

石油和天然气行业领先的泵解决方案
**Cutting-Edge Pumping Solutions for the
Oil and Gas Industry**





SULZER
Pumps

苏尔寿的优势 / The Sulzer Advantage

接受您的挑战 / Taking on Your Challenges

苏尔寿，一个在石油和天然气行业拥有180余年丰富经验和专业技术的世界领导者。我们为石油和天然气生产、运输、精炼、及石油化工加工等，提供最先进的泵解决方案。

Sulzer, with 180 years of experience and expertise, is a world leader in the oil and gas industry. We provide state-of-the art pumping solutions for oil and gas production, transportation, refining, and petrochemical processing.

专业 / Expertise

- 我们在石油和天然气领域的成功，是建立在我们独一无二的克服技术障碍的能力基础上的
- 苏尔寿提供性能可靠的高质量设备，从理念开始，直到设计、制造、测试、安装和可靠的运作支持
- 我们的开创性设计，在油气产品开发领域中处于前沿
- 目前最新的成果，包括功率为3~6MW的海底多相混合介质增压系统
- Our success in oil and gas is based on our unique ability to push back technical barriers
- Sulzer provides reliable high quality equipment from the concept phase through to design, manufacture, testing, installation and dependable operational support
- We are at the forefront delivering ground-breaking designs that stay ahead of oil and gas production developments
- Recent challenges include 3 to 6 MW subsea hybrid and multiphase pressure boosting systems

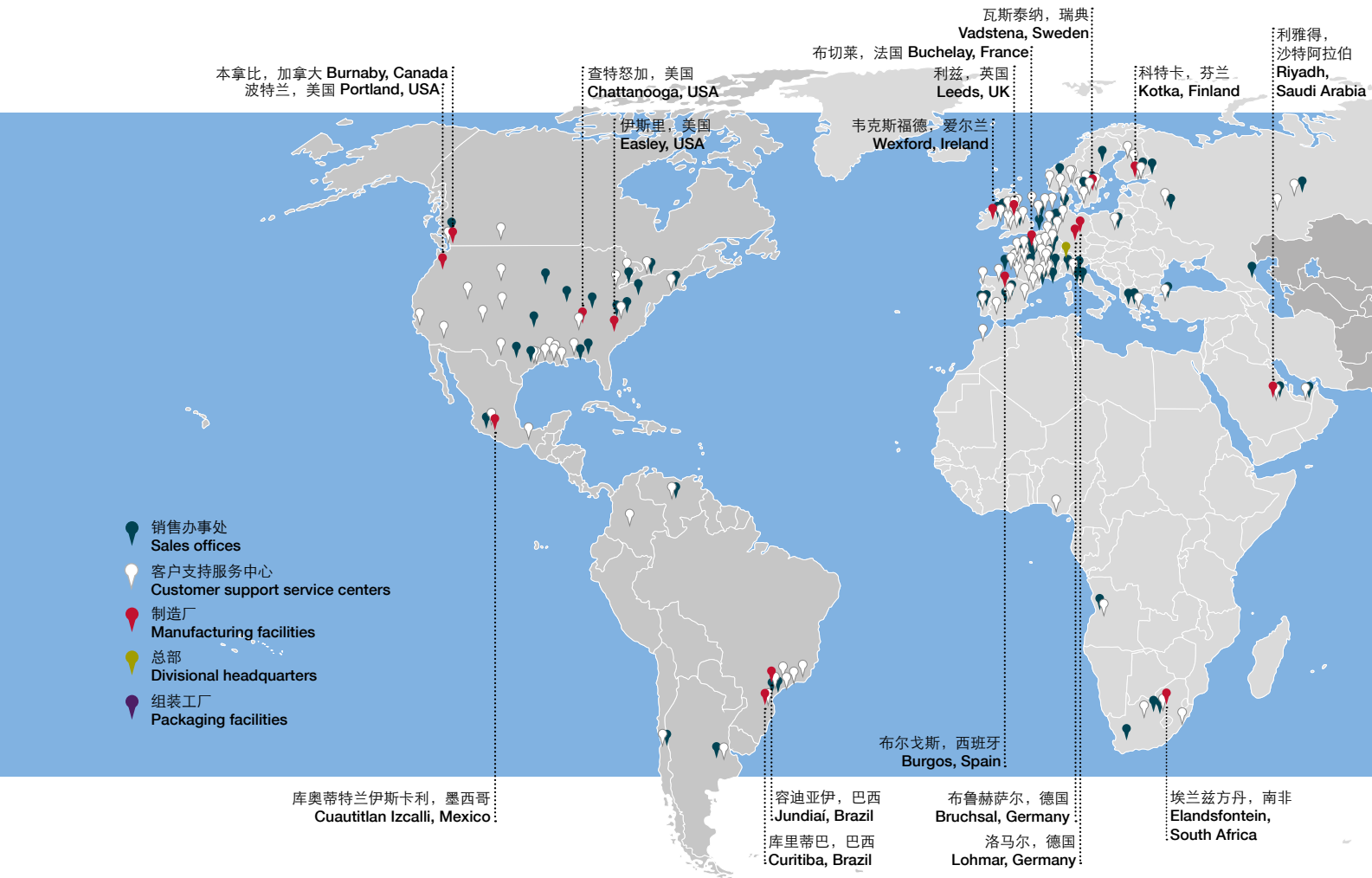
研究与创新 Research and Innovation

- 在石油天然气行业中，苏尔寿不断地刷新自己的世界纪录。我们一系列的世界第一，是独一无二的
- 自二十世纪八十年代生产出世界上最大功率的注水泵后，又研制出27MW的注水泵，功率比先前的纪录提高了50%
- 我们还第一个提供了出口压力大于600Bar（现在的设计大于800Bar）的注水泵，以及世界上最大的多相泵和液化天然气输出泵
- 得益于创新和先进的技术，苏尔寿能够开发定制化的解决方案，以满足最严格的规范
- Sulzer continues to establish world records in the oil and gas business and our list of firsts is unequalled
- Having produced the most powerful water injection pumps in 1980's, we later broke our own record by 50% up to 27 MW
- We also were first to deliver injection pumps with discharge pressure > 600 bar (designs now > 800 bar), as well as the world's largest multiphase and LNG sendout pumps
- Thanks to innovation and state-of-the-art technology, Sulzer develops customized solutions, to meet the most stringent specifications

可靠性 / Reliability

- 苏尔寿产品在首次开车、实用性、可靠性和便于维护等方面，都有着良好的信誉
- 我们的尖端技术，为世界上首台高能量注水泵的叶轮寿命安全作业40,000小时，提供了保障
- 苏尔寿HPcp泵的合计装机容量超过1000MW，累计运行时间超过100万小时，产品可靠运行率高达99%
- Sulzer products have earned a reputation for first time start-ups, availability, reliability and ease-of-maintenance
- Our cutting-edge technology led to the world's first 40,000 hour impeller life guarantee on a high energy injection pump
- With over 1,000,000 kW installed power and more than 1,000,000 operating hours, Sulzer HPcp injection pumps have delivered over 99% availability for our customers

我们的足迹遍布全球 / Our Footprint Spans Across



领先的测试能力 / State-of-the-Art Testing Capabilities

苏尔寿的所有制造厂都拥有性能优越的测试设施，有能力完成泵及其辅助设备的性能测试，以保证现场顺利试车和开车。

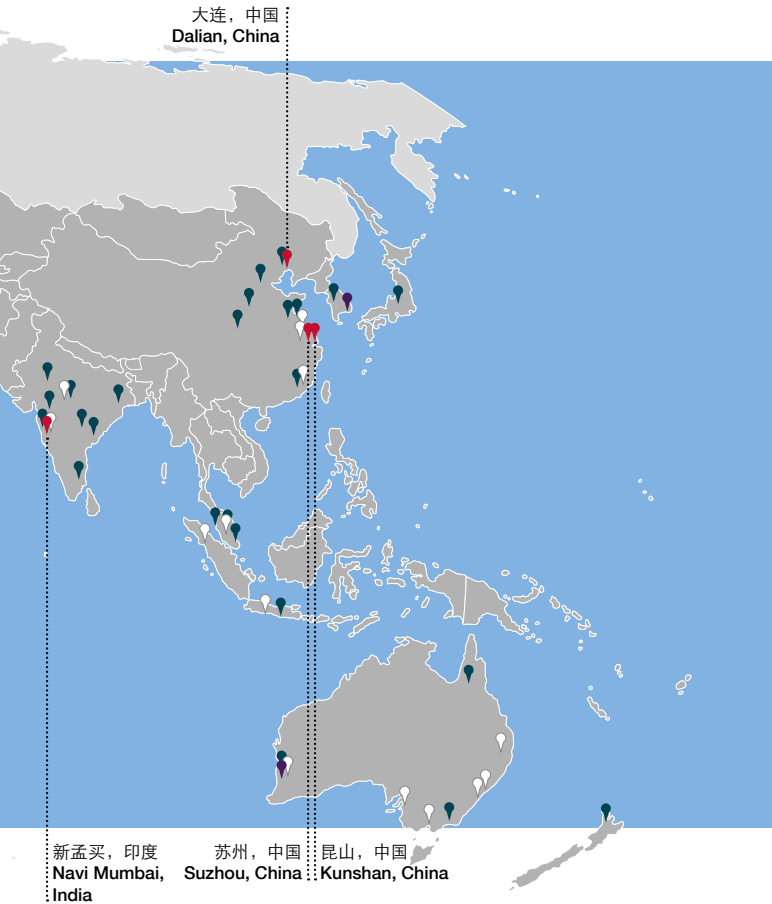
All Sulzer manufacturing plants have advanced testing facilities, capable of demonstrating pump performance and proving the ancillary equipment to ensure smooth commissioning and start-up.

燃气轮机整机测试

苏尔寿与众不同的一点是，在英国利兹工厂，我们拥有独特的燃气透平驱动整机测试台。在提供了许多燃气轮机驱动泵组后，我们意识到，有必要在出厂前进行整机测试。利兹工厂的燃机测试台的功率可以达到 30MW。利兹工厂的其他采用电机或是变频调节驱动的测试台的功率更大。我们其他工厂拥有各种各样的测试台来测试我们所制造的泵。

Gas Turbine String Testing

One of the Sulzer differences is our unique in-house gas turbine string test facility in Leeds, UK. Having supplied hundreds of gas turbine driven pumps, we are aware of the need to run the full train prior to shipment. The GT test facility in Leeds can string test with gas turbines up to 30 MW. The other test loops in Leeds can test to even higher MW using motors and Variable Frequency Drive (VFD). Our other facilities have similar variety of test facilities to test pumps they build.



海底测试

苏尔寿和 FMC 科技（海底生产、过程处理系统的领先供应商）一起，开发了一种新的强力海底多相增压系统。这些系统整合了苏尔寿的泵的水力技术（已经得到验证的水力）和 FMC 技术的永磁电机、全球领先的海底生产过程综合系统。

Subsea Testing

Sulzer, together with FMC Technologies, a leading provider of subsea production and processing systems, have developed a powerful new subsea multiphase pressure boosting system. These systems combine field proven pump hydraulics from Sulzer and both permanent magnet motor technology and world leading subsea processing system integration from FMC Technologies.

在石油和天然气行业的历年世界纪录 Decades of World Records in Oil and Gas

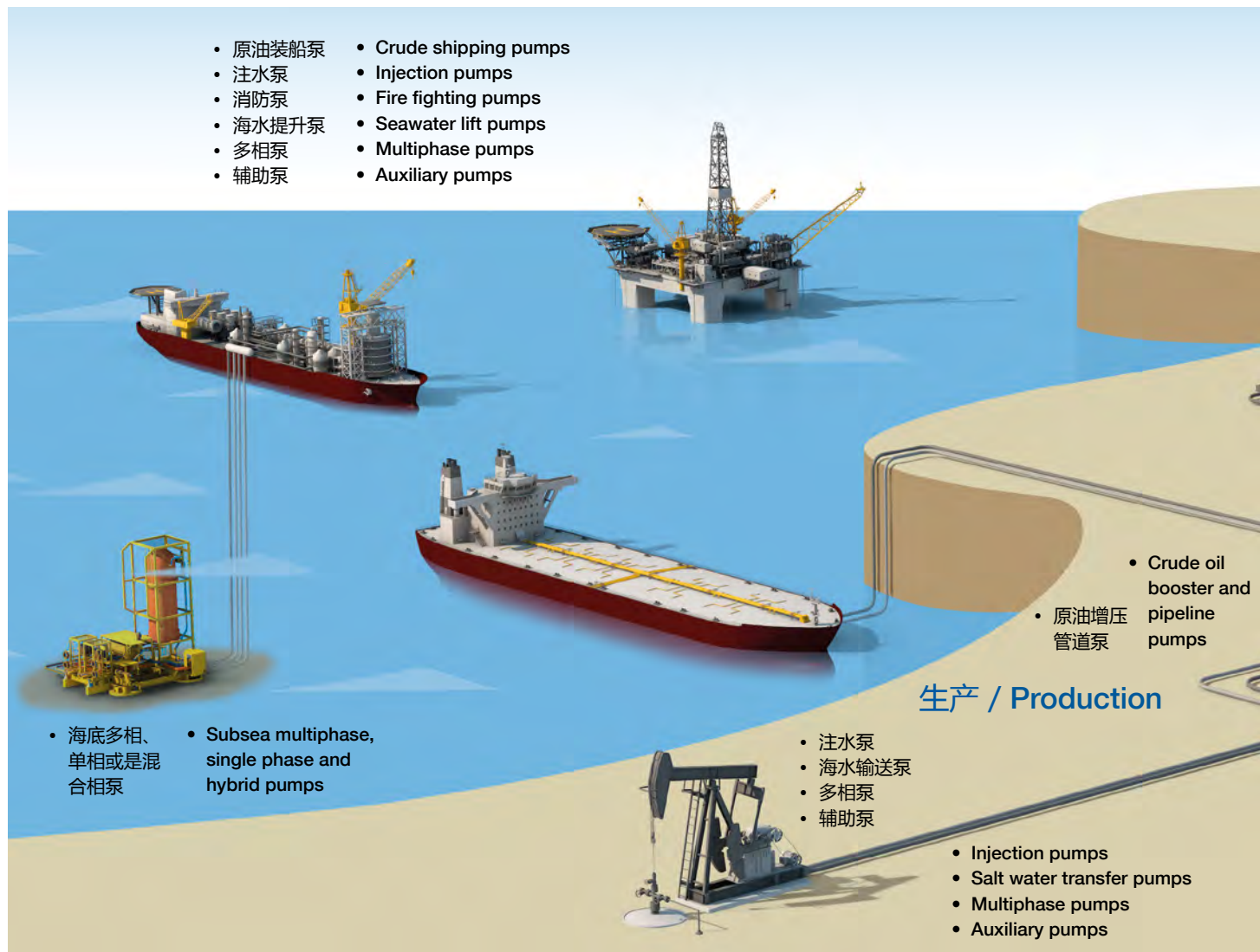
- 1975** ● 世界上第一台双相不锈钢注水泵
WORLD'S FIRST DUPLEX INJECTION PUMPS.
阿尔及利亚 / *Algeria* — 13 台 / units
- 1977** ● 世界上最大的注水泵
WORLD'S LARGEST INJECTION PUMPS.
15.7 MW — 2 台 / units
- 1978** ● 世界上最大的原油管道
WORLD'S LARGEST CRUDE OIL PIPELINE.
沙特阿拉伯 / *Saudi Arabia* — 33 台 / units
- 1978** ● 世界上最大的石油管道泵
WORLD'S LARGEST OIL PIPELINE PUMPS.
沙特阿拉伯 / *Saudi Arabia* 11.2 MW — 33 台 / units
- 1981** ● 世界上最大的注水泵
WORLD'S LARGEST INJECTION PUMPS.
阿拉斯加 / *Alaska* — 18.8 MW — 2 台 / units
- 1984** ● 世界最大的海上平台注水泵
WORLD'S LARGEST OFFSHORE INJECTION PUMP.
阿布扎比 / *Abu Dhabi* — 14.2 MW — 1 台 / units
- 1985** ● 世界上最长的管道
WORLD'S LONGEST PIPELINE.
加拿大 / *Canada* — 100 台 / units
- 1992** ● 世界上最大的立式注水泵
WORLD'S LARGEST VERTICAL INJECTION PUMPS.
挪威 / *Norway* — 6.7 MW — 2 台 / units
- 1994** ● 世界上最大的液化天然气输出泵
WORLD'S LARGEST LNG SEND OUT PUMPS.
土耳其 / *Turkey* — 2,121 m — 5 台 / units
- 1999** ● 世界最大的海上平台多相泵
WORLD'S LARGEST OFFSHORE MULTIPHASE PUMPS.
英国北海 / *North Sea* — 4.5 MW — 2 台 / units
- 2000** ● 世界上最大的多相泵
WORLD'S LARGEST MULTIPHASE PUMPS.
西伯利亚 / *Siberia* — 6.0 MW — 4 台 / units
- 2001** ● 世界上最高压力的注水泵
WORLD'S HIGHEST PRESSURE INJECTION PUMPS.
墨西哥湾 / *Gulf of Mexico* — 605 Bar — 4 台 / units
- 2002** ● 世界上最大的注水泵
WORLD'S LARGEST INJECTION PUMPS.
里海 / *Caspian Sea* — 27 MW — 4 台 / units
- 2007** ● 世界上最大的液化天然气输出泵
WORLD'S LARGEST LNG SEND OUT PUMPS.
荷兰 / *Netherlands* — 1.43 MW — 3 台 / units
- 2008** ● 世界上最长的输油管道
WORLD'S LARGEST OIL PIPELINE PUMPS.
俄罗斯 / *Russia* — 14.5 MW — 24 台 / units
- 2011** ● 世界上最高压力的注水泵
WORLD'S HIGHEST PRESSURE INJECTION PUMP.
墨西哥湾 / *Gulf of Mexico* — 2 台 / units
- 2012** ● 世界上最高功率的海底多相泵
WORLD'S HIGHEST POWER SUBSEA MULTIPHASE PUMP.
3.2 MW — 1 台 / unit

无论任何流程, 我们都能为您提供泵解决方案

Whatever the Process, We Have the Pumping Solutions

您给我们挑战机会, 我们就可以提供解决方案。
You set out the challenge, we present the solutions.

- 原油装船泵
- 注水泵
- 消防泵
- 海水提升泵
- 多相泵
- 辅助泵
- Crude shipping pumps
- Injection pumps
- Fire fighting pumps
- Seawater lift pumps
- Multiphase pumps
- Auxiliary pumps



- 海底多相、单相或是混合相泵
- Subsea multiphase, single phase and hybrid pumps

- 原油增压管道泵
- Crude oil booster and pipeline pumps

- 注水泵
- 海水输送泵
- 多相泵
- 辅助泵

- Injection pumps
- Salt water transfer pumps
- Multiphase pumps
- Auxiliary pumps

- 石油生产：用于注水、主输油管线、海水提升、消防、海底及相关辅助应用的泵
- 浮式储油卸油装置（FPSO）：注水泵、消防泵、海水提升泵、卸料泵、流程及辅助泵
- 输送管线：为上游提供增压泵、主输送泵、中游应用。包括，原油、稀释的沥青、稀释液、液化天然气、精炼产品和石化产品（汽油、柴油、液化石油气、特级临界乙烯等等。）
- 气体（液化天然气）：为新一代的液化天然气终端提供超高压输出泵
- 二氧化碳：提供二氧化碳管道输送和高压注入泵
- 泵产品服务：诊断和咨询、维修和技术支持，技术和经济性最佳优化改造
- Oil production: pumps for injection, main oil line, seawater lift, fire-fighting, subsea and associated auxiliary applications
- Floating Production, Storage and Offloading (FPSO): pumps for injection, firewater, seawater lift, offloading, process and auxiliary
- Pipelines: booster pumps and main line pipeline pumps for upstream and mid-stream applications: crude oil, diluted bitumen, diluent, Natural Gas Liquids (NGL), refinery products and petro-chemicals (gasoline, diesel, Liquefied Petroleum Gas (LPG), super critical ethylene, etc.)
- Gas (LNG): ultra-high pressure send out pumps for the latest generation of LNG terminals
- CO₂: CO₂ pipeline transportation and high pressure injection pumps
- Pump services: diagnostic and consulting, maintenance and support, technical and economic optimization through retrofits

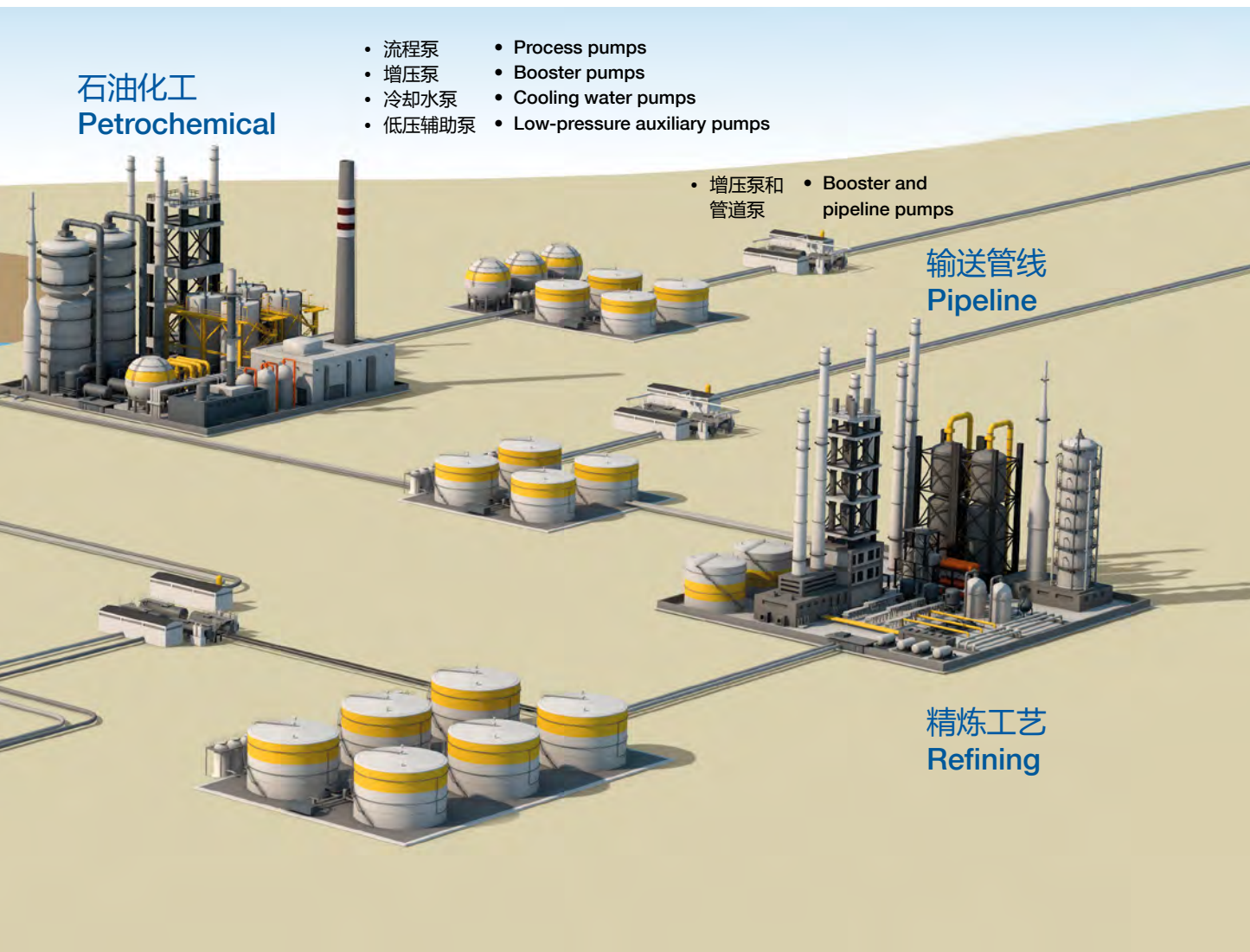
石油化工 Petrochemical

- 流程泵
- 增压泵
- 冷却水泵
- 低压辅助泵
- Process pumps
- Booster pumps
- Cooling water pumps
- Low-pressure auxiliary pumps

- 增压泵和管道泵
- Booster and pipeline pumps

输送管线 Pipeline

精炼工艺 Refining



您理想的服务伙伴

Your Ideal Service Partner

专业、负责，苏尔寿持续为您提供可靠的服务，及时的响应，快速的周转和创新的方案

Our expertise and commitment always deliver reliability, responsiveness, rapid turn-around and innovative solutions





我们的综合产品系列

Our Comprehensive Product Portfolio

应用 Applications	生产 Production		管线输送 Pipeline / Transport	按照API 610分类 API 610 Classification										
	海上 Offshore	陆上 Onshore		OH1	OH2	OH3	BB1	BB2	BB3	BB5	VS1	VS4	VS6	
海底多相、单相和混合相泵 Subsea Multiphase, Single Phase and Hybrid Pumps	✓										MPP* ▲			
多相 (螺旋轴向泵) Multiphase (Helico Axial)	✓	✓									MPP*			
注水、高压液体输送 Water Injection, High Pressure Liquid Transport	✓	✓	✓		OHH	OHV	HSB HPDM			MSD MSD2	HPcp HPcpV* GSG CP			
消防 Firewater	✓					OHV	SMN* SMH/ SMHV					SJT JTS* SJS		
海水提升 Seawater Lift	✓						SMN* SMH/ SMHV					SJT JTS* SJS		
原油装船和输送 Crude Oil Shipping and Transport	✓	✓	✓		OHH	OHV	SMN* SMH/ SMHV HSB HPDM	BBS BBT-D		MSD MSD2	HPcp GSG CP			JVCR SJD-API
流动保障 (重油、热油) Flow Assurance (Dead Oil / Hot Oil)	✓									MSD	GSG CP			
辅助系统 Auxiliary Systems	✓	✓	✓	AHLSTAR* CPT*	OHH	OHV	SMH/ SMHV	BBS / CD BBT-D				SJT JTS*	CVT	SJD-API

*按照API进行机械设计，并遵循满足苛刻条件下的水力和机械需求的理念
Mechanical design according to API with hydraulic/mechanical concept driven exceptions

▲有效的定制设计 / Customized designs available

产品综述

Product Overview

OH1

AHLSTAR 端部吸入单级离心泵 ISO 2858/5199 OH1 型式

AHLSTAR END SUCTION SINGLE STAGE LONG COUPLED CENTRIFUGAL PUMP ISO 2858/5199 OH1

客户关键利益 / KEY CUSTOMER BENEFITS

- 超出 ISO5199 和 ISO2858 标准的要求
- 适用于大部分苛刻的工业应用
- 独特的、专利的优化设计，带来最小的寿命周期成本
- 快速简单的安装，安全的运营，简单的维护服务
- Exceeds standard requirements of international ISO 5199 and ISO 2858 standards
- Suitable for the most demanding industrial applications
- Unique, patented and superior design features minimize life-cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

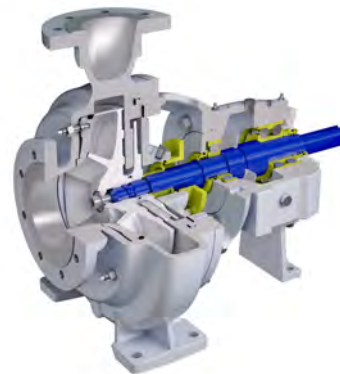
关键特性 / KEY CHARACTERISTICS

流量	达 11,000 m ³ /h / 55,000 USgpm
扬程	达 160 m / 525 ft
压力	达 16/25 bar / 230/360 psi
温度	达 180°C / 355°F

Capacities	Up to 11,000 m ³ /h / 55,000 USgpm
Heads	Up to 160 m / 525 ft
Pressures	Up to 16/25 bar / 230/360 psi
Temperatures	Up to 180°C / 355°F

应用 / APPLICATIONS

- 苛刻的流程和辅助应用
- Arduous process and auxiliary applications



AHLSTAR 端部吸入单级闭式连接离心泵 ISO 2858/5199 OH1 型式

AHLSTAR END SUCTION SINGLE STAGE CLOSE COUPLED CENTRIFUGAL PUMP ISO 2858/5199 OH1

客户关键利益 / KEY CUSTOMER BENEFITS

- 超出 ISO5199 和 ISO2858 标准的要求
- 适用于大部分苛刻的工业应用
- 独特的、专利的优化设计，带来最小的寿命周期成本
- 快速简单的安装，安全的运营，简单的维护服务
- Exceeds standard requirements of international ISO 5199 and ISO 2858 standards
- Suitable for the most demanding industrial applications
- Unique, patented and superior design features minimize life-cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

关键特性 / KEY CHARACTERISTICS

流量	达 600 m ³ /h / 2,600 USgpm
扬程	达 160 m / 525 ft
压力	达 16/25 bar / 230/360 psi
温度	达 130°C / 266°F

Capacities	Up to 600 m ³ /h / 2,600 USgpm
Heads	Up to 160 m / 525 ft
Pressures	Up to 16/25 bar / 230/360 psi
Temperatures	Up to 130°C / 266°F

应用 / APPLICATIONS

- 苛刻的流程和辅助应用
- Arduous process and auxiliary applications



CPT 端部吸入单级离心泵 ANSI B73.1 OH1 型式
 CPT END SUCTION SINGLE STAGE CENTRIFUGAL PUMP ANSI B73.1 OH1

客户关键利益 / KEY CUSTOMER BENEFITS

- 超出 ANSI/ASME B73.1 标准的要求
- 适用于大部分苛刻的工业应用
- 独特的、专利的优化设计，带来最小的寿命周期成本
- 快速简单的安装，安全的运营，简单的维护服务
- Exceeds standard requirements of ANSI/ASME B73.1 standards
- Suitable for the most demanding industrial applications
- Unique, patented and superior design features minimize life-cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

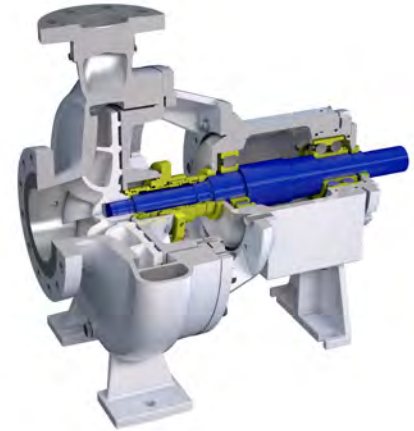
关键特性 / KEY CHARACTERISTICS

流量	达 1,600 m ³ /h / 7,000 USgpm
扬程	达 220 m / 720 ft
压力	达 26 bar / 375 psi
温度	达 260°C / 500°F

Capacities	Up to 1,600 m ³ /h / 7,000 USgpm
Heads	Up to 220 m / 720 ft
Pressures	Up to 26 bar / 375 psi
Temperatures	Up to 260°C / 500°F

应用 / APPLICATIONS

- 苛刻的流程和辅助应用
- Arduous process and auxiliary applications



OH2

OHH/OHHL 悬臂单级泵 ISO13709/API610 OH2 型式
 OHH/OHHL OVERHUNG SINGLE STAGE PUMP ISO 13709 / API 610 OH2

客户关键利益 / KEY CUSTOMER BENEFITS

- 带翅片的轴承箱和风扇冷却方式提供了长时间的轴承寿命
- 大范围的覆盖工业领域的 ISO 13709 (API 610) OH2 型式泵
- 提供符合 2 倍 ISO 13709 (API 610) 管口载荷的重型底座
- 配置 ISO 21049 (API 682) 集装箱式机械密封更好地减少泄露
- 电机、变频调节、发动机、蒸汽透平多种驱动方式
- Finned bearing housing and fan cooling for long bearing life
- Broadest range map in the industry for ISO 13709 (API 610) type OH2 pumps
- Heavy duty baseplates with 2x ISO 13709 (API 610) nozzle load option
- ISO 21049 (API 682) cartridge type mechanical seals for reduced emissions
- Electric motor, VFD, engine and steam turbine drivers

关键特性 / KEY CHARACTERISTICS

流量	达 2,250 m ³ /h / 10,000 USgpm
扬程	达 400 m / 1,500 ft
压力	达 76.5 bar / 1,110 psi
温度	达 425°C / 800°F

Capacities	Up to 2,250 m ³ /h / 10,000 USgpm
Heads	Up to 400 m / 1,500 ft
Pressures	Up to 76.5 bar / 1,110 psi
Temperatures	Up to 425°C / 800°F

应用 / APPLICATIONS

- 流程和增压应用
- Process and boosting applications



OH3

OHV/OHVL 悬臂立式管道泵 ISO 13709/API 610 OH3 型式
OHV/OHVL OVERHUNG VERTICAL INLINE PUMP ISO 13709 / API 610 OH3

客户关键利益 / KEY CUSTOMER BENEFITS

- 带翅片的轴承箱和风扇冷却方式提供了长时间的轴承寿命
 - 大范围的水力覆盖
 - 泵、电机共用减振重型底座
 - 配置 ISO 21049 (API 682) 集装式机械密封, 更好地减少泄露
 - OHH/OHHL 的轴和轴承具有小的挠度, 提供长时间的密封寿命
- Finned bearing housing and fan cooling for long bearing life
 - Broad range map for hydraulic coverage
 - Heavy-duty pump and driver stand for reduced vibration
 - ISO 21049 (API 682) cartridge type mechanical seals for reduced emissions
 - OHH/OHHL shaft and bearings for reduced deflection and long seal life

关键特性 / KEY CHARACTERISTICS

流量 达 1,150 m³/h / 5,000 USgpm
扬程 达 400 m / 1,500 ft
压力 达 51 bar / 740 psi
温度 达 343°C / 650°F

Capacities Up to 1,150 m³/h / 5,000 USgpm
Heads Up to 400 m / 1,500 ft
Pressures Up to 51 bar / 740 psi
Temperatures Up to 343°C / 650°F

应用 / APPLICATIONS

- 海水增压
 - 轻烃增压
 - 低压单位负荷
 - 泵周边服务
 - 罐区增压
- Seawater booster
 - Light hydrocarbon boosting
 - Low-pressure unit charge
 - Pump around services
 - Tank farm boosting



BB1

HPDM 轴向剖分蜗壳泵 BB1 型式
HPDM AXIALLY SPLIT VOLUTE CASING PUMP BB1

客户关键利益 / KEY CUSTOMER BENEFITS

- 为每一个应用进行特定设计并提供最佳的技术解决方案
 - 宽泛的、得到验证的水力型谱, 保证了泵的高效运行并且具有良好的吸入性能
 - 牢固的设计和充足的安全余量, 延长了使用寿命的同时, 使维修保养最小化
 - 大量的使用业绩, 提供了许多验证经验
 - 项目早期设计阶段的技术支持, 能够让我们更好地、充分地为一个应用提供一个高性价比的解决方案
- Optimum technical solution due to a tailor-made design for each application
 - Wide range of proven hydraulics allows high efficiency and suction performance
 - Sturdy design with generous safety margins for long life of reliable service with minimum maintenance
 - Proven experience backed by extensive list of references
 - Technical support provided to our customers from the early phases of the project design, allowing sound and cost-effective solutions for each application

关键特性 / KEY CHARACTERISTICS

流量 达 1,000 to 20,000 m³/h / 4,400 to 88,000 USgpm
扬程 达 700 m / 2,300 ft
压力 达 175 bar / 2,500 psi
温度 达 70°C / 160°F

Capacities 1,000 to 20,000 m³/h / 4,400 to 88,000 USgpm
Heads Up to 700 m / 2,300 ft
Pressures Up to 175 bar / 2,500 psi
Temperatures Up to 70°C / 160°F

应用 / APPLICATIONS

- 水输送
 - 原油输送
 - 任何其他高流量、高扬程应用
- Water transport
 - Transport of crude oil
 - Any other high flow, high head application



SMH 轴向剖分单级泵 ISO 13709/API 610 BB1 型式泵
SMH AXIALLY-SPLIT SINGLE STAGE PUMP ISO 13709 / API 610 BB1

客户关键利益 / KEY CUSTOMER BENEFITS

- 两端支撑设计为高流量工况可靠运行提供支持
- 能够覆盖 50-60Hz 转速下的宽泛的水力型谱
- 轴向剖分型式维修简单
- 立式轴型式 (SMHV) 能够应用在安装甲板有限的场所
- Between bearing design for reliability at high flow rates
- Broad hydraulic coverage at 50 and 60 Hz speeds
- Axially split casing for ease of repair
- Vertical shaft (SMHV) for limited deck space applications

关键特性 / KEY CHARACTERISTICS

流量	达 11,000 m ³ /h / 50,000 USgpm
扬程	达 200 m / 650 ft
压力	15 到 26 bar / 到 380 psi
温度	达 150°C / 300°F
Capacity	Up to 11,000 m ³ /h / 50,000 USgpm
Head	Up to 200 m / 650 ft
Pressure	15 to 26 bar / to 380 psi
Temperatures	Up to 150°C / 300°F

应用 / APPLICATIONS

- 陆上冷却水
- 海上海水
- 浮式储油卸油装置
- Onshore cooling water
- Offshore seawater
- FPSO



SMN 轴向剖分壳体，双吸叶轮泵 BB1 型式
SMN AXIALLY SPLIT CASING DOUBLE SUCTION PUMP BB1

客户关键利益 / KEY CUSTOMER BENEFITS

- 超过 50 种不同规格的水力型谱
- 高效率
- 稳定的设计带来长时间的运行
- 维护简单
- 转向可以随意选择，顺时针或是逆时针，安装方式可选立式或是卧式
- Broad hydraulic coverage through over 50 different sizes
- High efficiency
- Robust design for long service life
- Easy maintenance
- Flexible layout enabled by clockwise and counterclockwise rotation / vertical and horizontal arrangements

关键特性 / KEY CHARACTERISTICS

流量	达 10,000 m ³ /h / 44,000 USgpm
扬程	达 200 m / 650 ft
压力	达 30 bar / 435 psi
温度	达 50°C / 120°F
Capacities	Up to 10,000 m ³ /h / 44,000 USgpm
Heads	Up to 200 m / 650 ft
Pressures	Up to 30 bar / 435 psi
Temperatures	Up to 50°C / 120°F

应用 / APPLICATIONS

- 取水、水处理、供水
- 冷却和加热系统
- 工业水应用
- Water intake, treatment and supply
- Cooling and heating systems
- Industrial water applications



HSB 卧式、轴向剖分、单级、两端支撑泵 ISO13709/API 610 BB1 型式
 HSB HORIZONTAL AXIALLY SPLIT SINGLE STAGE BETWEEN BEARING PUMP ISO 13709 / API 610 BB1

客户关键利益 / KEY CUSTOMER BENEFITS

- 错列叶片、大尺寸的双吸叶轮，能够有效减少振动
- 通过简单的转子 / 蜗壳的改进，可以同时满足客户现有的和将来的需求
- 球 - 球轴承、滑动 - 球轴承、滑动 - 推力瓦块轴承都能适用
- 适用于燃气轮机驱动的高转速应用
- Staggered vane, double suction impeller on larger sizes for reduced vibration
- Custom hydraulics to meet both current and future requirements with a simple rotor / volute changes
- Ball-ball, sleeve-ball and sleeve-pivot shoe bearings are available
- High-speed designs available for remote gas turbine-driven applications



关键特性 / KEY CHARACTERISTICS

流量	达 10,000 m ³ /h / 45,000 USgpm
扬程	达 550 m / 1,800 ft
压力	达 150 bar / 2,200 psi
温度	达 205°C / 400°F
Capacities	Up to 10,000 m ³ /h / 45,000 USgpm
Heads	Up to 550 m / 1,800 ft
Pressures	Up to 150 bar / 2,200 psi
Temperatures	Up to 205°C / 400°F

应用 / APPLICATIONS

- 原油管道
- 重工位辅助应用
- Crude oil pipelines
- Heavy duty auxiliary applications

BB2

BBS 和 CD 两端支撑、单级泵 ISO 13709/API 610 BB2 型式
 BBS AND CD BETWEEN BEARINGS SINGLE STAGE PUMP ISO 13709 / API 610 BB2

客户关键利益 / KEY CUSTOMER BENEFITS

- 中心线支撑结构，可以减少热态工况下的不对中情况的产生
- 采用低汽蚀余量的双吸叶轮
- 第一临界转速远高于操作转速范围，保证了设备的正常运行
- 2 倍 API 610 管口负载设计的壳体，可以很好地应对管道应力扭曲
- 灌浆或是非灌浆，1 倍或是 2 倍载荷的底座可以简化安装
- Centerline support for reduced thermally induced misalignment
- Double suction impeller for low NPSH3
- First critical speed is well above operating speed range for smooth operation
- Casing designed for 2 times API 610 nozzle loads for freedom from piping distortions
- Grouted or ungrouted, 1x or 2x nozzle load baseplates for reduced installation cost



关键特性 / KEY CHARACTERISTICS

流量	达 4,200 m ³ /h / 22,000 USgpm
扬程	达 350 m / 1,500 ft
压力	达 51 bar / 740 psi
温度	达 425°C / 800°F
Capacities	Up to 4,200 m ³ /h / 22,000 USgpm
Heads	Up to 350 m / 1,500 ft
Pressures	Up to 51 bar / 740 psi
Temperatures	Up to 425°C / 800°F

应用 / APPLICATIONS

- 增压，同时满足高速原油装船需求
- 脱硫处理
- Booster as well as high speed crude shipping services
- Sulfate removal

BBT/BBT-D, 2 级径向剖分结构, ISO 13709/API 610 BB2 型式
BBT/BBT-D 2 STAGE RADIALY SPLIT PUMP ISO 13709 / API 610 BB2

客户关键利益 / KEY CUSTOMER BENEFITS

- 中心线支撑结构, 可以减少热态工况下的不对中情况的产生
- BBT-D 采用低汽蚀余量 (NPSH) 的双吸叶轮
- 第一临界转速远高于操作转速范围, 保证了设备的正常运行
- 2 倍 API 610 管口负载设计的壳体, 可以很好地应对管道应力扭曲
- 灌浆或是非灌浆, 1 倍或是 2 倍载荷的底座可以简少安装成本
- Centerline support for reduced thermally induced misalignment
- BBT-D double-suction impeller for low Net Positive Suction Head (NPSH)
- First critical speed is well above operating speed range for smooth operation
- Casing designed for 2x API 610 nozzle loads for freedom from piping distortions
- Grouted or ungrouted, 1x or 2x nozzle load baseplates for reduced installation cost



关键特性 / KEY CHARACTERISTICS

流量	达 2,300 m ³ /h / 10,000 USgpm
扬程	达 760 m / 2,500 ft
压力	达 100 bar / 1,440 psi
温度	达 425°C / 800°F

Capacities	Up to 2,300 m ³ /h / 10,000 USgpm
Heads	Up to 760 m / 2,500 ft
Pressures	Up to 100 bar / 1,440 psi
Temperatures	Up to 425°C / 800°F

应用 / APPLICATIONS

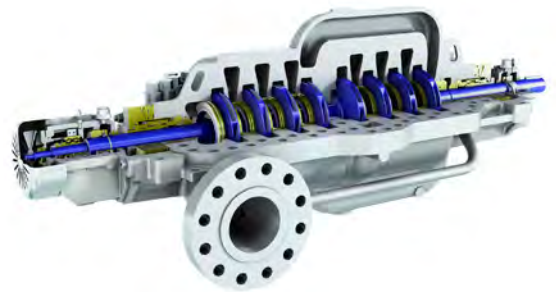
- 海水和原油增压应用
- Seawater and crude oil boosting applications

BB3

MSD 和 MSD2 轴向剖分多级泵 BB3 型式
MSD AND MSD2 AXIALLY SPLIT MULTISTAGE PUMP BB3

客户关键利益 / KEY CUSTOMER BENEFITS

- 宽泛的水力型谱, 能够覆盖市场上所有的 BB3 型式多级泵
- 轴向剖分结构, 让转子安装的时候不破坏自有的平衡状态
- 在大多应用中, 背靠背叶轮安装型式可以平衡轴向力, 节省润滑系统成本
- 多数尺寸中可以使用首级叶轮双吸结构, 来改善泵的吸入性能
- 适用于燃气轮机高转速驱动
- Broadest hydraulic coverage of any BB3 type multistage pump in the market
- Axially split casing means rotor balance is not disturbed when rotor is installed
- Opposed impellers balance axial thrust, saving lube system costs on most applications
- Double suction, first-stage available on most sizes for reduced Net Positive Suction Head (NPSH)
- High speed option for gas turbine drive



关键特性 / KEY CHARACTERISTICS

流量	达 3,200 m ³ /h / 14,000 USgpm
扬程	达 2,900 m / 9,500 ft
压力	达 300 bar / 4,400 psi
温度	达 200°C / 400°F

Capacities	Up to 3,200 m ³ /h / 14,000 USgpm
Heads	Up to 2,900 m / 9,500 ft
Pressures	Up to 300 bar / 4,400 psi
Temperatures	Up to 200°C / 400°F

应用 / APPLICATIONS

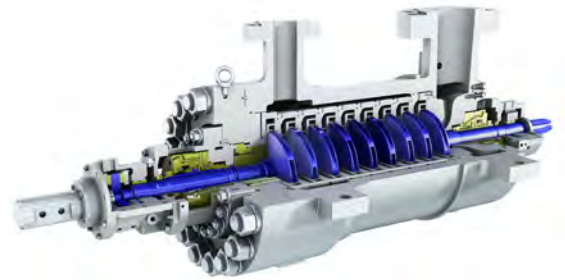
- 管线
- 注水
- 二氧化碳管道和灌注
- Pipelines
- Water injection
- CO₂ pipeline and injection

BB5

GSG 导叶结构筒袋泵 ISO 13709/API 610 BB5 型式 GSG DIFFUSER STYLE BARREL PUMP ISO 13709 / API 610 BB5

客户关键利益 / KEY CUSTOMER BENEFITS

- 最低成本的 ISO 13709/API 610 BB5 高压筒袋泵
- 直接驱动功率可达到 6MW
- 在低密度液体中，背靠背叶轮安装结构，可以使叶轮数量上升到 16 级
- 多种规格可以覆盖宽泛的水力范围
- 低压、高压、自锁紧和高温多种设计
- Least costly form of ISO 13709 / API 610 Type BB5 high-pressure barrel pumps
- Direct drive options to 6 MW
- Back-to-back rotor stack allows up to 16 stages on low-density fluids
- Multiple sizes cover a broad hydraulic range
- Low-pressure, high-pressure, twistlock, and high-temperature designs suit many applications



关键特性 / KEY CHARACTERISTICS

流量	达 900 m ³ /h / 4,600 USgpm
扬程	达 2,600 m / 10,000 ft
压力	达 300 bar / 4,500 psi
温度	达 425°C / 800°F

Capacities	Up to 900 m ³ /h / 4,600 USgpm
Heads	Up to 2,600 m / 10,000 ft
Pressures	Up to 300 bar / 4,500 psi
Temperatures	Up to 425°C / 800°F

应用 / APPLICATIONS

- 陆上或是海上注水应用
- 海上平台原油装船
- 液化石油气管道
- Onshore or offshore water injection
- Offshore crude oil shipping
- LPG pipelines

CP 蜗壳式筒袋泵 ISO 13709/API 610 BB5 型式 CP VOLUTE STYLE BARREL PUMP ISO 13709 / API 610 BB5

客户关键利益 / KEY CUSTOMER BENEFITS

- 背靠背叶轮安装平衡轴向力，在多数尺寸上不用润滑系统
- 内壳体的轴向剖分结构，让转子安装的时候不破坏自有的平衡状态
- 内壳体的双蜗壳结构平衡了径向载荷，能够长时间运行
- 扭锁结构的筒体盖，减少低温工况下的维修时间
- 大尺寸泵上的集装结构设计，可以减少泵的维修时间
- 内层蜗壳壳体在磨蚀工况下侵蚀很小
- Opposed impellers balance axial thrust, with no lube system needed on smaller pumps
- Axially split inner case means rotor balance is not disturbed when installed in the pump
- Dual volute inner case balances radial loads for longer service life
- Twist lock barrel closure reduces maintenance time on lower temperature services
- Cartridge design on larger pumps can speed up pump repair time
- Volute inner case with lower erosion wear on abrasive services



关键特性 / KEY CHARACTERISTICS

流量	达 1,000 m ³ /h / 4,400 USgpm
扬程	达 7,000 m / 23,000 ft
压力	达 425 bar / 6,250 psi
温度	达 425°C / 800°F

Capacities	Up to 1,000 m ³ /h / 4,400 USgpm
Heads	Up to 7,000 m / 23,000 ft
Pressures	Up to 425 bar / 6,250 psi
Temperatures	Up to 425°C / 800°F

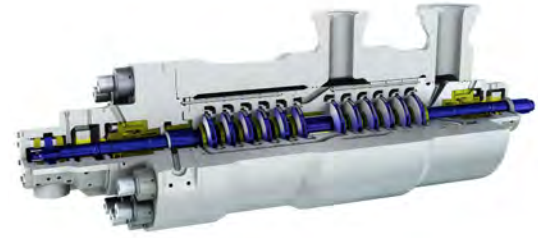
应用 / APPLICATIONS

- 高压油品输送
- 陆上注水应用
- 海上平台原油装船
- 液化石油气管道
- High pressure oil transport
- Onshore water injection
- Offshore crude oil shipping
- LPG pipelines

HPCP 导叶式高能量泵 ISO 13709/API 610 BB5 型式
HPCP DIFFUSER STYLE HIGH ENERGY PUMP ISO 13709 / API 610 BB5

客户关键利益 / KEY CUSTOMER BENEFITS

- 串联或是背靠背的叶轮安装方式，增强了转子的稳定性
- 锻造碳钢、双相不锈钢、HIP'd 和涂层覆盖的筒体
- 采用 Superbolts™ 超级螺母的自锁结构或是螺栓连接泵盖结构
- 滑动轴承、紧凑型轴承或是可倾瓦轴承设计
- 灌浆、非灌浆和海上平台的 3 点或是 4 点支撑底座
- Inline or back-to-back rotor stack designs for rotordynamic stability
- Forged Carbon Steel, Duplex SS, HIP'd and Overlaid barrel construction
- Twist Lock or bolted barrel closure with Superbolts™
- Sleeve, pocketed, or tilt pad bearings
- Grouted, ungrouted and offshore 3- or 4-point support baseplates



关键特性 / KEY CHARACTERISTICS

流量	达 4,000 m ³ /h / 20,000 USgpm
扬程	达 10,000 m / 33,000 ft
压力	达 1,100 bar / 16,000 psi
温度	达 200°C / 400°F

Capacities	Up to 4,500 m ³ /h / 20,000 USgpm
Heads	Up to 8,000 m / 26,300 ft
Pressures	Up to 1,100 bar / 16,000 psi
Temperatures	Up to 200°C / 400°F

应用 / APPLICATIONS

- 注水应用
- 海上平台原油装船
- 长输管道
- Water injection
- Offshore crude oil shipping
- Remote pipeline services

MPP 高性能多相泵 BB5 型式
MPP HIGH PERFORMANCE MULTIPHASE PUMP BB5

客户关键利益 / KEY CUSTOMER BENEFITS

- 螺旋轴向压缩污水，避免了气液分离和气体粘连
- 阶段设计变化，使得气体通过泵的压缩量得到补偿
- 卧式或是立式结构满足各种应用
- 多种设计尺寸，功率从 1MW 到 6MW，满足油田开发、产品生产和产量下降过程中的各种应用
- Helicoaxial stages axially compress the effluent to avoid separation and gas binding
- Stage design changes to compensate for gas compression through the pump
- Horizontal or vertical configurations to fit the application
- Variety of sizes available from 1 to 6 MW to suit the field development, production and decline



关键特性 / KEY CHARACTERISTICS

流量	达 3,600 m ³ / 500,000 BPD
扬程	达 200 bar dP / 3,000 psi dP
压力	达 1,100 bar / 16,000 psi
温度	1 到 250°C / 34 到 480°F

Capacities	Up to 3,600 m ³ / 500,000 BPD
Heads	Up to 180 bar dP / 2,600 psi dP
Pressures	Up to 1,100 bar / 16,000 psi
Temperatures	1 to 250°C / 34 to 480°F

应用 / APPLICATIONS

- 陆上油田初期的多相或混合相增压和输送
- 海上平台初期的多相或混合相增压
- 海底多相或混合相增压、注水和水输送
- Onshore topside multiphase or hybrid pressure boosting and transport
- Offshore topside multiphase or hybrid pressure boosting
- Subsea multiphase or hybrid pressure boosting, water injection and transport

VS0

SJS 潜水泵 VS0 SJS SUBMERSIBLE VS0

客户关键利益 / KEY CUSTOMER BENEFITS

- 没有联轴器 and 轴承需要维护
- 低压、中压、高压潜水电机应用，可以到 2MW (2700HP)
- 配置填充了水或是乙二醇的环保高效电机
- 多种材料选择，从不锈钢到超级双相不锈钢
- 两种配置：标准型式（电机在泵下方）和反向型式（电机在泵上方，用于低 NPSHa 工况）。
- No lineshaft couplings or bearings to maintain
- Low, medium and high voltage submersible motors available to 2 MW (2,700 hp)
- Water/glycol filled environmentally friendly motor for improved efficiency
- Variety of materials available from stainless steel to super duplex steel
- Two configurations available: standard (motor below pump) and inverted for low NPSHa applications (pump below motor)

关键特性 / KEY CHARACTERISTICS

流量	达 10,000 m ³ /h / 44,000 USgpm
扬程	达 230m / 750 ft
压力	达 40 bar / 600 psi
温度	达 80°C / 180°F

Capacities	Up to 10,000 m ³ /h / 44,000 USgpm
Heads	Up to 230m / 750 ft
Pressures	Up to 40 bar / 600 psi
Temperatures	Up to 80°C / 180°F

应用 / APPLICATIONS

- 海上平台海水提升
- 海上平台柴油机消防水
- 海上平台压舱水
- 陆上市政增压
- Offshore seawater lift
- Offshore diesel genset firewater
- Offshore ballast water
- Onshore municipal pressure boosting



VS1

SJT 和 JTS 立式深井泵 VS1 SJT AND JTS VERTICAL TURBINE PUMP VS1

客户关键利益 / KEY CUSTOMER BENEFITS

- 高效的最优化水力设计
- 标准配置填料密封，可靠密封、维修简单，可选机械密封
- 橡胶（标准件）润滑轴承提供长时间的无维修运行时间，也可以选用其他轴承材料
- 针对密封和推力轴承可以选用叠片联轴器
- 针对半开叶轮和大于 50 英寸壳体直径的整体拉出式结构，减少拆解和维修时间
- Optimized hydraulics for high efficiency
- Packed stuffing box for reliable sealing and simple maintenance, mechanical seal is optional
- Rubber-lined product-lubricated bearing in bowls and columns for long maintenance-free periods, other bearing materials are also available
- Spacer coupling allows servicing of the seal and thrust bearing as required
- Full pull-out design available for semi-open impellers and bowl diameter sizes > 50" to ease dismantling and maintenance

关键特性 / KEY CHARACTERISTICS

流量	达 62,000 m ³ /h / 270,000 USgpm
扬程	每级扬程可达 110 m / 350 ft
压力	达 64 bar / 930 psi
温度	达 50°C / 122°F

Capacities	Up to 62,000 m ³ /h / 270,000 USgpm
Heads	Up to 110 m per stage / 350 ft per stage
Pressures	Up to 64 bar / 930 psi
Temperatures	Up to 50°C / 122°F

应用 / APPLICATIONS

- 冷却水循环
- 供水
- 增压应用
- 海上平台消防水和供水
- Cooling water circulation
- Water supply
- Booster service
- Offshore firewater and service water



消防用柴油机驱动泵组 VS1
DIESEL HYDRAULIC DRIVEN PUMPING UNIT FOR FIREFIGHTING VS1

客户关键利益 / KEY CUSTOMER BENEFITS

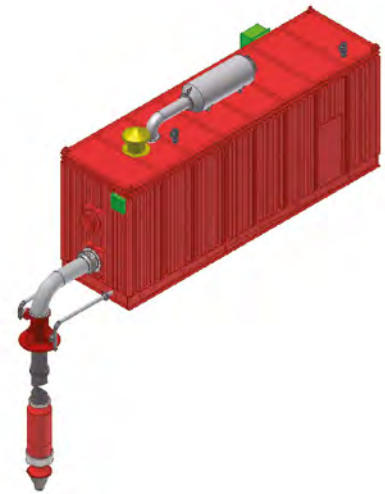
- 独立的设备，集装箱结构或是成撬结构供货，泵组包括柴油机驱动机、增压泵、液力耦合设备或是齿轮箱、燃油系统和其他所有的需要设备
- 即使在长时间备用停机状态下，所需维护时间也很少
- 可以制造成集装箱式底座或是开放式底座，也可以使用双相钢和超级双相钢
- 非常坚固
- Self-contained, containerized or skid module supports a diesel drive, booster pump, hydraulic power unit or angular gear box and lineshaft, fuel system, and all other systems required to operate the unit
- Minimum maintenance is required even during long periods on standby
- Available as container based and as open skid, and in duplex and super-duplex stainless steels
- Extremely robust

关键特性 / KEY CHARACTERISTICS

流量	500 到 3,500 m ³ /h / 2,200 到 15,500 USgpm
扬程	达 200 m / 650 ft
压力	达 25 bar / 360 psi
温度	达 50°C / 122°F
Capacities	500 to 3,500 m ³ /h / 2,200 to 15,500 USgpm
Heads	Up to 200 m / 650 ft
Pressures	Up to 25 bar / 360 psi
Temperatures	Up to 50°C / 122°F

应用 / APPLICATIONS

- 浮式储油卸油装置
- 产品生产平台
- 钻井
- FPSO
- Production platforms
- Drill ships



VS4

CVT 立式液下泵 VS4 型式
CVT VERTICALLY SUSPENDED SUMP PUMP VS4

客户关键利益 / KEY CUSTOMER BENEFITS

- 超出 ISO5199 标准要求，符合大部分 API 610 标准要求特点
- 适用于大部分工业液下泵应用要求
- 其独特的、优秀的专利设计，使得生命周期成本最小化
- 安装快速、简单，使用安全，易于维护
- Exceeds requirements of international ISO 5199 standard and fulfill many API 610 features
- Suitable for the most demanding industrial sump pump applications
- Unique, patented and superior design features minimize life-cycle costs
- Quick and easy installation, safe operation, easy maintenance and service

关键特性 / KEY CHARACTERISTICS

流量	达 750 m ³ /h / 3,200 USgpm
扬程	达 120 m / 550 ft
压力	达 2,5 MPa / 375 psi
温度	达 205°C / 400°F
Capacities	Up to 750 m ³ /h / 3,200 USgpm
Heads	Up to 120 m / 550 ft
Pressures	Up to 26 bar / 375 psi
Temperatures	Up to 205°C / 400°F

应用 / APPLICATIONS

- 适用于中等颗粒含量工况下的所有液下应用
- All sump applications with moderate solid content



VS6

JVCR 高压筒袋泵 ISO 13709/API 610 VS6

JVCR HIGH PRESSURE CANNED LNG LOADING PUMPS ISO 13709 / API 610 VS6

客户关键利益 / KEY CUSTOMER BENEFITS

- 维修简单
- 零件通用性好
- 没有诱导轮
- 高效率的泵和电机
- 可靠性高，并已经得到证实
- Ease of maintenance
- Accessibility
- No inducer required
- High pump and motor efficiency
- Proven reliability

关键特性 / KEY CHARACTERISTICS

流量	达 1,130 m ³ /h / 5,000 USgpm
扬程	达 2,450 m / 8,000 ft
压力	达 100 bar / 1,440 psi
温度	达 200°C / 400°F

Capacities	Up to 1,130 m ³ /h / 5,000 USgpm
Heads	Up to 2,450 m / 8,000 ft
Pressures	Up to 100 bar / 1,440 psi
Temperatures	Up to 200°C / 400°F

应用 / APPLICATIONS

- 液化天然气
- LNG



SJD 立式悬吊泵 ISO 13709/API610 VS6

SJD VERTICALLY SUSPENDED PROCESS PUMP ISO 13709 / API 610 VS6

客户关键利益 / KEY CUSTOMER BENEFITS

- 可以制造成 VS1 型式
- 减少叶轮使泵更短，运行更可靠
- 在大尺寸泵上采用双吸结构，可以减少泵长度
- 高效率可以减少能耗
- 积木式结构，可以满足项目现场的管口位置要求
- 单级叶轮的高扬程设计，使泵在低转速下就能满足工况需求
- Can be built as VS 1 construction
- Reduced number of stages results in shorter, more reliable pumps
- Double suction on larger sizes can reduce pump length
- High efficiency with reduced power consumption
- Modular construction to fit project nozzle location requirements
- High head per stage means process conditions can be reached with slower speeds

关键特性 / KEY CHARACTERISTICS

流量	达 3,800 m ³ /h / 20,000 USgpm
扬程	达 700 m / 3,000 ft
压力	达 75 bar / 1,100 psi
温度	达 205°C / 400°F

Capacities	Up to 3,800 m ³ /h / 20,000 USgpm
Heads	Up to 700 m / 3,000 ft
Pressures	Up to 75 bar / 1,100 psi
Temperatures	Up to 205°C / 400°F

应用 / APPLICATIONS

- 液化石油气装船
- 原油管线增压
- 低温天然气加工的去丁烷塔 / 脱丁烷塔应用
- Shipping of liquefied petroleum gas (LPG)
- Crude oil pipeline booster
- Debutanizer/depropanizer services in cryogenic gas plants





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