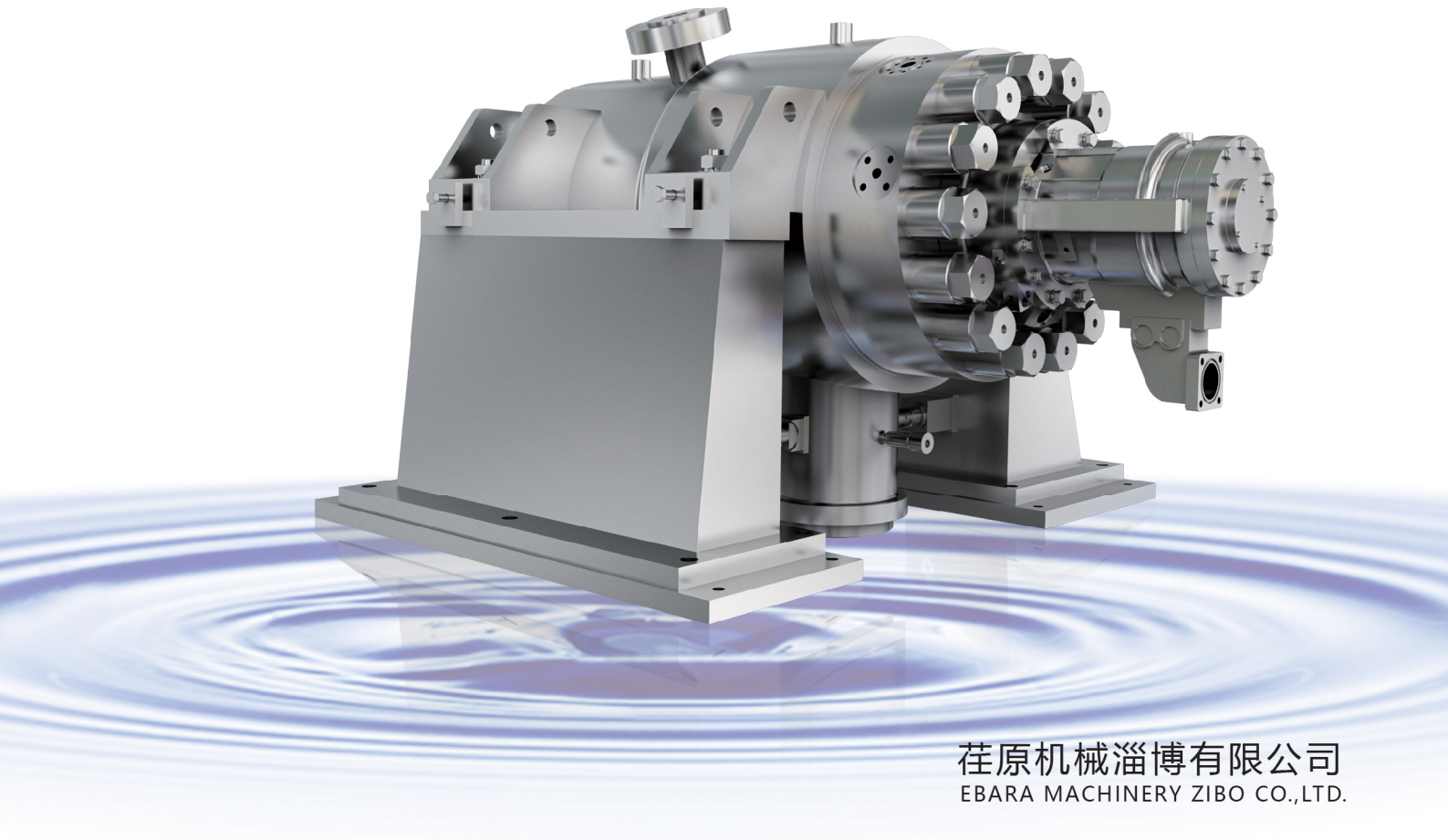
EBARA

DCS/DCD

卧式双壳体多级泵

Horizontal Double Casing Multi-stage Pump

【API 610、API 682】



荏原机械淄博有限公司

EBARA MACHINERY ZIBO CO.,LTD.

DCS/DCD HORIZONTAL DOUBLE CASING MULTI-STAGE PUMP

卧式双壳体多级泵 / 产品系列

DCS/DCD型泵为卧式、多级、转子两端支撑双壳体高压离心泵。芯包结构为节段式。
DCS首级叶轮为单吸式结构；DCD首级叶轮为双吸式结构。

DCS/DCD type pump is a high pressure centrifugal pump with horizontal, multi-stage, support at both ends of the rotor.The inner cartridge type is segmental section.
DCS is the type which first stage impeller is single suction structure; DCD is the type which first stage impeller is double suction structure.

特征 Features

- 对高温、高压具高可靠性
  High pressure and temperature reliability
- 采用中心线支撑结构适应重负载工况
  Centerline supported for heavy duty operation
- 柔性设计适用介质范围广泛
  Flexibility of design handles wide range of liquids
- 所有部件可实现最大程度互换
  All components have been designed for maximum parts interchangeability.
- 符合API610规范
  Compliance with API610 specifications

应用领域 Applications

燃煤电厂 Coal Fired Power Plant	核电站 Nuclear Power Plant	工业电厂 Industrial Power Plant	冶金钢铁 Metallurgical Iron and Steel
石油化工行业 Petrochemical & Chemical	有色金属冶炼 Non-ferrous Metal Smelting Industrial	动力回收 Power Recover Turbine	其它化工行业 Other Chemical Industries

材质 Materials

部件名称 / Part name	材质/Materials ASTM-AISI	
外壳体/Outer Casing	ASTM A105	ANSI 316
内壳体/Inner Casing	ASTM A478 CA6NM	ASTM A351 CF8M
导叶/Guide vane	ASTM A478 CA6NM	ASTM A351 CF8M
简体盖/Casing Cover	ASTM A105	ANSI 316
叶轮/Impeller	ASTM A478 CA6NM	ASTM A351 CF8M
轴/Shaft	SUS 630 H1150 / ASTM A276 410H	ANSI 316
泵体承磨环/Case Wear Ring	ASTM A743 CA40	ANSI 316

说明:可依据要求更选其它材质
Note:Other materials supplied on request.

主要参数 Ratings

流量 / Capacities	根据用户要求 / As required for any service
扬程 / Heads	根据用户要求 / As required for any service
最大工作压力 / Max.working pressures	表压43MPa,也可以更高 / Gauge 43 MPa and above
转速 / Speeds	最高7000rpm/To 7000 rpm
转向 / Rotation	根据要求/ As required
温度范围 / Temperature ranges	最高450℃/To 450 ℃
叶轮型式 / Impeller type	闭式 / Enclosed
进出口方式(标准结构) / Nozzles	管嘴上进-上出布置为标准配置 / Top-top standard with other nozzle placement available
法兰 / Flanges	焊接结构(可执行任何标准) / Welding with other standards available
轴封型式 / Shaft sealing	迷宫密封,机械密封和填料密封 / Throttle bushing, mechanical seal & packing seal

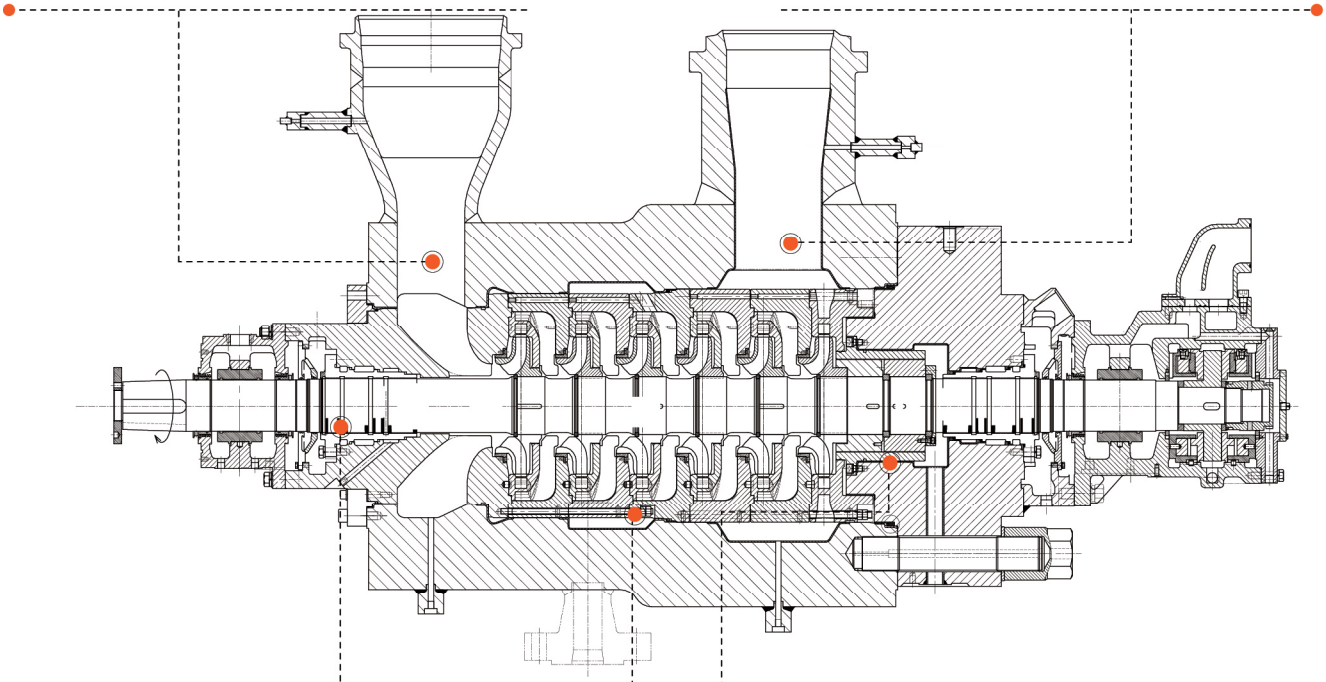
结构 Construction

冷态起动：具备可以冷态起动能力。转子部件在安装前实现整体动平衡。

Cold Pump Start-up：The pump has the ability of cold start up. Rotating elements is dynamically balanced as assembly before installation.

高压设计：只有锻造的外筒体和端盖完全承受泵的出口压力。焊接结构的进口、出口管可布置在顶部或底部以方便配管布置。

Designed for High Pressure：Only forged steel barrel and discharge cover are exposed to full discharge pressure. Welded suction and discharge nozzles can be located at top or bottom for best main piping layout.



轴封选择：独有的迷宫密封外加注入低温凝结水保证了可靠运行、维修最少和磨损极低。根据客户要求，也可以推荐使用机械密封。

Shaft Seals：Exclusive design of throttle bushings with cold-condensate injection ensures reliable service, minimum maintenance and remarkably low wear. According to customer requirements，mechanical seals can be selected .

停工期短：为使可靠性提高、维修减小、噪音降低，采用双向推力轴承自动调心、自润滑；滑动轴承采用标准巴氏合金轴承。

Less Downtime：For maximun reliability,shortest maintenance period and lowest noise level,double-action pivot-shoe thrust bearing and self-aligning lubricated,babbitt-lined radial bearings are standard.

可选中间抽头：可从中间级抽送高压液体为再热器冷却装置温度控制提供减温水。

Optional Attemperator Tap：Pump stage can be taped to provide water spray for hot reheat steam line temperature control.

低汽蚀余量：为降低泵汽蚀余量，首级叶轮可采用双吸式结构。

Low NPSH：First-stage double-suction impeller ensures low NPSH requirements.

轴向力平衡、可靠性高：轴向力通过双平衡鼓结构平衡，具有高可靠性。

Axial Balance for High Reliablity:Axical force balance device adopts double balance drum structure,and has high reliablity.

结构特征 Construction Features

常规芯包结构 / Standard inner cartridge structure

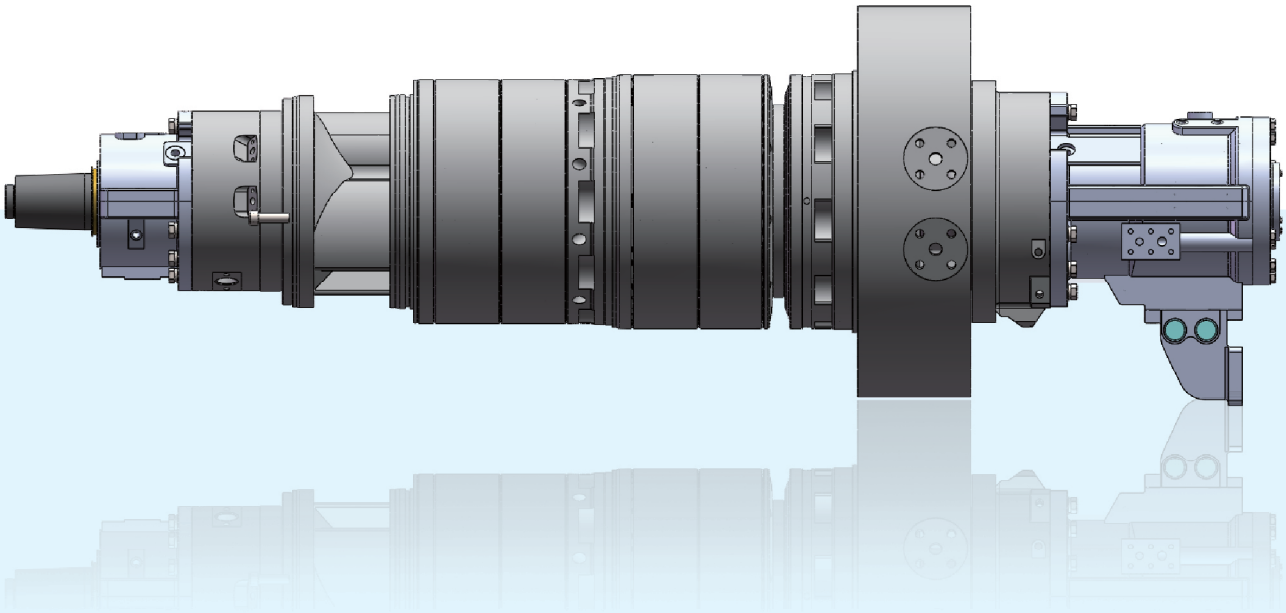
特点 / Features

◆ 内壳体为节段式，可整体抽芯。
Inner casing is ring section type.Full pull out structure.

◆ 叶轮与轴为过盈装配。转子进行逐级动平衡，动平衡精度高。
Impeller and shaft are interference assembly.Rotor step by step dynamic balance.Rotor dynamic balance precision is high.

◆ 可实现快速更换，适用于紧急更换场合。
Quick replacement.Suitable for emergency replacement.

全抽芯芯包结构 / Full pull out inner cartridge structure



特点 / Features

- 内壳体为节段式，可整体抽芯，除壳体外的所有部件均可抽出。
  Inner casing is ring section type.Full pull out structure.All parts except the outer barrel can be pulled out.

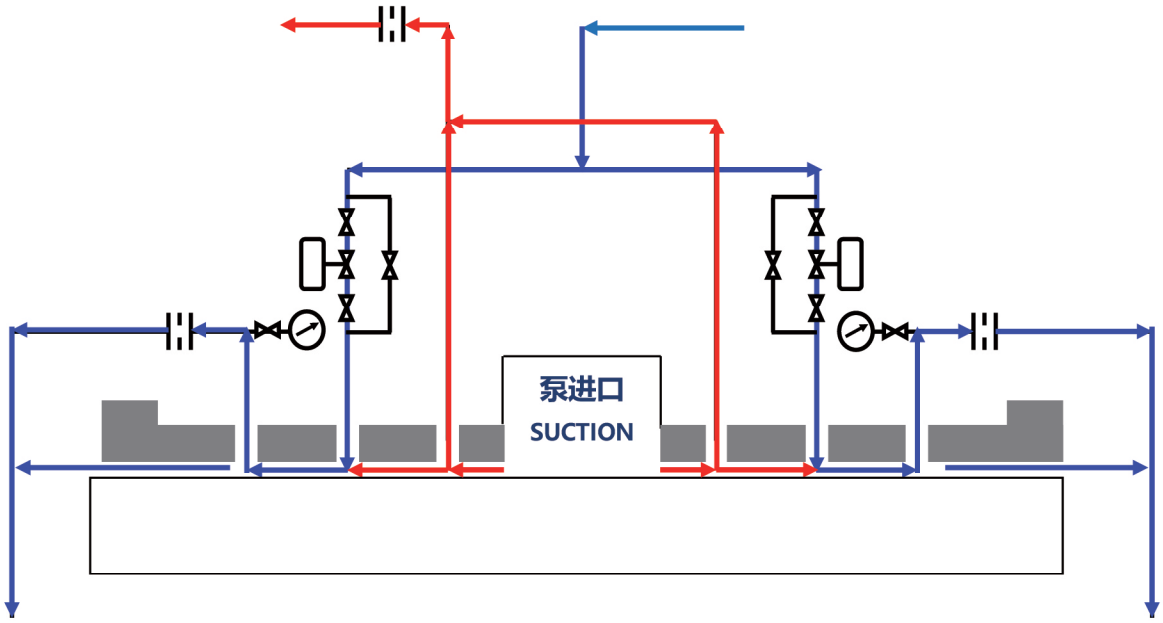
- 叶轮与轴为过盈装配。转子进行逐级动平衡，动平衡精度高。
  Impeller and shaft are interference assembly.Rotor step by step dynamic balance.Rotor dynamic balance precision is high.

- 可实现快速更换，适用于紧急更换场合。
  Quick replacement.Suitable for emergency replacement.

- 对备用芯包的保存要求极高。
  The storage requirement of spare inner cartridge is very strict.

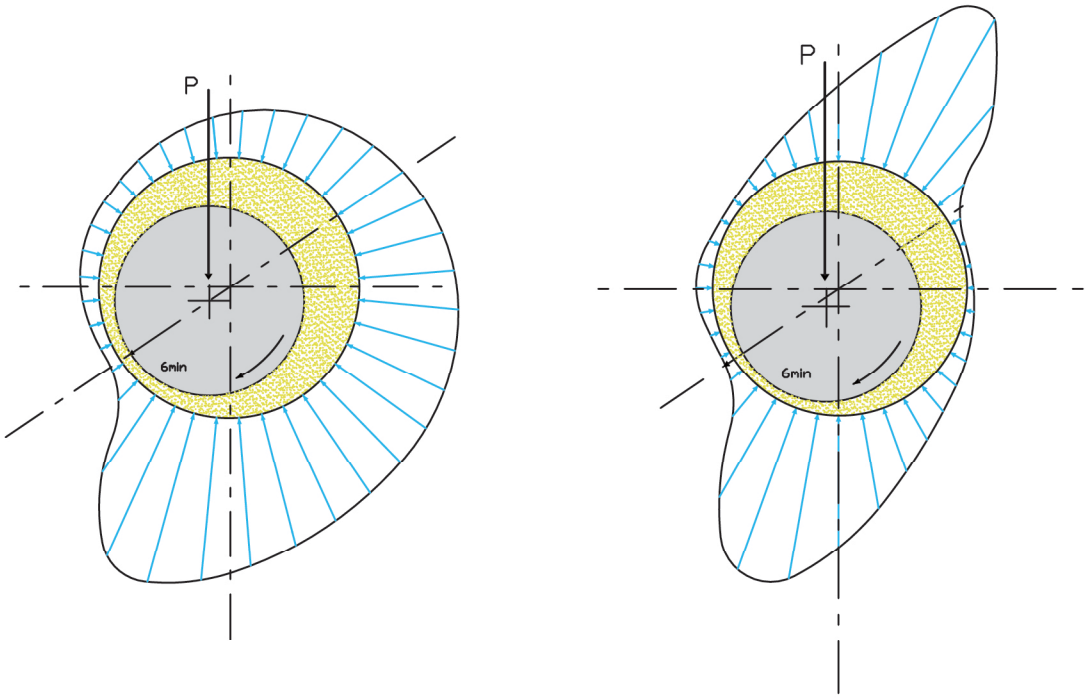
设计特征 Design Features

中间抽出型水力密封结构
Intermediate extraction type throttle bushing structure



- 降低注入水压力
  Lower the injection water pressure
- 注入水压力不受给水泵启停影响，压力稳定，操控简单
  The injection water pressure is not affected by the start and stop of the feed pump, the pressure is stable and the operation is simple
- 减少轴端泄漏水量，避免给水泵启停时密封水飞溅进入到润滑油中
  Reduce the leakage of water at shaft end and avoid the splash of sealed water into the lubricating oil when the feed pump starts and stops

径向轴承采用特殊油槽设计
Radial bearing adopts special oil groove design



- 常规油槽设计，径向力不平衡，轴振动大
  Conventional oil groove design, the radial force is unbalanced, the shaft vibration is large
- 特殊油槽设计，径向力平衡，轴振动小
  Special oil groove design, the radial force is balanced, the shaft vibration is small

Looking ahead,
going beyond expectations

Ahead > Beyond

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