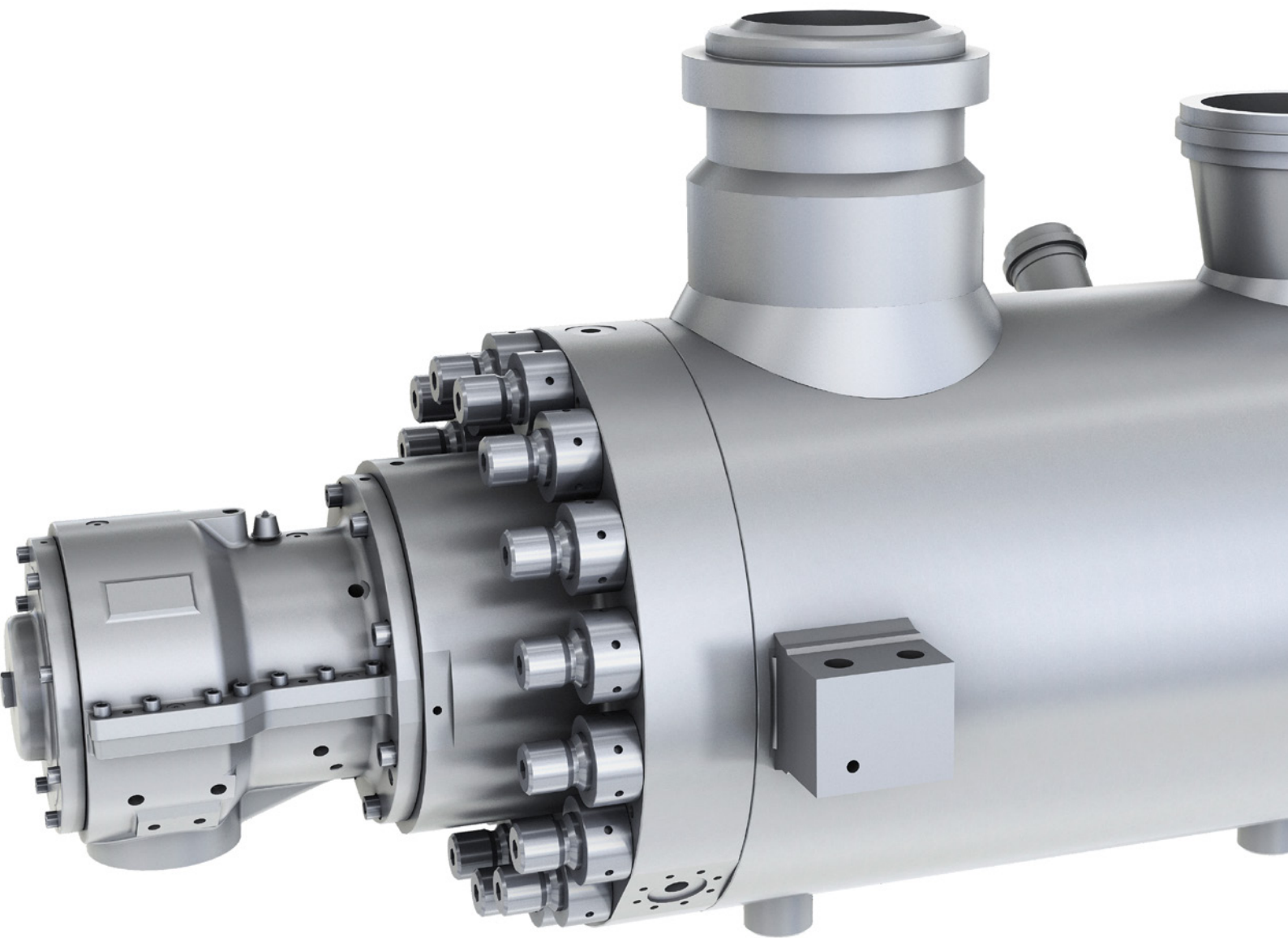


HPT multistage barrel casing
boiler feed pump
HPT 多级筒式锅炉给水泵



Main industries and applications / 主要应用

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.

HPT 径向剖分筒式泵是专门为火力发电厂设计的锅炉给水泵，该泵经过最优化设计能够保证在一定时间内高效可靠地运行，从而降低运行和维护费用。坚固的结构和对工况变化的承受能力使之特别适用于周期负荷运行。



Power
generation
电力

Features and benefits / 特征及优点

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 Shrunken 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

双壳体设计

- 保证最大安全性
- 在拆卸过程中不影响管路接口
- 优化泵的可靠性和可用性
- 采用最大化刚性设计，承受高管路载荷

整抽式芯包设计

- 便于快速更换
- 提高生产效率

优化水力模型，采用精密铸造叶轮和导叶

- 众多可选的先进水力
- 不依赖较小间隙来保证高效
- 良好的转子动力学性能

转子套装设计

- 保证较高的转子平衡质量
- 避免腐蚀，最大程度地减小应力集中
- 避免轴上部件运行时松动，转子振动较小

- 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

纯石墨静密封环

- 高可靠性，良好证明的密封方式

通过平衡鼓来进行轴向推力补偿

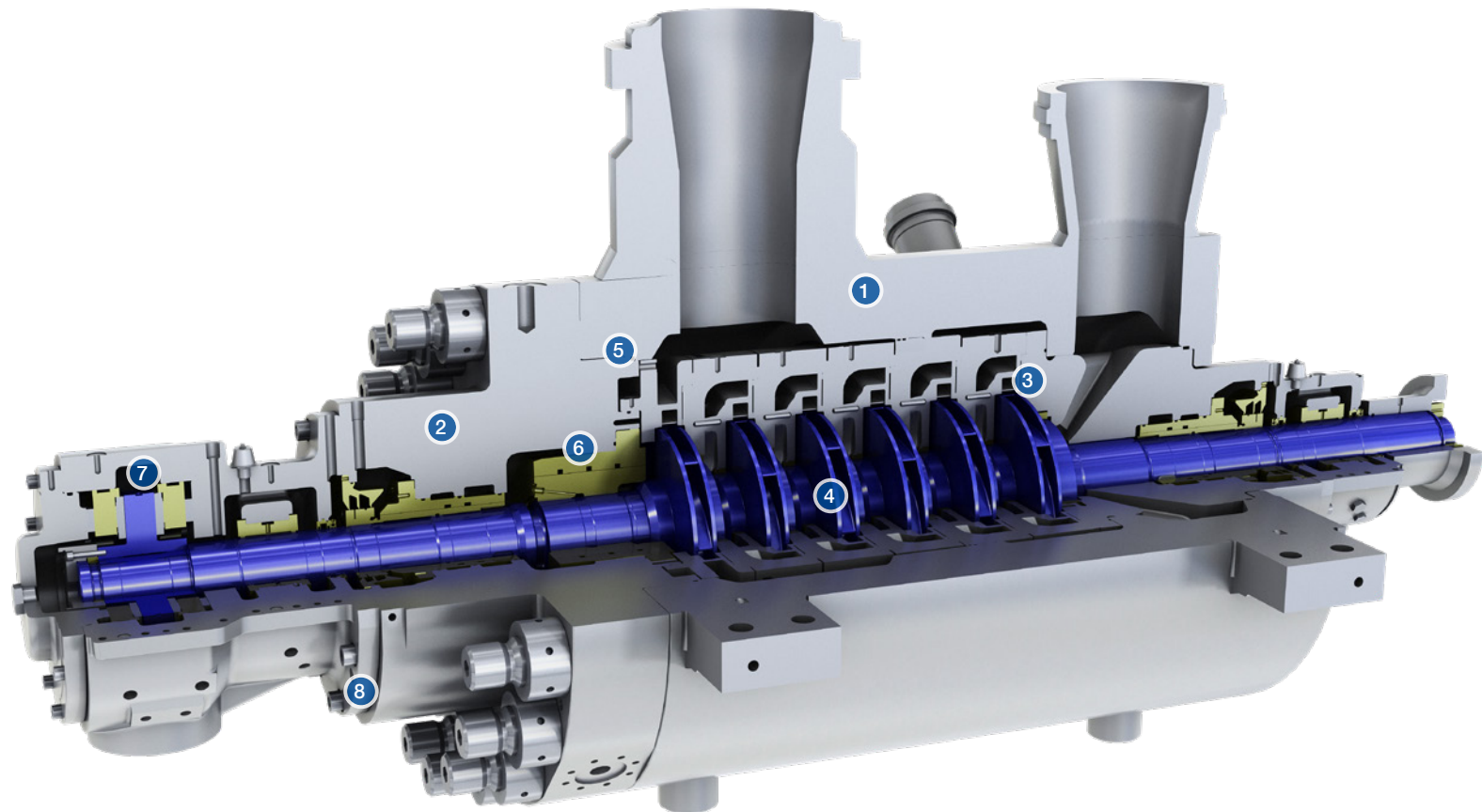
- 降低瞬态工况下的损伤风险
- 效率在大修期内，长时间运行时略微降低
- 平衡鼓上的消涡孔能够保持转子稳定运行，即使在内部间隙磨损的情况下依然如此

全负荷双侧可倾瓦推力轴承和多油楔径向轴承

- 在任何工作状态下都能保持一个长期的运行寿命
- 维持高速下的高刚度和阻尼

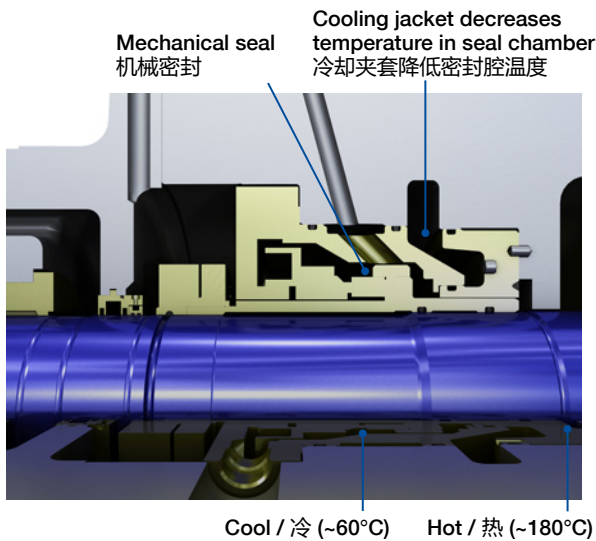
轴承箱与芯包360度全周固定

- 优化振动性能

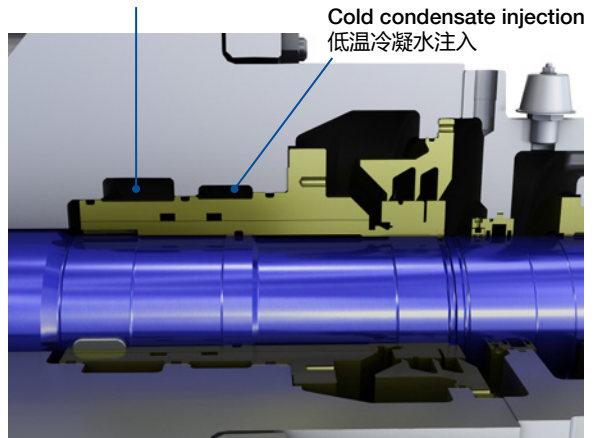


Options / 可选设计

Shaft seal options / 轴封选项



Bleed-off for high suction pressures;
without bleed-off for low suction pressures
高吸入压力下的溢流, 低吸入压力下无溢流



Single mechanical seal

- Minimal leakage
- Low energy consumption

单端机械密封

- 最小泄漏量
- 低能量损耗

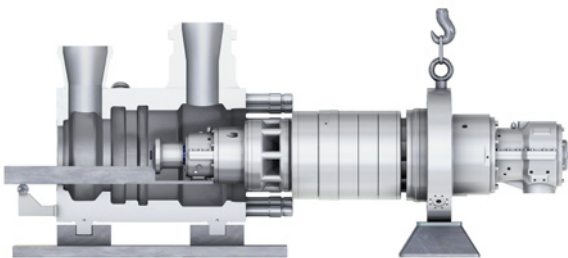
Fixed throttle bushing

- Simple and reliable design
- Less sensitive to dirt

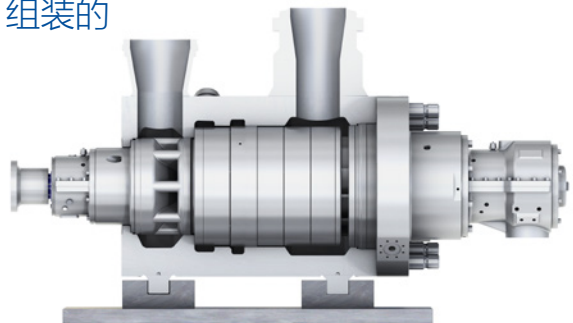
固定节流衬套

- 简单和可靠设计
- 对污物不敏感

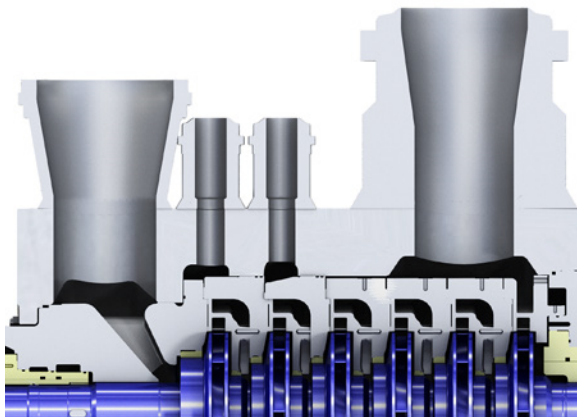
Cartridge pull-out 芯包抽出



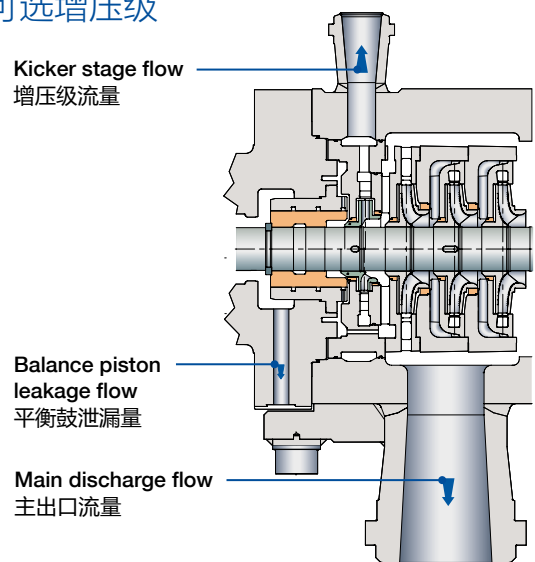
Assembled 组装的



Optional double ITO 可选双抽头设计



Optional kicker stage 可选增压级



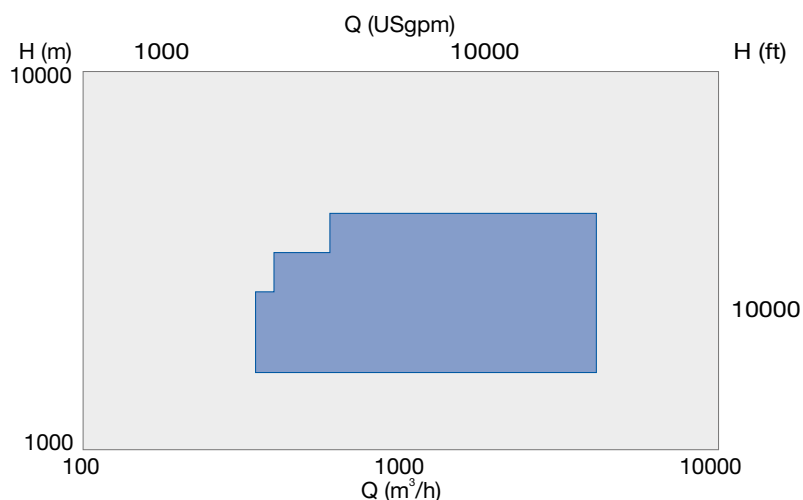
Materials / 材料

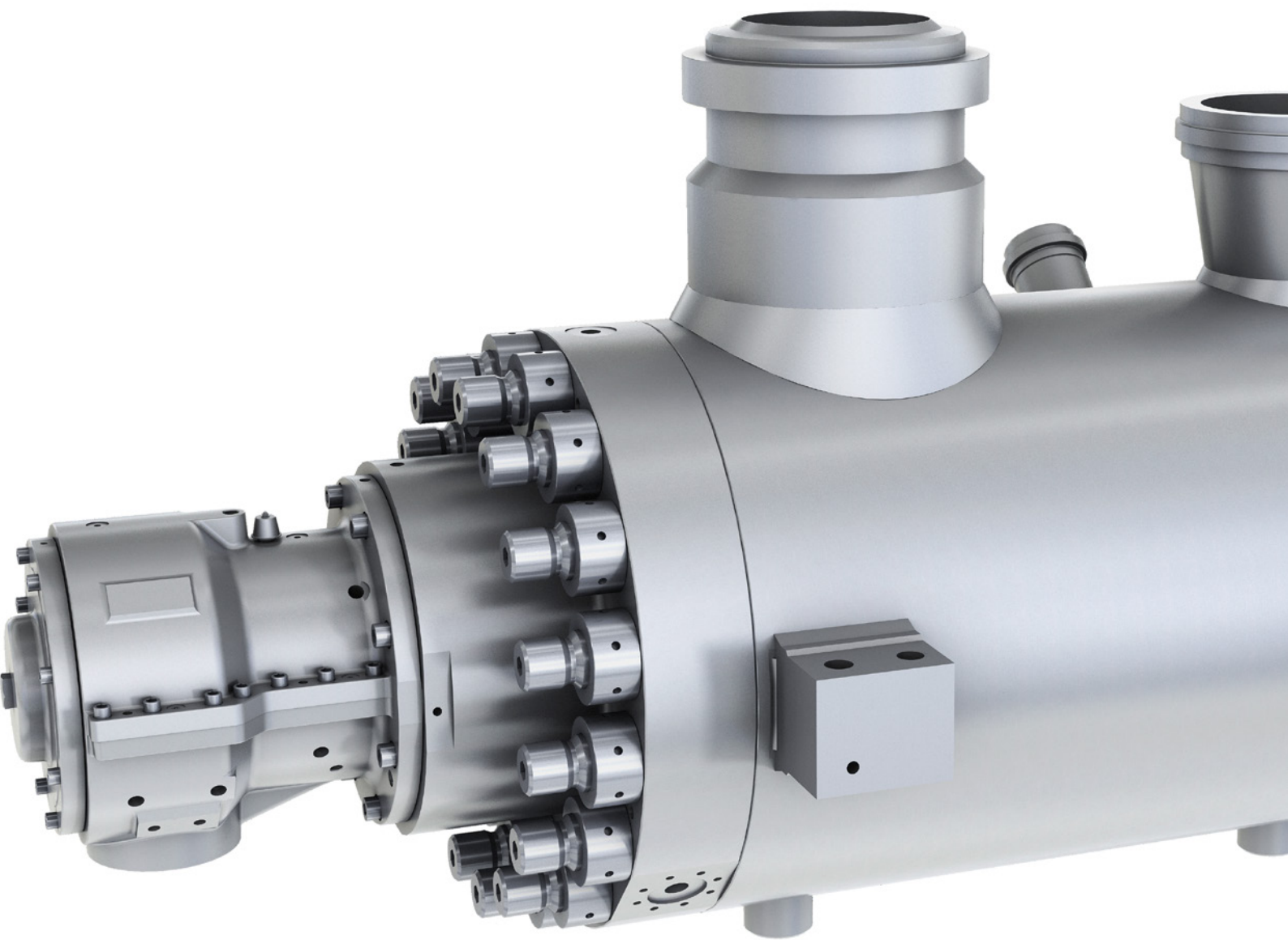
Pump part / 泵部件	Material / 材料
Barrel casing / 筒体	Forged low alloyed carbon steel / 锻造的低合金碳钢
Impellers, diffusers and stage casings 叶轮、导叶和中段	Chrome steel / 铬钢
Shaft / 轴	Chrome steel / 铬钢
Balance piston and sleeve 平衡鼓和平衡鼓套	Chrome steel / 铬钢

Operating data / 运行数据

	Metric units 公制单位	US units 美国单位
Pump sizes / 泵规格	达 / up to 500 mm	达 / up to 20 in.
Capacities / 流量	达 / up to 4'000 m ³ /h	达 / up to 17 600 USgpm
Heads / 扬程	达 / up to 4'200 m	达 / up to 13'800 ft.
Pressures / 压力	达 / up to 545 bar	达 / up to 7'905 psi
Temperatures / 温度	达 / up to 220°C	达 / up to 430°F

Performance range / 性能范围





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