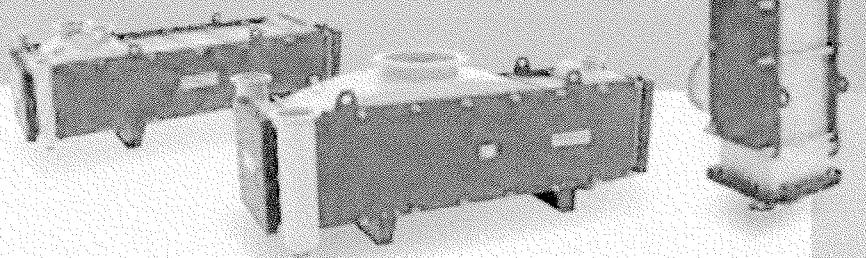
TECHNOLOGIES
THERMIQUES

To control
your energy,
focus on heat
transfer



TO CONTROL YOUR ENERGY, FOCUS ON

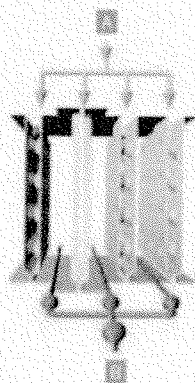
Genuine designer of the PLATULAR® technology



Barriquand Technologies Thermiques developed an exclusive know-how.

Thermal performances of Platular® wide gap all welded heat exchanger are well adapted to difficult fluids, with high content of extraneous matter, viscous, as well as for condensation of low pressure vapours or V.O.C. Multi-stream units can be supplied.

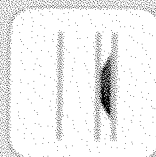
Custom-made designed and built, Platular® wide gap all welded heat exchangers are the most versatile units on the market. Their compactness gives many advantages in terms of volumes of fluids and footprint.



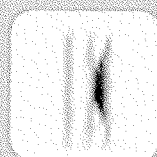
Flow flow
heat transfer
channel with gap
from 3 to 50 mm

CHANNEL TYPES

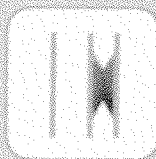
Dimpled or studied channel with gap of 3 to 16 mm



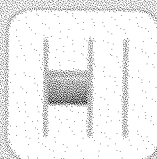
TYPE 1



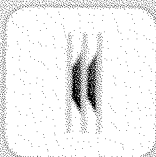
TYPE 2



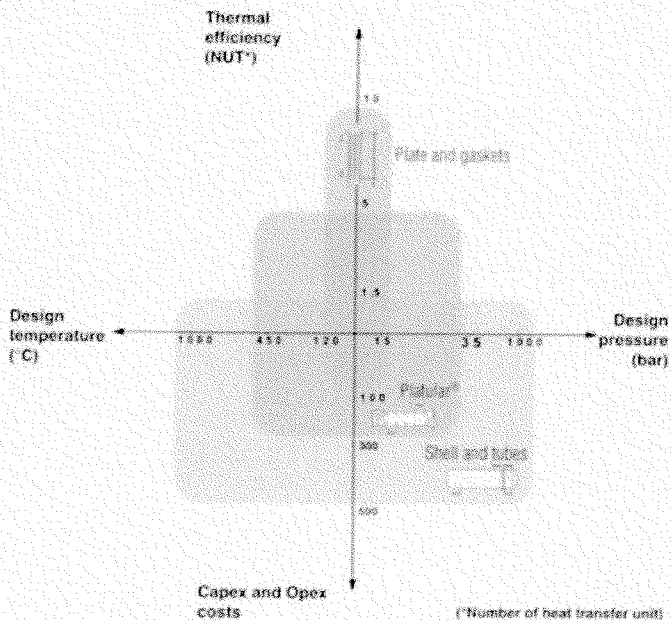
TYPE 3



TYPE 4



TYPE 5



MATERIALS OF CONSTRUCTION:

Standards: ANSI, AFNOR, DIN, EN...
Grade: 304L, 316L, 316Ti, 254 SMO, UB6, 45N, C22, C2000, C276...

TESTS:

Air, Helium, demin water, oil, X-Rays, US, Pa...

SURFACE FINISHES:

Cold rolled 2B, mechanical or electro-polishing, degreasing...

TYPE OF INDUSTRIES:

Food, pharmacy, chemical, steel/heavy industry...

CODES OF CONSTRUCTION:

CODAP, ADMERKBLATT, ASME U STAMP, PED 97/23 CE, SELO, KGS...

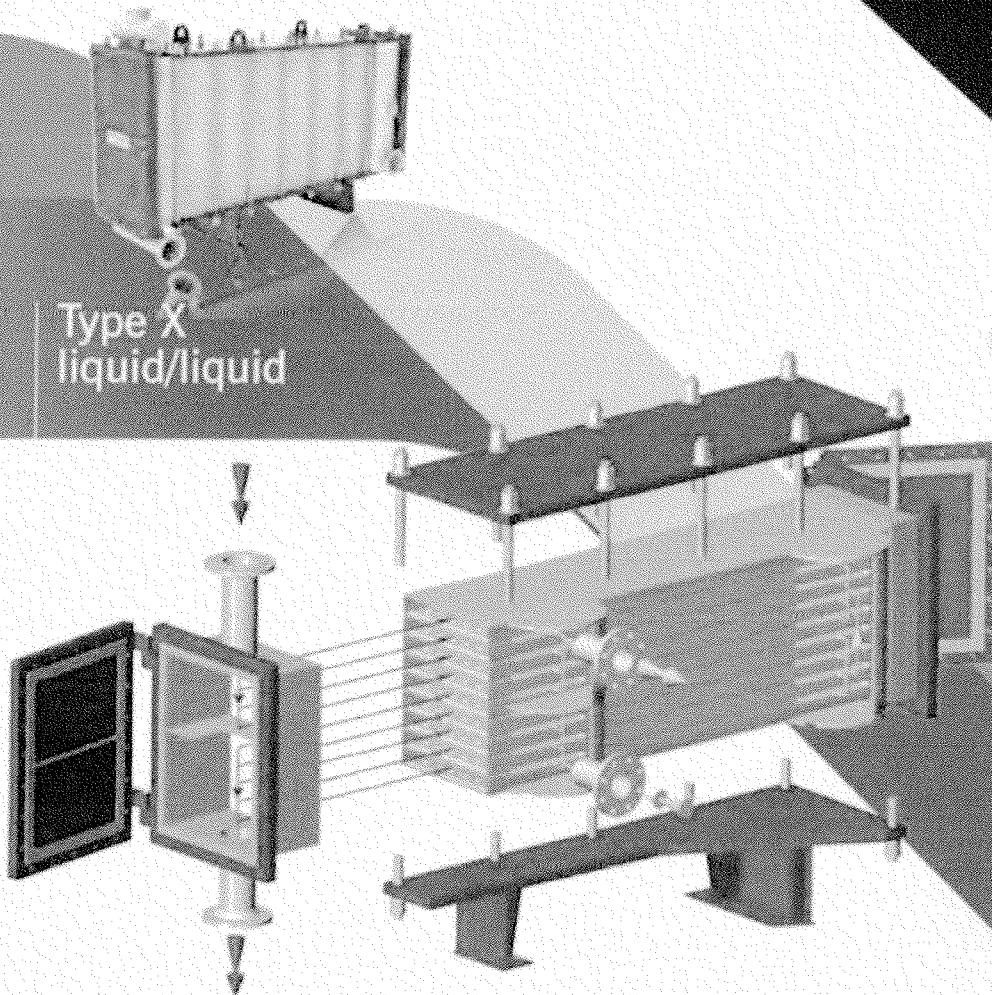


PT. INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

HEAT TRANSFER

Type X
liquid/liquid



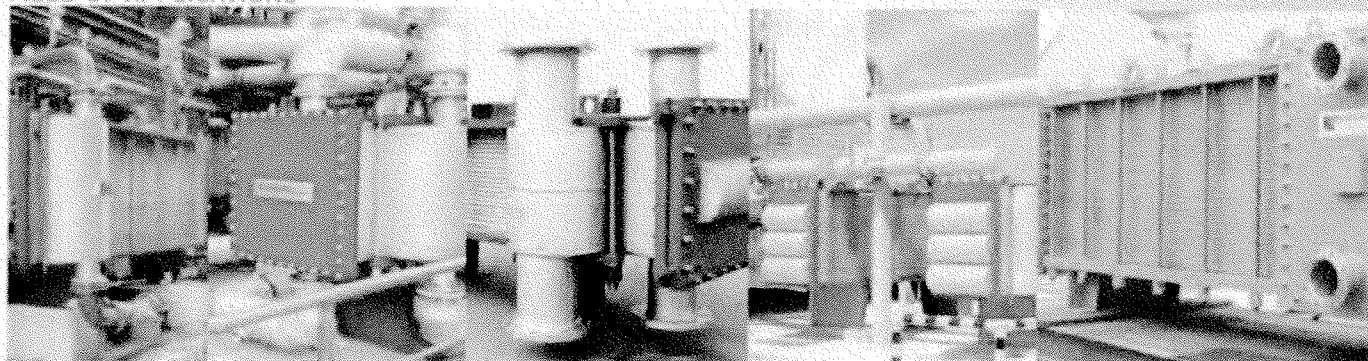
barriquand

TECHNOLOGIES
THERMIQUES

Technical characteristics

- Complex process fluid (with extraneous matter or viscous) on B channel
- Utility or process fluid on A channel
- Versatile wide gap of B channel (optimized pressure drop)
- Perfect for a long transfer programme with low temperature approach
- Multi-stream design on A channel available
- Easy and fast access for cleaning of the process side

FIELD OF APPLICATIONS



Liquid/Liquid exchange
in industry

Effluents cooling

2-2 ex. liquid transfer

Effluent cooling
in pulp & paper

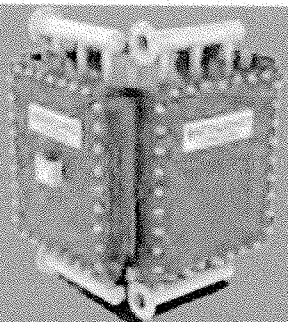
Pre- & post-
effluent cooling



PT. INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

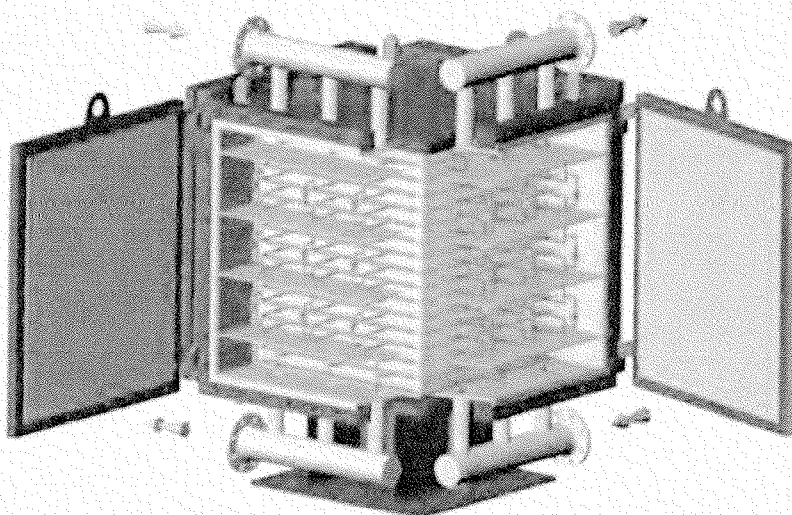
TO CONTROL YOUR ENERGY, FOCUS ON



Type X
4 doors
liquid/liquid

Technical characteristics

- Complex process fluid (with extraneous matter or viscous) on B channel
- Utility or process fluid on A channel
- Versatile wide gap of B channel (optimized pressure drop)
- Individual optimization of passes numbers for each stream
- Perfect for a long transfer programme with low temperature approach
- Multi-stream design on A channel available
- Four doors for an easy access on both streams
- Easy and fast access for cleaning of the process sides



FIELD OF APPLICATIONS



Plateclime® type K 4 doors
on stainless steel version

Plateclime® type X
4 doors

Plateclime® type X 4 doors
on white figure in pulp & paper



PT. INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

HEAT TRANSFER

Type X
heater / condenser A

barriquand

TECHNOLOGIES
THERMIQUES

Technical characteristics

- Complex process fluid (with extraneous matter or viscous) on B channel
- Condensation of the utility fluid on A channel
- Versatile wide gap of B channel (optimized pressure drop)
- Individual optimization of passes numbers for each stream
- Perfect for a long transfer programme with low temperature approach
- Multi-stream design on A channel available
- Easy and fast access for cleaning of the process side

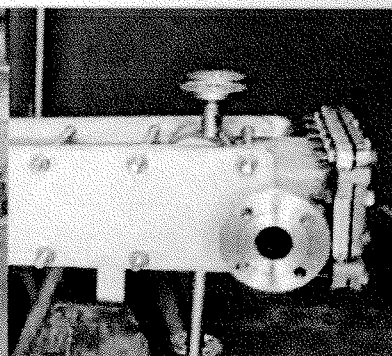
FIELD OF APPLICATIONS



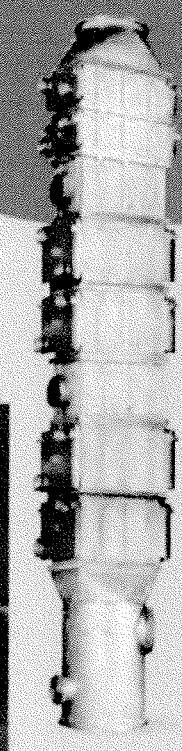
Low pressure vacuum
condenser



Multi stream vapor liquid separator



V.C.C. condenser



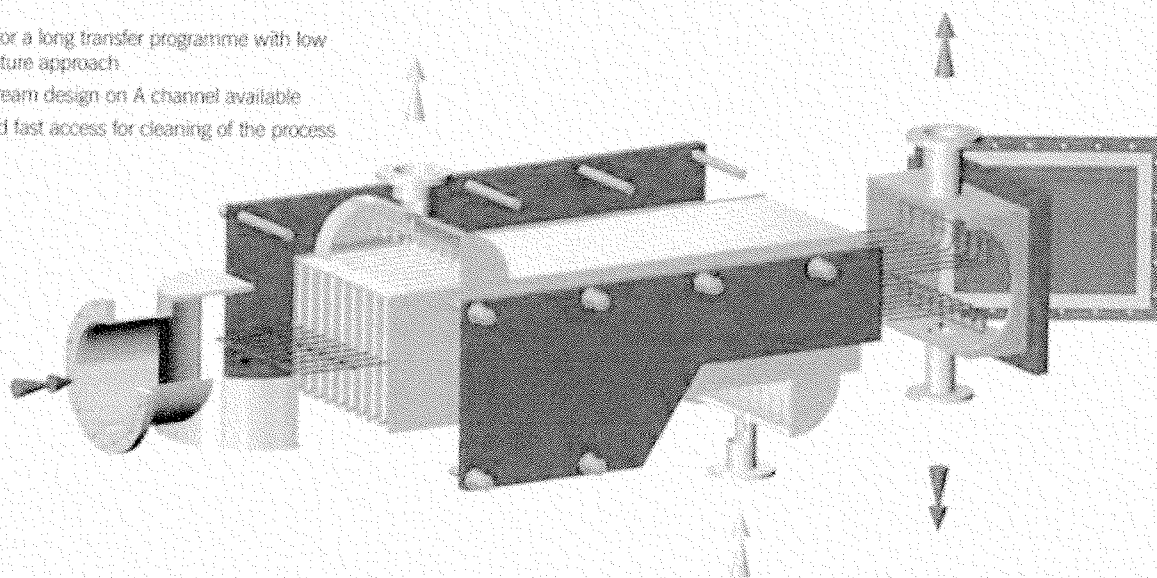
8 Phase coc
condensation column
25 m high

TO CONTROL YOUR ENERGY, FOCUS ON

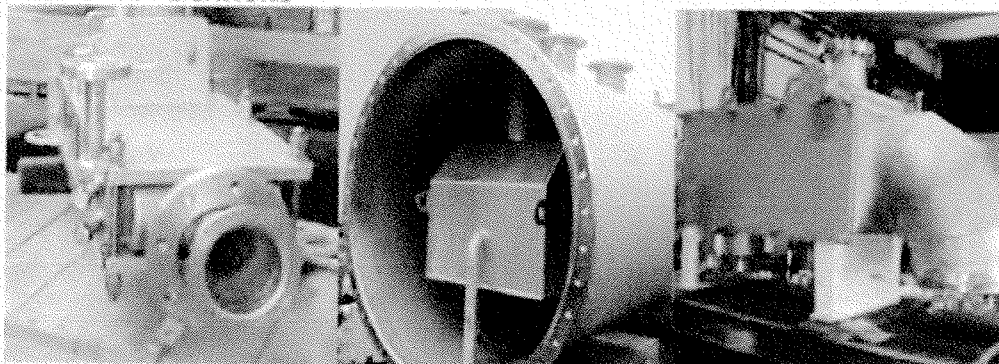
Type X condenser B

Technical characteristics

- Condensation of the process fluid on B channel
- Utility fluid on A channel
- Versatile wide gap of B channel (optimized pressure drop)
- Individual optimization of passes numbers for each stream
- Perfect for a long transfer programme with low temperature approach
- Multi-stream design on A channel available
- Easy and fast access for cleaning of the process sides



FIELD OF APPLICATIONS



Solvent condenser

Column condenser

Condenser for industrial gas



PT. INTERMULTICON KRISTAL SENTRA

Email : INFO@kristalsentra.com

HEAT TRANSFER

Type
IJS / IJMASC

barriquand

TECHNOLOGIES
THERMIQUES

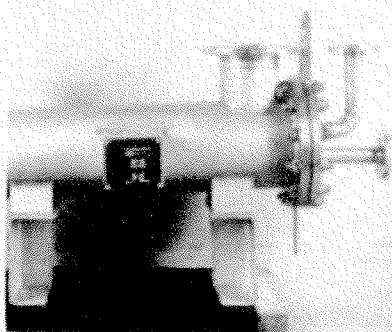
Custom-made design

- Heating area: 0.1 to 1,000 m²
- Pressure up to 40 bar
- Multi-stream available

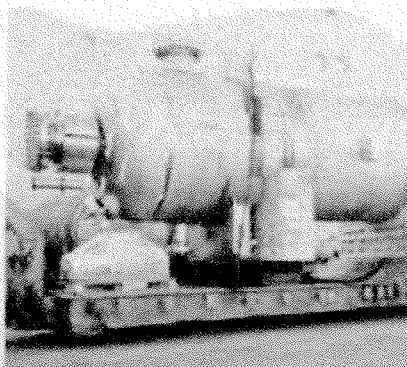
Standard design

- Heating area: 0.7 to 14 m²
- Design pressure: 12 or 20 bar
- Application when fluids can be chemically cleaned only
- Horizontal or vertical lay-out
- High thermal efficiency
- Special design with expansion bellows

FIELD OF APPLICATIONS



Steam generator for the waste water
in the glass factory



Steam generator for the
waste water

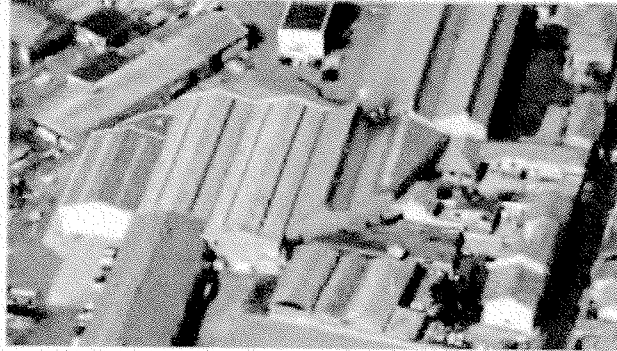


barriquand

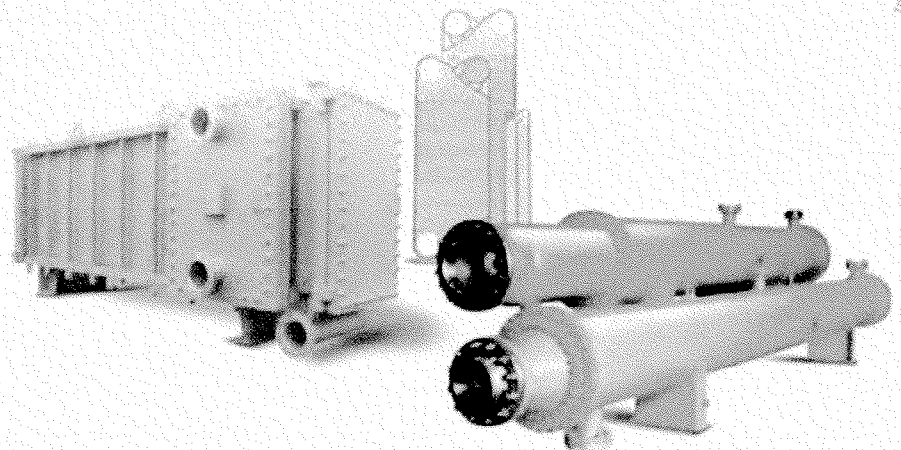
TECHNOLOGIES
THERMIQUES

The group

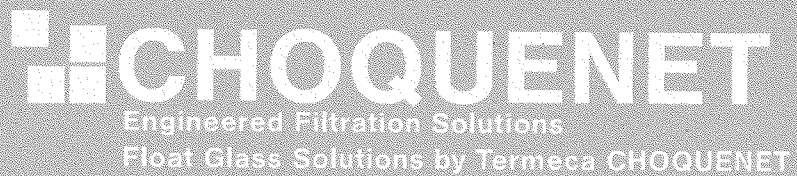
With a total staff of 250 people, the Barriquand group consists of four companies, specialized in specific product lines, all related to heat transfer technologies. Each company has an independent structure, a unique expertise in various fields and offers complementary products to provide top quality answers for our national and international client's benefit.



- Barriquand Technologies Thermiques: Thermal engineering consultancy and services, marketing of heat exchanger solutions.
- ASET: design and manufacture of shell & tube heat exchangers
- Barriquand Échangeurs: design and manufacture of plate heat exchangers, creator of Platular® heat exchangers
- Steriflow Thermal Processing: one of the world's leading sterilisation companies. Design and manufacture of sterilisation autoclaves.



PT. INTERMULTICON KRISTAL SENTRA
Email : INFO@kristalsentra.com



**We understand.
We build. We maintain.**

4^e génération.

We understand. We build. We maintain.

Une nouvelle génération du renouveau

Société familiale depuis sa création en 1925, la 4^e génération a pris les rênes de l'entreprise en 2020.

Acteur majeur historique de l'industrie sucrière, Choquenet s'est diversifiée dans de multiples solutions de filtration ainsi que dans la mécanique de verrerie.

A family business since its creation in 1925, the 4th generation took over the management of the company in September 2020.

Historical key player in sugar industry, Choquenet expanded its range towards diversified filtration solutions as well as the manufacture of equipment for glass factory.



Laurie CHOQUENET,
Directeur Général
General Manager

Notre vision et nos valeurs sont en perpétuelle évolution pour s'adapter aux enjeux écologiques et économiques d'aujourd'hui et de demain.

Société familiale centenaire, à taille humaine, nous plaçons la satisfaction de nos clients au cœur de nos préoccupations.

De par nos produits de grande qualité et à forte technicité, nous portons la responsabilité du monde de demain. Collaborer avec Choquenet, c'est adopter des valeurs et un état d'esprit qui nous rendra tous meilleurs.

Our vision and values are constantly evolving to adapt to the ecological and economic challenges of today and tomorrow.

As a human scale family-owned company, we place customer satisfaction at the heart of our concerns.

Thanks to our high quality and highly technical products, we are responsible for the world of tomorrow. Working with Choquenet means adopting values and a state of mind that will make us all better.

Chiffres **CLÉS** Key figures

75

collaborateurs en France
employees in France

100

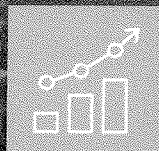
ans d'existence
years of experience

+ de 13M

de CA 65% à l'export
more than 13 millions of turn over,
including 65 % as export sales

Nos
VALEURS

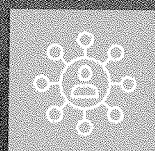
PERFORMANCE
EFFICIENCY



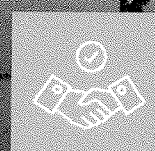
FIABILITÉ
RELIABILITY



ADAPTABILITÉ
FLEXIBILITY



SERVICE
SERVICE



Nouvelle vision stratégique. We understand.

Nos atouts

Maîtrise des process et adaptabilité
Services et formations
Qualité et fiabilité
Un laboratoire Choquenet dédié
Fabrication française

Process mastery and flexibility
Our assets and training
Quality and reliability
A dedicated Choquenet laboratory
Made in France

Notre volonté

Our ambition



Maxime LEGRAND,
Directeur Commercial
Sales manager

Dans un contexte industriel en perpétuelle évolution, nous avons le devoir et l'obligation de nous réinventer chaque jour afin de proposer la ou les solutions les mieux adaptées aux contraintes de nos clients.

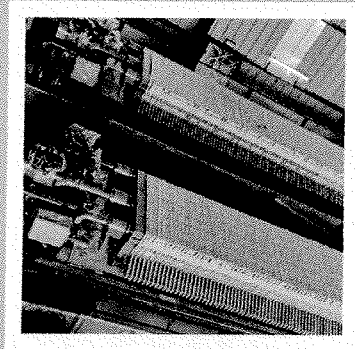
Dans cette optique, Choquenet a, ces dernières années, beaucoup œuvré pour étoffer son offre produit et notamment la partie service.

En effet, nous proposons dorénavant la possibilité d'une expertise technique complète du process industriel client, ou encore la mise en place d'un contrat de maintenance, que ce soit sur la fourniture de nos équipements ou non. Notre objectif premier est d'accompagner le client au cœur de ses préoccupations, à savoir la recherche de la performance, la fiabilisation des équipements tout en accentuant l'intérêt économique.

L'évolution constante de nos produits, ainsi que la démultiplication des services associés, font de Choquenet, aujourd'hui, un acteur incontournable de la filtration mondiale.

In a constantly changing industrial context, we have the duty and the obligation to reinvent ourselves every day in order to offer the solution(s) best suited to the constraints of our customers. With this in mind, Choquenet has done a lot of work in recent years to expand its product offer and in particular the service part. Indeed, we now offer the possibility of a complete technical expertise of the customer's industrial process or the establishment of a maintenance contract whether it is for the supply of our equipment or not. Our primary objective is to accompany the customer at the heart of his concerns, namely the search for performance, the reliability of equipment while accentuating the economic interest. The constant evolution of our products as well as the multiplication of the associated services, make Choquenet today, a key player in world filtration.

Un process, une équipe. We build. We maintain.



Filtres-presses

Machines industrielles conçues pour la séparation solide/liquide sous pression, nos filtres-presses sont adaptés à toutes les contraintes et exigences clients, offrant la possibilité d'un fonctionnement entièrement automatisé.

Filter-presses

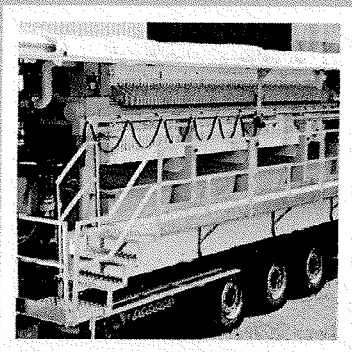
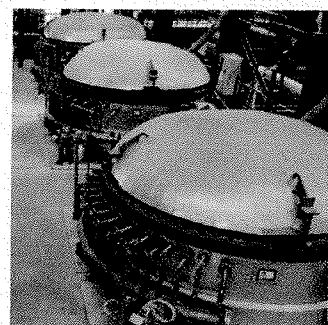
Industrial machines designed for solid/liquid separation under pressure, our filter presses are adapted to all customer requirements and constraints with the possibility of fully automated operation.

Thickening filters

Equipment whose objective is to increase the concentration of a solution with low solid content. This device has the advantage of having a large filtration surface and a small footprint.

Filtres épaississeurs

Équipement dont l'objectif est d'augmenter la concentration d'une solution à faible teneur en matière solide. Ce dispositif présente l'avantage d'avoir une grande surface de filtration et un encombrement réduit.



Choquenot Location SAS la solution mobile

Filiale mettant à disposition des unités mobiles pour nos clients ayant un besoin ponctuel en déshydratation.

Choquenot Location SAS a mobile solution

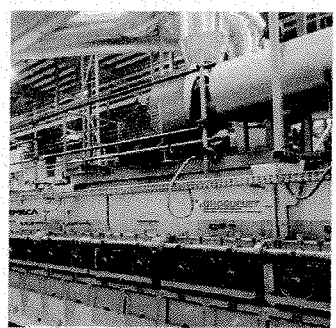
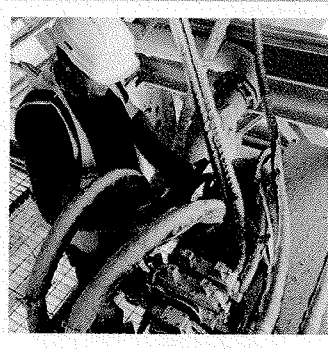
Subsidiary company providing mobile units for our customers with occasional dehydration needs.

Maintenance and expertise

Expert technicians in all fields to ensure the maintenance of your equipment. Our teams are also at your disposal to provide on-site technical training for all your staff. We involve our laboratory technicians and their know-how in the analysis of your problems.

Maintenance et expertise

Des techniciens experts dans tous les domaines pour assurer la maintenance de vos équipements. Nos équipes sont également à votre disposition pour dispenser des formations techniques sur site à l'ensemble de votre personnel. Le savoir-faire de nos laborantins est mis à contribution pour analyser vos problématiques.



Mécanique de verrerie

Ensemble mécanique complet dont la performance est adaptée aux process clients, permettant le convoyage du verre plat.

Manufacture of flat glass mechanics

Complete mechanical assembly whose performance is adapted to the customer's process, allowing the conveying of flat glass.

Les industries. We understand.

Couvrant tous les secteurs,
Choquenet comprend et construit
votre solution industrielle qui satisfait
vos contraintes et vos attentes.

*Covering all sectors, Choquenet
understands and builds your industrial
solution that meets your constraints
and expectations.*

Alimentaire
Food industry



Mine
Mining



Carrière
Quarry



Pétrole et gaz
Oil & Gas



Sucrierie
Sugar industry



Traitement de l'eau
Water treatment



Chimie
Chemistry



Pharmaceutique
Pharmaceutical industry



Une ambition à l'international. We build. We maintain.



Renommée mondiale

CHOQUENET peut vous accompagner dans chacun de vos projets où que vous soyez. Son réseau d'agents et ses technico-commerciaux vous suivent dès l'analyse de vos besoins jusqu'à l'exploitation des équipements.

Worldwide

CHOQUENET can support you in any of your projects wherever you are. Its network of agents and technical sales representatives follow your projects from the analysis of your needs up to the operational functioning of the equipments.



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Scan the QR codes
for more information on
our Cail & Fletcher products



Heavy duty in-line shredder

MillMax[®]



Fletcher mill

Falling Film Evaporator



Continuous Vacuum Pans



Hydrotrac brix probe



Monotrac brix probe

Vertical crystallizer and
massecuite reheater



SUMO™ massecuite and
magma pumps

www.fivesgroup.com

fives

Industry can do it



Scan the QR codes
for more information on
our Cail & Fletcher products



ZUKA™ batch centrifugals



D412 batch centrifugals



Continuous centrifugals
FC series



Continuous centrifugals
GC series



Multitube dryer-cooler



Cogeneration boiler
(Fives Cail-KCP)



Spent wash incinerator
(Fives Cail-KCP)



Fives Sugar Consulting



SMART Control™



Customer's
Voice

www.fivesgroup.com

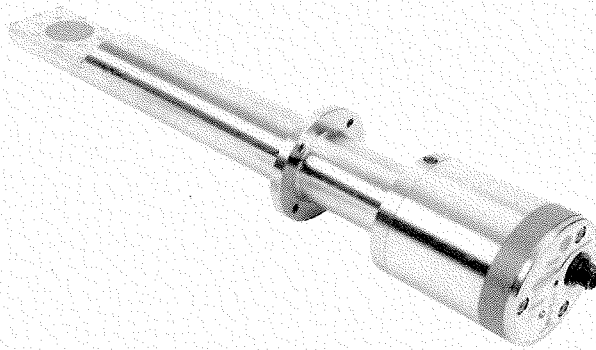
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Industry can do it



Brix Probe – Hydrotrac HT03

Proposal No. SI_20200625_2

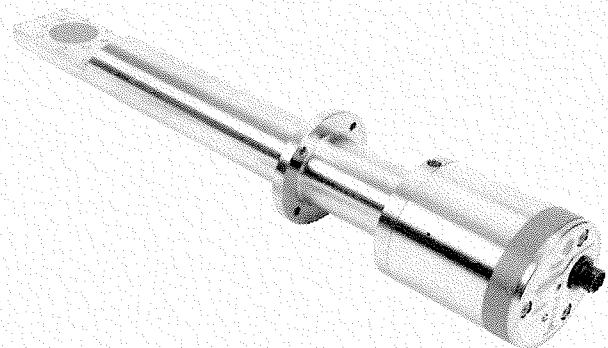


Version V4 dtd 02 Oct. 2015

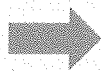
HT03_proposal-202-0615

Agenda

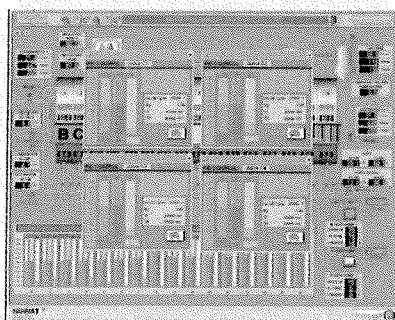
- Objectives : Why measure & Control Brix?
- Solutions
- Technical Specification
- Budget - Validity of Offer
- Why Cail & Fletcher Probe?
- Appendix
 - Commercial terms



Objectives : Why measure & Control Brix?



- Inconsistent Syrups into process
- Reduced Steam Consumption
- Consistent Sugar Quality
- Less Water Usage
- Higher levels of sugar production
- Loss of Sucrose in Molasses



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Probe - Hydrotac HT03

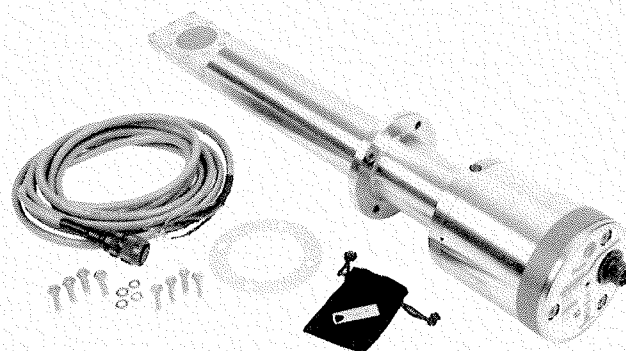
25/06/2020

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Agenda

- Objectives : Why measure & Control Brix?
- **Solutions**
- Technical specification
- Budget - Validity of Offer
- Why Cail & Fletcher Probe?
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Solutions and Applications of brix probes (Monotrac/ Hydrotrac)



Brix Probe Area of Improvement : Raw & Refinery

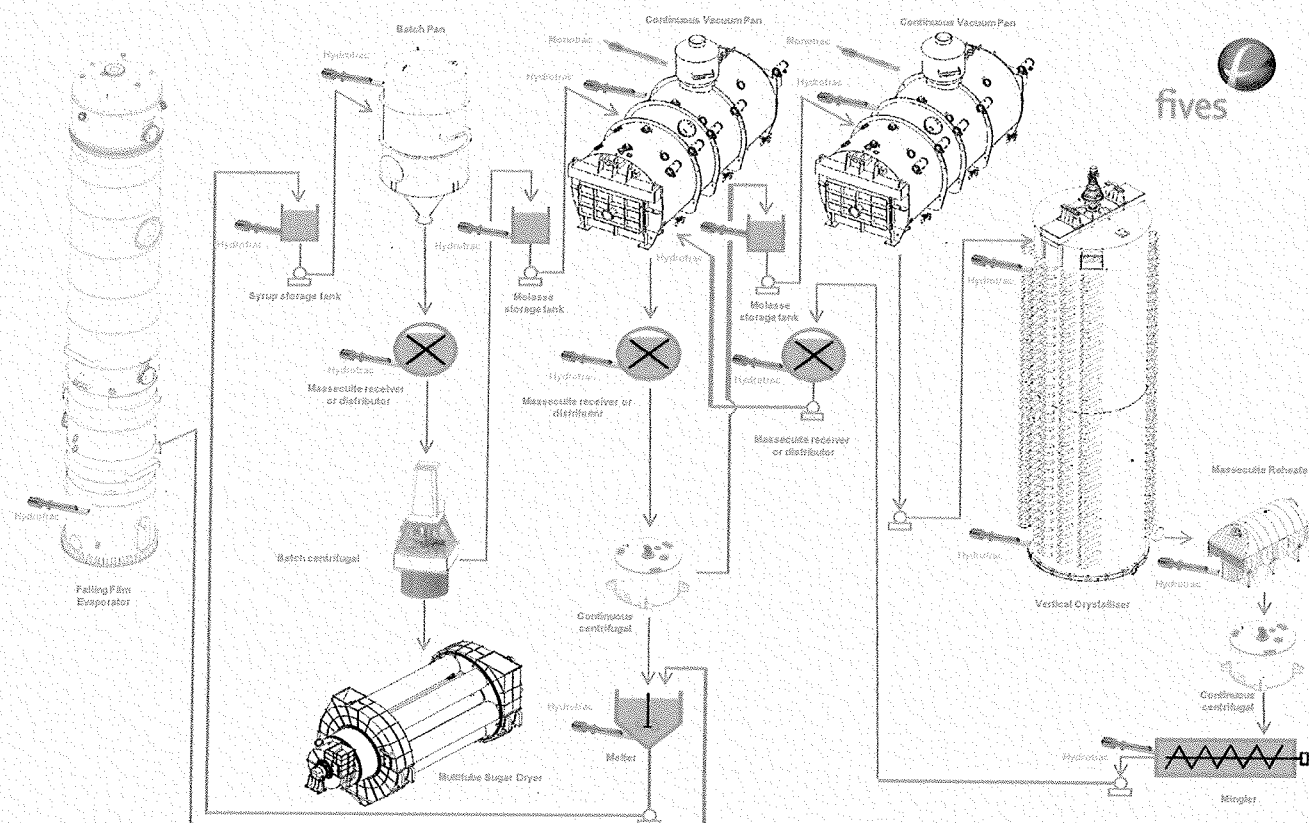
Evaporators Hydrotrac	Consistent brix / syrup quality to the boiling station Reduced Steam Consumption
Vacuum Pans	Reduced False Grain More sucrose in crystal form Reduced Steam Consumption Improved boiling cycle time for batch pans Constant Brix Profile
Centrifugals & Melters	Improved/Reduced water usage Monitoring of brix of runoff Improved quality of magma Constant Brix feed to Pans
Crystallisers	Monitoring of brix within crystallisers Troubleshooting for potential water leaks
Ethanol	Accurate measurement of Purity of Molasses

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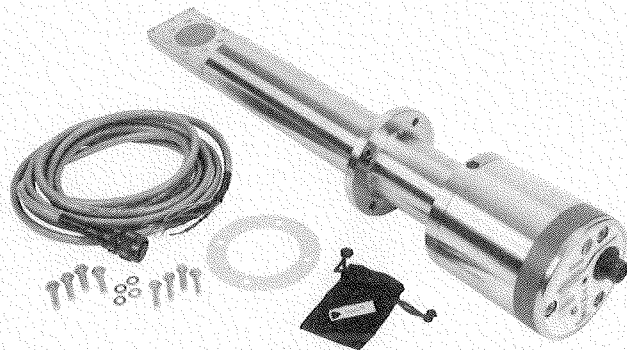
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- Objectives : Why measure & Control Brix?
- Solutions
- **Technical Specification**
- Budget - Validity of Offer
- Why Cail & Fletcher Probe?
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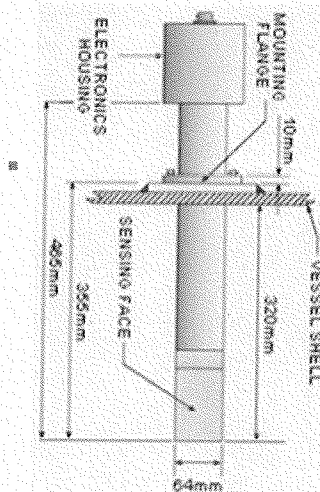
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Technical Specification : Technology

HYDROTRAC HT03



➤ Application areas:

- Brix control for thick juice/syrups/liquors and molasses conditioning as well as for cane, beet and refined massecuites
- All purities

➤ Measures the moisture content (dielectric constant) of the process solution to derive the Brix using microwave technology at 800 MHz

➤ Integrated temperature sensor suitable for applications where brix and temperature are controlled.

➤ Low susceptibility to scaling and encrustation since a unique sensor

➤ Low sensitivity to purity changes (recalibration may be required for purity changes > 20%)

➤ Flange fitting

➤ A longer probe to penetrate deeper and insure a better contact with the processed product

➤ Sealed for life warranty

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Probe - Hydrotrac HT03

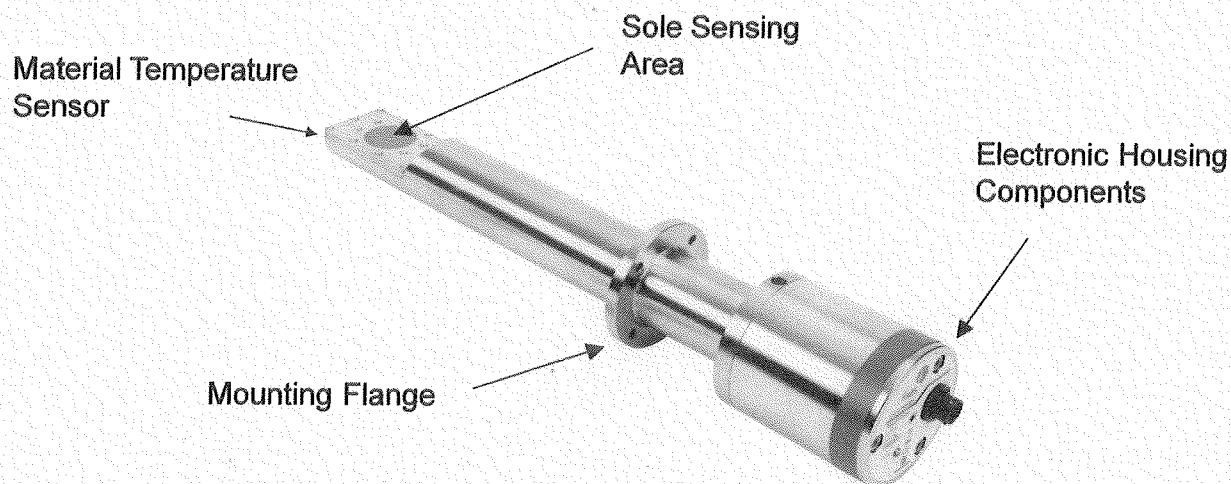
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Technical Specification : Presentation

HYDROTRAC HT03



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Probe - Hydrotrac HT03

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Technical Specification : Presentation



Construction	Process parameters	Supply and Approvals
■ Body : Stainless steel 304 ■ Faceplate : Ceramic ■ Mounting : Stainless steel flange, diameter 105mm ■ Sensor is rated to IP65 ■ Power Supply: +15V to +30V dc, 4 Watts max ■ Military standard cable IP67 ■ Output signal: Two analogue outputs are available, configurable 0/4-20mA, to indicate moisture/brix, and/or process temperature. ■ An opto-isolated RS485 two wire port is available for communications with a PC for calibration and also for access to additional internal information.	■ Moisture : 2% - 50% Water content ■ Brix : 50 - 98 °Bx ■ Any Purity ■ Depending on the material the sensing volume is approximately a sphere 100mm (4") diameter, above the faceplate ■ Sensor is rated for operation up to 125 °C, with max. process temperature 140°C (for short periods), ambient temperature up to 60°C ■ Refresh rates of the measurement is approximately 25 times/sec	■ A 4 metre, 12 core cable with connector is supplied with the probe ■ Each probe is supplied with the configuration software package Hydro-Com and serial data cable which is used to setup and calibrate the probe ■ CE mark In compliance with the EMC directive 89/336/EEC in accordance with, EN55011:1991 Class A Group 2 ■ EN61000-4-3:1996, DDENV 50204:1996, EN61000-4-6:1996, EN61000-4-5:1995 and EN61000-4-4:1995

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Hydro-View (optional)

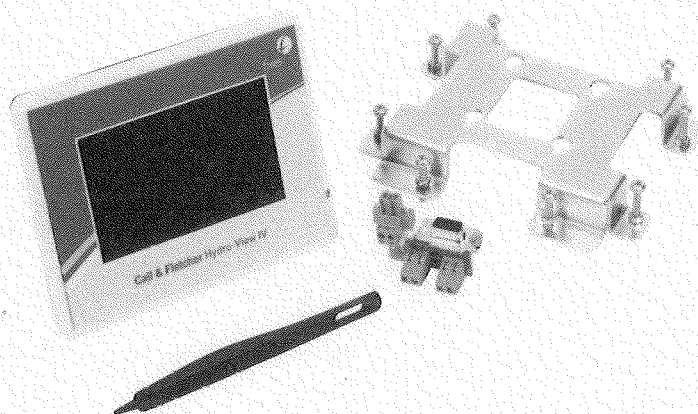
A colour touch screen to display real on-time process measurements



- A simple interface providing quick and easy method to calibrate Hydrotrac HT03

- To display trend graph or numeric display of measurements

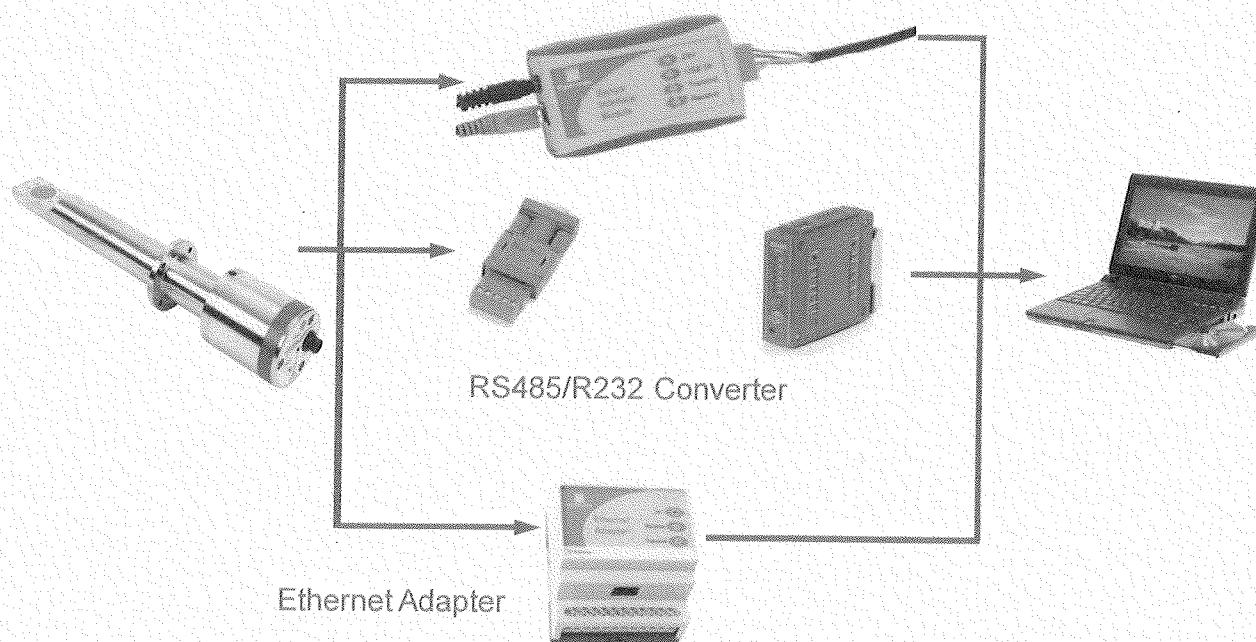
- To communicate up to 16 probes



Technical Specification : Connectivity



SIM 02 RS485 to USB Standard option

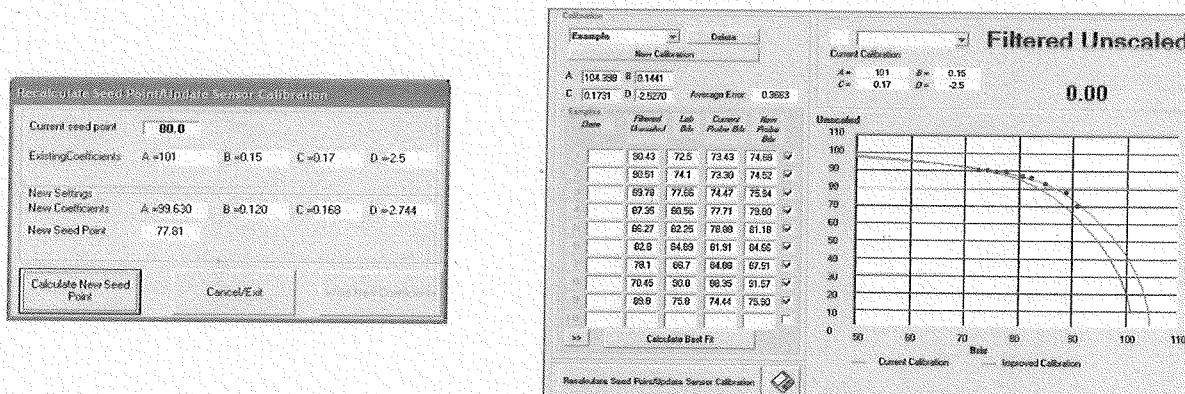


Technical Specification : Configuration Software

Easy to calibrate : no hand calculations



- Factory calibration procedure sets the 'Unscaled' units to 0 in air and 100 in water.
- The advantage of our digital sensor is that they are 'digitally' factory calibrated. This ensures that every sensor is identical.
- Site calibration sets values to convert the 'Unscaled' units to brix



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Probe - Hydrotrac HT03

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Automatic Wash System: (optional)

Easy to operate : fully automatic or manual



Function : Hydrotrac brix & temperature display.

Hydrotrac cleaning control system (manual & automatic)

Switch to select cleaning mode (Manual/automatic) on the box

Auto cleaning mode: the Hydrotrac will be cleaned periodically

Manual cleaning mode: A push button to start cleaning

Protection category : IP55 (CEI 60 529)/NEMA 12 (NEMA)

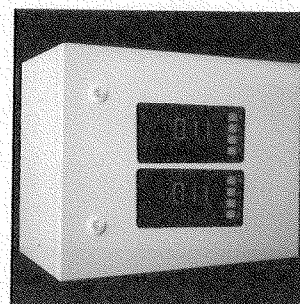
Size : (B*H*T)300x300x150mm

Cleaning control :

Switch to select the cleaning mode on door.

Manual Cleaning push bouton on door.

Relay + time controller included to the box.



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Probe - Hydrotrac HT03

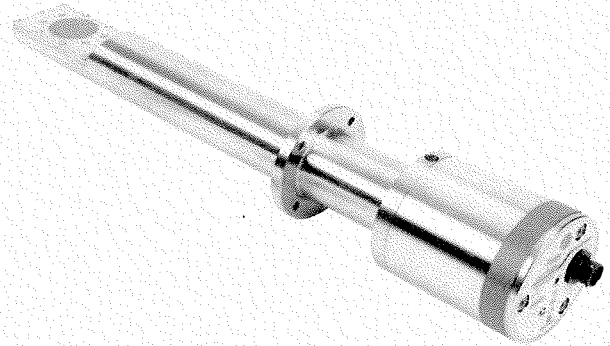
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- Objectives : Why measure & Control Brix?
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- **Budget - Validity of Offer**
- Why Cail & Fletcher Probe?
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Budget – Validity of offer : Service (optional)



The Service comprises 1 day by probe on site to carry out :

- Supervision of installation and wiring
- Calibration
- Commissioning
- Training of staff

The conditions of Service are as follows:

Fives obligations

- Salary of specialist working 6 days a week - 48 hours a week 1 day rest

Client obligations

- International & Local transport
- Local accommodations
- Any tax or duty to be levied by the local government in relation with the work
- Any extra day will be charged to the client
- Employees at the disposal for brix measurement

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Probe - Hydrotrac HT03

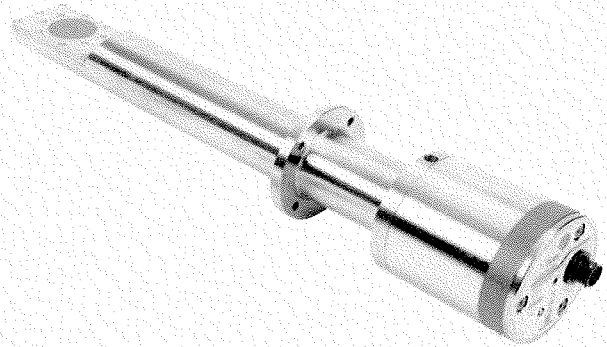
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Why Cail & Fletcher Probe?



- ❖ Reliable operation
- ❖ Cost effective measurement
- ❖ Ease of calibration
- ❖ Wide range of applications
- ❖ Better exhaustion of massecuites
- ❖ Improved control of crystal growth
- ❖ Excellent repeatability of output signal

- ☐ International Technical Support
- ☐ Warranty Probe Replacement Service

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Why Cail & Fletcher Probe?



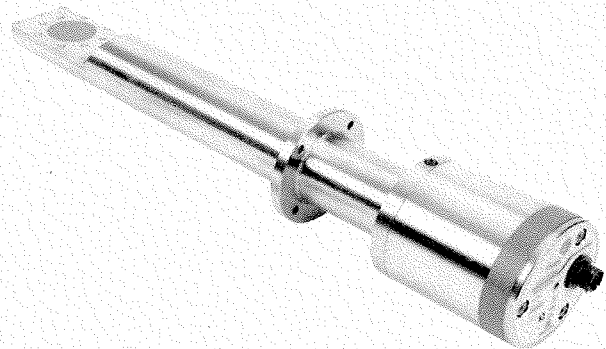
15+ years old product

3,800+ probes supplied

250+ worldwide equipped factories

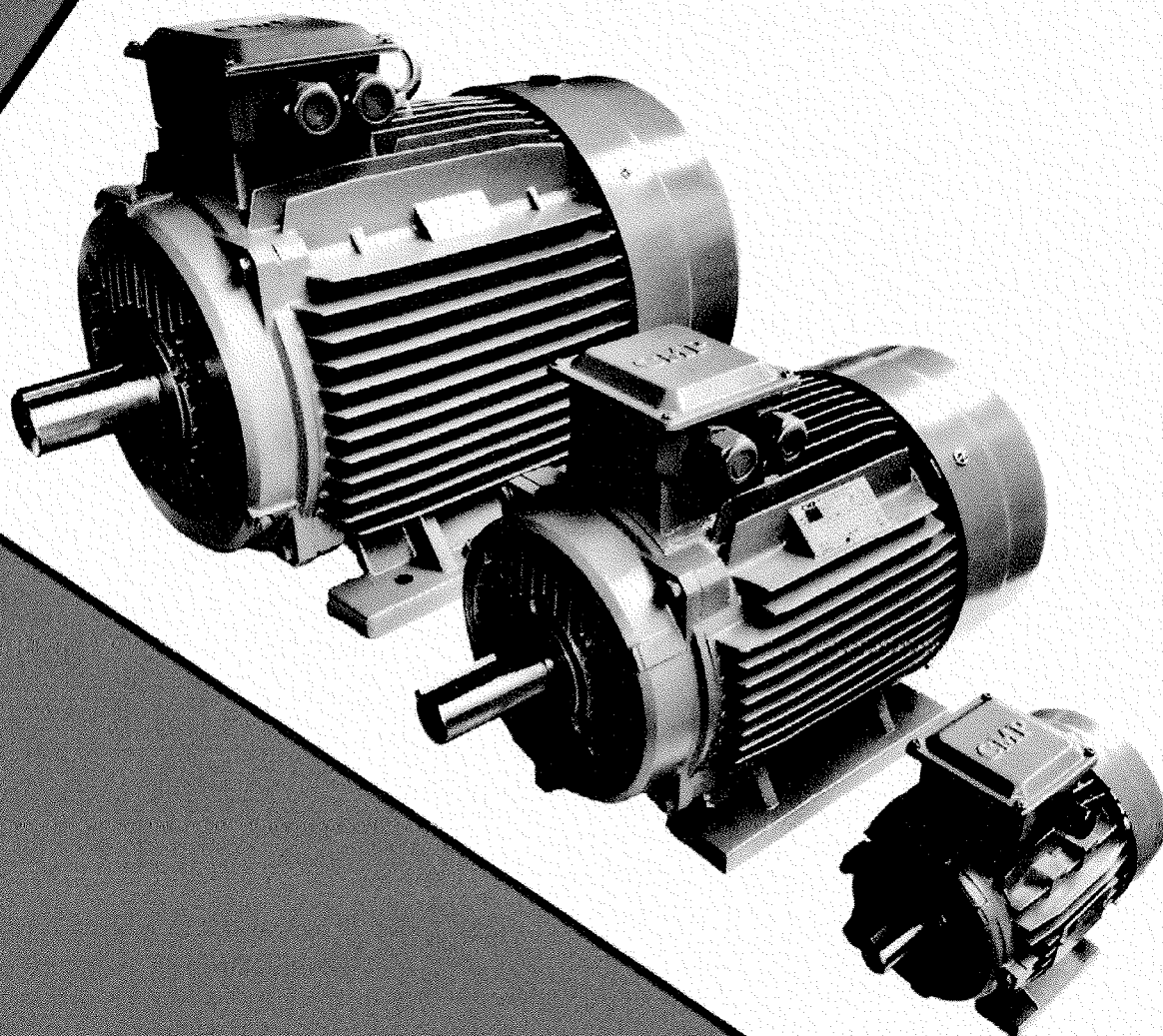
Agenda

- Objectives : Why measure & Control Brix?
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PRODUCTS CATALOG
COMMERCIAL AND INDUSTRIAL

CMP
Century
motors
Producer



DBA SERIES
ELECTRIC MOTOR

General Information

CMP motors are standard TEFC (Totally Enclosed Fan Cooled) three phase asynchronous motor, designed and manufactured to meet all kinds of environmental conditions. Such as mining, petroleum, marine/offshore and any general tropical working areas.

Combined with high quality materials and stringent manufacturing inspections, CMP range of motors offer excellency in efficiency, starting torque, low noise and energy saving.

Type	Motor	Frame Size	KW Range	Voltage	Charecteristic & Features
DBA1	Wide Frequency Based Motor Motor IE1	71 - 355	0.37-315KW	1140V and Below	Low Noise , Less Vibration , Energy Saving ,Efficiency is slightly higher than normal IE1 Leve.I Frequency Range : 30 - 50Hz at variable torque
DBA2	High Efficiency Motor IE2	80 - 355	0.75 - 375KW	1000V and Below	Motor Efficiency Conforms to IEC 60034-30 IE2 Level
DBA3	Premium Efficiency Motor IE3	80 - 355	0.75 - 375KW	1000V and Below	Motor Efficiency Conforms to IEC 60034-30 IE3 Level
DBAM	High KW , Low Voltage Motor	355 - 450	2P 355-800KW	1140V and Below	Available at 50Hz to 60Hz
			4P 355KW - 900KW	For Frame Size	
			6P 315KW-710KW	450, the voltage is	
			8P 250KW - 560KW	690V and above	
			10P 200KW - 400KW		
DBAV	Inverter Duty Motor with Force Cooling Fan	80 - 450	0.55Kw - 900KW	1140V and Below	Frequency range: 5Hz to 100Hz , constant torque at 5Hz - 50Hz, constant power start from 50Hz, with variations for 2 Poles, 4/6/8 Poles. Please refer to catalogue for more information
DBAC	Cooling Tower Motors	71 - 355	0.37 - 315KW	1140V and Below	Available for airstream rated cooling tower
DBAH	2 Speed High Temperature airstream motor	2/4P, 4/8P, 4/6P, 6/8P 80 - 315	0.37 - 176KW	690V and Below	Suitable for smokespill application. Available for 250 Degree C/2hours and 300 Degree C/2Hours
DBA1H	Single Speed				Suitable for smokespill application.
DBA2H	High Temperature	71 - 355	0.37 - 375KW	1100V and Below	Available for 250 Degree C/2hours and 300 Degree C/2Hours
DBA3H	airstream motor				
* DZYB3	High Efficiency Flame Proof three phase motor (not for coal mine)	80 - 355	0.55 - 375KW	1140V and Below	Certification: Nemko 12ATEX1050, Compliance : EN60079-0-2007, EN60079-1-2007, Marking : EX II2G Exd IIB T4 Gb

Note: High voltage , high premium NEMA motors (UL) and other non -standard CMP motor are available upon request.

Introduction

This catalogue details the complete range of CMP DBA series motors. Standard DBA motors are three phase squirrel cage TEFC (Totally Enclosed Fan Cooled), with IEC frame sizes from 71 to 355, with CENELEC frame allocation as standard. They combine excellent electrical characteristics with the robust strength of cast iron.

The standard design includes single speed 2,4,6 and 8 pole as well as a comprehensive selection of 2 speed motors. In addition to the standard design, the range includes:

- DBAS - Smokespill application
- DBAC - Cooling tower application
- DBAR - Airstream rated for Axial flow fans
- DBAP - Pad mount motors

All units are supplied with F Class insulation, with temperature rise being limited to less than 80K (unless otherwise marked). This provides the end user with a wide safety margin under general operating conditions.

In addition we also offer motors wound with H Class insulation, and temperature rise still limited to 80K.

- DBAH - High ambient temperature application
- DBAHS - H Class smokespill application

Additional protection is provided by installation of thermistors in all units from 160 frame upward to continuously protect the winding.

The conservative rating of CMP type DBA motors provides additional operational safeguards, ensures long unit life, and renders this series inherently suitable for most arduous mining, industrial or agricultural applications.

Standards and specifications

The main dimensions and rated outputs of CMP type DBA motors generally conform to International Standards IEC60034, IEC60072 and Australian Standard AS1359.

Efficiency

The DBA motor range exceeds requirements of European Eff 2 or Eff 1 and correspond to IE1 (Standard Efficiency) or IE2 (High Efficiency) & IE3 (Premium Efficiency) of the new international standard IEC 00034-30.

- DBA1 = IE1 (Standard Efficiency)
- DBA2 = IE2 (High Efficiency)
- DBA3 = IE3 (Premium Efficiency)

Product code specification

When placing an order the motor product code should be specified. The product code of the motor is composed in accordance with the following example:

G	3	2	0	0	1	5	0	3	D	B	A	1	S	/	4	1	5
1	2	3	4-8					9	10-12				13...				Suffix

Position 1

- G = Cast Iron frame
- A = Aluminum frame

Position 2

Winding design

- 3 = Standard three phase motors
- S = 2 speed fan duty single winding
- D = 2 speed fan duty separate windings
- T = 2 speed constant torque single winding
- C = 2 speed constant torque separate windings

Position 3

Number of poles

- | | | |
|---------------|----------------|----------------|
| 2 = 2 poles | F = 2/6 poles | M = 4/12 poles |
| 4 = 4 poles | G = 2/8 poles | N = 6/8 poles |
| 6 = 6 poles | H = 2/10 poles | O = 6/10 poles |
| 8 = 8 poles | I = 2/12 poles | P = 6/12 poles |
| A = 10 poles | J = 4/6 poles | Q = 8/10 poles |
| C = 12 poles | K = 4/8 poles | R = 8/12 poles |
| E = 2/4 poles | L = 4/10 poles | S = 8/16 poles |

Positions 4 to 8

Rated power output* (kW x 100)

* Refers to high speed for 2 speed motors

Position 9

Mounting arrangements

- | | | |
|-----------|-------------|------------------------|
| 1 = V1 | 5 = B5 | 8 = B3/B14B |
| 3 = B3 | 6 = B3/B14A | 9 = B14B |
| 4 = B3/B5 | 7 = B14A | 0 = for Pad Mount only |

Positions 10 to 12

Series

- DBA1 = IE1 (Standard Efficiency)
- DBA2 = IE2 (High Efficiency)
- DBA3 = IE3 (Premium Efficiency)

Positions 13...*

Series variation

Blank = Standard

- | | |
|----------------------|------------------------|
| C = Cooling tower | H = H Class insulation |
| L = LHS terminal box | P = Pad mount |
| S = Smokespill | R = Airstream rated |
| | F = Flying Leads |

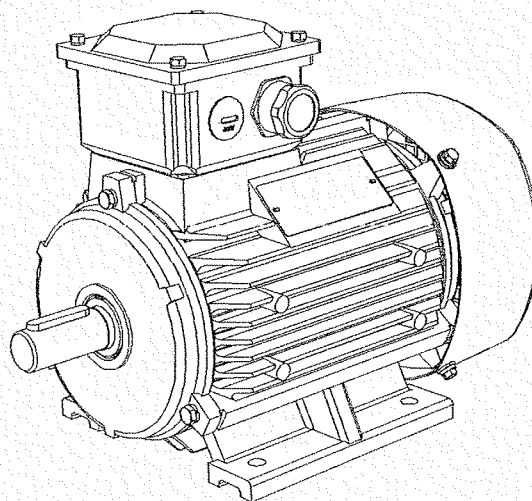
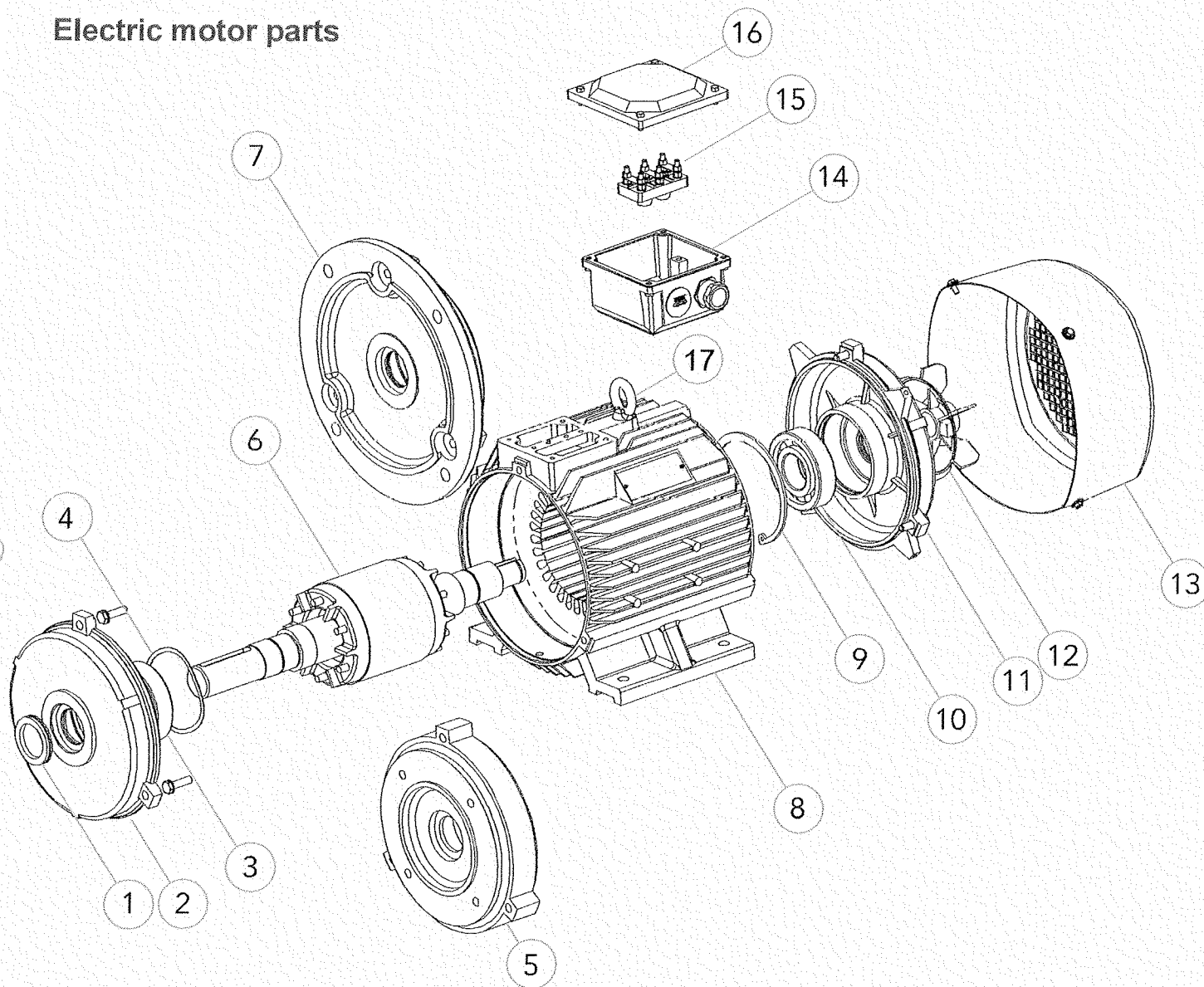
* Multiple letters indicate multiple variation.

Suffix

Winding design

- | | |
|---------------------|---------------------|
| /385 = 380V / 50Hz | /A05 = 1000V / 50Hz |
| /415 = 415V / 50Hz | /B05 = 1100V / 50Hz |
| Blank = 400V / 50Hz | /386 = 380V / 60Hz |

Electric motor parts



- 1 - Shaft seal
- 2 - DE Endshield
- 3 - DE Bearing
- 4 - Wavy washer
- 5 - Flange (B14A)
- 6 - Rotor with shaft
- 7 - Flange (B5)
- 8 - Stator housing with stator inside
- 9 - Circlip for fixing the bearing at NDE
- 10 - NDE Bearing
- 11 - NDE Endshield
- 12 - Cooling fan
- 13 - Fan cover
- 14 - Terminal box
- 15 - Terminal block with 6 pins and connection links
- 16 - Terminal box lid
- 17 - Lifting eye