



Steel



Wind Mill



Refrigeration



Pulp & Paper



Ethanol



Power



HVAC



Food & Beverage



Injection Moulding



Process



Sugar



Hydraulics & Lubrication



Oil & Gas



Marine



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Total Heat Transfer Solution

SHELL & TUBE HEAT EXCHANGERS

- Materials of construction: Copper, Brass, Cupronickel, Gun metal, Stainless steel, Carbon steel and Nickel Alloys.
- Fluids handled: Mineral oil, SAE oil, Furnace oil, Transformer oil, Veg oil, Water glycol, Phosphate esters, Steam, Sea water, White water and Black liquor, Sugar syrup and C-Mascquit.
- Heat dissipation rate: Up to 3000 kW.
- Fluid flow rate: Up to 3000 LPM.
- Operating pressure: Up to 80 bar.
- Temperature range: From -30°C to +650°C.



- Designs as per:
 - TEMA class R, C, B.
 - ASME Section VIII Div.1.
 - DGQA.
 - AD-Merkblater.
- Available in low fin tube design for compactness.
- Available in removable bundle type, fixed tube sheet type and 'U' bundle type constructions.
- Equivalent replacement tube bundles.

OTHER APPLICATIONS

- Steam Condensers & Evaporators.
- Water Pre Heaters.
- Oil Pre Heaters / Suction Heaters.
- Exhaust Gas Heat Exchangers. (Bio and Natural Gas).
- Juice and C Mascuite Heaters for Sugar Industries.
- Black Liquor and White Water for Paper Industries.
- Engine jacket water coolers.
- Refrigeration Condensers.



Heat Exchanger for Marine Application

Tank Mounted Heat Exchanger

Replacement Tube Bundles

AIR COOLED HEAT EXCHANGERS

- Complete Alloy Aluminum Construction.
- Fan drive available in 12 VDC, 24 VDC, 230 VAC, 415 VAC And Hyd motor.
- Heat dissipation rate: Up to 240 kW.
- Fluid flow rate: Up to 500 LPM.
- Operating pressure: Up to 40 bar.
- Temperature range: From -30°C to +120°C.
- Adjustable Thermostat to control the oil temperature.



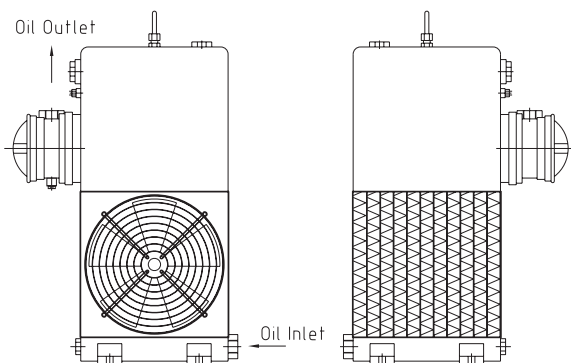
VALUE ADDED PRODUCTS

Oil chillers :

- To handle very high heat dissipation rate.
- Capacity range from 3 kW to 100 kW. (0.5 TR - 50 TR).

Autonomous cooling & filtration units:

- Single point solution for offline cooling & filtration for high altitude & remote applications, like Windmill Drives, Railway track laying machines, Mining & Construction equipments.
- Built in air oil cooler with double ended drive for fan and oil pump.
- Built in high capacity line filter.
- Built in thermostatic control and relief valve facility.



Oil Cooler for Mobile Applications (Integrated Solution)

- Specially designed for mobile concrete mixer trucks.
- Built in oil tank with suction filter.
- Core made from special aluminium alloy.
- Available in two models: 12 V DC and 24 V DC.

PLATE HEAT EXCHANGERS

- **With technical know how from SONDEX A/S, Denmark**
- Designed as per selection software of SONDEX.
- Plates from SONDEX, assembled at **positron**.
- Materials of construction:
Plates: Stainless steel 304, 316, Titanium.
Gaskets: Nitrile, EPDM, Viton.
- Fluids Handled: Mineral oil, SAE oil, Veg oil, Water glycol, Phosphate esters, Steam, Sea water, White water and Black liquor, Fruit juices, Milk.
- Heat dissipation rate: 0.5 KW - 23MW
- Fluid flow rate: 50 Ltrs / Hr to 2000 M3 / Hr, Connection size \varnothing 15mm to \varnothing 500 mm.
- Operating pressure: Up to 25 bar.
- Special Plate design; Gasket & Edge Reinforcement.



The SONDER Lock Gasket Design

- Closed gasket groove.
- Full support of the gasket.
- Long life of the gasket.
- Easy gasket fitting.
- Locks plate in the next plate.

The FREE FLOW Plate Design

- For paper & cellulose.
- For cooling of mustard, tomato sauces & other viscous products.
- CIP-cleaning is possible.
- Construction according to 3A sanitary standards.
- Higher heat transfer coefficient, Long power time.
- Strong & Stable plates.

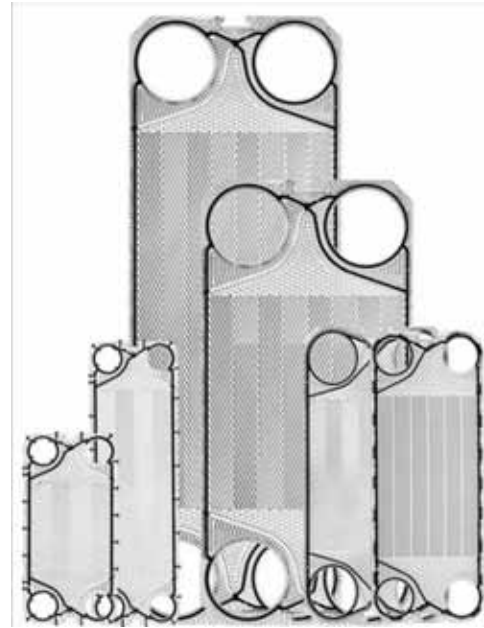


Plate and Shell Heat Exchangers

- Laser welded plates.
- Suitable for NH₃, Evaporators, condensers and Fuel Oil Heaters.
- High Working Pressure.
- No gaskets.
- Safe operation without leakage.
- Locks plate in the next plate.

Semi Welded PHE

- This type of heat exchanger is specially designed for the refrigerating sector and for tasks where aggressive media are used.
- The welding of plate cassettes takes place outside the gasket groove, this practically eliminates the risk of corrosion attack in the gasket groove. When the welding takes place outside the gasket groove the disposable heat transmission area is optimum utilized.
- The plate cassettes are supplied with a gasket construction increasing the tightness concurrently with increase of working pressure.
- The plate cassettes fully accompany with US 3A standard making this construction applicable for many sanitary tasks.



Brazed Plate Heat Exchanger

High temperature and pressure.

Contrary to the traditional plate heat exchanger the brazed plate heat exchanger does not contain rubber gaskets and can thus operate continuously at the temperatures from -180°C up to $+200^{\circ}\text{C}$. The operating pressure can be as high as 30 bar.

Typical applications are :

- District heating, heating and ventilation.
- Solar heating and air conditioning units.
- Heating pumps and heat recovering units.
- Hydraulic and fuel oil units.

Fresh Water Generators

- The SONDEX freshwater distiller utilizes the heat from diesel engine jacket cooling water to produce pure drinkable water by evaporating sea water under high vacuum, enabling the feed water to evaporate at temperatures below 48°C .
- Steam can also be used as the heat source instead of the hot jacket water.
- The SONDEX freshwater distiller is based on two SONDEX titanium plate heat exchangers, acting as an evaporator and a condenser respectively.
- Capacity: Single stage - 1 to 150 tons/day.
Multi stage - 50 to 500 tons/day.



MANUFACTURING SET UP

- Established in the year 1998.
- Built - up Shop Area of 10,000 Sq. Ft.
- Installed Power : 60 HP.



- Handling Facility 5 Mt, Support for 17 MT Mobile Crane.
- Fabrication up to Shell Dia 1500 mm.
- Team of 6G Qualified Welders.

- In house software for thermal and mechanical design.
- Use of CAD / CAE for Thermo graphic Analysis of temperature distribution within the Heat Exchanger.
- In House Drilling, capacity : upto 100 mm.



- Torque Controller for uniform expansion of tubes in tubesheets.
- Quality control during all stages of manufacturing.
- In - House NDT Test Capability.

APPROVALS AND THIRD PARTY INSPECTIONS

NTPC	ABS
BHEL	IRS
G E Energy	QUEST
M N Dastur	PDIL

NETWORK & CHANNEL PARTNERS

Chennai	New Delhi
Bangalore	Korba
Hyderabad	Nagpur
Kolkata	Pune
Dhanbad	Mumbai
Varanasi	Baroda

positron

Engineering corporation

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