SULZER

Sulzer Pumps

JTS Standard Vertical Turbine Pumps

The Heart of Your Process

Sulzer Pumps

Sulzer Pumps is a world leader in reliable products and innovative pumping solutions. Our advanced research and development, detailed process and application knowledge together with a comprehensive understanding of market demands keeps us consistently at the leading edge of technical development. Our global network of modern manufacturing and packaging facilities together with sales offices, service centers and representatives located close to major markets provide fast responses to customer needs.

Sulzer Pumps Houston manufacturing site

Sulzer Pumps has a long history of providing innovative pumping solutions to business partners in the following industries:

- Oil and Gas
- Hydrocarbon Processing
- Pulp and Paper
- Power Generation
- General Industry
- Chemical Process Industry
- Water

Application Knowledge for Better Efficiency

The vertical turbine pump is ideal for agricultural pumping, municipal and plant water supply, drainage, flood control, pipeline pumping, power plant service, petrochemical applications, high pressure pumping and other industrial uses of all types.

Vertical turbine pumps are typically used wherever a liquid needs to be pumped upward from ground water tables (deep well pumps), manmade underground storage (caverns) or open bodies of liquid such as oceans, rivers, lakes, cooling ponds, tanks and sumps. Vertical turbine pumps are also used in inline applications such as pipelines, booster and low-NPSH systems.

Advantages of JTS

- Minimum use of floor space
- The NPSH available can be the lowest level to satisfy the NPSH requirements of the pump.
- No priming required, the pump bowl assembly is submerged in the fluid being pumped.
- The vertical turbine is highly versatile and adaptable in terms of both location and pump length.

Extensive Product Range

The JTS bowls are made in cast iron. They are threaded for 180 mm and 200 mm (7” and 8”) sizes and flanged for 230 mm (9”) and larger. The hydraulic profiles are designed using CFD technology which ensures high efficiency and reliable operation. The bowl interiors are coated with either a glass or porcelain based enamel depending on size. The JTS impellers are offered with two grades of stainless steel for either abrasive or corrosive applications. Dual replaceable nickel aluminium bronze/ aluminium bronze wear rings are standard on all JTS bowls and impellers. Integral impeller rings are optional on some models with replaceable wear rings in the bowl. All bowls are machined, as a standard, with an o-ring groove that is utilized for higher pressure applications. Special interfaces are designed to accommodate both US customary and metric column assemblies and line shafts. A low NPSH inducer stage is available on request for the 510 mm (20”) bowl sizes as required by application. The standard cast iron discharge head is available in six sizes up to 355 mm (14”). Discharge heads of 410 mm (16”) and larger will be fabricated. Each standardized discharge head utilizes a stuffing box that is designed to accommodate both gland packing and various mechanical seals.

Optional features available for JTS pumps include stainless steel impeller (410 or 316), enclosed line shaft, fabricated discharge head, flanged column assemblies, cast iron sole plates, and basket strainers. Thrust bearings are available as a pre-configured option to fit each discharge head in accordance to pump thrust and motor thrust capabilities.

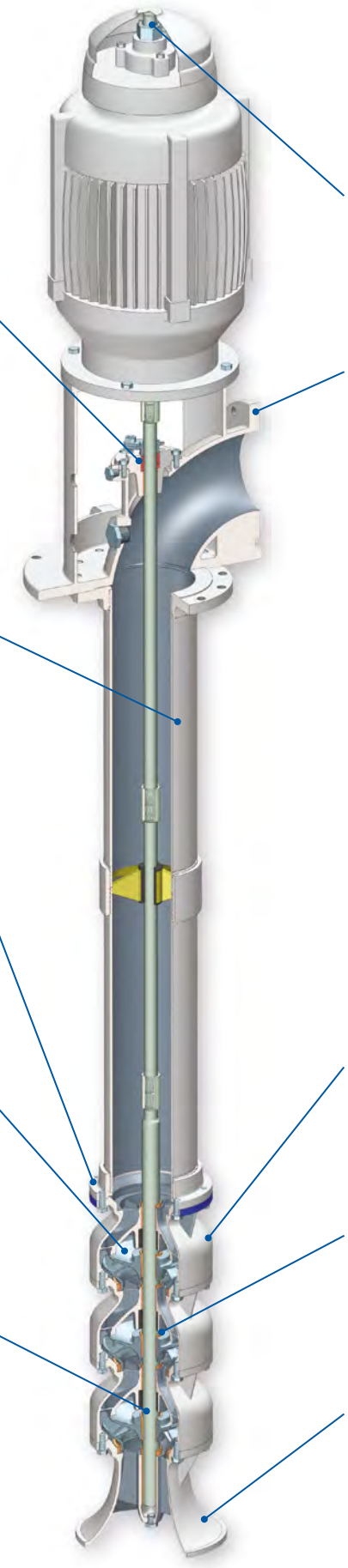
JTS assembly at Sulzer Pumps Houston

Engineered for Application Flexibility

The JTS vertical turbine pump integrates the tradition of providing our highly engineered, reliable pump product with the standardization of materials and configurations. By standardization of materials and configurations we are able to provide a more valuable product with shorter lead times that meet market demands. This family of pumps is specifically designed for higher differential head water applications.

Components	Material
Bowls	Cast iron, ASTM A48 CL.30A
Impellers	Chrome steel, ASTM A743 CA-6NM; stainless steel A734 CF-8M
Impeller wear rings	Aluminum bronze, ASTM B148 alloy C95400
Stationary wear rings	Nickel aluminum bronze, ASTM B148 alloy C95500
Suction bell	Cast iron, ASTM A48 CL.30A
Bearing bushings	Bronze, ASTM B584 alloy C93200; rubber, C425-65 (oil resistant)
Discharge head	Cast iron, ASTM A48 CL.40A, fabricated steel, ASTM A36 and A53
Shafts	Chrome steel, ASTM A276 416SS Cond. A
Sole plates	Cast iron, ASTM A48 CL.40A

JTS Design Features and Benefits



Shaft Seal
A packed stuffing box is provided for reliable sealing and simple maintenance. Optional cartridge type mechanical seal available.

Column Assembly
Column pipes are threaded up to 300 mm / 12”. 355 mm and 410 mm (14” and 16”) columns are flanged. Line shafts are connected by threaded couplings. Bearing retainers and line shaft bearings are replaceable.

Column Adapter
The adapter provides true connectivity of the column pipe to the bowls to suit various threaded column sizes.

Impellers
Impellers are closed, made of stainless steel for versatility, supplied with a replaceable wear ring as standard. Collet construction (460 mm / 18” pumps) or key and split ring (510 mm / 20” pumps).

Pump Shaft
The pump shaft design is modular or “size driven” by the number of stages. Shafts are sized individually for each installation. The pump shaft is precision machined and sized for application thrust and torque. The shaft is provided with a turndown to match line shaft diameter as necessary.

Upper Head Shaft
Provided for ease of installation and adjustable pump setting with vertical hollow shaft motor.

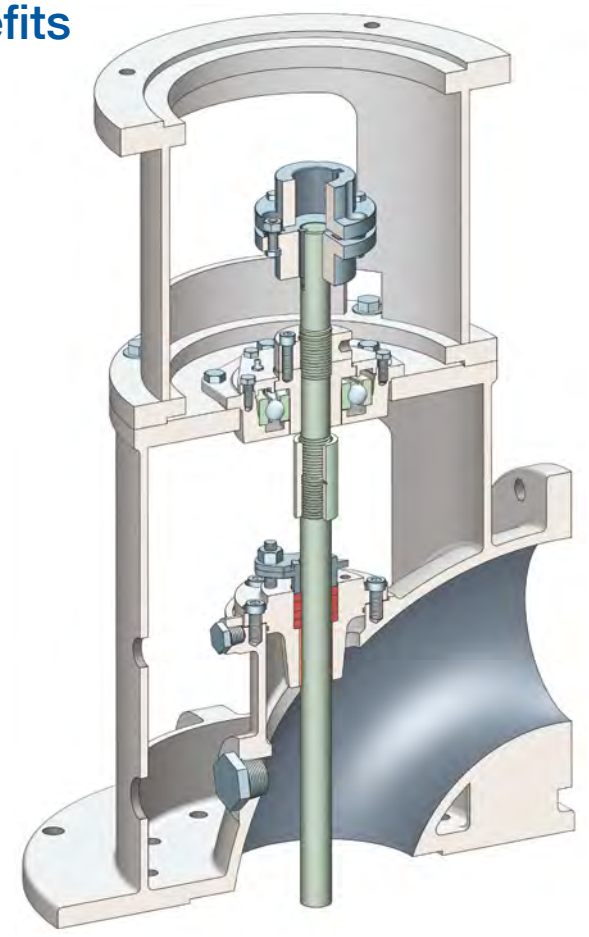
Discharge Head
The discharge head provides an above ground connection to the customer’s pipe work. The integral driver stand allows easy access to removable packing/seal box and coupling.

Bowls
Cast iron bowl interiors are coated as a standard to reduce friction and increase efficiency. Bowls are supplied with a replaceable wear ring.

Bowl Bearings
Bowls are fitted with a single bronze bearing or dual bronze and rubber bearings.

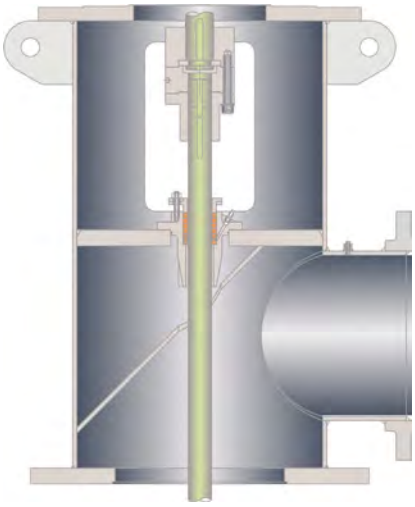
Suction Bell
All suction bell sizes include anti-vortex ribs and a tail bearing bushing. Bells are supplied with a replaceable wear ring. These combined features make the pump flush more efficient.

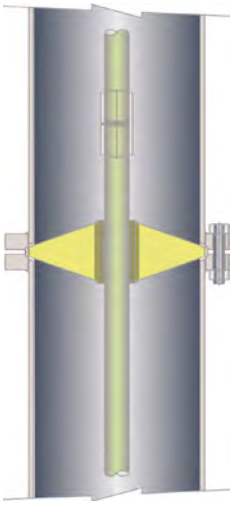
JTS Optional Features and Benefits



Thrust Bearing and Flexible Coupling
The thrust bearing assemblies are available on pumps for motors with limited thrust carrying capabilities. As a minimum they are designed for an L10 bearing life of 16,000 hours.

Driver Stand
Optional feature required with the thrust bearing and some vertical solid shaft/ drive coupling combinations.





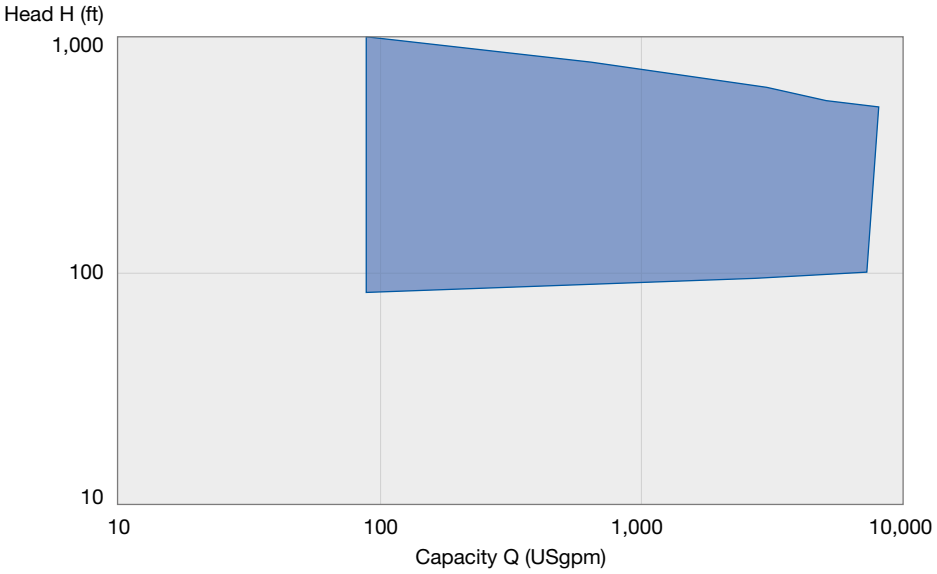
Fabricated Discharge Head
Fabricated discharge heads are available for all sizes with flange ratings of 150# or 300#.

Sole plate
Cast iron sole plates are available in pre-determined sizes to fit each discharge head.

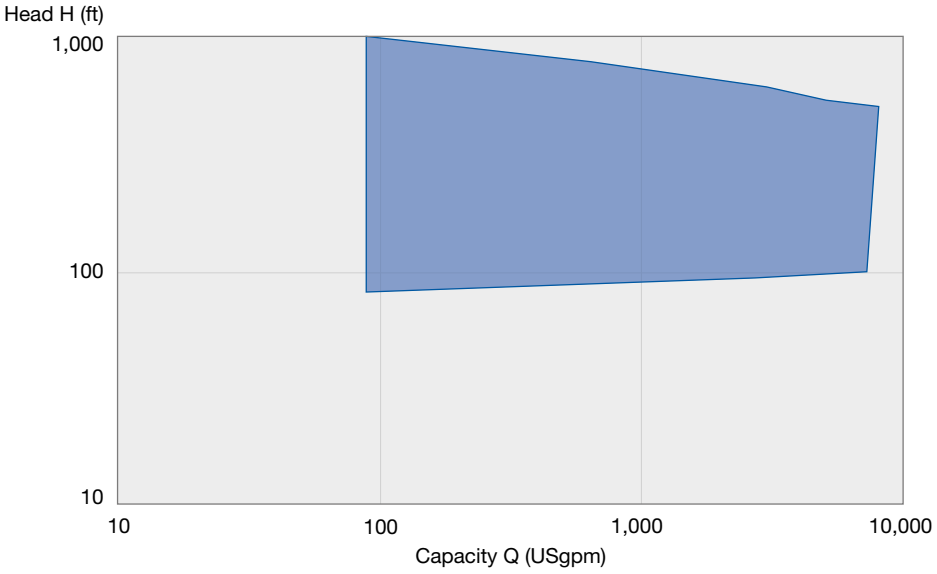
Flanged Column Assembly
Standard for sizes 355 mm / 14” and 410 mm / 16”, available as an option for all other sizes.

Strainers
Basket and cone strainers are available in galvanized steel.

JTS Performance Ranges



50 Hz



60 Hz

Operating Data

	50 Hz	60 Hz
Pump sizes (bowl diameter)	180 to 510 mm	7 to 20 inches
Capacities	20 to 1,500 m^3/h	100 to 8,000 USgpm
Heads	up to 300 m	up to 1,000 feet
Pressures	up to 36 bar	up to 524 psi
Temperatures	-15 °C to 85 °C	5 °F to 185 °F

Maintaining and Improving Pump Performance

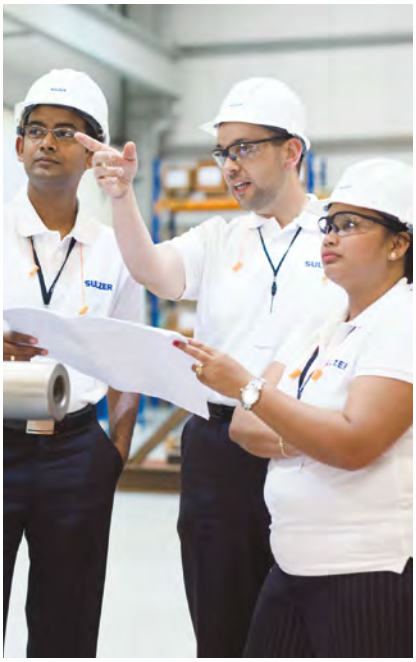
Sulzer Pumps – Customer Support Services

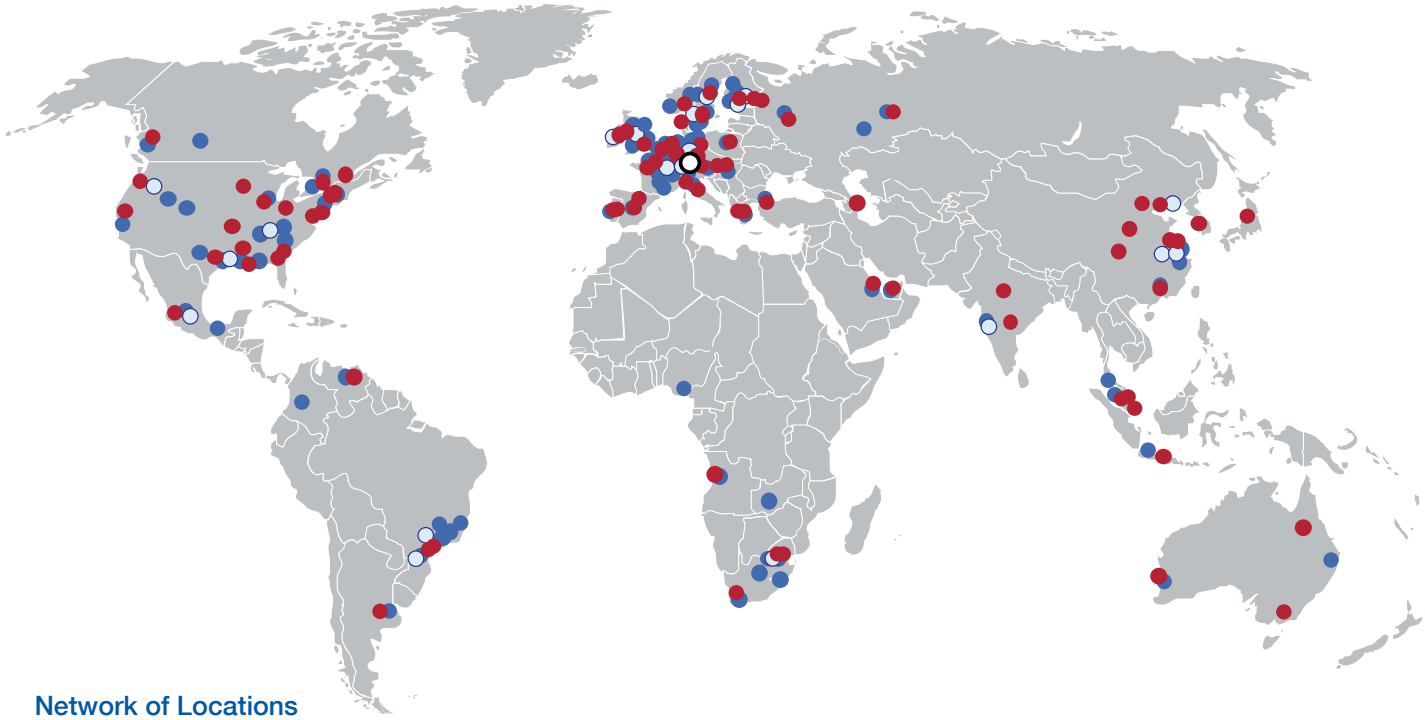
The continuous availability and high operating performance of pumps is the key target for our customer support service organization. Through our highly experienced personnel and application knowledge, we provide a full range of innovative service solutions to our customers to keep their pumps running including:

- Spare Parts
- Field Services
- Repair Services
- Retrofits
- Maintenance Agreements
- Operation Agreements

Flexibility

With services ranging in scope from supplying a spare part to operating the pump under contract, we are uniquely placed to make your process run smoother. A dedicated team of our service specialists based at either our manufacturing facilities or one of over 60 service centers located around the world is dedicated to maintaining the performance of our customers' pumps and associated equipment. This service is not just limited to Sulzer products, all the pumps our customers operate can benefit from the support of Sulzer Pumps.





Network of Locations

- Divisional Headquarters
- Manufacturing Facility
- Customer Support Service Center (CSS)
- Sales Office

www.sulzer.com