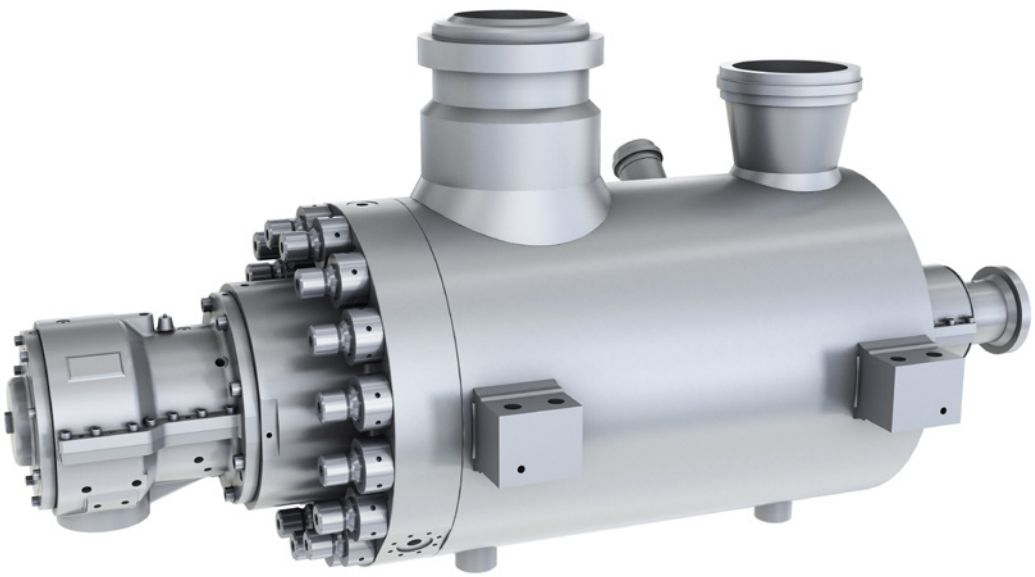
SULZER

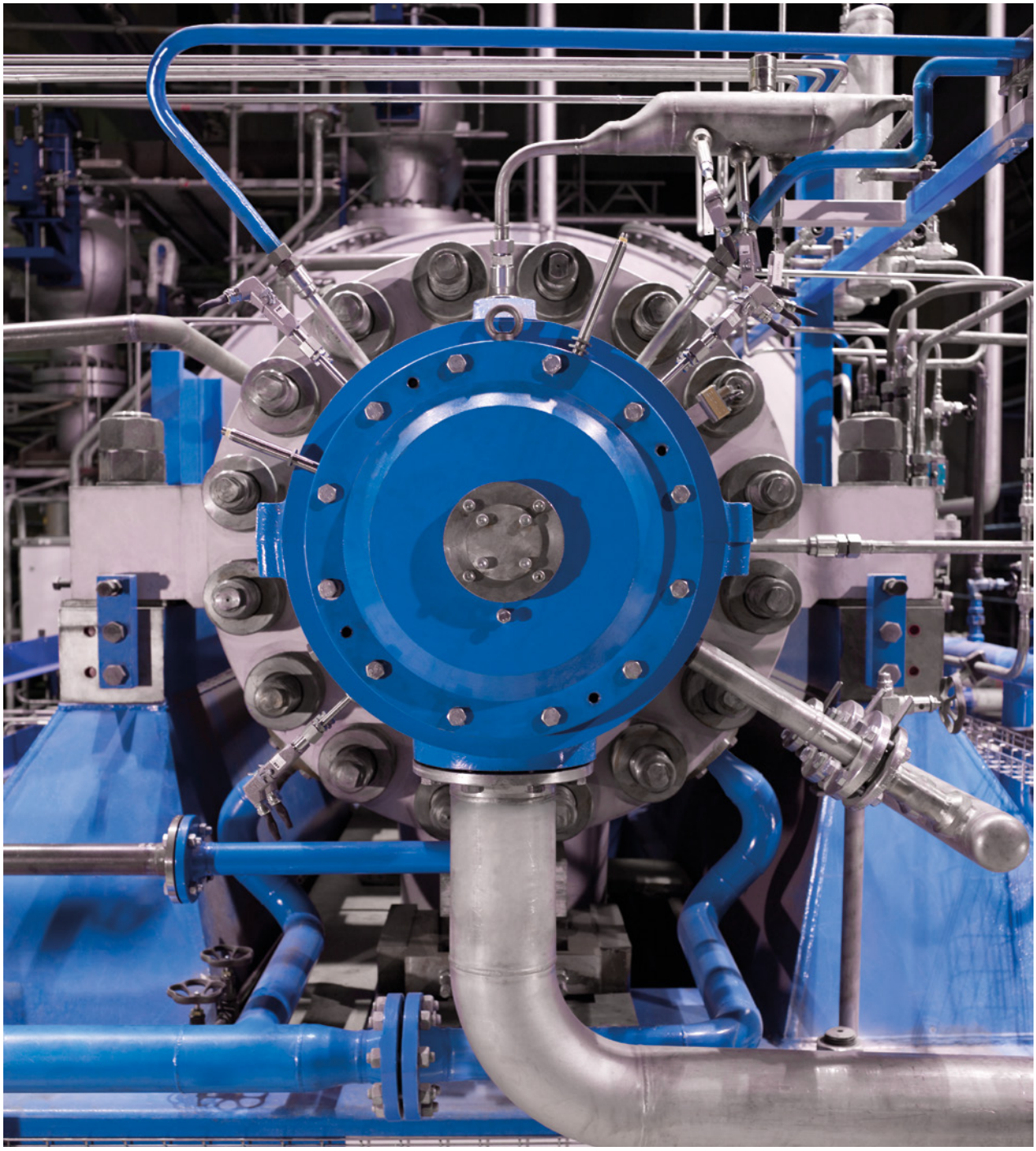
Pumps and pumping systems

HPT
multistage barrel casing boiler feed pump



Main industries and applications

HPT radially split barrel-casing pumps are specifically designed for boiler feed applications in thermal power stations. These pumps are optimized to provide high availability and high efficiency operation over an extended period of time, thus reducing operating and maintenance costs. Their robust construction and tolerance of changing conditions make them particularly suitable for cyclic operation.



Features and benefits

1 Double casing design
- Maximum safety
- Pipework connections remain undisturbed during disassembly
- Optimized reliability and pump availability
- Provides maximum rigidity and accepts high pipe loads

2 Full cartridge pull-out design
- Rapid changeover
- Increased productivity

3 Optimized hydraulic profiles with precision casting impellers and diffusers
- Ample range of modern hydraulics
- High efficiency not relying on close clearances
- Good rotordynamic behavior

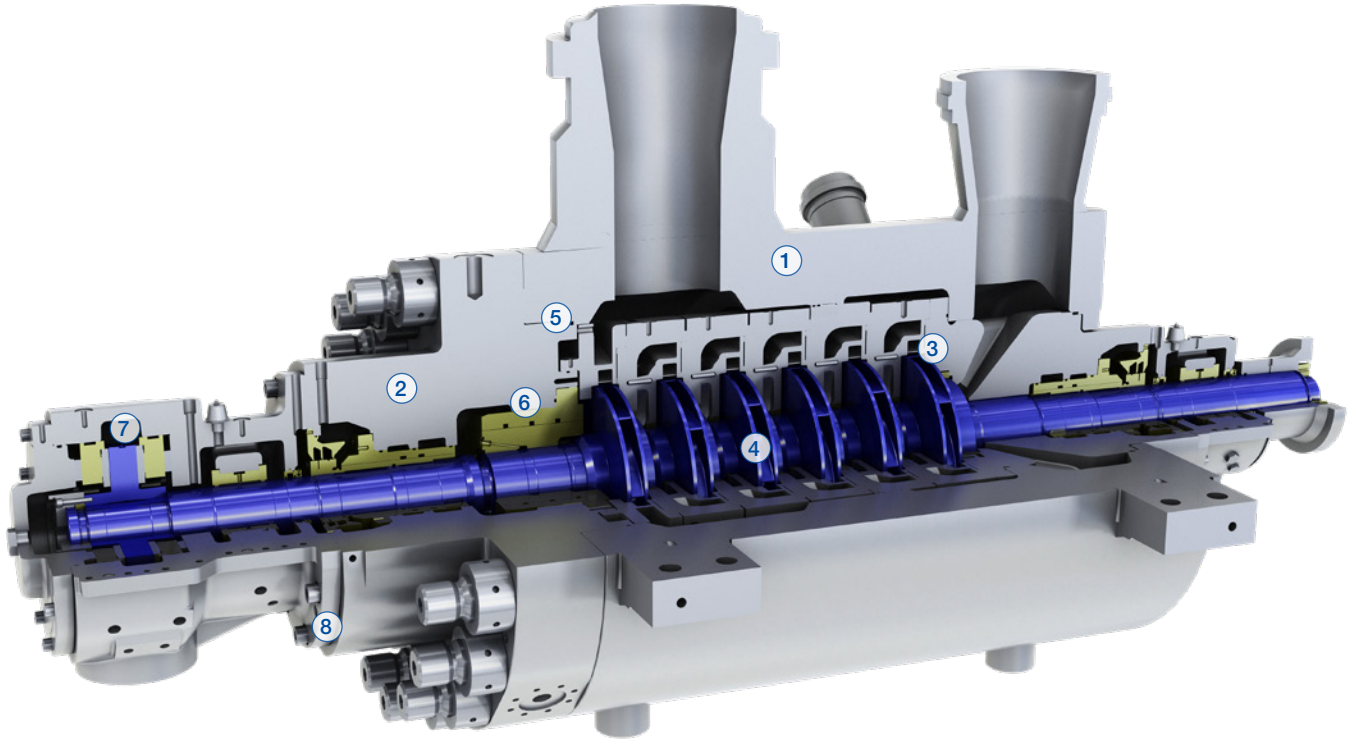
4 Shrunk on rotor design
- Allows for high rotor balancing quality
- Avoids fretting corrosion and minimizes stress concentrations
- Avoids loose parts on shaft during operation and results in lower vibration

5 Pure graphite stationary seal rings
- Highly reliable, well proven sealing concept

6 Axial thrust compensation by balancing piston
- Reduced damage risk during transient conditions
- Little reduction on efficiency during long period between overhauls
- Swirl breaks at balancing piston maintain rotor stability even when internal clearances are worn

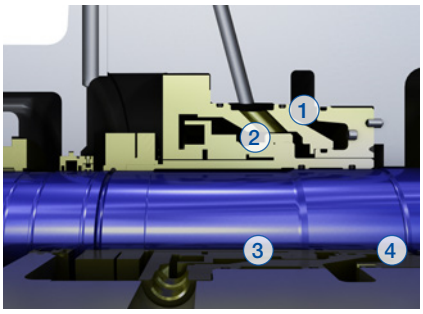
7 Fully rated double acting tilting pad thrust bearing and multi lobed journal bearings
- Long operating life regardless of the operating mode
- High stiffness and damping at high speeds

8 Bearing housing fixed to pump cartridge through 360°
- Optimized vibrational behavior



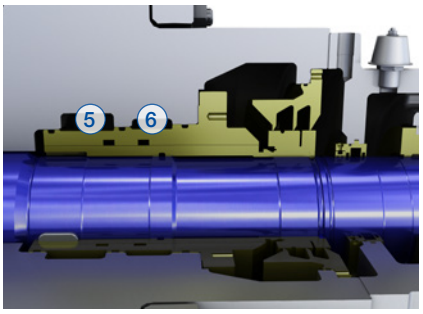
Options

Shaft seal options



Single mechanical seal

- Minimal leakage
- Low energy consumption

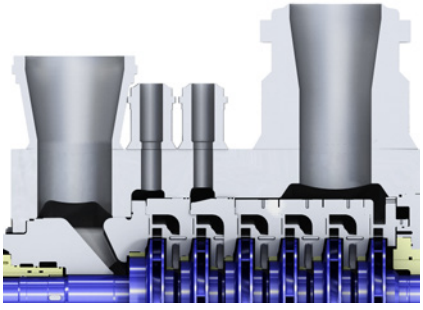


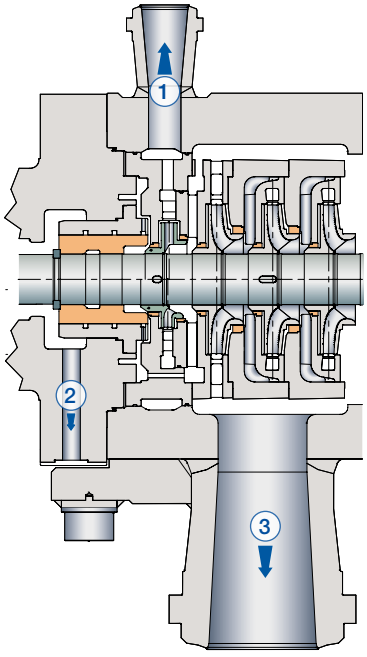
Fixed throttle bushing

- Simple and reliable design
- Less sensitive to dirt

1. Cooling jacket decreases temperature in seal chamber
2. Mechanical seal
3. Cool (~60°C)
4. Hot (~180°C)
5. Bleed-off for high suction pressures; without bleed-off for low suction pressures
6. Cold condensate injection

Optional double ITO

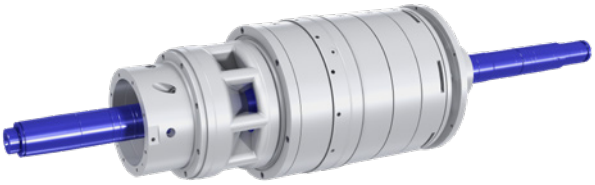




Optional kicker stage

1. Kicker stage flow
2. Balance piston leakage flow
3. Main discharge flow

Standard inner cartridge



Full cartridge

Specifications

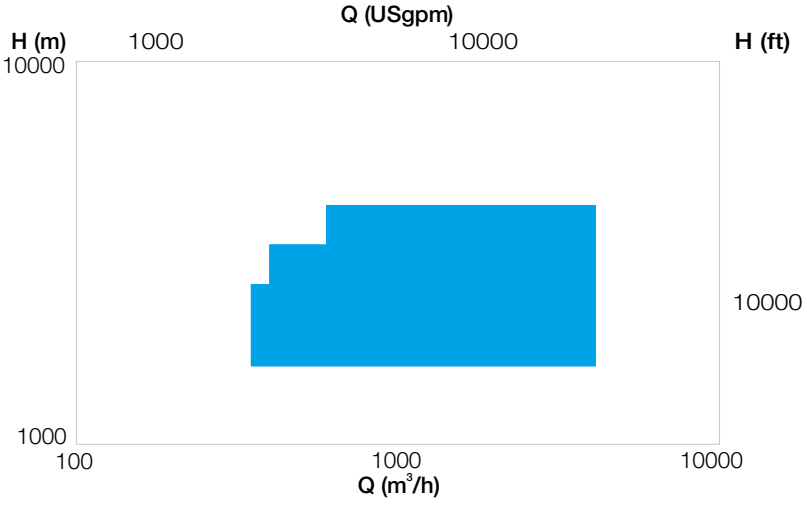
Material options

Pump part	Material
Barrel casing	Forged low alloyed carbon steel
Impellers, diffusers and stage casings	Chrome steel
Shaft	Chrome steel
Balance piston and sleeve	Chrome steel

Operating data

	Metric units	US units
Pump sizes	up to 600 mm	up to 24 in.
Capacities	up to 5’500 m^3/h	up to 24’200 USgpm
Heads	up to 5’000 m	up to 16’400 ft.
Pressures	up to 650 bar	up to 9’430 psi
Temperatures	up to 260°C	up to 500°F

Performance range



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