TRUFLO™

QUALITY ○ VALUE ○ SERVICE

A New Vision for Quality Pumps

COMPANY PROFILE

PROCESS PUMPS OVERVIEW

API PUMPS OVERVIEW

A New Vision for Quality Pumps

TRUFLO™

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TRUFLO™
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Truflo Pump is a worldwide process pump manufacturer located in Greensboro, North Carolina. Our operations include four direct production facilities located worldwide as well as many local support facilities. The Truflo Company has been manufacturing pumps for since 1984, and since 1999, manufacturing pumps under the Truflo Trademark brand name as you see world-wide today.

Truflo has developed a wide variety of process pumps for various types of industry including: refineries, petrochemical plants, chemical plants, paper mills, mining, pharmaceutical, steel, textiles, food and beverage, plating, chemical injection, pipelines, boiler feed, power and utility, automotive, and OEMs.

As a company which supplies world standard products, Truflo aspires to be your number one choice for all your Process and API pumps.

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PROCESS PUMPS

Truflo Pump has a full range of pumps for the **Process Industry** including the ANSI process pump (DAP) used in the chemical industry, the metallic magnetic drive pump (MAP) for zero leakage applications, the non-metallic pump (TNP) for corrosive applications, and the DSP for self priming applications.

TRUFLO PROCESS PUMPS

DAP	ANSI Process Pump (B73.1)
DMT	Multi-Stage Turbine Pump
DSP	Self Priming Pump
MAP	Metal Magnetic Drive Pump (ANSI B73.3)
TDX	Non-Metallic Magnetic Drive Pump
TNP	Non-Metallic Magnetic Drive Pump

DAP Series

ANSI Process Pump (B73.1)

The ANSI process pump is designed for the chemical process industry. The chemical industry has very corrosive and erosive service conditions. Therefore, the chemical process industry demands a pump which can endure tough pumping conditions. The **DAP Series** is a good solution for the chemical process industry.

The **DAP Series** of TRUFLO pump is designed for the chemical process industry with ANSI B73.1M specifications. Available in various sizes, this series has broad a range of material selection. Also, this series features parts interchangeability for easy maintenance and parts stock.

FEATURES

- Max. Impeller: 17"
- Max. Capacity: 5,723gpm at 1750 rpm
- Max. Head: 732 ft (223m) at 3500 rpm
- Temperature to 700°F (371°C) with high temperature application option
- Available Material: DCI, WCB, CF8, CF8M, CD4M, CN7M, Hastelloy B&C, Nickel, Titanium, Zirconium
- Fully open impeller investment casting
- Standard labyrinth oil seal
- Back pull-out design for easy maintenance and hydraulic conditions
- Excellent interchangeability
- ISO 9001 certified by LRQA in 1998

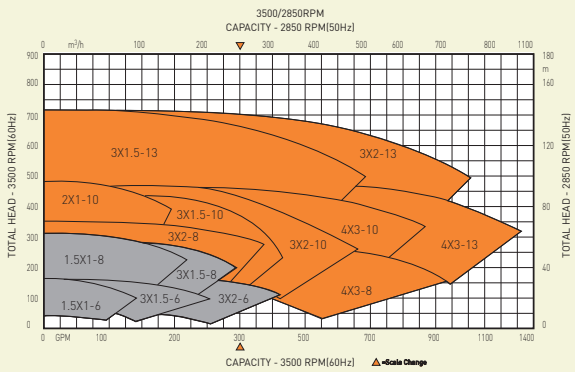
APPLICATIONS

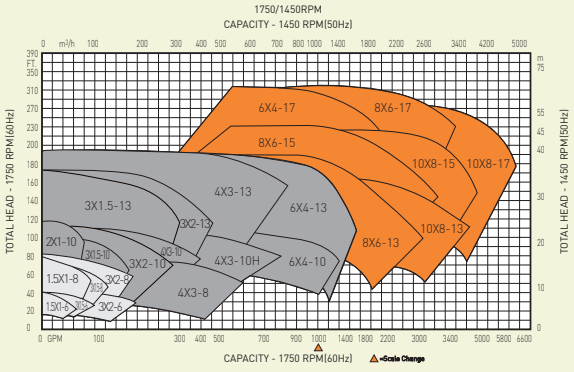
- Chemical process industry
- Textiles industry
- General industry
- Pulp and paper industry
- Steel and mill industry
- Pharmaceutical industry
- Food industry

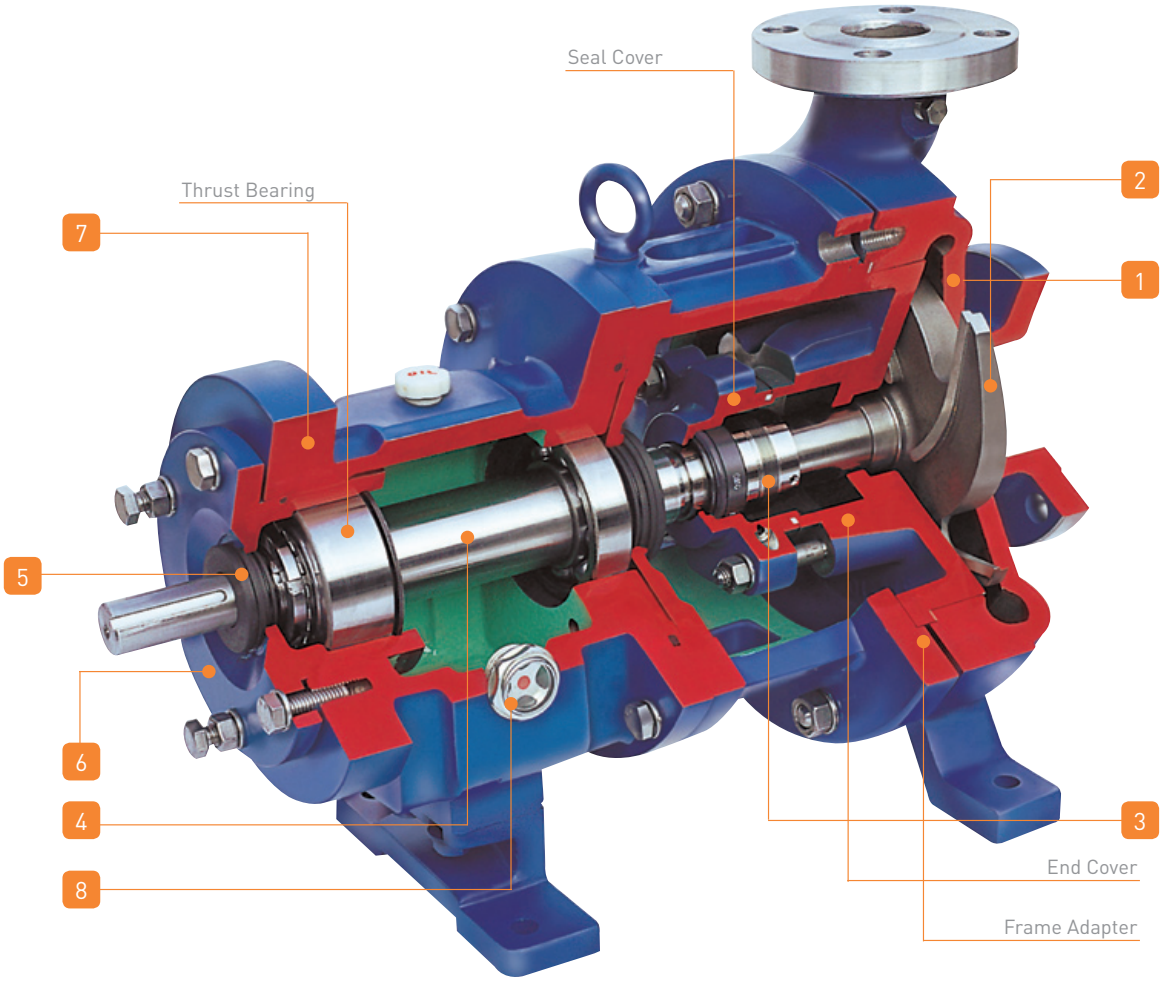
DAP Series

Performance Curves

These diagrams are for reference only and subject to change without prior notice.
Please consult factory for exact performance curves.







1. CASING
Top discharge, self-venting.
Standard 150lb FF flanges.
Back pull-out design.
Optional centerline mounting support.

2. IMPELLER
Standard investment casting open impeller.
Design for chemical process.

3. SHAFT SEALING
Design for various seal arrangement.

4. SHAFT & BEARINGS
Heavy duty shaft design for minimum deflection.

5. OIL SEAL
Standard labyrinth oil seal to protect oil against contamination and extend the bearing & shaft life.

6. BEARING HOUSING
Easy to maintain impeller clearance.

7. BEARING FRAME
Heavy duty design to reduce the loads on shaft.

8. OIL SIGHT GLASS
Standard 1Đ sight glass for easy view.

MAP Series

ANSI Metal Magnetic Drive Pump (B73.3)

The magnetic drive pump is used for no leakage service in industry and is the most economical and efficient pump. This pump was designed for eliminating the leakage problems associated with centrifugal pumps with mechanical seals.

The **MAP Series** was developed to conform to ANSI dimensions. Customers can change ANSI pumps without any correction of piping systems or foundations. Also, the material of the **MAP Series** can be selected from DCI to Hastelloy C in accordance with the liquid property.

FEATURES

- 12 sizes available
- Max. Capacity: 2450gpm at 1800 rpm
- Max. Head: 656ft (200m) at 3500 rpm
- Temperatures to 608°F (320°C)
- Available Material: DCI, WCB, CF8, CF8M, CD4M, CN7M, Hastelloy B&C, Nickel, Titanium, Zirconium
- Perfect construction to protect from the leakage of liquids
- Designed for easy maintenance
- ANSI B73.1M dimension
- Zero leakage, sealess pump

APPLICATIONS

- Volatile organic chemicals
- Liquidized gas
- Explosive liquids
- Irritants
- Seal sensitive services
- Hazardous services

MAP Series

Performance Curves

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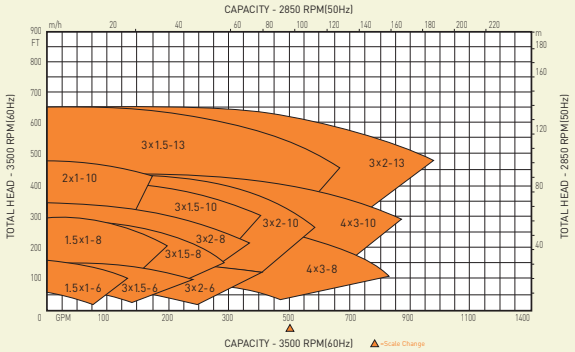

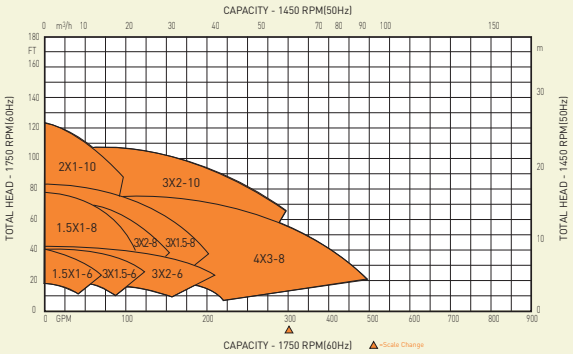

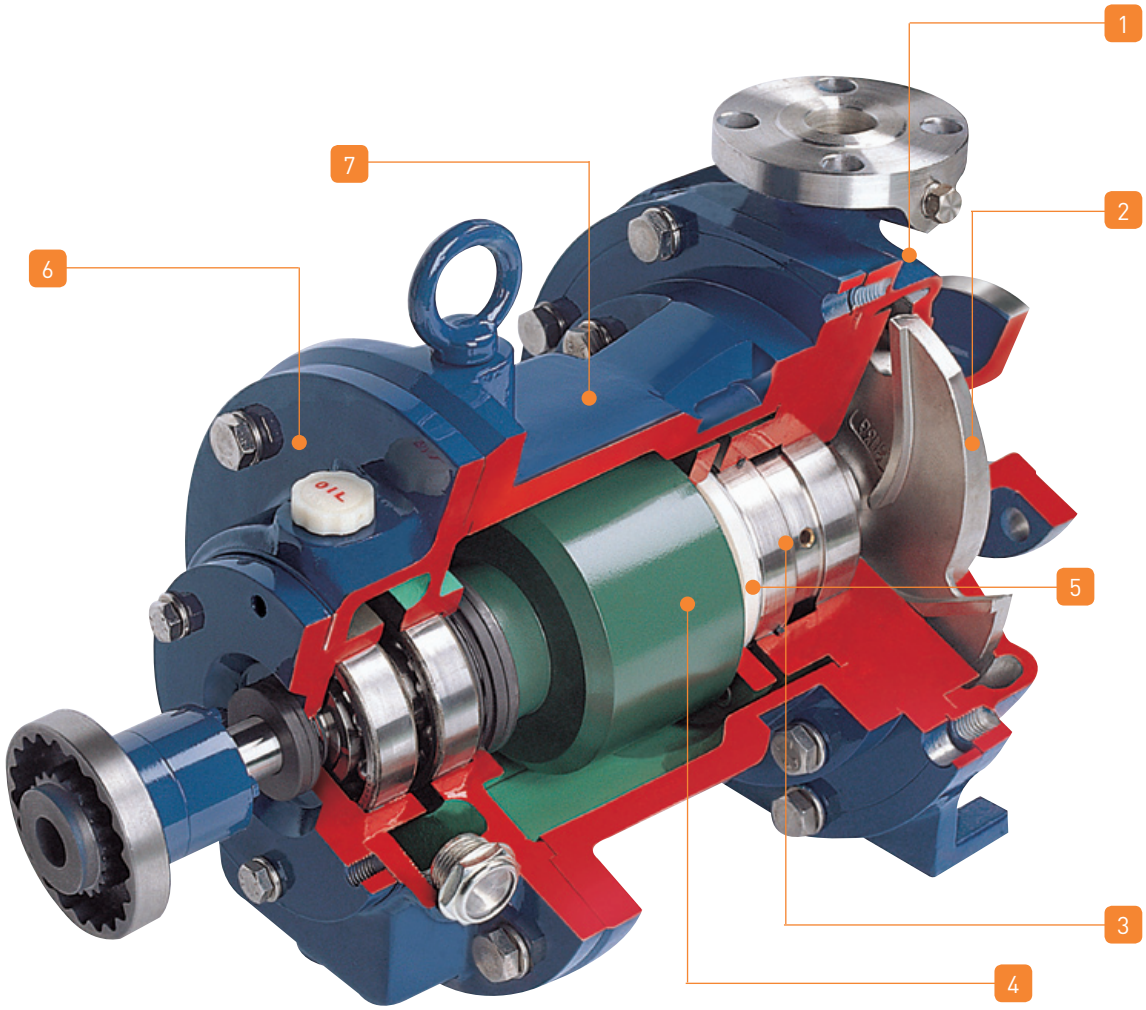

1. CASING

Designed to meet ANSI B73.1 Dimension. (JIS flange dimension available)

Standard 150# FF flanges

Interchangeable with standard ANSI process pump (DAP series)

2. IMPELLER

Investment casting

Designed for process industry

Standard CF8M open impeller

3. INNER MAGNET ASSEMBLY

Standard 316SS shaft.

Shaft has internal flow path for cooling and solids removing.

Uses earth magnet for no slips and synchronous drive.

Standard neodymium magnet and samarium cobalt magnet is available.

4. OUTER MAGNET

Cast body of magnet gives good strength and no breakage.

5. REAR CONTAINMENT

Standard 316SS rear containment.

Other materials are available by request (Contact factory)

PPS: Good resistance for solvent.

Zirconia: Good for erosion and corrosion. No energy loss by eddy current

Hastelloy C-276: Good for corrosion. No energy loss by eddy current

6. BEARING FRAME

Used for B type installation.

Standard labyrinth oil seal to improve shaft and bearing life.

Standard 1Đ sight glass.

7. FRAME ADAPTER

Cast iron is standard material

CF8 and CF8M are avaliable for corrosive environment.

TNP Series

Non-Metallic Magnetic Drive Pump

The Truflo **TNP Series** pumps use a combination of materials which provides the mechanical strength of metal, with the corrosion resistance of a non-metallic lining. All our **TNP Series** designs use a non-rotating shaft that allows for ease of maintenance and improved performance over standard rotating shaft designs. Our rear containment shell, with its dual laminate of a fluoropolymer, is then reinforced with a vinyl ester composite for high burst pressure resistance. Our unique, no-weld impeller design has eliminated the weld associated with other designs and thus allows for a more chemical impervious barrier. Our outer magnet assemblies are designed for protection against corrosive environments.

FEATURES

- Flowrates to 700gpm
- TDH up to 330ft
- Temperature ranges from -120º F (-85º C) to 250º F (121º C)
- Impeller diameters range from 5″-8″
- Sealless magnetic design
- Rare earth magnets allow for superior no-slip performance
- ETFE or PFA parts handle a wide range of corrosive fluids and solvents up to 250º F

APPLICATIONS

- Acids
- Caustics
- Solvents
- Zero Emission Chemicals

TNP Series

Performance Curves

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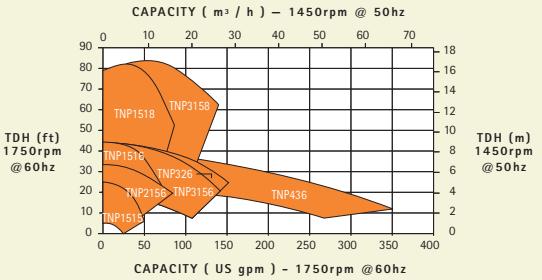
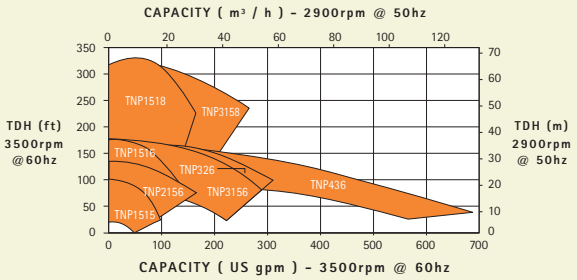
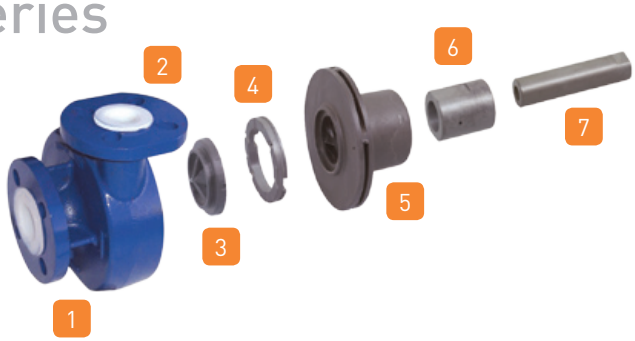




TNP^{s} Series



TNP^{m} Series

1. DRAIN
Our casing drain is a standard feature that allows for easy and safe removal of chemicals in the casing if required.

2. CASING
The top discharge ANSI configuration allows for maximum pump interchangeability. Our unique Roto-Molding process delivers equal delivery of liner material throughout casing for improved corrosion resistance and longer life. Available in ETFE. For PFA, please contact factory.

3. SHAFT SUPPORT
One piece construction that is easily removed without the use of special tools.

4. MOUTH RING
Easily removable for quick field replacement. The unique design allows for handling of a variety of chemicals and specific heat parameters. Available in SiC.

5. IMPELLER/INNER MAGNET
Our unique CFR/ETFE injection molding process allows us to ensure high quality, stronger, and more chemically resistant impellers. Our process has eliminated welding that can contribute to premature impeller failure. GFR/PFA is also available.

6. MAIN BUSHING
Our large, one piece, high performance bushing is grooved to allow for field and particle flow through the pump.

7. SHAFT
This non-rotating design allows for ease of installation and maintenance. This shaft is oversized to handle a variety of pump requirements.

8. O-RING
Available in either viton or Teflon encapsulated.

9. REAR CONTAINMENT SHELL
Our shell is an injection molded flouropolymer with a composite encapsulation. This design offers some of the industries strongest containment shell burst pressure resistance.

10. REAR CASING SUPPORT

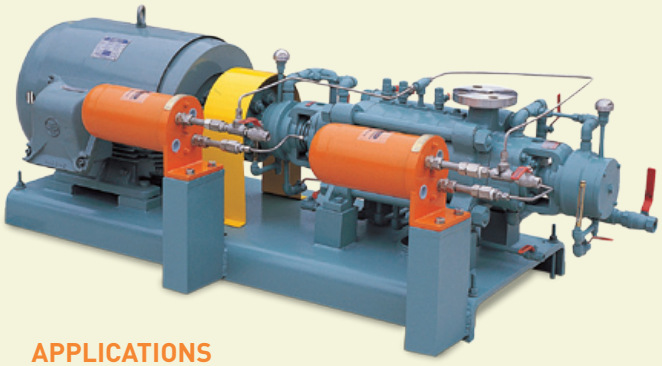
11. OUTER MAGNET
Possible to run the pump at rated torque throughout the temperature range without having to use special motors or starters. Our magnets are fully encapsulated for superior protection from corrosion.

12. BRACKET
Designed to mate with several motor sizes.

CFR - Carbon Fiber Reinforced
ETFE - Ethylene-Tetra-Flouro-Ethlene fluoropolymer
GFR - Glass fi ber reinforced
PFA - Perfluoroalkoxy Fluoropolymer

DMT Series

Multi-Stage Turbine Pump



FEATURES

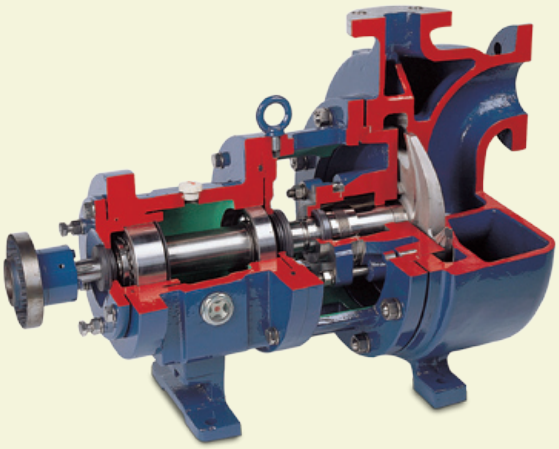
- 4 sizes available
- Max. Capacity : 484.3gpm (110m3/hr)
- Max. Head : 1,247ft (380m)
- Temperature to 700°F (371°C) with high temperature application option
- Available Material: DCI, WCB, CF8, CF8M, CD4M, CN7M, Hastelloy B&C, Nickel, Titanium, Zirconium
- Designed for high pressure service
- Investment casting impeller and guide vane for high performance

APPLICATIONS

- Boiler feed service
- High pressure service

DSP Series

Self-Priming Pump



FEATURES

- 15 sizes available
- Max. Capacity : 1,233gpm (280m3/hr)
- Max. Head : 427ft (130m) at 3500rpm
- Max. Suction lift : 20ft (6m)
- Temperature to 700°F (371°C) with high temperature application option.
- Available Material: DCI, WCB, CF8, CF8M, CD4M, CN7M, Hastelloy B&C, Nickel, Titanium, Zirconium
- Interchangeable with DAP series except casing
- Same features with DAP series

APPLICATIONS

- Sump service
- Wastewater pond service with portable design
- Rail car unloading
- Unloading service

TDX Series

Non-Metallic Magnetic Drive Pump

FEATURES

- All plastic construction
- Ceramic shafts
- Close Coupled design
- Inexpensive option for Chemical applications

APPLICATIONS

- Etching
- Washing
- Spraying
- Filtering
- Scrubber

API PUMPS

Truflo Pumps offers a complete range of API pumps. Our product family is typically current edition designs. We pride ourselves in high quality production of either a bare pump or a complex skid assembly. Also, our deliveries are extremely quick and our packages are all produced to meet or exceed your expectations.

TRUFLO API PUMPS

DSV	Double Suction Slit Case Pump
RSMP	Ring Section Multistage Pump
TDP	Top Suction, Top Discharge, Double Suction Pump
TDSP	Top Suction, Top Discharge, Double Suction Two Stage Pump
TLP	Vertical Inline Single Stage API Pump, Disc Coupled
TMP	Magnetic Drive API 685 Process Pump
TSP	API 610 10th Edition Process Pump
TSMP	API Process Pump
TSTP	Single or Two Stage Top Suction Top Discharge Pumps
TVCP	Single or Multi Stage Vertical Can Pump

TMP Series

Magnetic Drive
API 685 Process Pump

In recent years, environmental regulations have become more restrictive and severe. Therefore process industries have had to take necessary steps to eliminate leakage from equipment. Magnetic drive pumps have provided significant progress toward compliance with these regulations.

The TRUFLO **TMP Series** of Magnetic Drive pumps provide a zero leakage solution. Additionally, **TMP Series** pumps are very easy to maintain, containing very few parts. The comparative cost is low versus mechanically sealed and controlled pumps.

All **TMP Series** pumps are designed to meet API 685 1st edition standards. This series has a broad range of available sizes and materials. Also, the **TMP Series** has excellent interchangeability and features for easy maintenance.

FEATURES

- Designed to meet API 685 1st ed.
- Temperatures up to 572° F (300° C)
- Power up to 300hp x 3600rpm
- Fully enclosed impeller by investment casting
- Standard Sm2 Co17 magnet
- Easy Maintenance

APPLICATIONS

- Hard to seal fluids
- Zero emission requirements
- Hazardous fluids
- Retrofits of sealed pumps

TMP Series

Performance Curves

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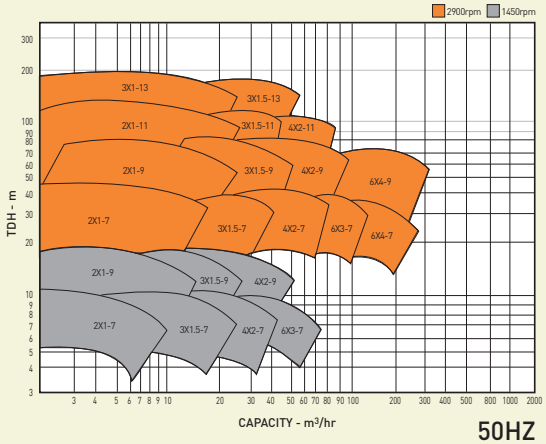
Please consult factory for exact performance curves.



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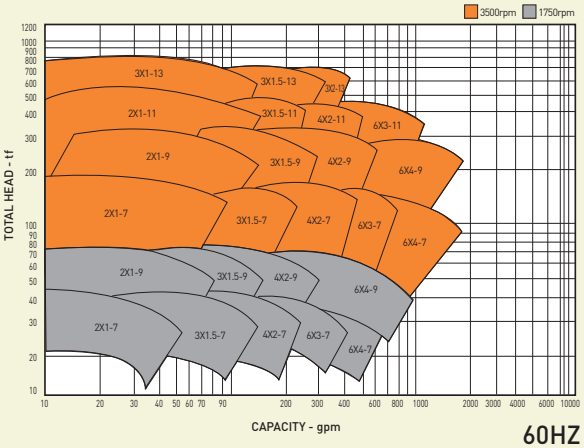

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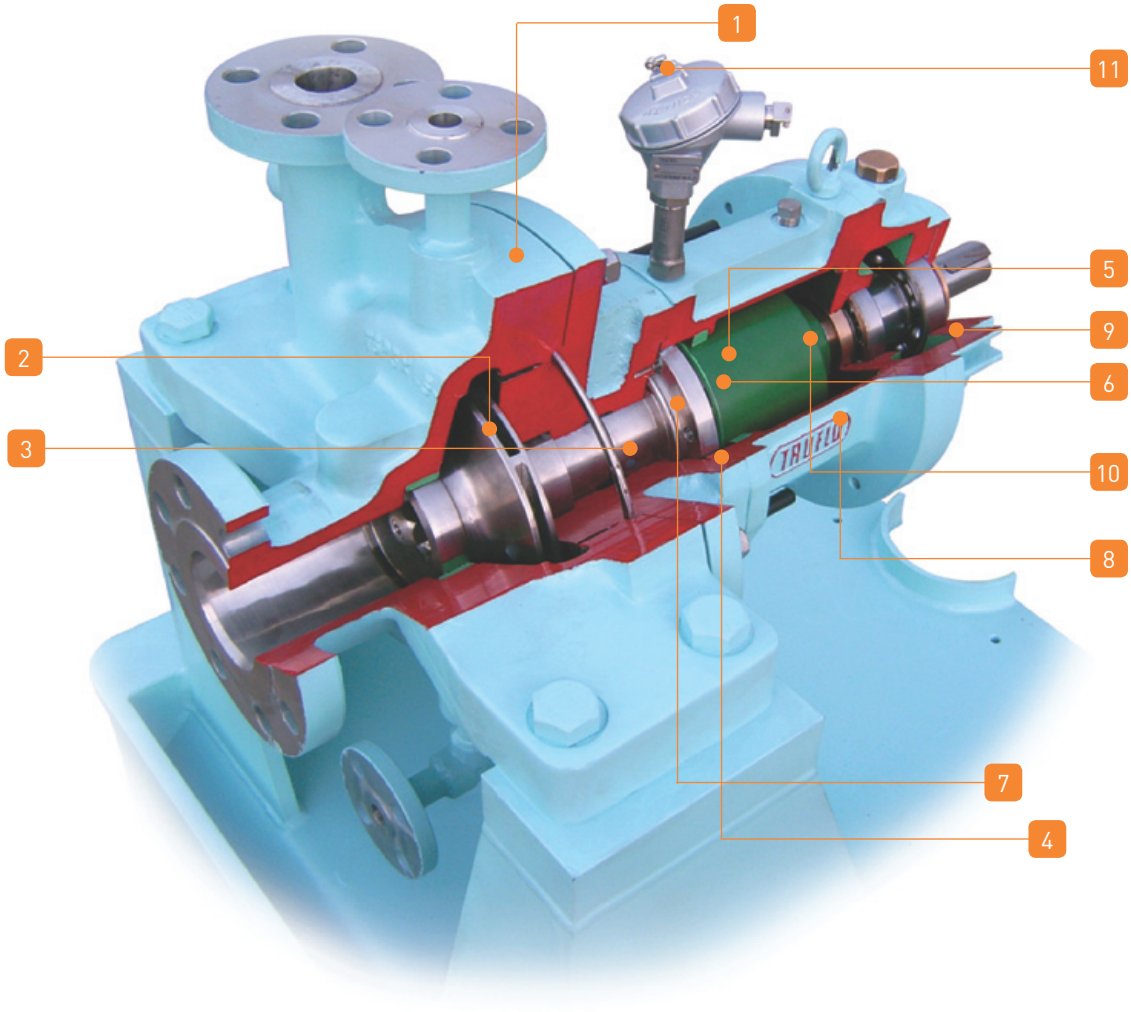

1. CASING
Standard 300lb RF flanges.
Tangential discharge.

2. IMPELLER
Fully enclosed type.
Investment casting.

3. JOURNAL BEARING
Standard material - Silicone carbide.

4. REAR CONTAINMENT SHELL
Wide choice of material depend on application.

5. INNER MAGNET ASSEMBLY

6. OUTER MAGNET ASSEMBLY
Strong rare earth magnet(Sm2Co17).
Maximum operating temperature: 572°F (300°C).

7. SAFETY DEVICE
Protect rear containment shell damage by outer magnet in case of bearing failure.

8. SECONDARY CASING
Secured liquid in case of primary casing failure.

9. BEARING FRAME

10. OIL SEAL
Special designed labyrinth type oil seal.

11. TEMPERATURE DETECTOR
Monitoring rear containment shell temperature.
Other protective sensor like leakage sensor are available.

TSMP Series

API 610 10th Edition

BB3 Axially Split Multi-Stage Pumps

The Truflo **TSMP Series** is an advanced, re-designed multistage pump that has a proven operating history, a worldwide installed base, and is being used in many growing, changing, complex markets. The **TSMP Series** is an axially split BB3 pump with enhanced features that makes it an extremely reliable, high performance pump.

The **TSMP Series** features a bigger shaft for less shaft deflection, larger sealing chamber to fit a wide range of single, double, and tandem cartridge mechanical seals, and dynamically balanced impellers. With a complete line of pumps the **TSMP Series** ranges from sizes of 3x2-7 up to 10x8-13 and most are available from 2 stage up to 16 stages. We also manufacture in a wide of variety materials per API guidelines.

FEATURES

- Available in sizes from 3x2-7 up to 10x8-13
- Flows to 3000gpm
- Heads to 2500psi
- API 610 10th Edition compliant
- 360° bearing housing available
- Investment cast impellers
- Investment cast diffusers
- Future design for low NPSH double suction 1st stage impeller

APPLICATIONS

- Oil and gas production
- Refineries
- Pipelines
- Power generation
- Mining
- High pressure systems

TSMP Series

Performance Curves

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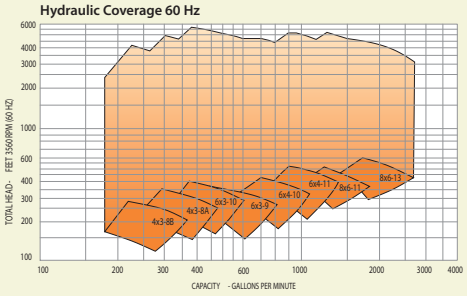
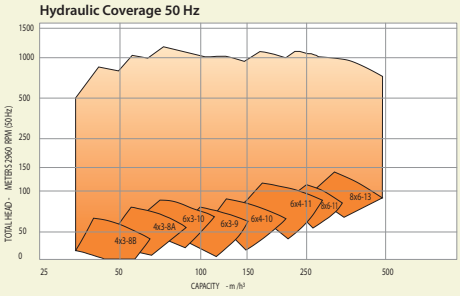
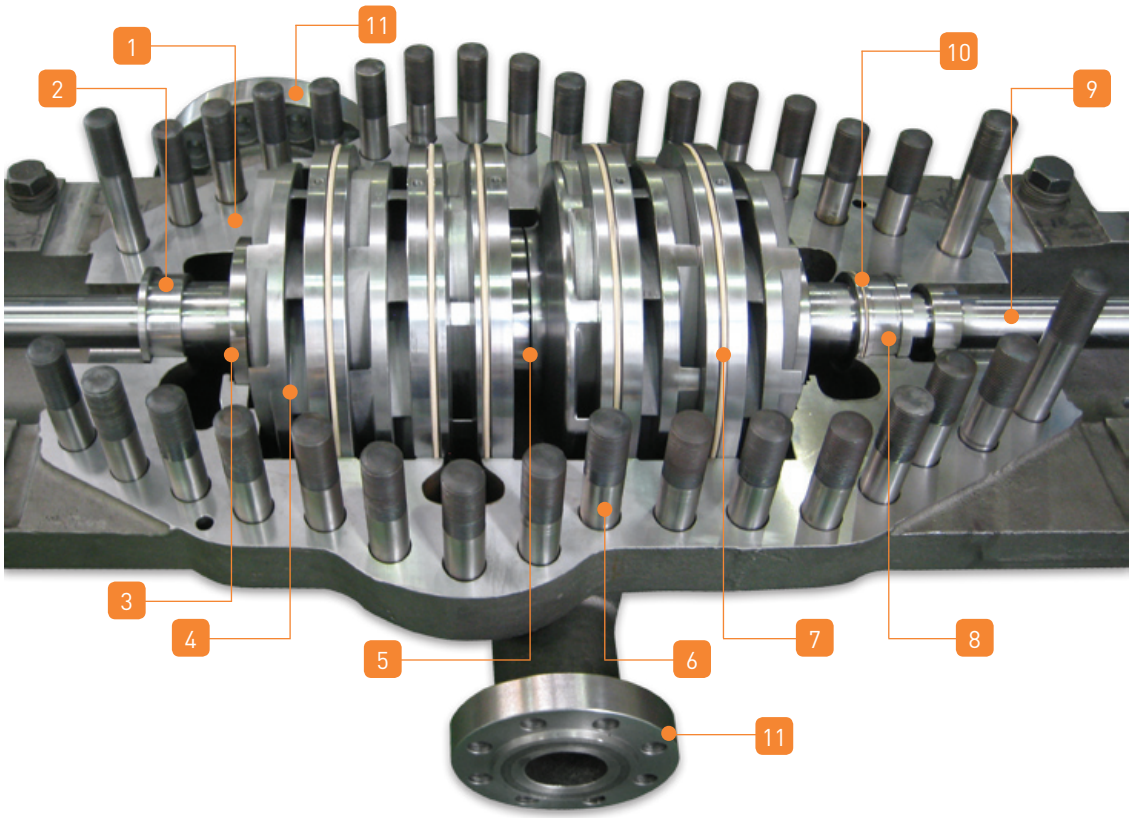
Hydraulic Coverage 60 Hz



Hydraulic Coverage 50 Hz





1. CASING
Available in all materials listed in API 610 10 edition. Designed to eliminate thermal stresses and distortion under high temperature and pressure applications.

2. THROAT BUSHING
Designed to reduce stuffing box pressure and extend mechanical seal life.

3. IMPELLER WEAR RING
Design to help maintain the efficiency of the pump.

4. 1ST STAGE IMPELLER WITH DIFFUSER
Investment casted impeller in one piece with excellent hydraulic performance and dynamically balanced for smooth trouble free running. Diffuser is designed to reduce the internal hydraulic losses.

5. DIAPHRAGM
Located between the opposed impellers that provides axial hydraulic balance and available in different materials.

6. STUD BOLT
Made of standard high tensile stud bolt material.

7. DIFUSSER O-RING
O-rings come in several different materials to ensure proper sealing between the individual diffusers.

8. SLEEVE NUT
Made of different material per API standards and holds rotating assembly within tolerances per API standards.

9. SHAFT
Designed to reduce deflection for longer bearing, mechanical seal, and wear ring life.

10. SLEEVE NUT O-RING
Available in different materials for proper sealing.

12. FLANGES
Suction and discharge flanges are ANSI B16.5 class 600 RF standard; other classes available.

TSP Series

API 610 10th Edition

Process Pumps

The **Truflo TSP Series** pump is the new standard for worldwide process needs. From the petroleum to the power and mining industries, all customers will come to see why the **TSP Series** overhung pump adds value, reliability and safety at user facilities. A wide range of applications and options, including inducers for low NPSHa systems, show why the **TSP Series** is an industry leader. The **Truflo TSP Series** also comes standard with many options not available from other industry leaders, including all investment casted enclosed impellers. Available in 33 sizes and casing configurations, all material combinations and better than industry standard deliveries, let the **Truflo TSP Series** be your answer to you next pumping question.

FEATURES

- API 610 10th Edition compliant
- 33 sizes available
- Maximum capacity: 8365 gpm
- Enclosed impeller (investment casting)
- Excellent interchangeability
- 1200 maximum allowable working pressure
- Standard double volute on greater than 3" suction

APPLICATIONS

- Oil and gas production
- Refining and pipeline
- Power generation
- Mining

TSP Series

Performance Curves

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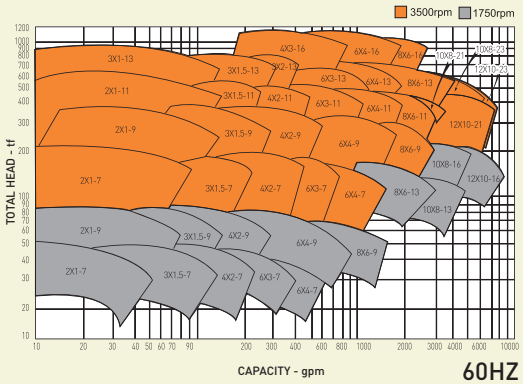

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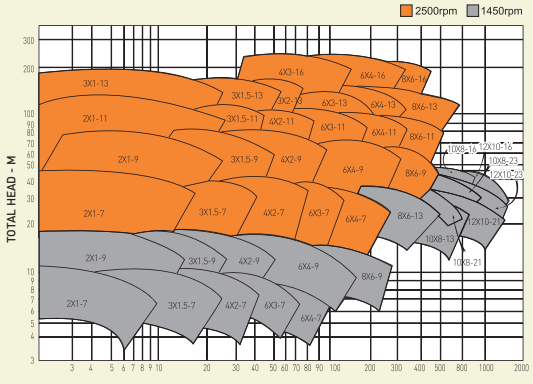

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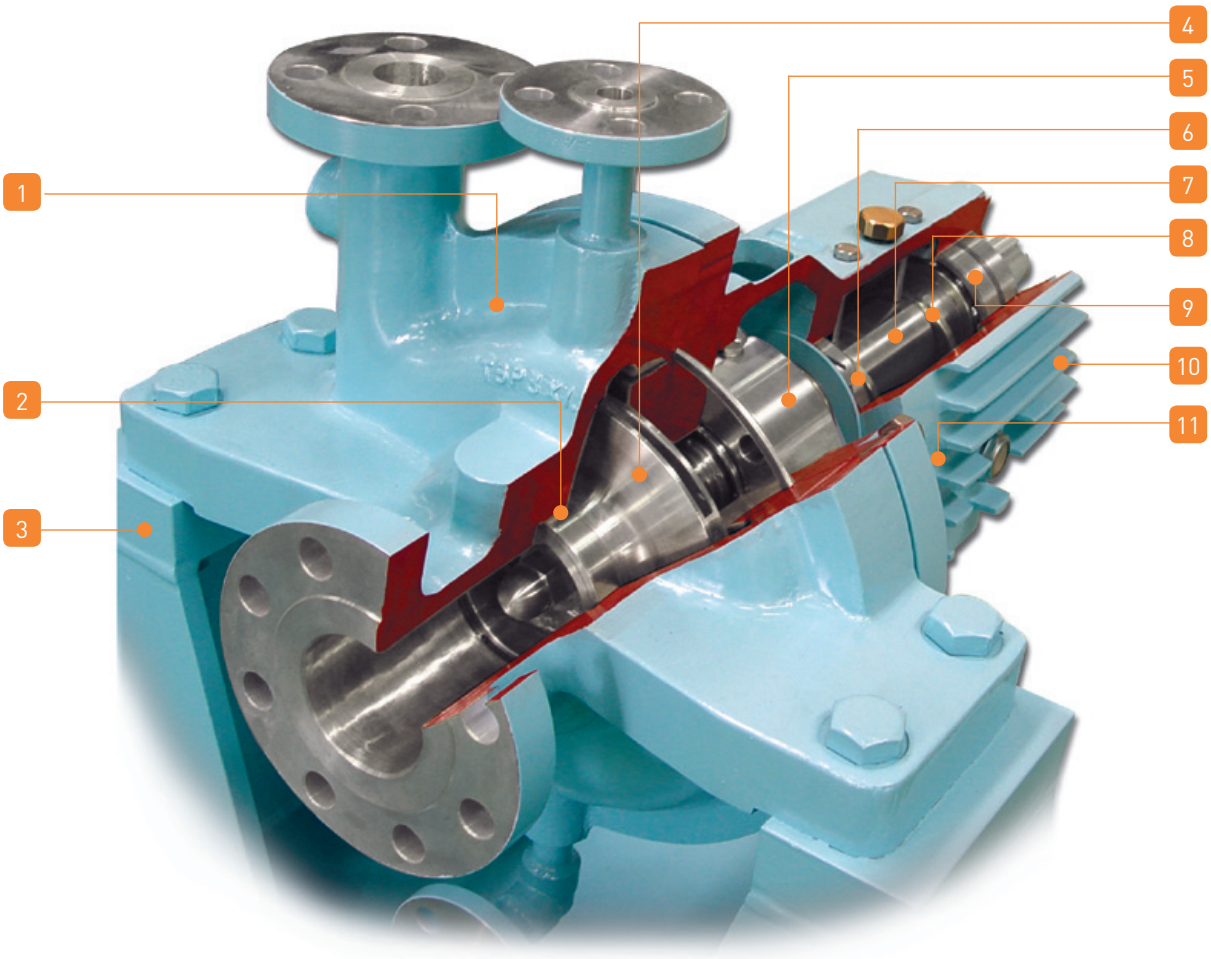


1. CASING
- Designed to meet API 610 10th edition.
- Standard 300# RF flanges.
- Tangential discharge for hydraulic efficiency.
- Standard dual volute design for 3 inch discharge or larger.

2. RENEWABLE WEAR RINGS

3. CASING & CENTERLINE MOUNT SUPPORT
- Designed to meet API nozzle load criteria.

4. IMPELLER
- Standard enclosed impeller for high efficiency.
- Investment casting for better efficiency and low NPSH characteristic.
- Balance grade: ISO G1.0.

5. SEAL CHAMBER
- Designed to meet API 610 & API 682 standards.

6. DEFLECTOR & LABYRINTH OIL SEAL
- Standard deflector & labyrinth oil seal applied with non-sparking material.

7. SHAFT
- Heavy duty shaft design guarantees minimum shaft deflection and maximum bearing and mechanical seal life.

8. OIL RING
- Standard oil ring provides better bearing lubricating condition.
- Other configurations available.

9. BEARING
- Duplex angular contact thrust bearings and deep-groove radial vbearings to meet API 610 requirements.

10. FINNED FRAME
- Standard cast finned frame provides natural air cooling.
- Optional cooling fan improves the cooling condition.

11. BEARING FRAME
- Rigid design provides better vibration characteristics.
- 3 bearing frames cover all TSP models.
- Metal to metal fits provide runouts and concentricities well within API 610 limits.

DSV Series

Double Suction Pump

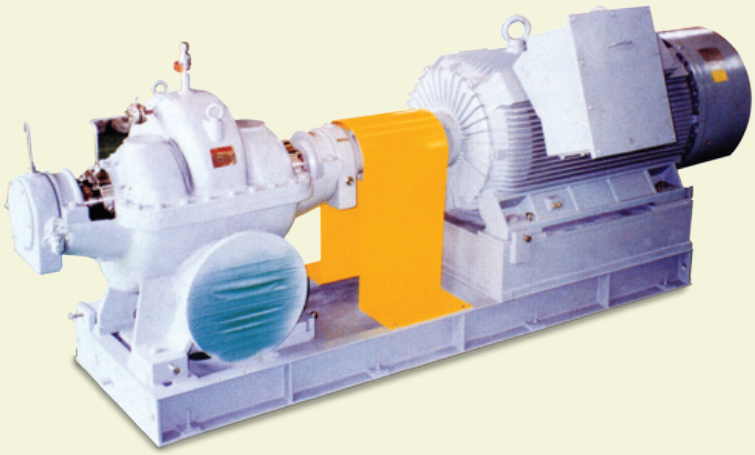
API 610 10th Edition - BB1 Construction

FEATURES

- Horizontal split casing for easy maintenance
- Replaceable wear rings to protect impeller and casing
- Wide range of mechanical seal arrangements

APPLICATIONS

- Cooling tower
- Quenching and leaching process
- Raw water
- Service water for power plant



RSMP Series

Ring Section Multi-Stage Pump

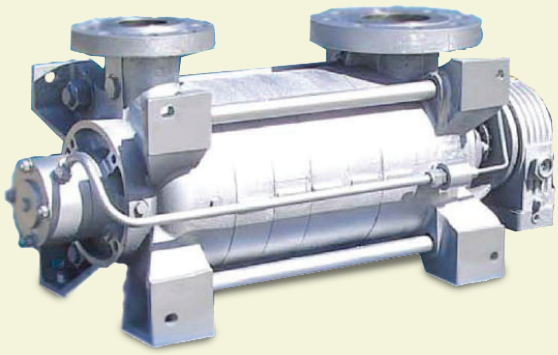
API 610 10th Edition - BB4 Construction

FEATURES

- API Compliant Materials
- Max. Capacity - 2,200 gpm
- Max. Head Rating - 7,870 ft
- Max. Temperature - 350˚ F
- Investment Cast Impellers and Stages

APPLICATIONS

- Boiler Feed
- Booster
- Injection
- High Pressure Service



TDP Series

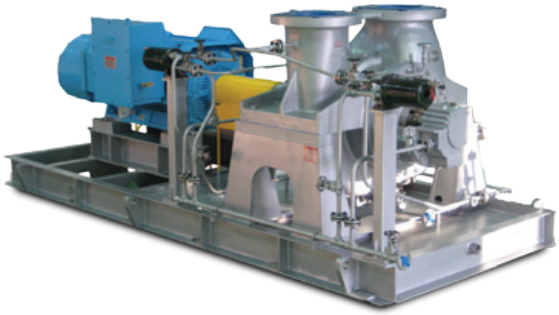
Top Suction, Top Discharge Double Suction Pump
API 610 10th Edition - BB2 Construction

FEATURES

- 360° Bearing Housing Available
- API Compliant Materials
- Max. Capacity - 17,600 gpm
- Max. Head Rating - 1,312 ft
- Max. Temperature - 750° F

APPLICATIONS

- Charge Pumps
- Feed Pumps
- Booster Pumps
- Refining Process



TDSP Series

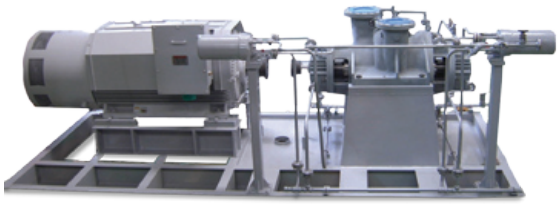
Top Suction, Top Discharge Double Suction Two-Stage Pump
API 610 10th Edition - BB2 Construction

FEATURES

- 360° Bearing Housing Available
- API Compliant Materials
- Max. Capacity - 10,500 gpm
- Max. Head Rating - 1,300 ft
- Max. Temperature - 750° F

APPLICATIONS

- Charge Pumps
- Feed Pumps
- Booster Pumps
- Refining Process



TLP Series

Vertical Inline Single Stage API Pump Disc Coupled
API 610 10th Edition - OH3 Construction

FEATURES

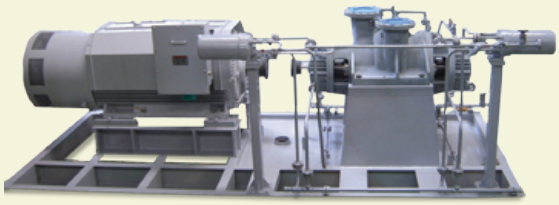
- Space Saving Design
- API Compliant Materials
- Max. Capacity - 7,000 gpm
- Max. Head Rating - 650 ft
- Max. Temperature - 575° F

APPLICATIONS

- Condensate
- Caustic
- Reflux
- Stripper Feed

TSTP Series

2 Stage, Single Suction First Stage, Top Suction Top Discharge Pump
API 610 10th Edition - BB2 Construction



FEATURES

- 360° Bearing Housing Available
- API Compliant Materials
- Max. Capacity - 10,500 gpm
- Max. Head Rating - 1,300 ft
- Max. Temperature - 750° F

APPLICATIONS

- Charge Pumps
- Feed Pumps
- Booster Pumps
- Refining Process

TVCP Series

Single or Multi Stage Vertical Can Pump
API 610 10th Edition - VS6 Construction

FEATURES

- API Compliant Materials
- Max. Capacity - 7,900 gpm
- Max. Head Rating - 3,930 ft
- Max. Temperature - 750° F

APPLICATIONS

- Pipeline Booster
- Condensate
- LNG Transfer
- Boiler Feed
- Loading/Unloading

RDMP Series

Ring Section Multistage Pumps
API 610 10th Edition - BB4 Construction

FEATURES

- Special Low NPSH Double Suction 1st Stage Impeller
- API Compliant Materials
- Max. Capacity - 2,200 gpm
- Max. Head Rating - 7,870 ft
- Max. Temperature - 350° F
- Investment Cast Impellers and Stages

APPLICATIONS

- Boiler Feed
- Booster
- Injection
- High Pressure Service

TRUFLO™

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