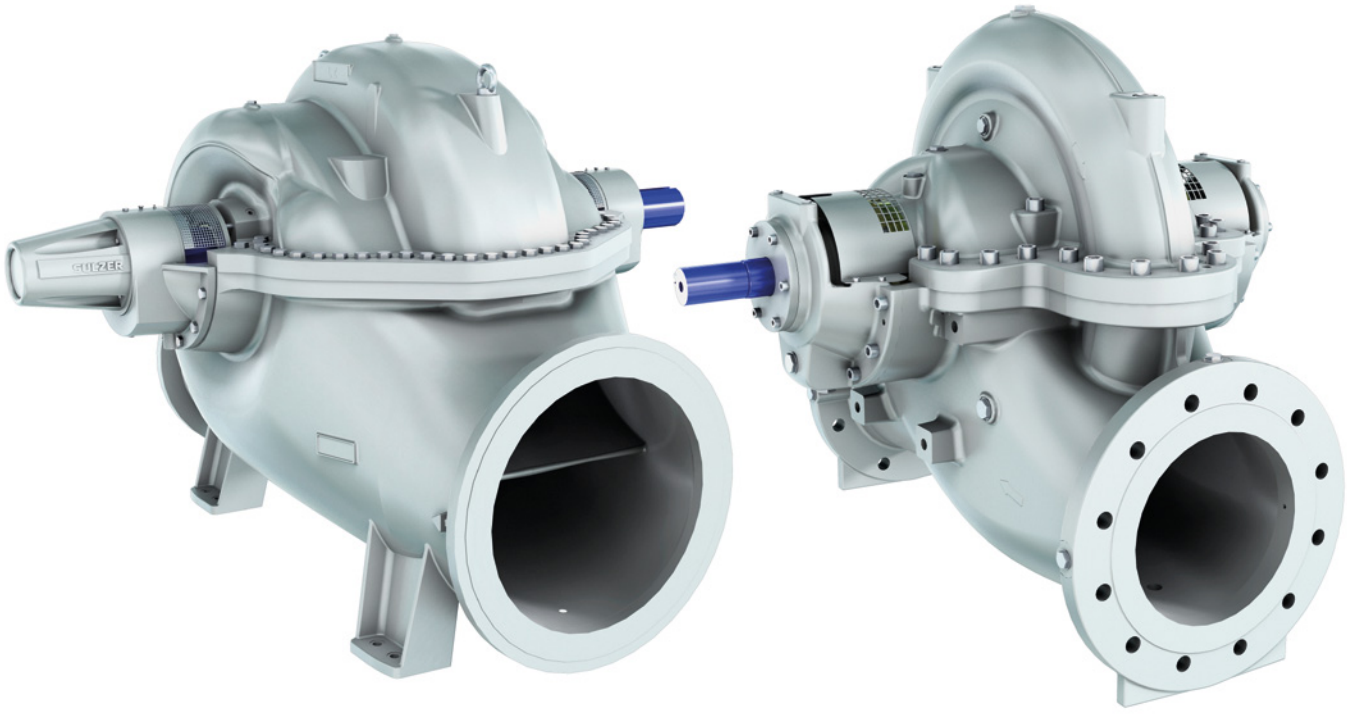
SULZER

ZPP and Z22 Double Suction Axially Split Single Stage Centrifugal Pumps



Main Applications

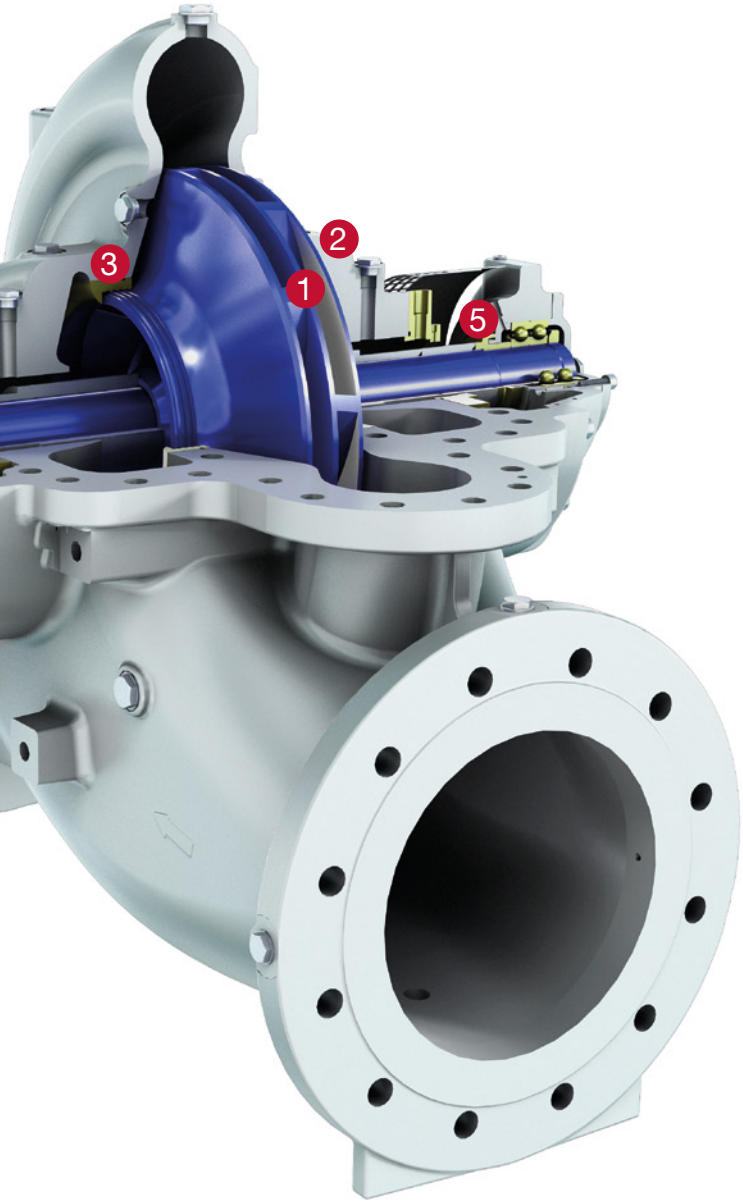
ZPP and Z22 double suction axially split single stage centrifugal pumps are used for demanding high-capacity industrial applications to ensure process reliability, high efficiency, and low operating costs.

The range comprises over 20 sizes for each series with different impeller designs. This flexibility ensures that energy consumption is minimized throughout the complete operating range of a pump.

ZPP and Z22 pump series are designed for demanding industrial applications to pump:
- Clean and slightly contaminated liquids
- Viscous liquids
- Low-consistency fibrous slurries
- Liquids in applications with small pressure pulsations

Features and Benefits

1 Double entry impeller
- Double suction impeller, with split, staggered and skewed vanes give high efficiency and low Net Positive Suction Head (NPSH) values
- Low pulsation impellers are available, designed to meet the stringent performance requirements of paper machine head box applications
- Impeller installed on the shaft by strong interference fit without keyway in ZPP, which is easy to assemble, disassembled hydraulically



2 Axially split casing
- Heavy-duty horizontally split casing
- Inspection, maintenance and removal of the rotating unit is possible without disturbing the piping or motor
- Single volute for lower head and double volute for higher head applications
- Low radial loads on bearings and low shaft deflection providing extended seal and bearing life

3 Casing wear rings
- Renewable casing wear rings protect the casing from wear and assure smooth flow to the impeller improving efficiency
- Maintaining correct clearance is easy
- Wear ring locked in lower casing to prevent rotation

4 Heavy duty shaft
- For high corrosion and wear resistance plus high strength
- Reduced shaft deflection for extended seal and bearing life
- Duplex stainless steel shaft

5 Versatile shaft sealing

Stuffing box
- External or internal sealing liquid
- Split stuffing box gland and lantern ring in ZPP with withdrawal grooves for easy service

Mechanical seal
- Different mechanical seals available
- Seals fit into the same chamber in ZPP as packings providing easier change to another type of sealing

6 Bearing unit

ZPP
- Long lifetime with high thrust spherical roller bearings, identical on both sides
- Grease or oil lubrication
- Effective bearing protection by non-contact wear-free labyrinth seals and deflector
- No adjustments needed making assembly quicker

Z22
- Long lifetime with high thrust angular contact ball bearing for axial load and deep ball bearing for radial load
- Grease lubrication as standard

7 Flexible installation
- Fully flexible drive end, including double drive
- Horizontal or vertical installation gives compact installation
- Some Z22 sizes are available in angled execution

ZPP Double Suction Axially Split Single Stage Centrifugal Pump

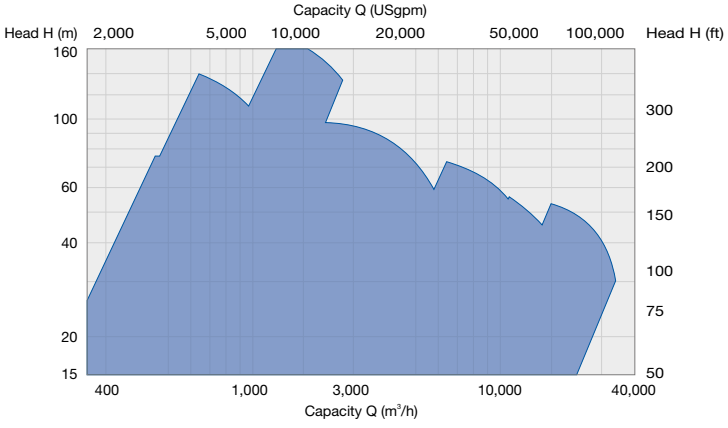
Oil and gas | Hydrocarbon processing industry | Power generation | Pulp and paper | General industry | Chemical processing industry | Water and wastewater

Operating data

50 Hz		60 Hz
250 to 900 mm	Pump sizes	10 to 35 in
up to 30,000 m³/h	Capacities	up to 132,000 USgpm
up to 160 m	Heads	up to 525 ft
up to 25 bar	Pressures	up to 362 psi
120°C*	Temperatures	250°F*

* depending on material and size

Performance range



Materials

Main part	Duplex stainless steel design	Cast iron design
Volute casing	SS ASTM A890 Gr.3A	CI ASTM A48 CL 35B
Impeller	SS ASTM A890 Gr.3A	SS ASTM A 890 Gr.3A
Shaft	SS2324	SS2324
Casing wear ring	SS ASTM A890 Gr.3A	SS ASTM A890 Gr.3A
Shaft sleeve	SS2324	SS2324

Z22 Double Suction Axially Split Single Stage Centrifugal Pump

Oil and gas

Hydrocarbon processing industry

Power generation

Pulp and paper

General industry

Chemical processing industry

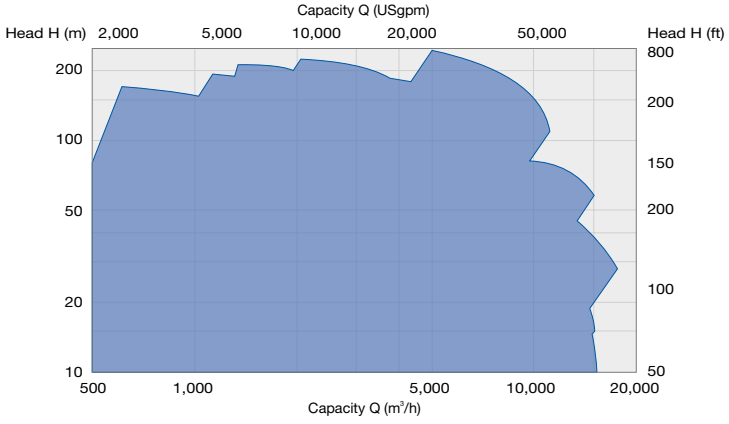
Water and wastewater

Operating data

50 Hz		60 Hz
200 to 1,000 mm	Pump sizes	8 to 40 in
up to 17,000 m^3/h	Capacities	up to 75,000 USgpm
up to 220 m	Heads	up to 720 ft
up to 25 bar	Pressures	up to 362 psi
140°C*	Temperatures	280°F*

* depending on material and size

Performance range



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Casing wear ring	SS ASTM A890 Gr.3A	SS ASTM A890 Gr.3A
Shaft sleeve	SS2324	SS2324

Series Z22 is available in a wide range of material. Please contact your Sulzer representative for more information.

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