Pumps for Chemical Process Industry

XTF Product Range

XGP Series (ANSI B73.1)

Performance:

- Max. Capacity: 7,400gpm (1,650m³/h)
- Max. Head: Up to 725ft (220m)
- Temperature: -75 to 500°F (-60 to 260°C)
- Working Pressure: 370psi (2,550kPa)

XIP Series (ISO 2858/5199)

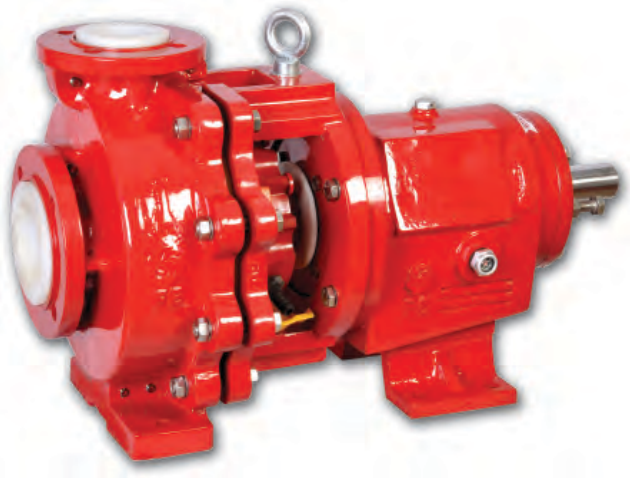
Performance:

- Max. Capacity: 4,400gpm (1,000m³/h)
- Max. Head: Up to 525ft (160m)
- Temperature: -5 to 300°F (-20 to 150°C)
- Working Pressure: 230psi (1,585kPa)

XTP Series (Thermic Fluid)

Performance:

- Max. Capacity: 1,540gpm (350m³/h)
- Max. Head: Up to 525ft (160m)
- Temperature: Up to 600°F (320°C)
- Working Pressure: 230psi (1,585kPa)



XNP Series (Non-Metallic)

Performance:

- Max. Capacity: 1,850gpm (420m³/h)
- Max. Head: Up to 460ft (140m)
- Temperature: Up to 250°F (120°C)
- Vertical Sump Design Available

XGP Series - Technical Specifications

Fully Open Impeller

- Fully-open radial impellers for higher efficiencies.
- Back pump-out vanes and balanced holes reduces load on shaft and bearings.
- Ideally suited for corrosives and abrasives, handles solids and stringy fibers with ease.

Stuffing Box Options

Standard Bore:
Designed for packing.
Also accomodates mechanical seals.

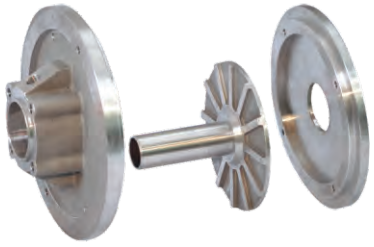
Big Bore:
Enlarged chamber for increased seal life through improved lubrication & cooling.

Taper Bore:
Lower seal face temperatures, self-venting & draining.
Solids and vapors circulated away from seal faces.

	Water Based liquids with flush	Entrianed Air or Vapour	Solids 0-10% No Flush	Solids Greater than 10% with flush	Slurries 0-5%	High Boiling point Liquids No flush	Self-Venting & Draining	Seal Face Heat Removal
SB	A	C	C	B	C	C	C	C
BB	A	B	C	A	C	C	B	A
TB	A	A	A	C	A	A	A	A

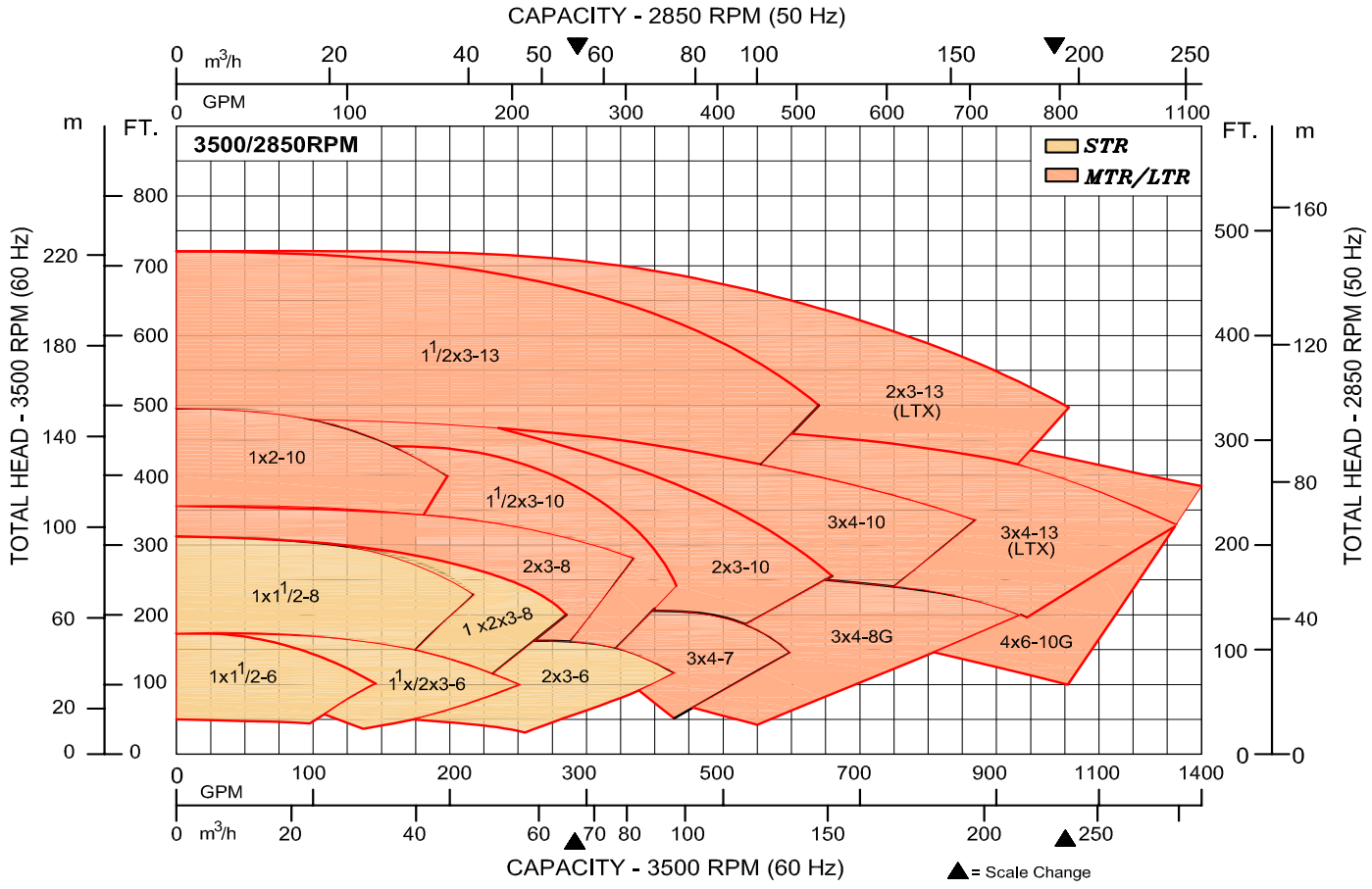
A - Ideally Suited **B-** Acceptable **C-** Not Recommented

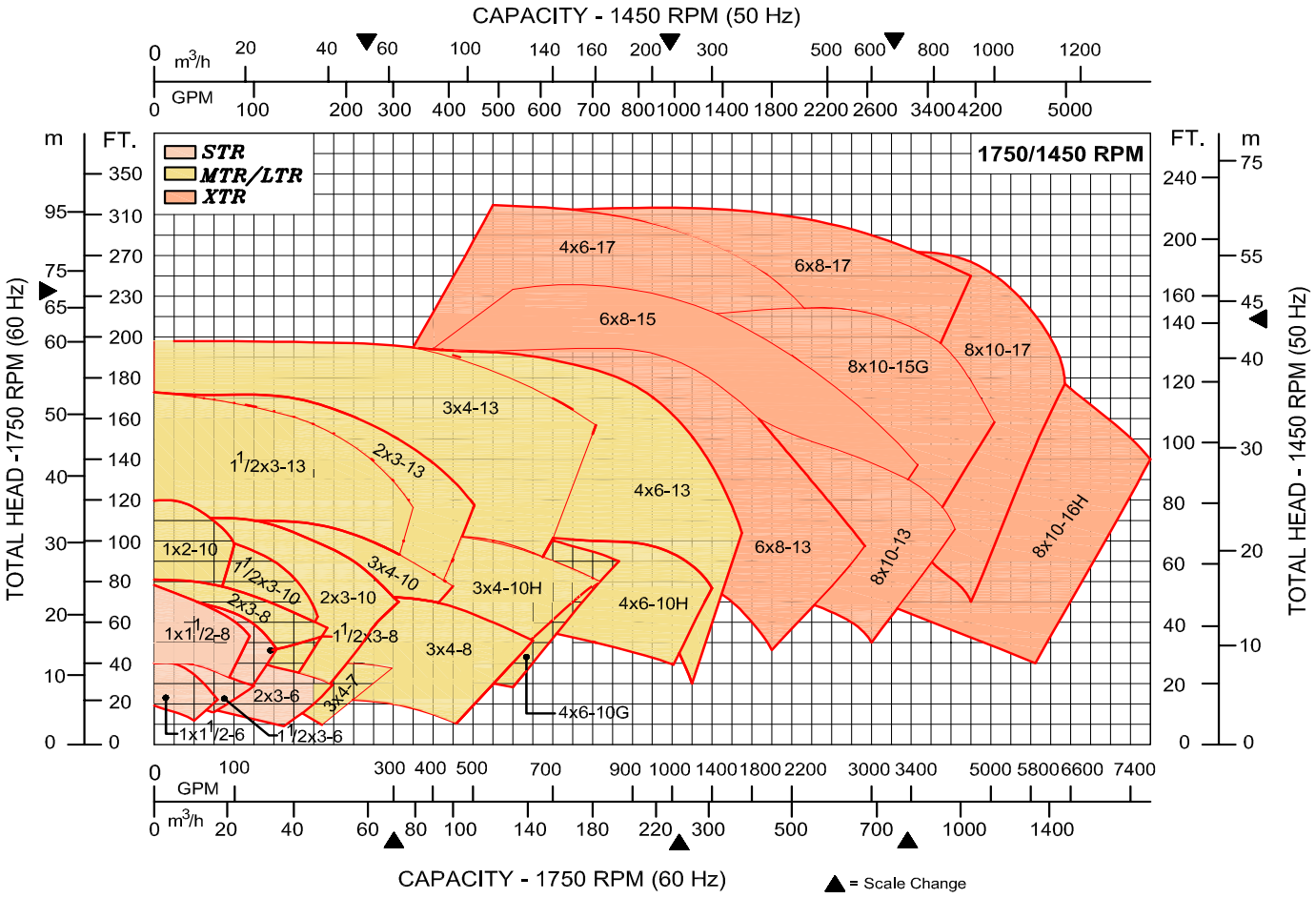
Dynamic Sealing Arrangement



- For handling slurries / solids up to 35 - 40%.
- Eliminate use of slurry mechanical seals and also eliminates pumpage contamination and product dilution.

XGP Series - Hydraulic Performance





XIP & XTP Series - Technical Specifications

- Pump Dimensions comply to ISO 2858/5199 with Flange STD ASA 150.
- Available in Closed Impeller Construction for Higher Efficiencies.
- Wide Range of Models and MOCs available covering the Maximum Duty Conditions.
- Thermic Fluid Range of Pumps available for High Temperature Applications.

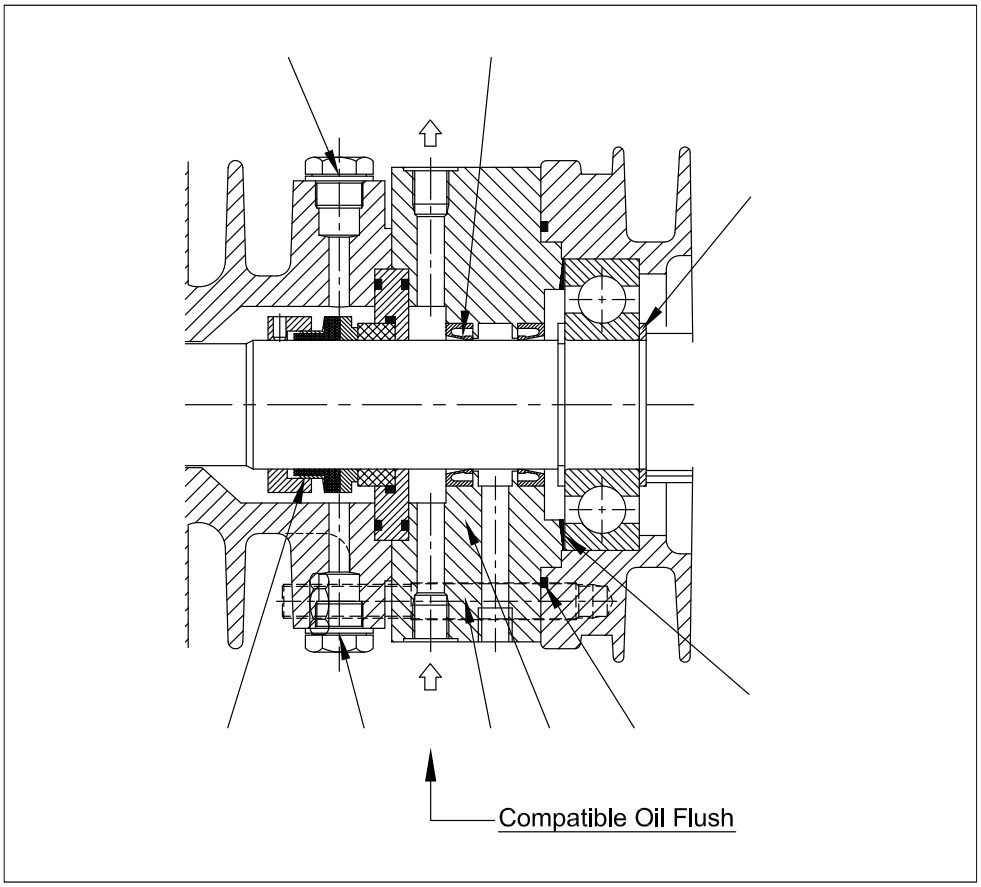
Closed Impeller Construction

Salient Features for Thermic Fluid Pumps:

- Two Intrinsic Designs covering wide range of High Temperature Fluids and other Vegetable Oil Applications.
- Maximum Temperature handling up to 320° C.
- Back Ribs on Impeller.
- Heat Barrier plate for better heat dissipation.
- Cooling Fins(Air-Cooled).
- Intermediate element Provided for Vegetable oil Applications (Under Vacuum).

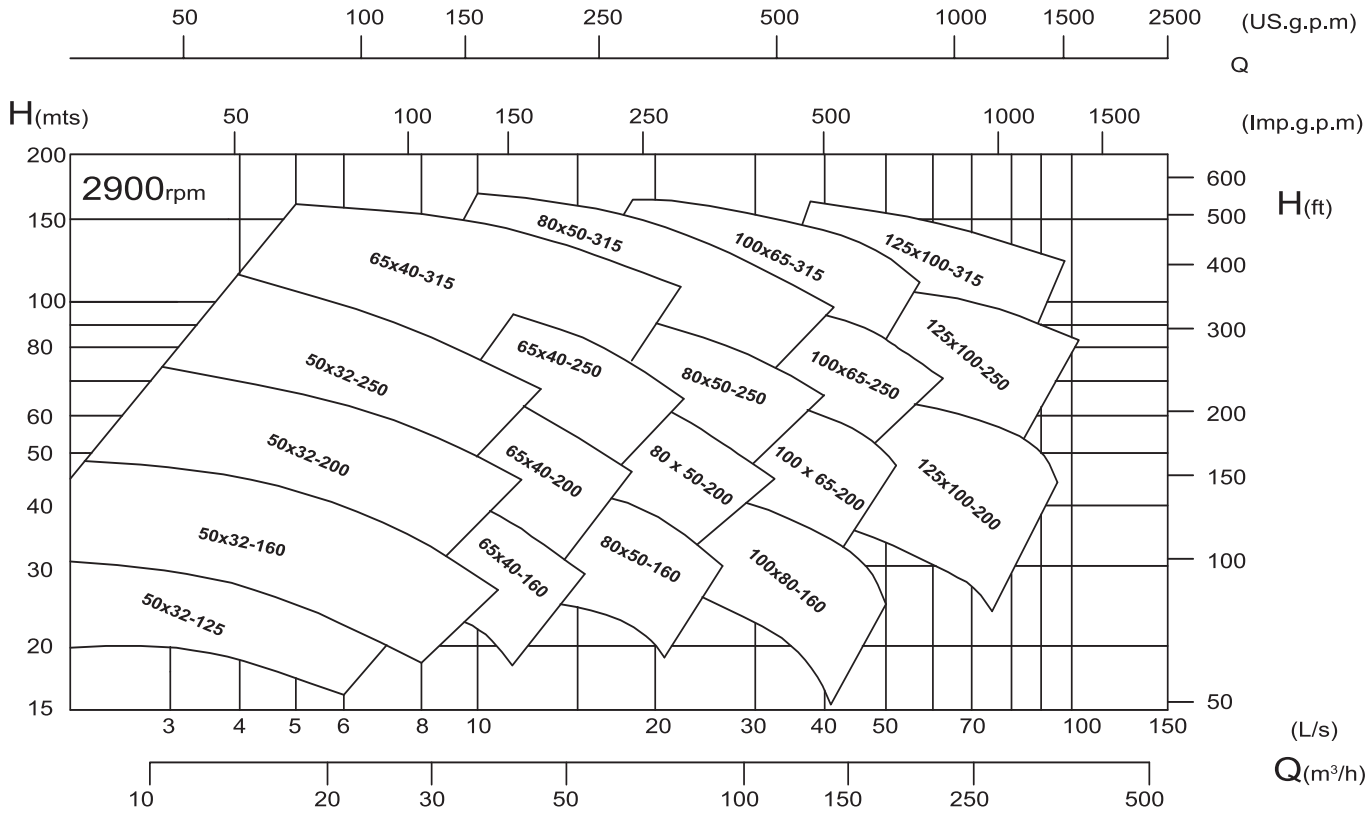
Back Ribs on Impeller

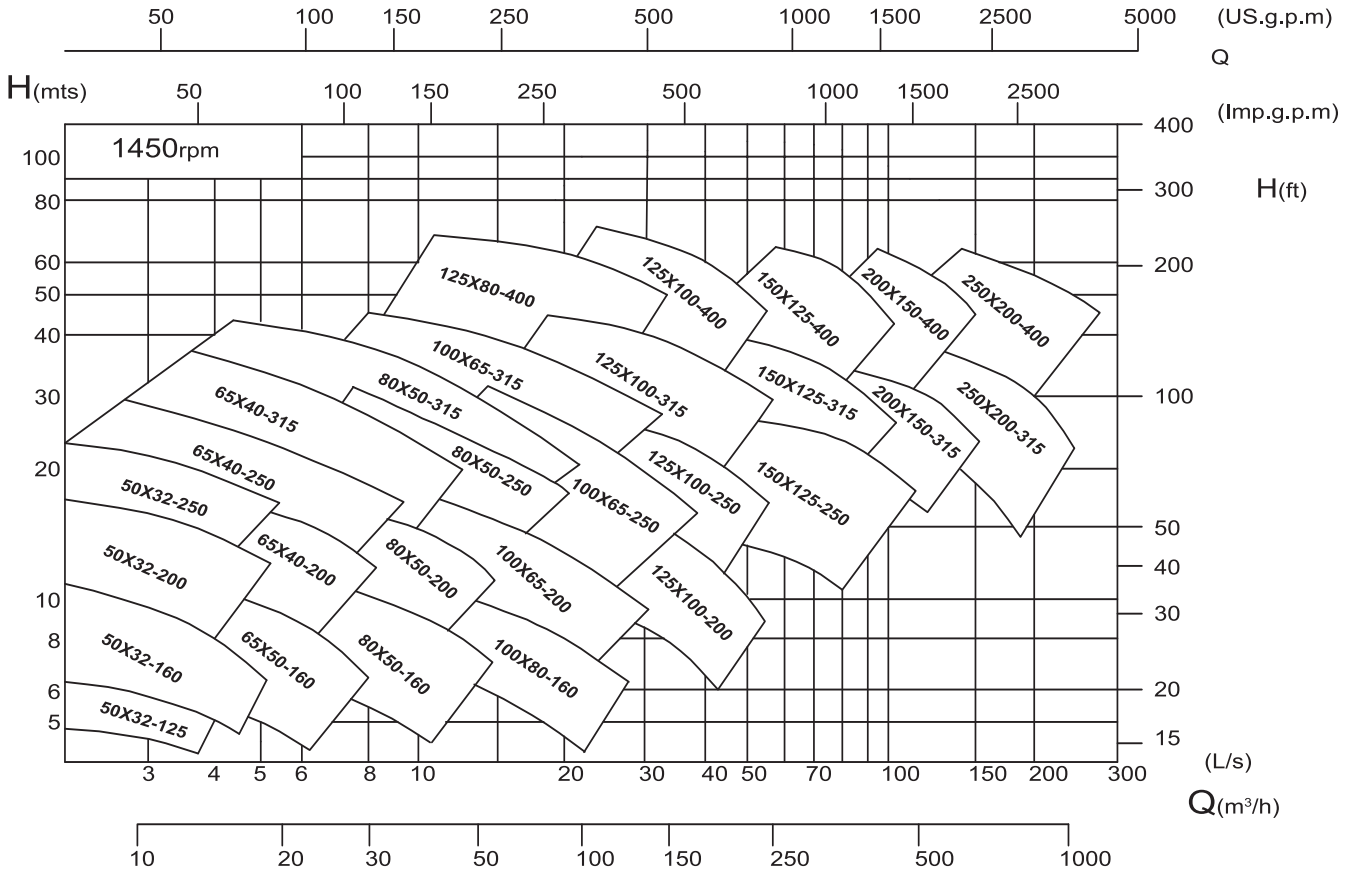
Heat Barrier Plate



Thermic Fluid Pump with Cooling Fins

XIP & XTP Series - Hydraulic Performance





XNP Series - Technical Specifications

Casing Liner & Back Plate

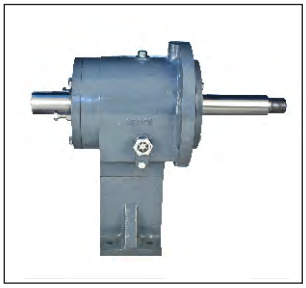
- Thick casing liner and back plate is made of PVDF.
- Replaceable casing liner.
- Standard shell of Cast Iron.
- Casing Liner and Back Plate are solid injection molds.
- Large bore back plate is provided for all double mechanical seal application.

Impeller

- Semi-open Impeller.
- A large metal insert the PVDF impeller greatly increases mechanical strength.
- Designed for contoured flow passages and high efficiencies.

Bearing Pedestal

- Particular rigid shaft of high strength Stainless steel EN-8 / EN-19 / EN-24 / EN-41.
- Double row bearing with extremely high load capacity.
- Long life oil lubricated bearings on both the sides.
- Large oil sump bearing housing for better heat and noise reduction.
- Bulls eye sight glass for level indication.



Properties

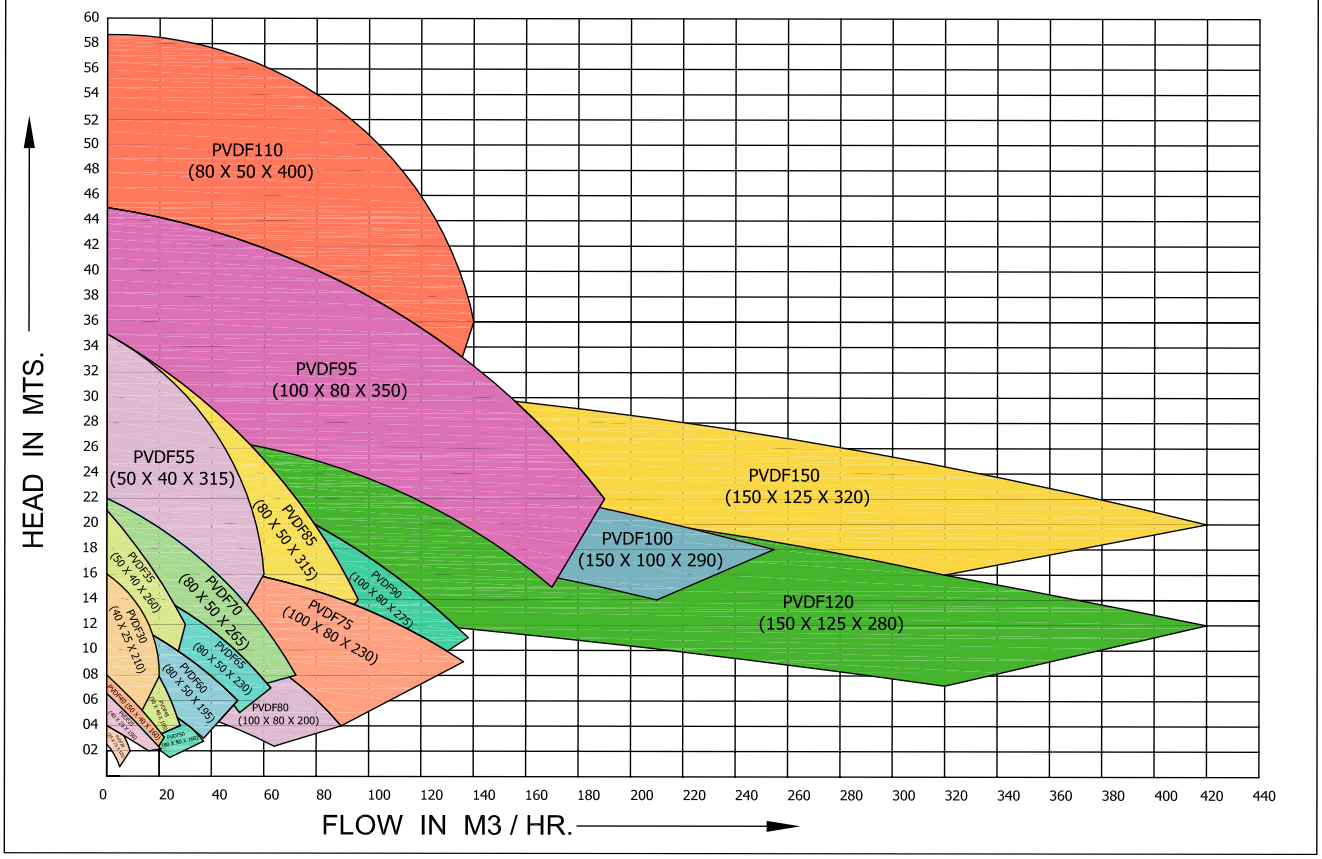
- Resistant to most corrosive and abrasive acids, alkalies and halogens.
- High thermal stability - continuous duty upto 120 degrees C.
- Mechanical strength at elevated temperatures.
- High purity.
- Resistance to sunlight and nuclear radiation.
- Low flame and smoke characteristics.
- Readily processable, formable and weldable.

Advantages

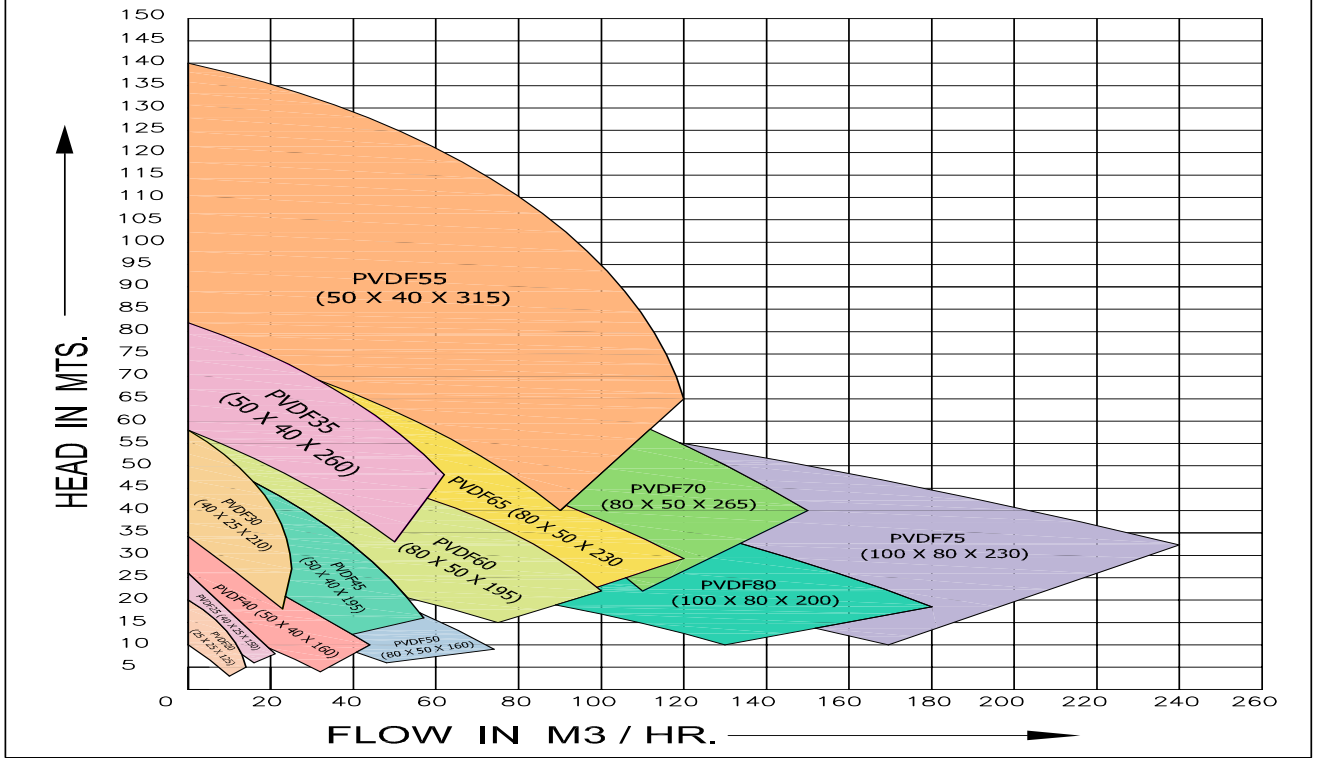
- One piece, thick vacuum proof PVDF housing.
- PVDF casing liners is completely encapsulated in strong cast iron casing to absorb pipeline forces.
- Replaceable casing liner reduces maintenance cost.
- Semi-open PVDF impeller reinforced by large metal insert enhances smooth running and long service life.
- Back pull out design for ease of maintenance.
- Available in wide range of models with maximum interchangeability.
- Most pump accessories like coupling guard, drip trays, deflector and splash guard are provided in corrosion resistant plastics.
- Faster deliveries and highly cost effective compared to other competitors.

XNP Series - Hydraulic Performance

PERFORMANCE CHARACTERISTICS AT 1440 RPM

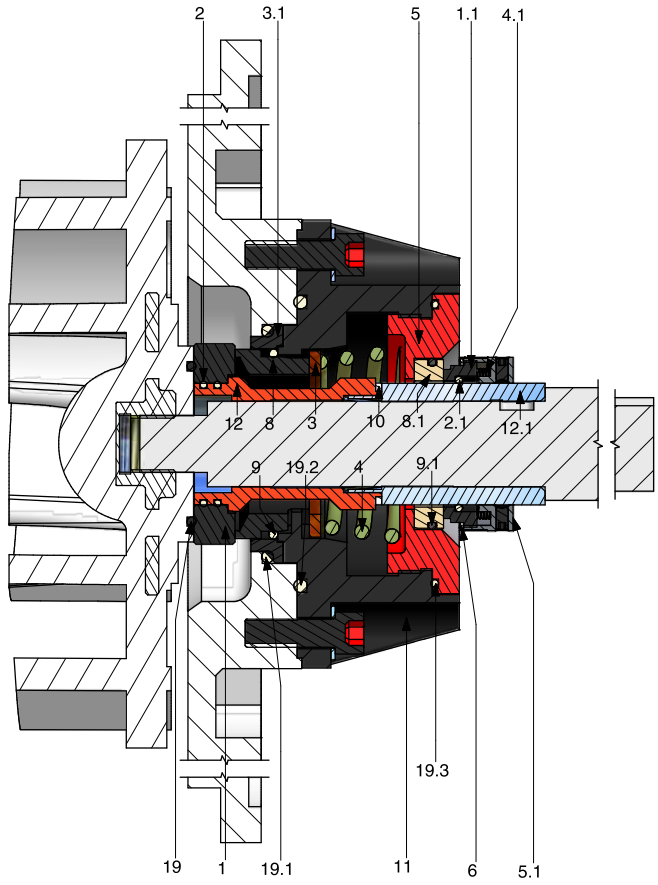


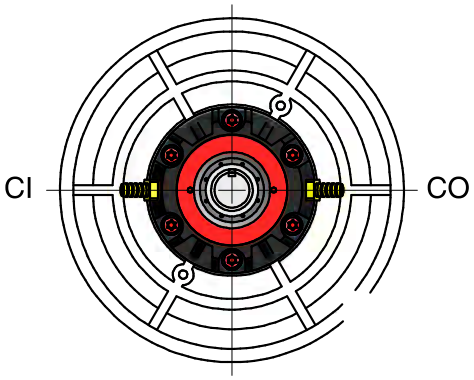
PERFORMANCE CHARACTERISTICS AT 2900 RPM



XNP Series - Seal Capabilities

Double Mechanical Seal





CI :- 1/2"BSP COOLING WATER INLET

CO:- 1/2"BSP COOLING WATER OUTLET

Properties & Advantages:

- Completely Reversed balanced internally mounted seal developed for high sludge content applications.
- Can work under very high back pressure.
- Large cross sections and thickness of seal face parts in order to overcome the difficulties in high sludge content applications.
- Can work very well continuous at higher RPM's as well.
- Due to very high pressure requirements, in filter press applications at the time of effective cake formation and squeezing of chamber plates a very high amount of back pressure is involved which is dealt very efficiently with this mechanical seal with it very hard single coil (completely stainless steel with PVDF coasted) spring with all its other parts being product protected.
- Can be an ideal replacement to a positive displacement pumps.

NOTE:- ** PARTS NOT SHOWN IN CROSS SECTIONAL VIEW

2.125" IMS SEAL PART LIST			
SR NO.	DESCRIPTION	M.O.C.	QTY.
1	SEAL RING	SIC	1
1.1	SEAL RING	RI. CARBON	1
2	O RING	VITON	2
2.1	O RING	VITON	1
3	THRUST RING	PVDF	1
3.1	THRUST RING	SIC	1
3.2 **	THRUST RING	SS 316	2
4	SPRING	SS316+HALAR	1
4.1	SPRING	ALLOY-20	8
5	SPRING HOLDER	SS316	1
5.1	SPRING HOLDER	SS316	1
6	SNAP RING	SS316	1
7 **	SET SCREW	SS316	4
8	SEAT	SIC	1
8.1	SEAT	CERAMIC	1
9	O RING	SP.VITON	1
9.1	O RING	VITON	1
10	GASKET	PTFE	1
11	GLAND PLATE	CF. PVDF	1
12	SLEEVE	SS316+PVDF	1
12.1	SLEEVE	SS316	1
14 **	CAP SCREW	SS304	6
14.1 **	CAP SCREW	SS304	2
19	O RING	SP.VITON	1
19.1	O RING	SP.VITON	1
19.2	O RING	VITON	1
19.3	O RING	VITON	1
34 **	PIPE NIPPLE	CF. PVDF	2

Material Cross Reference Chart

Material	ASTM Casting Grade.
Cast Steel	WCB
SS-304	CF8
SS-316	CF8M
SS-316L	CF3M
CD4MCu	CD4MCu
Alloy - 20	CN7M
Carpenter 20	CK-20
Duplex SS	Grade 4A,5A,6A
Hastelloy B	N12MV
Hastelloy C	CW12MW
Nickel (100%)	CZ-100
MONEL	M-35
Ni-Hard	Ni-Hard (Ni-Resistance)
Cast Titanium	B367 Grade C2 / C3

GENERAL APPLICATION INSTALLATION LIST

INDUSTRY

Chemical

Sulphuric Acid
Sodium Hydroxide
Hydrochloric Acid
Acetic Acid
Ammonium Chloride

Petrochemical

Benzene
Toluene
Ammonia
Methanol

Pulp & Paper

Shower Water
White Water
Chlorine Dioxide

Brewing

Sprage Water
Hot / Cold Wort
Chilled Water
Beer

Primary Metal

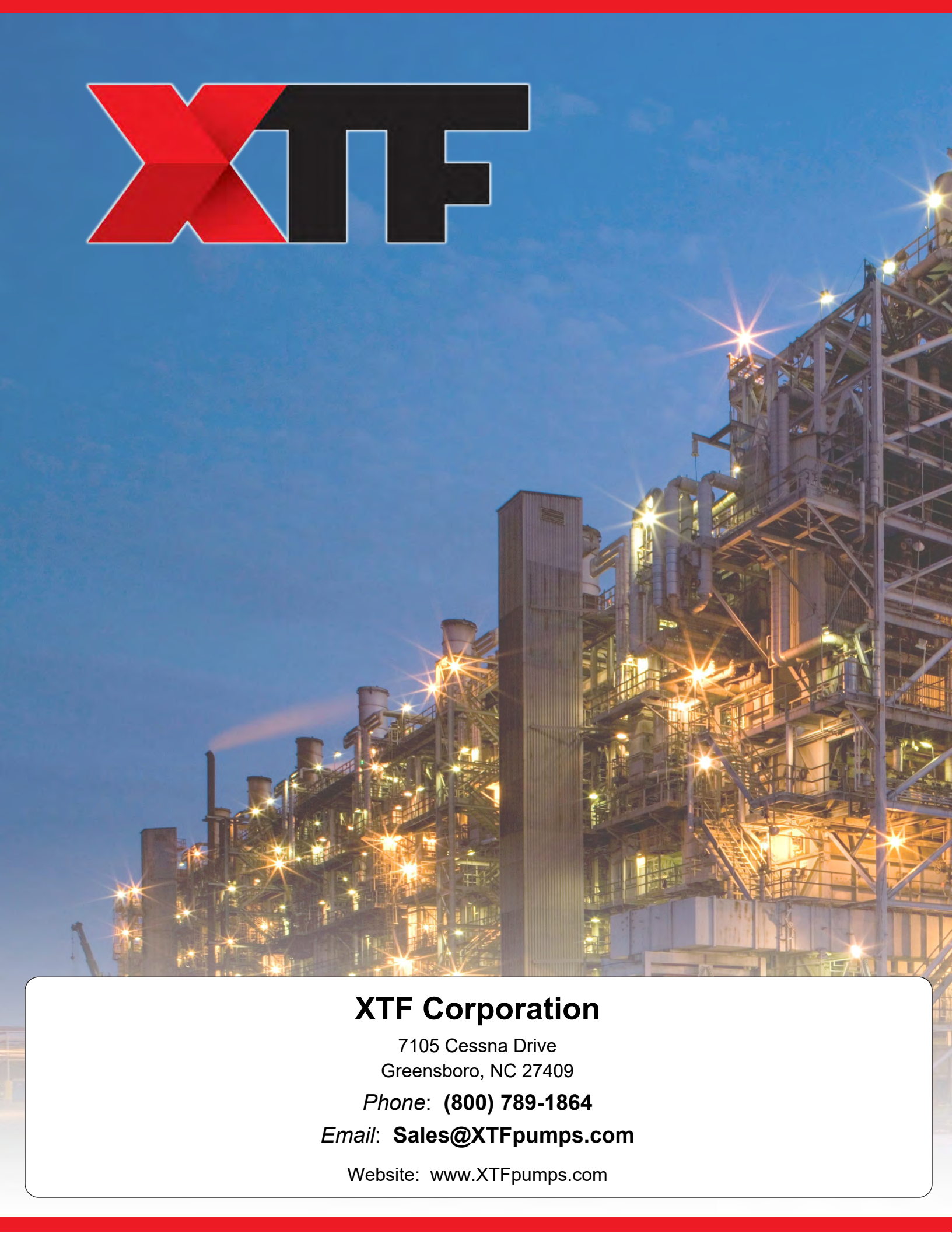
Copper Cyanide
Sodium Cyanide
Chromic Acid

General

Condensate
Deionized Water
Shower Water

Applications of Exotic Alloy Pumps

1. Duplex SS (Grade4A,5A,6A): All Sea Water Applications having a good corrosion and abrasion resistance.
2. Alloy 20: All applications of Sulphuric Acid this metal is a Complete winner having wide presence in fields of Paper and Pulp(Alum Transfer), Paint industry, Speciality Chemicals, Battery manufacturing, Pesticides and Fertilisers.
3. Hastalloy B and C: For all highly corrosive applications where there are mixtures of liquids at elevated temperatures. Major Industry it targets is Agro Chemicals.
4. Monel 400: majorly all Applications of Highly corrosive,erosive and abrasive liquids. It works best with various acids, halogens, other corrosive mixtures. It contains 65% of Nickel for tackling majority of aggressive chemicals.
5. 100% Nickel: for Caustic Transfer Applications at elevated temperatures. Major Industry- Caustic Soda Plants.
6. CD4MCu and Ni- Hard: These materials are used where the liquid is Highly abrasive in nature. With high amount Chrome content the above Properties can be achieved. Major industries would be Mineral Processing for CD4MCu and Ni Hard is widely used for handling Ash Handling Slurries in Blast Furnace Operations of Hot Rolling Mills in Steel Plants.



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