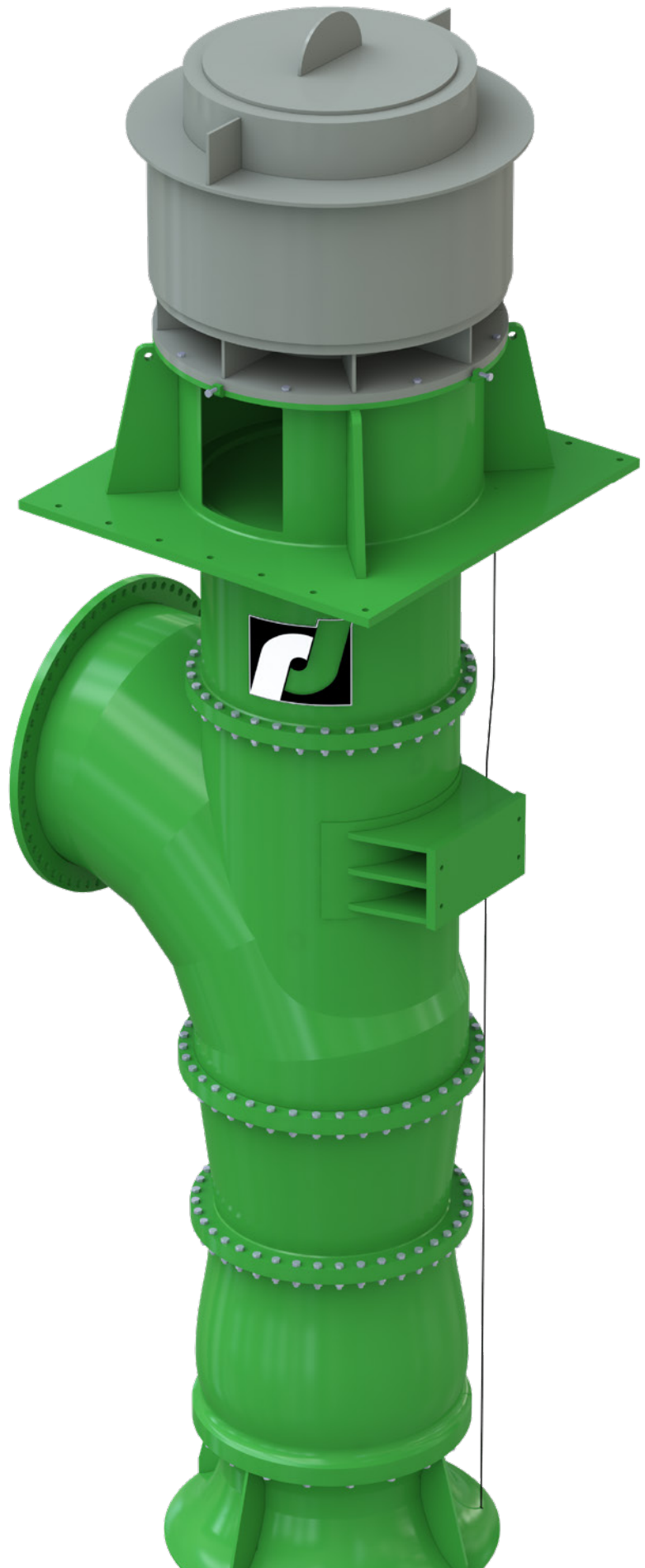


Johnston Pump  
type JM vertical  
mixed flow pump



A Sulzer Brand

# Main industries and applications

The vertical type JM mixed flow pump design is best for high head applications. Capacities available to 250'000 GPM and 50 feet per stage, in sizes 6 through 80 inches in bowl diameter. Fully updated hydraulics and mechanical designs make the JM highly efficient, cost-effective, and low maintenance. It is mainly used in the following applications:

- Drainage
- Flood control
- High pressure pumping
- Pipeline pumping
- Water intake
- Water transport and desalination
- Water supply and irrigation



## Key customer benefits

The Johnston brand has a range of vertical turbine models designed to suit capacity, head conditions and horsepower applications not offered by any other vertical turbine manufacturer. Our vertical turbine pumps are available with complete NSF certification for potable water service.

- Minimal floor space required
- 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 pumps

- Highly versatile and adaptable in terms of both location and pump length
- Pressure requirements are easily met by staging
- Low operating speeds
- Easily modified for changing hydraulic conditions
- Adaptable to various codes
- No messy, complex hydraulic conditions
- Numerous types of coating for corrosive and abrasive systems
- Trouble free operation, requires minimum maintenance and service



# Features and benefits

## 1 Driver

- Various types include electric motors (hollow or solid shaft), fixed variable speed drives, right angle gear drives or steam turbine driven

## 2 Headshaft

- A one piece headshaft is provided for a hollow shaft drive equipped with an adjusting nut for axial adjustment
- A solid shaft motor requires a separate motor stand and flanged coupling for a cast head to allow easy mobility for removal or repair of a seal while providing easy impeller adjustment

## 3 Seal

- Various arrangements are provided for a positive seal and simple maintenance

## 4 Pump shaft

- The shaft is tailor-made to the service needs and sized individually for each installation; sized for maximum torque

## 5 Discharge case

- Connects the column pipe to the bowls keeping column and head friction losses to a minimal

## 6 Impeller

- Semi-open design, cast from various materials of choice for versatility
- Balanced to ensure vibration free operations
- Polished to optimize performance
- Secured to shaft by a key and split thrust ring

## 7 Discharge head

- Integral driver stand allows easy access to removable packing/seal box and coupling
- Each standardized discharge head comes with a segmented bend/ motor stool and utilizes a stuffing box designed to accommodate various mechanical seals

## 8 Column assembly

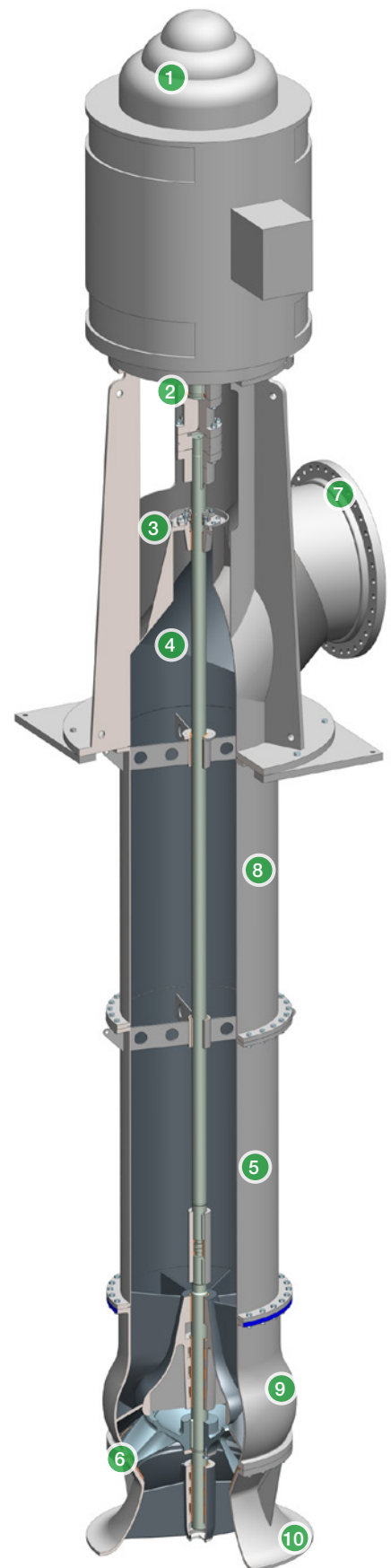
- Column pipes are flanged
- Line shafts are connected by split ring, key and sleeve couplings
- Line shaft bearings are replaceable
- Threaded column with threaded couplings
- Column assemblies have integral spiders for column diameter above 14"

## 9 Bowls

- Combine energy conversion and diffusion of the intermediate bowl and discharge case in one single casing
- Reduce the required components and allow for a direct connection to the column pipe

## 10 Suction

- Each suction bell includes anti-vortex ribs and tail bearing bushings
- The suction bells are available with replaceable wear rings



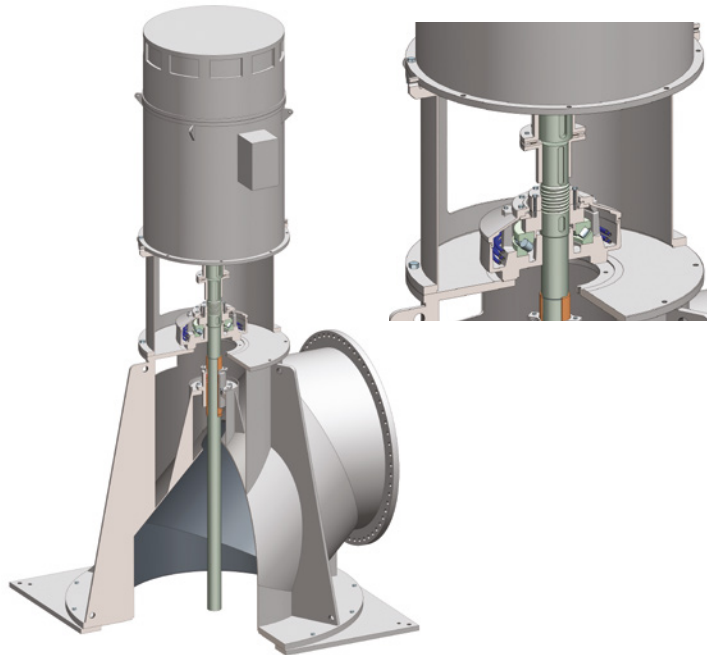
# Options

## Thrust bearing assembly

Thrust bearing assemblies are available when required by application. They are built to handle all of the down thrust produced by the pump and as much momentary up thrust that may occur. A one-piece fabricated motor stand housing is bolted down over the discharge to protect the bearing and support the motor.

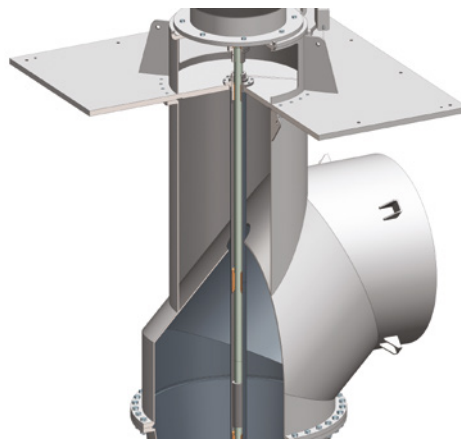
The flexible coupling with spacer allows servicing the thrust bearing and mechanical seal as needed.

Optional features include sandstorm protection, special means for cooling and a constant level oil lubricator.



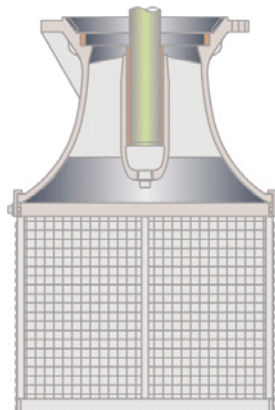
## Discharge head

Below ground discharge head is available. Each comes with a segmented elbow designed to optimize pump efficiency. The elbows are made of various materials to meet virtually any requirements. The discharge nozzle can be either plain-end or flanged. The motor stand is mounted above ground and is designed to support the weight and provide the maximum clearance for multiple stuffing box options.



## Strainers

Basket strainers are available in galvanized steel.



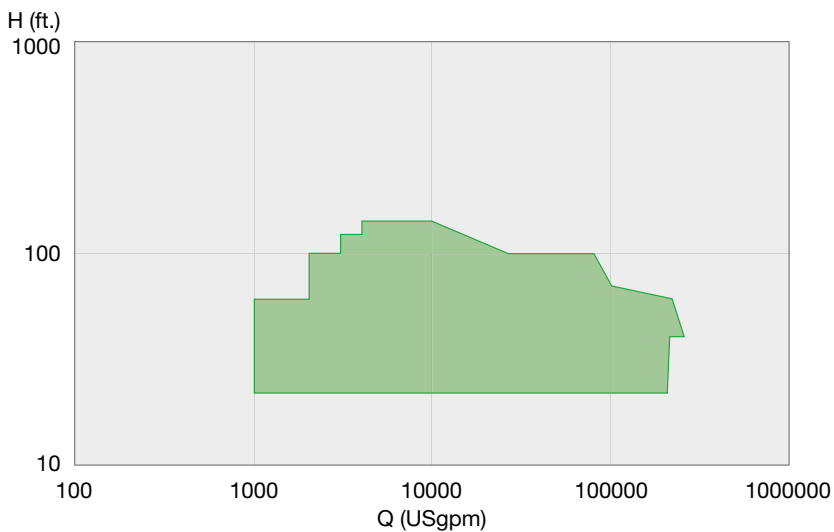
# Materials

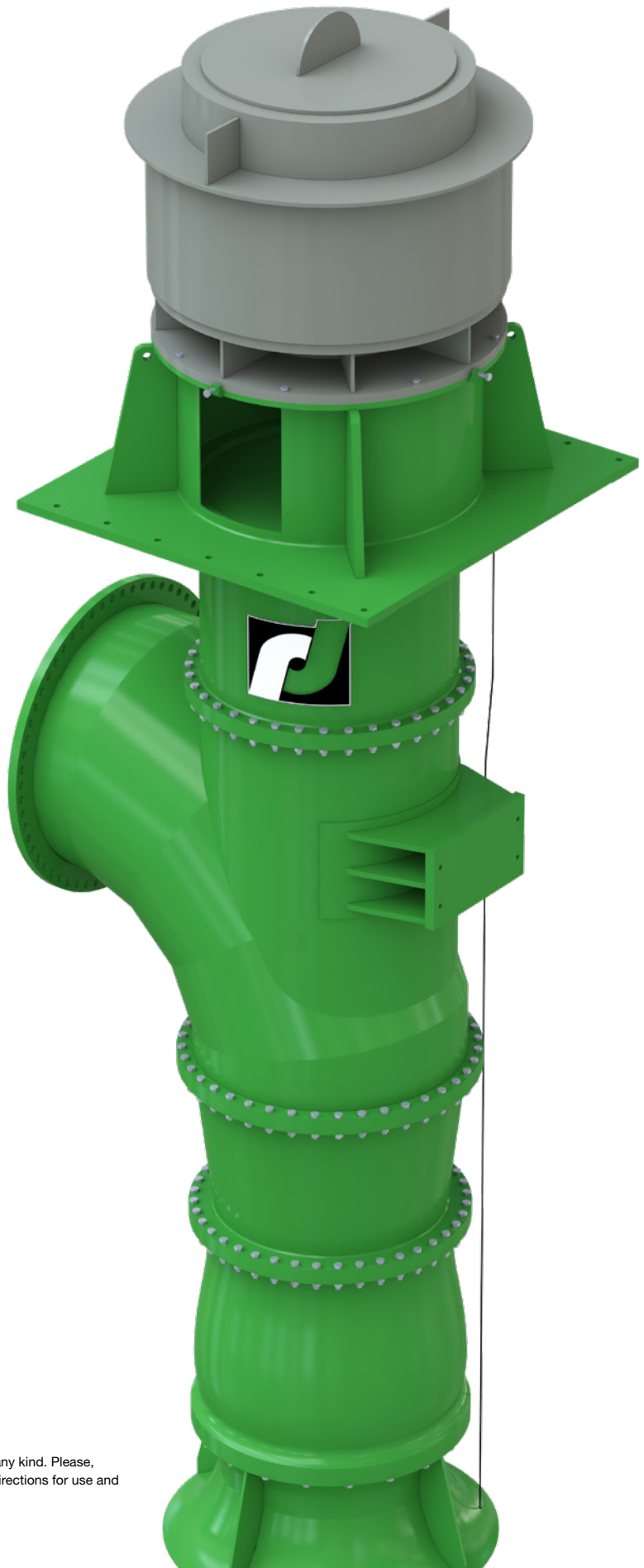
Pump part	Material
Cast parts	Cast iron, carbon steel, 316 stainless steel, duplex, super duplex and bronze
Shafts	12% chrome, 316 stainless steel duplex, super duplex and monel
Fabrications	Carbon steel, 316l, duplex and super duplex
Bearings	Bronze, duplex or super duplex backed rubber

# Operating data

	60 Hz
Bowl sizes	8 to 94 in.
Capacities	up to 250'000 USgpm
Heads	up to 100 ft.
Pressures	up to 260 psi
Temperatures	up to 122°F

# Performance range





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