Real power comes from ideas.







We've got watt it takes.



Think, plan and act ahead.

Sustainability means doing business with a permanent eye to the future. That is particularly important in an area as dependent on natural resources as the energy sector. Global energy demands con tinue to rise. Energy suppliers need to meet them reliably and economically, while also protecting the environment. We are here to help. With all-in solutions for efficient fossil-fuelled thermal power plants. Operators use our pumps, valves, actuators and automation products across all primary and secondary processes in more than 1,000 power stations. KSB products help you manage boiler feed water, condensate and cooling water systems. Around the world, more than 170,000 of our pumps and some three million valves are already inaction helping generate energy.

前瞻性的思维、策划和行动

可持续发展意味着放眼于未来。长远考虑是作为不可再生能源领域的必要思维。全球能源需求与日俱增。环保、可靠、经济是能源供应者首要考虑的问题。我们的优势恰恰于此。我们可为火力电站提供一切有效的解决方案。超过1000个电站的主回路和辅助系统应用了我们的泵、阀门、执行器及自动化设备。我们的产品可有效地应用于锅炉给水冷凝水和冷却水系统。全球超过十七万台KSB泵和三百万个KSB阀门正在为发电而运转。

KSB has been serving customers with innovative solutions for more than 130 years. Our know-how and experience across awide spectrum of pump and valve technology make us the idealpartner for the operators, consultants and plant engineering contractors of high- performance power stations. One of ourcore skills is identifying synergies and implementing them ineconomic all-in solutions. That has made us one of the leading specialists worldwide. KSB knows all the ins and outs, and sees quality as part of its company philosophy. We develop materials, run our own inter national manufacturing network, and put our products through their paces on KSB test facili-ties. And every one of our 14,000 employees worldwide is committed to customer service. All our energy means more energy for all.

我们拥有130多年的创新服务经验。凝结了技术和经验的全系列泵和阀门,让我们成为电站运营者、设计院和承包商的理想合作伙伴。我们的核心技能之一就是发挥优势并贯通于所有的经济解决方案。基于此,我们成为全球的领先者。忠于品质,重于细节是我们的一贯追求。我们不断开发新材料,管理自己的全球制造网络,所有的产品均经KSB的严格测试。KSB全球14,000名员工都致力于为客户服务,我们的能力意味着为社会贡献更多的能量。

Performance from the start.











To focus on detail, one has to see the bigger picture. So KSB provides solutions, not isolated products. Solutions that we take personally from idea to implementation. We listen to exactly what our customers want – for example the operators of large ther-mal power stations. Then our engineers design the best pumps, valves, actuators and systems to ensure the facilities' reliability, day in, day out. Made from materials we have developed our-selves, ideally suited to the media to be handled.

For us, comprehensive consultation is crucial. Particularly when the challenges are as complex as those in the energy sector. Customer dialogue enables us to match products' technical parameters exactly to the application in hand. We supply all the engineering to your specifications, right through every unit and system. We partner you throughout the project phase and on to com-missioning. And we are still on hand when everything is up and running. With more than 100 service centres around the world, there is always one near you.

KSB provides it all: research, development, consulting, project implementation and service. Plus experience and innovation. And the ability to understand systems while studying every detail. Performance from the start. It is the yardstick we set ourselves. And the promise we give customers.

细节需要更多的投入,因此KSB提供的绝不仅仅是产品而是系统的解决方案。我们更愿意倾听客户的心声,例如大型电站的运营商。为了保证设备的稳定性,我们的工程师随时为客户设计最好的泵、阀门、执行器和系统。自行研发的材质更加适用于所输送的介质。

对于我们而言,汲取广泛意见至关重要,特别是来自于电站的挑战。与客户的沟通交流帮助我们改进产品技术参数,使之与实际应用更加匹配,从设备到系统,我们会根据您的技术规范设计并提供系统方案。我们将一直伴您左右,从立项直至运行。全球100多个服务中心总有一个在您身边。

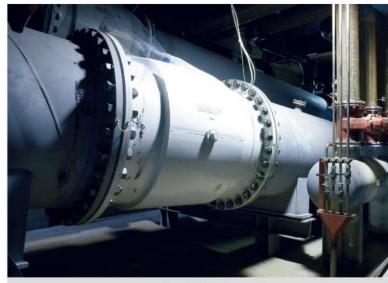
研究、开发、咨询和服务,经验和创新以及基于深入探索后对系统的认知能力——我们之所能。千里之行,始于足下!这是我们的行为准则,也是我们对客户的承诺。

For the energy of the future.

Today's power stations generate energy tomorrow's way. Thanks to KSB technology.

Designing power stations for tomorrow's world puts high demands on the equipment. High-performance drive solutions need ever-increasing efficiency, remarkable operating reliability and low life cycle costs. Our pumps and valves evolve with our customers' demands and requests. Over the past 50 years, the input power of our centrifugal pumps has risen to 40,000 kW, the discharge pressure to 400 bar and the stage pressure to 100 bar.

We invest more than € 20 million every year in research and development, in the latest simulation programs, company test beds and related facilities. Sophisticated power station equipment needs to meet the highest safety standards. Our development engineers work closely with customers throughout the development phase. Together they integrate stability and seismic calculations as well as sound and frequency analyses into the plans. And before a product leaves a KSB site, we test it under real-



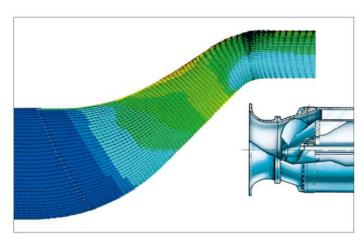
Test facility for cooling water pumps

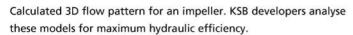
istic conditions. For example, on a test facility for cooling water pumps that can simulate all the operating points specified.

如今电站的能源生产是为能源的发展铺平道路。KSB的技术功不可没。

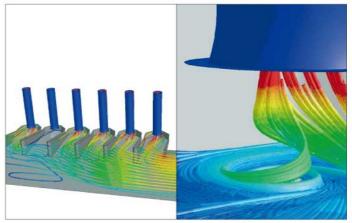
为世界的明天设计电站,对设备提出了更高的要求。高性能的驱动解决方法需要不断提高效率,优越的运行稳定性和较低的寿命周期成本。我们的泵和阀门应客户的要求和需求而改进。在过去的五十多年里,我们的离心泵的驱动功率已发展至40,000kw,泵的出口压力达到400bar,而单级压力达到了100bar。

我们每年投资超过2000万欧元用于最新的模拟程序、测试台和相关设施的研发上。先进的发电站设备需要符合最高的安全标准。在整个研发阶段,我们的研发工程师与客户保持着密切合作。他们将可靠性、抗震计算、噪音以及频率分析纳入研究计划。我们保证产品出厂之前进行现场模拟测试。例如在冷却循环水泵的性能试验台上,我们可以模拟出所有规定的工况点。





叶轮三维流体模型计算。凯士比研发人员对这些模型展开分析, 以使水力效率最大化。



Analysing the approach flow conditions for intake chambers with strong cross flow enables engineers to include the ideal internals. So the pumps keep running, smoothly and reliably.

在强过流条件下分析进水室的相似流态,能使工程师设计出最理想的内部结构。这样就能使泵保持可靠稳定的运行。



Impressing engineers internationally.

Our pumps and valves keep power stations running on every continent. Customers choose KSB for many reasons. For example, because we meet the highest safety requirements, enable economical operations, and provide comprehensive service on site.

有发电站的地方,就有KSB的泵和阀门在运行。客户选择KSB的理由诸多,比如安全性和经济性以及现场服务的全面性。

Gulf of Suez and East Port Said/Egypt, 苏伊士湾和东塞得港/埃及,

gas-fired power stations 燃气发电站

Gulf of Suez and East Port Said are two very similar Egyptian power stations that came on line in 2003. Our pumps and valves keep all their key processes moving. We supplied CHTC boiler feed pumps, SEZA cooling water pumps, WKTA condensate pumps and more than 500 butterfly valves. Professional planning, and implementation precisely to schedule, ensured an ideal

苏伊士湾和东塞得港是两个非常相似的埃及发电站,投产于2003年。我们供应的锅炉给水泵、循环水泵和凝结小泵及500多个蝶阀确保了其所有关键系统的运行。专业的策划和精确的执行进程,保证了理想的成本效益比。我们密切关注给水系统的每一

cost-benefit ratio. We kept a close eye on every step in installation of the complete feed water circuit. That included aligning the units with ultra-modern laser technology, checking the mea -suring equipment and staging all the test runs. We also supervised the commissioning, and our engineers carefully trained the teams from both power stations on site.

个安装步骤,包括利用超现代的激光技术校准设备、仪器仪表以及所有分段测试运行。我们同时也进行了试运行监测,而且我们的工程师在现场为这二个电站的相关人员进行了培训



Kostromskaya Gres, Kostroma/Russia, 科斯特罗马发电站(Kostromskaya Gres)/俄罗斯

gas-fired power station 燃气发电站

Kostromskaya Gres houses the world's largest gas-fired power station unit, with an output of 1,200 MW. KSB pumps ensure that both it and the other eight 300 MW units keep running smoothly. In 2002 we replaced older Russian models in the 1,200 MW unit with three cartridges from CHTD boiler feed pumps. As well as the very high pressures involved, we also faced the challenge of fitting all the cartridges precisely to the

科斯特罗马发电站拥有世界上最大的燃气发电机组,输出功率达1,200MW。凯士比的泵产品确保该发电机组及另外八个300MW机组稳定运行。在2002年时,我们用三个CHTD锅炉给水泵的芯包替换下了1,200MW机组中较陈旧的俄罗斯产的泵芯。除了高压外,我们还遇到了要使所有更换芯包与原壳体精确匹配的问题。

Russian casings. Thanks to KSB, the pumps are now highly efficient, need fewer inspections and are enjoying a new lease of life. That performance, plus our specialists' skills and knowhow, left a strong impression on Kostromskaya Gres management. At the end of 2005, KSB received a follow-up order for ten boiler feed pump cartridges for the 300 MW units.

多亏了凯士比,如今泵的运行十分稳定且高效,并且检修的次数不用再像过去那么频繁,整个机组获得了真正的新生。高性能的产品以及专家的技能与专知令科斯特罗马发电站管理层印象深刻。2005年底时,凯士比又得到了该发电站发出的订单,即为300MW机组提供十个锅炉给水泵芯包。



Permskaya Gres/Russia, 皮尔姆发电站(Permskaya Gres)/俄罗斯

gas-fired power station 燃气发电站

Permskaya Gres started generating in 1986. Its three 800 MW units made it one of Europe's largest power stations, and the principal supplier for the whole Urals region. By the late 1990's, however, leakages, heavy vibrations and sealing liquid losses of the shaft seals were significantly reducing output. To guarantee electricity supply, the original Soviet boiler feed and booster pumps needed a complete refit.

皮尔姆发电站自1986年开始发电。它有三个800MW的机组,是欧洲最大的发电站之一,也是整个乌拉尔地区的主要电力供应者。但是到二十世纪90年代后期,由于振动、泄漏,特别是轴封密封水泄漏增加,造成泵的出力严重不足。为了保证电力的供应,机组中原苏联生产的锅炉给水泵及前置泵急需进行全面改造。

In 1999, KSB supplied six state-of-the-art cartridges for boiler feed pumps, two spare cartridges and six booster pumps. Our service specialists supervised installation and commissioning. The equipment enabled the systems to operate smoothly and reliably. This has made a decisive improvement to power station availability and efficiency, and, hence, economic efficiency.

1999年凯士比为皮尔姆发电站提供了六个最先进的锅炉给水泵芯包和两个备用芯包及六台前置泵。我们服务专家还在现场指导安装及调试。设备安装后,整个系统运行稳定而可靠。 发电站的可利用率、效率及经济效益得到了决定性的改善。



Wai Gao Qiao, Shanghai/China, 外高桥,上海/中国 coal-fired power station

燃煤电站

Visit the Pudong District of Shanghai, and you will see one of China's largest coal-fired power stations. Wai Gao Qiao marks a milestone in Chinese power station construction. Commissioned in 2003 and 2004, the two 900 MW units have run without a hitch from the word go. And they have set new yardsticks for efficiency, reliability and economical operation. Overall system efficiency is more than 42 %. Our SEZA cooling water pumps,

参观上海浦东新区,你会看到中国最大的燃煤发电站。外高桥是中国发电站建设的一个里程碑。2003-2004年间安装的两台900MW机组至今没有出现过任何问题,他们以高效率,可靠性和经济运行树立了一个新的标准。整个系统的效率超过42%。

CHTC motor-driven start-up boiler feed pumps and CHTD turbine-driven boiler feed pumps ensure efficient power generation. We also supplied the entire valve package for the feed water system. KSB also met a special requirement: the large-sized valves have to withstand pressures of 601 bar and temperatures of up to 207 °C. Our service engineers quarterly inspect all the products fitted.

我们的SEZA型冷却水泵,及CHTC型电机驱动的启动锅炉给水泵与CHTD型汽轮机驱动的锅炉给水泵确保了发电的高效率。同时我们还为供水系统的提供了整套的阀门包,凯士比的产品还能满足特别需求,如可承受601bar压力及最高207°C的大型阀门。我们的服务工程师每个季度都会为安装完毕的产品展开巡检。



Generating gains for Germany.

Heyden/Germany, 海盾/德国

coal-fired power station 燃煤电站

Heyden coal-fired power station went into operation in 1986 at 760 MW. Today it does 865. To achieve the new operating parameters, the operators increased the speed of the boiler feed pump. That required retrofitting the pump, including a change

单机容量为760MW的德国海盾燃煤发电站于1986年投入运营,如今已达到865MW。为了实现最新的运营指标,发电站运营者提高了锅炉给水泵的运行速度。这就需要对泵进行改进,且设计也需做出变更。

in design. Successful modifications reduced the vibrations, im -proved availability and markedly increased reliability. Innovative KSB technology thus helped reduce Heyden's operating costs by a significant margin.

成功的更新改造,不但减少了震动,改进了效能,还大大提高了可靠性。就这样,凯士比的创新技术大大削减了海盾的运营成本。



BoA Niederaussem/Germany, BoA Niederaussem/德国

lignite-fired power station 褐煤发电厂

The largest CHTA boiler feed pump ever built by KSB has been in action at the Niederaussem lignite-fired power station since 2002. The full-load pump set is designed for 30 years' operation with above-average efficiency and maximum availability. Optimised plant engineering ensures a high economic efficiency and a considerable reduction in life cycle costs (LCC). As well as the high-performance 40 MW CHTA and its booster pump, Niederaussem uses an LUV boiler recirculation pump and more

KSB生产的迄今为止最大的CHTA型锅炉给水泵,自2002年以来就在Niederaussem的褐煤发电厂运行。该全负荷泵组被设计为可运行30年,效率高于平均水平且使设备可利用率最大化。该经过设备优化的工程确保了极高的经济效益,并显著减少了生命周期成本(LCC)。除了采用驱动功率达40MW的高性能的CHTA型给水泵及前置泵外,Niederaussem还采用了LUV型锅炉循环泵及50多台凯士比其它型号的泵产品,如:Amarex、CPK、Eta及Multitec等。

than 50 other KSB Amarex, CPK, Eta and Multitec pumps. The power station also employs numerous NORI, ZTS and ZXSVA high-pressure valves. The commissioning team tracked operating data through the entire commissioning phase. This ensured a faultless start to the feed pump unit's service life. Our experienced plant service specialists planned every step of the installation and kept the project on schedule. That kept costs low and safety high throughout construction and commissioning.

NORI、ZTS和ZXSVA等高压阀门广泛应用于此发电站。运营团队全过程跟踪记录运行参数,这为保障给水系统无故障运行提供了良好开端。我们经验丰富的电站服务专家制定了严密的设备安装计划,从而保证工程如期推进。经过精心安装和调试后,使运营成本降低,可靠性提高。

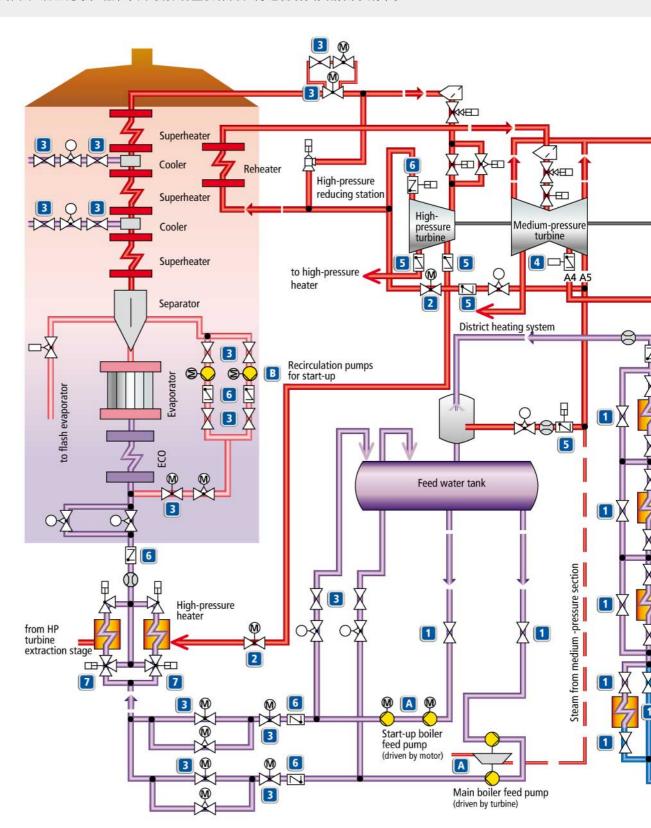


In where the action is.

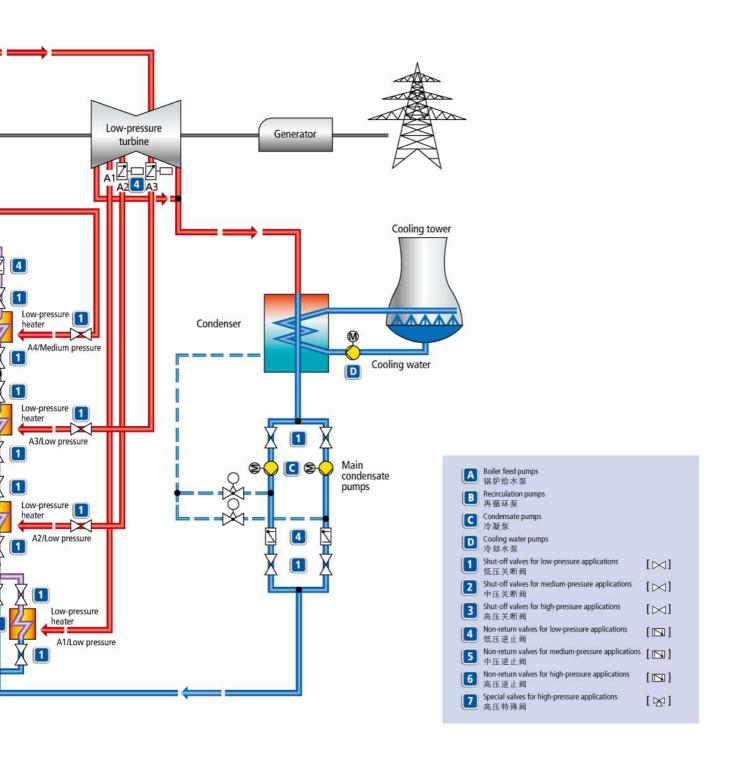
Our pumps and valves feature in all the primary and secondary processes of thermal power stations – like the handling and circulation of boiler feed water, condensate and cooling water. They ensure reliability, safety and absolute precision, coupled with unbeatable economic efficiency. Modern steam power stations are highly efficient. KSB pumps play a major role, and cut operators' energy bills significantly.

我们的泵和阀门在火电站的所有主要和辅助系统中发挥着重要作用——如输送锅炉给水、凝结水和冷却水。他们确保可靠性,安全性和精确性,以及无与伦比的经济性。

在现代高效的电站中,凯士比泵产品在其中发挥着重要作用,为运营者大大削减了成本。

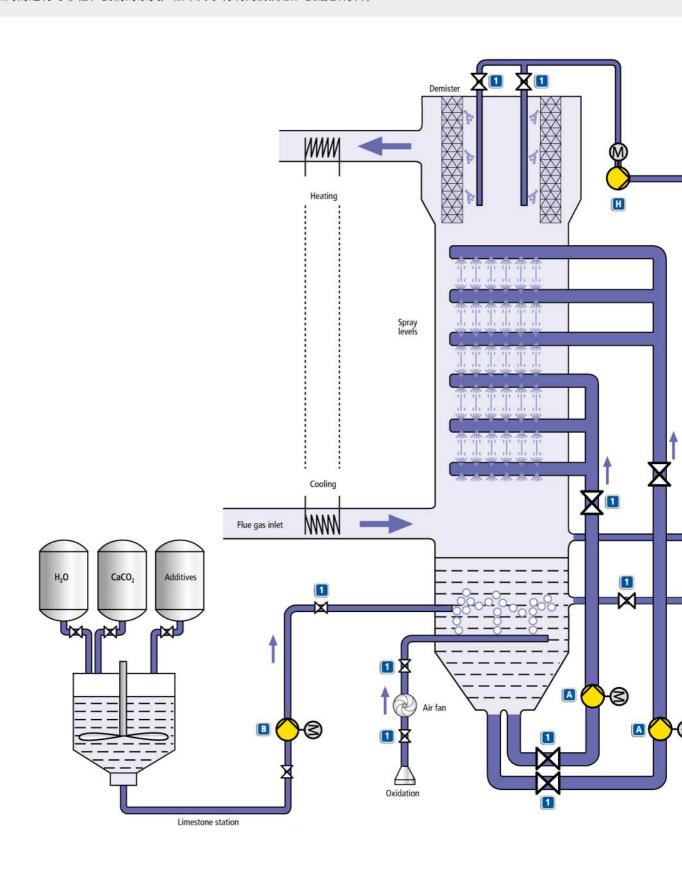


Steam power station circuit 蒸汽电站流程图

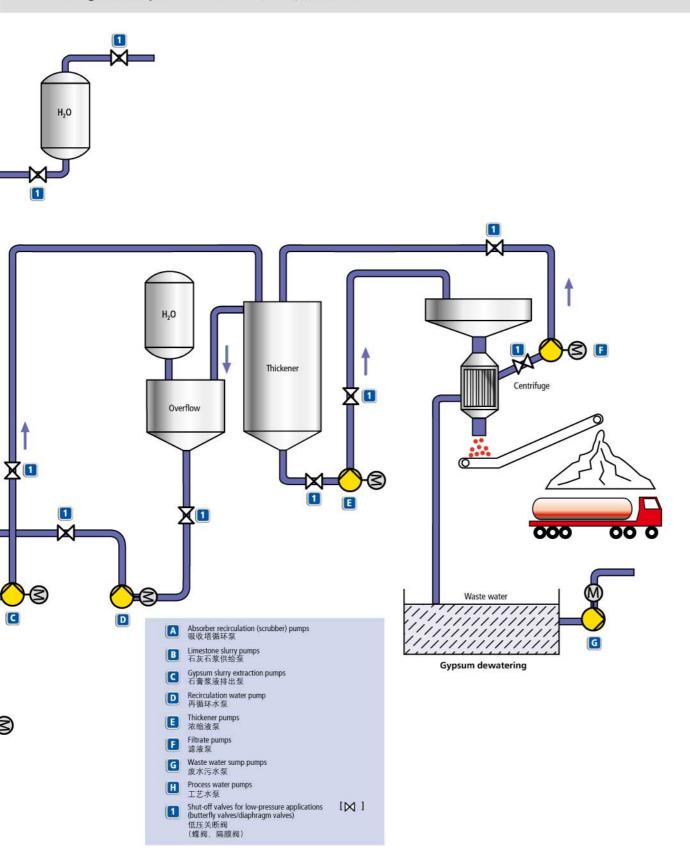


Today's desulphurisation technology removes more than 95% of pollutants from flue gas before release into the atmosphere. Our pumps are in demand across the full range of primary and secondary desulphurisation processes. To ensure maximum operating reliability, we manufacture them from specially developed anticorrosive and wear-resistant materials.

如今的脱硫技术可以将燃气中95%的污染物在释放到大气层之前分离出来。脱硫的主要和辅助工艺流程中离不开我们的泵产品。 为了确保最高的运行可靠性,我们的泵类产品采用了特制的防腐蚀、抗磨损材料。

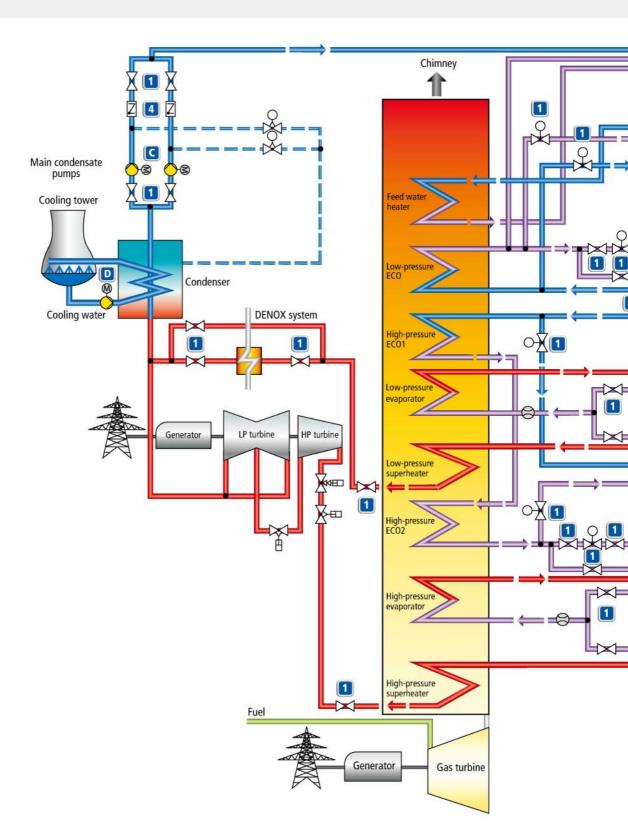


Flue gas desulphurisation circuit 烟气脱硫流程图

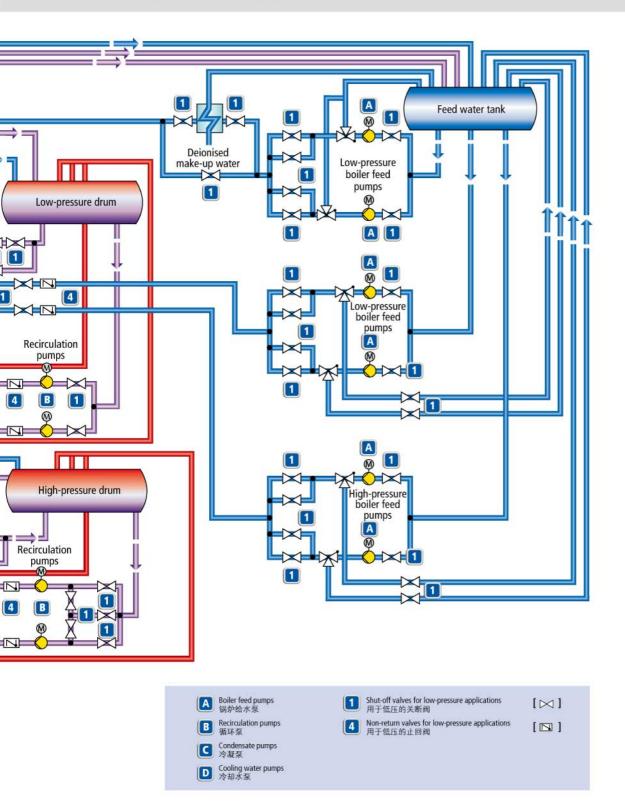


Combined cycle power stations are quick to build, extremely efficient, and release only limited amounts of CO₂. Our pumps and valves ensure smooth and highly economical operation.

联合循环发电站建设周期短且热效高,但排放的二氧化碳量却很少。凯士比的泵及阀门产品确保了该类发电站平稳及高效的运营。



Combined cycle power station circuit 联合循环发电站流程图





Pumps for steam power stations 用于蒸汽发电站的泵产品

Boiler feed pumps 锅炉给水泵 Barrel-type pumps 筒形泵 Ring-section pumps 节段式泵	CHTC/CHTD HGC/HGD YNK/KRHA
Boiler recirculation pump 锅炉循环泵	LUV
Condensate pumps 冷凝泵	NLT/WKTA/WKTB WKH
Cooling water pumps 冷却水泵	SEZ/PHZ/PNZ
Auxiliary pumps 辅助泵	Omega KRT KWP HPK HPH RPH CPK SPY Multitec
Pumps for flue gas desulphurisation 用于烟气脱硫的泵	KWPK FGD LCC

Pumps for combined cycle power stations 用于联合循环发电站的泵产品

Boiler feed pumps 锅炉给水泵	HGC HGM
Boiler recirculation pump 锅炉循环泵	LUV
Condensate pumps 冷凝泵	NLT / WKTA / WKTB WKH
Cooling water pumps 冷却水泵	SEZ/PHZ/PNZ SNW/PNW RDLO
Auxiliary pumps 辅助泵	Omega KRT KWP HPK HPH RPH CPK SPY Multitec

Boiler feed pumps 锅炉给水泵

CHTC/CHTD Boiler feed pump CHTC/CHTD 锅炉给水泵



Design: Horizontal high-pressure barrel-type pump with radial impellers, single-entry, multistage, with flanges / weld end nozzles to DIN and ANSI.

设计:单吸、多级的卧式筒形高压离心泵,法兰及焊口符合DIN及ANSI标准。

Applications: Handling of feed water and condensate in power stations and industrial facilities, generation of pressurised water for bark peeling machines and descaling equipment.

应用:用于输送电站锅炉给水、凝结水及工业设备中高压水,也可为脱壳机、去氧化皮机提供高压水。

Technical data CHTC / 技术参数

Q m³/h: up to 1,280 H m: up to 4,200 p bar: up to 420 T °C: up to +200 n min¹: up to 6,750

Technical data CHTD / 技术参数

Q m³/h: up to 3,600 H m: up to 4,500 p bar: up to 450 T °C: up to +210 n min¹: up to 6,200

HGC/HGD Boiler feed pump

HGC/HGD 锅炉给水泵



Design: Horizontal, radially split, multistage ring-section pump with radial impellers, single or double entry.

设计: 吸入口为单吸或双吸径向剖分多级卧式节段式

Applications: Handling of feed water and condensate in power stations and industrial facilities, generation of pressurised water for bark peeling machines, descaling equipment, snow guns, etc.

应用:用于输送电站锅炉给水、凝结水及工业设备中的 高压水。也可为脱壳机、去氧化皮机和造雪机等提供高 压水。

Technical data HGC / 技术参数

Q m³/h: up to 1,450 H m: up to 4,200 p bar: up to 420 T °C: up to +200 n min³: up to 7,000

Technical data HGD / 技术参数

Q m³/h: up to 2,000 H m: up to 4,500 p bar: up to 450 T °C: up to +210 n min¹: up to 6,200

YNK/KRHA Boiler feed booster pump

YNK/KRHA 前置增压泵



Design: Horizontal, radially split, single-stage, doubleentry boiler feed booster pump (booster system) with single or double cast steel volute casing.

设计:卧式单级、双吸、径向中开,单蜗壳或双蜗壳前置 增压泵。

Applications: Handling of feed water in power stations and industrial facilities.

应用: 用于输送发电站及工业设备中的锅炉给水。

Technical data / 技术参数

Q m³/h: up to 3,700 H m: up to 280 p bar: up to 40 T °C: up to +210 n min⁻¹: up to 1,800

HGM Boiler feed pump HGM 锅炉给水泵

Design: Horizontal, radially split, product-lubricated, multistage ring-section pump with radial impellers, axial and radial single-entry inlet.

设计: 吸入口可径向或轴向布置的卧式多级自润滑节段式 率心泵

Applications: Handling of feed water in power stations, boiler feed water and condensate in industrial facilities.

应用:用于输送电站锅炉给水和工业设备中的锅炉给水和冷凝水。

Technical data / 技术参数

Q m /h: up to 274 H m: up to 1,400 p bar: up to 140 T °C: up to +160 n min¹: up to 3,600



Boiler recirculation pump 锅炉循环泵

LUV/LUVA Boiler recirculation pump

LUV/LUVA 锅炉循环泵

Design: Hermetically sealed vertical recirculation pump, radial or mixed flow impellers, single-entry, single or double stage; suitable for very high system pressures and temperatures. Integrated wet rotor motor to VDE/IEEE specifications, pressure boundary designed in accordance with the common boiler codes.

设计:全密封立式炉水循环泵,离心或混流叶轮、单吸、单级或双级;适用于高压高温系统。湿绕组电机满足 VDE/IEE规范,承压部件按通用锅炉标准设计。

Applications: Hot water recirculation in large steam generators of power stations and industrial facilities.

应用:用于发电站及工业设施中的热水循环。

Technical data / 技术参数

Q m³/h: up to 7,000 H m: up to 300 p bar: up to 350 T °C: up to +380 n min¹: up to 3,600



Condensate pumps 冷凝泵

NLT/WKTA/WKTB Condensate pump

NLT/WKTA/WKTB 冷凝泵



Design: Vertical, multistage, can-type ring-section pump Single-entry anddouble-entry suction impellers. Flanges to DIN or ANSI or GB.

设计: 立式筒袋式多级离心泵, 首级为单吸或双吸叶轮, 法兰符合DIN或ANSI或GB标准。

Applications: Handling of condensate in power stations and energy systems.

应用:用于输送发电站及能源系统中的冷凝水。

Technical data / 技术参数

Q m³/h: up to 2,600 H m: up to 340 p bar: up to 40 T °C: up to +100 n min¹: up to 1,800

WKH Condensate pump

WKH 冷凝泵



Design:Horizontal, multistage ring-section pump with single-entry, radial impellers. Axial thrust balancing by drum or disc. Oil-lubricated rolling element bearings (oil bath lubrication). Centreline pump feet.

设计: 首级为单吸叶轮的卧式节段式多级离心泵。由平衡 鼓或平衡盘平衡轴向推力。油浴润滑的滚动轴承,中心支 撑。

Applications:Handling of boiler feed water and condensate in power stations and industrial facilities.

应用:用于输送发电站及工业设施的锅炉给水及冷凝水。

Technical data / 技术参数

Q m³/h: up to 1,600 H m: up to 450 p bar: up to 64 T °C: up to +180 n min¹: up to 1,500

Cooling water pumps 冷却水泵

SEZ/PHZ/PNZ Cooling water pump

SEZ/PHZ/PNZ 冷却水泵

Design: Vertical tubular casing pump with open mixed flow impeller (SEZ), mixed flow propeller (PHZ) or axial propeller (PNZ). Pump inlet with bellmouth or suction elbow, pull-out design available, discharge nozzle arranged above or below floor, flanges to DIN or ANSI standards available.

设计:固定叶片立式混流泵(SEZ)、可调叶片立式混流泵(PHZ)或是可调叶片立式轴流泵(PNZ)。泵吸入口带有喇叭口或进水弯管。可抽芯式设计,出水弯管位于基础上方或下方。法兰符合GB或DIN或ANSI标准。

Applications: Handling of raw, pure, service and cooling water as well as seawater in industry, water supply sys-tems, in power stations and seawater desalination plants.

应用: 用于输送工业领域、供水系统及海水淡化系统中的原水、冷却水及海水等。

Technical data SEZ / 技术参数

Q m³/h: up to 65,000 H m: up to 48 p bar: up to 10 T °C: up to +40 n min¹: up to 980

Technical data PHZ/PNZ / 技术参数

Q m³/h: up to 65,000 H m: up to 15/25 p bar: up to 10 T °C: up to +40 n min': up to 980



SNW/PNW Cooling water pump

SNW/PNW 冷却水泵

Design: Vertical tubular casing pump with mixed flow impeller (SNW) or axial propeller (PNW), single-stage, with maintenance-free Residur® shaft bearings, discharge nozzle arranged above or below floor.

设计: 立式混流泵(SNW)或可调叶片轴流泵(PNW), 单级配有无需维护的Residur®导轴承。出水弯管位于基础上方或下方。

Applications:Irrigation and drainage systems, stormwater pumping stations, handling of raw and pure water, water supply systems, handling of cooling water.

应用: 用于冲洗及排水系统、雨水泵站等。

Technical data SNW / 技术参数

Q m³/h: up to 8,600 H m: up to 90 p bar: up to 10 T °C: up to +60 n min¹: up to 1,450

Technical data PNW / 技术参数

Q m³/h: up to 9,000 H m: up to 10 p bar: up to 10 T °C: up to +60 n min¹: up to 1,450



RDLO Cooling water pump

RDLO 冷却水泵

Design:Single-stage, axially split volute casing pump for horizontal or vertical installation, with double-entry radial impeller, mating flanges to DIN, ISO, BS or ANSI.

设计:单级双吸轴向中开蜗壳离心泵,立式或卧式安装。 法兰符合GB、DIN、ISO、BS或ANSI标准。

Applications: Handling of raw, pure, service and cooling water as well as seawater in power stations, water treatment plants, irrigation and drainage pumping stations, fire-fighting systems, shipbuilding and the petrochemical industry, in refineries, pipelines and tank farms; handling of crude oil and refinery intermediates.

应用:用于发电站、水处理设备、排灌泵站、消防系统、 造船及石化行业精炼等原水、纯水、服务用水及冷却水、 海水处理;原油及精炼中间产品的处理。

Technical data / 技术参数

Q m³/h: up to 10,000 H m: up to 240 p bar: up to 25 T °C: up to +70 n min¹: up to 1,450



Auxiliary pumps 辅助泵

Omega Auxiliary pump

Omega 辅助泵



Design: Single-stage, axially split volute casing pump for horizontal or vertical installation, with double-entry radial impeller, mating flanges to DIN, ISO, BS or ANSI.

设计:单级双吸轴向中开蜗壳离心泵,可卧式或立式安装。法兰符合GB、DIN、ISO、BS或ANSI标准。

Applications: Handling of raw, pure and service water as well as seawater in water treatment plants, irrigation and drainage pumping stations, power stations, fire-fighting systems, shipbuilding and the petrochemical industry.

应用:用于输送水处理系统、排灌泵站、发电站、消防系统、造船及石化产业的原水、纯水及服务用水、海水等。

Technical data / 技术参数

Q m³/h: up to 2,800 H m: up to 170 p bar: up to 25 T °C: up to +105 n min¹: up to 2,900

Amarex KRT Auxiliary pump

Amarex KRT 辅助泵



Design: Vertical, single-stage submersible motor pump in close-coupled design, various impeller types, for wet or dry installation, stationary and transportable design. Design to ATEX available.

设计:多种型式叶轮的单级立式直联潜水泵。湿式或干式安装、固定及移动式设计。同时具备满足ATEX要求之设计。

Applications: Water and waste water engineering, seawater desalination, in power stations, handling of all types of abrasive or aggressive waste water in industry, especially untreated waste water containing long fibres and solid substances, fluids containing gas/air as well as raw, activated and digested sludge.

应用:用于发电站中供水及废水处理工程、可用来处理带磨损物质或是具腐蚀性的工业废水,尤其是带有长纤维及固体杂质、含烟/气的液体以及未净化污泥、活性污泥及熟污泥等未经处理的废水。

Technical data / 技术参数

Q m³/h: up to 10,800 H m: up to 100 T °C: up to +60 n min¹: up to 2,900

KWP/KWP-Bloc Auxiliary pump

KWP/KWP-Bloc 辅助泵

Design: Horizontal, radially split volute casing pump in back pull-out or close-coupled design, single-stage, single-entry, available with various impeller types: non-cloggingimpeller, open multi-vane impeller, free -flow impeller. Design to ATEX.

设计:单级单吸卧式径向中开蜗壳泵、背抽直联式设计。 叶轮有:无堵塞、开式多叶片、自由涡流等型式。设计符 合ATEX要求。

Applications: Handling of cooling water in power stations, handling of pre-treated sewage, waste water, all types of slurries without stringy substances and pulps up to 5 % bone dry with a maximum density of 1.1 kg/dm³.

应用: 用于输送发电站中的冷却水,预处理过的污水、废水及所有杂质含量不超过5%、比重不超过1.1kg/dm³的无纤维状物质的污水。

Technical data KWP / 技术参数

Q m³/h: up to 1,300 H m: up to 100 p bar: up to 10 T °C: up to +280 n min¹: up to 2,900



HPK-L/HPK Auxiliary pump

HPK-L/HPK 辅助泵

Design: Horizontal, radially split volute casing pump in back pull-out design to EN 22 858/ISO 2858/ISO 5199, single-stage, single-entry, with radial impeller. TÜV cation to German Steam Boiler Regulations TRD for HPK onoption. Design to ATEX.

设计: 单级单吸背抽式径向中开卧式蜗壳泵,符合EN 22 858/ISO 2858/ISO 5199的标准设计。HPK系统产品也可符合德国蒸汽锅炉规范(TRD)的要求并经过TÜV的认证。产品符合ATEX标准。

Applications: Handling of hot water and thermal oil in piping or tank systems, particularly in medium-sized or large heating systems, forced circulation boilers, district heating systems, etc.

应用:用于向管道及罐储系统输送热水或热油,尤其是在 大中型供热系统、强制循环锅炉、城市供热系统中输送热 水或热油。

Technical data* / 技术参数

Q m³/h: up to 4,150 H m: up to 185 p bar: up to 40 T °C: up to +240 (hot water)

up to +350 (thermal oil)



HPH Auxiliary pump

HPH 辅助泵

Design: Horizontal, radially split volute casing pump in back pull-out design, single-stage, single-entry, with centreline pump feet and radial impeller. TÜV certification to German Steam Boiler Regulations TRD on option. Design to ATEX.

设计:单级单吸背抽式径向中开卧式离心蜗壳泵,中心支撑。也可符合德国蒸汽锅炉规范(TRD)的要求并经TÜV认证,设计符合ATEX标准。

Applications: Handling of hot water in high-pressure hot-water generation plants and for use as boiler feed and recirculation pump.

应用: 用于输送高压热水, 也可作为锅炉给水循环泵。

Technical data* / 技术参数

Q m³/h: up to 1,800 H m: up to 225 p bar: up to 110 T °C: up to +320



^{*} Data referred to 2,900 min⁻¹

^{*} 资料参考2,900 min

Auxiliary pumps 辅助泵

CPKN Auxiliary pump

CPKN 辅助泵



Design: Horizontal, radially split volute casing pump in back pull-out design to EN 22 858/ISO 2858/ISO 5199, single-stage, single-entry, with radial impeller. Also available as variant with "wet" shaft, conical seal chamber, heatable volute casing (CPKN-CHs) and/or semi-open impeller (CPKNO). Design to ATEX.

设计: 卧式径向剖分蜗壳泵,符合EN 22 858 / ISO 2858 / ISO 5199要求的背轴式设计。单级、单吸、径向叶轮。其它可选型号有带有"湿"轴、锥形密封腔、可加热蜗壳(CPKN-CHs)及/或半开式叶轮(CPKNO)。设计符合ATEX要求。

Applications: Handling of cooling water and conden-sate, and of aggressive liquids in the chemical and petrochemical industries, in refineries as well as in fire-fighting systems.

应用:用于输送化工、石化行业、精炼业及消防系统的冷却水、冷凝液以及有腐蚀性的液体。

Technical data* / 技术参数

Q m³/h: up to 4,150 H m: up to 185 p bar: up to 25 T °C: up to +400

SPY Auxiliary pump

SPY 辅助泵



Design: Long-coupled, single-stage volute casing pump in back pull-out design.

设计:中间轴联接、单级蜗壳泵,背抽式设计。

Applications: Drainage, irrigation and water supply systems, handling of condensate, cooling water, service water, etc.

应用:排水、冲洗及供水系统,输送冷凝水、冷却水及地 表水等。

Technical data / 技术参数

Q m³/h: up to 21,600 H m: up to 50 p bar: up to 10 T °C: up to +105 n min¹: up to 1,480

^{*} 资料参考2,900 min

RPH Auxiliary pump RPH 辅助泵

Design: Horizontal, radially split volute casing pump in back pull-out design to API 610, 9th edition, or ISO 13709 (heavy duty), with radial impeller, single-stage, single-entry, centreline pump feet; with inducer, if required. Design to ATEX available.

设计:符合API 610标准第9版或是 ISO 13709(重载)背抽式设计的水平径向剖分蜗壳泵。单级、单吸、中心支撑,可配诱导轮(如需要),符合ATEX要求之设计。

Applications: Refineries, petrochemical and chemical industry, power stations.

应用:精炼、石化及化工行业,发电站。

Technical data* / 技术参数

Q m³/h: up to 4,150 H m: up to 270 p bar: up to 51 T °C: up to +400



Multitec Auxiliary pump

Multitec 辅助泵

Design: Multistage horizontal centrifugal pump in ring-section design, long-coupled and close-coupled variant, with axial or radial suction nozzle, cast radial impellers. Design to ATEX.

设计: 卧式多级节段式离心泵,进水管可径向或轴向布置,设计符合ATEX标准。

Applications: Water and drinking water supply systems, general industry, pressure boosting systems, irrigation systems, in power stations, heating, filter, fire-fighting, reverse osmosis and washing plants, snow guns, etc.

应用: 用于发电站、加热、过滤、消防、反渗透及清洗设备、雪枪等用水及饮用水供应系统、一般工业用、增压系统、冲洗系统等。

Technical data / 技术参数

Q m³/h: up to 850 H m: up to 630 p bar: up to 63 T °C: up to +200 n min¹: up to 2,900



^{*} Data referred to 2,900 min⁻¹

^{*} 资料参考2,900 min

Pumps for flue gas desulphurisation 用于烟气脱硫的泵产品

KWPK DN 400-1000 Pump for flue gas desulphurisation

KWPK DN 400-1000 烟气脱硫用泵



Design: Horizontal, radially split volute casing pump in back pull-out design with high-grade CeramikPolySiC lining.

设计: 卧式、径向中开背抽式蜗壳泵,优质全冷铸陶瓷内

Applications: As absorber recirculation (scrubber)

应用: 作为吸收塔循环(洗涤塔)泵使用。

Technical data / 技术参数

Q m³/h: up to 16,000 H m: up to 30 T °C: up to +120

KWPK DN 40-350 Pump for flue gas desulphurisation

KWPK DN 40-350 烟气脱硫用泵



Design: Horizontal, radially split volute casing pump in back pull-out design.

设计: 卧式、径向中开背抽式蜗壳泵。

Applications: In secondary circuits as limestone slurry pump, gypsum slurry extraction pump, recirculation water pump and thickener pump.

应用: 在二级回路中作为石灰石浆液泵、工业石膏石浆液抽出泵、循环水泵及浓缩液泵使用。

Technical data / 技术参数

Q m³/h: up to 3,000 H m: up to 60 T °C: up to +120

FGD Pump for flue gas desulphurisation

FGD 烟气脱硫用泵

Design: Metal or elastomer lined pump with impellers available in a variety of corrosion and abrasion resistant alloys. Efficiencies approaching 90% at best efficiency point.

设计: 泵壳为耐磨金属或内衬合成橡胶, 叶轮为防腐耐磨合金, 泵的最高效率接近90%。

Applications: Absorber recirculation in flue gas desul-phurisation.

应用:用于烟气脱硫过程中的吸收塔循环。

Technical data / 技术参数

Q m³/h: up to 18,000 H m: up to 51 p bar: up to 7 T °C: up to +120



LCC Pump for flue gas desulphurisation

LCC 烟气脱硫用泵

Design: High-performance, low-maintenance slurry pump recommended for coarse or fine particles from solids-laden waste water to aggressive slurries of an abrasive and/or corrosive nature.

设计: 高性能、低维护料浆泵。适用于输送含有固体颗粒 且有腐蚀性磨损性的污水。

Applications: Mineral processing, power generation, flue gas desulphurisation, mine dewatering, handling of aggregate, ash, tailings, industrial slurries, dredge.

应用: 矿物处理、发电、烟气脱硫、精矿脱水、集合物、灰尘、下脚料、工业污水及污泥处理。

Technical data / 技术参数

Q m³/h: up to 3,865 H m: up to 75 p bar: up to 16 T °C: up to +120



Getting the most out of energy.

Measure us by the performance of your pump or valve – after we have brought it technologically up to date with the latest components and spare parts. Regardless of who made it in the first place. The result will be longer service life, lower operating costs, extended maintenance intervals and reduced downtimes.

我们的泵和阀门聚集了最新的技术以及最优的零配件组合,我们的形象由您的泵和阀门运行情况来衡量。无论是谁,只要把握了这一准绳,那么带来的必将是更长的使用寿命,更低的运行成本,更长的维修间隔周期以及更短的停机时间。

KSB provides all-in solutions. So we can help you plan every stage of modernisation and recommissioning of your plant. From inspection to production of the necessary new components, via fitting, test runs or the installation of new pumps or valves. Even minor retrofitting can make a major difference:

- Energy savings, efficiency improvements and emission reductions
- · Monitoring, automatic early warning of faults
- · Availability, extension of service lives
- Greater ease of servicing, no maintenance, reduction in auxiliary systems

KSB提供所有解决方案。因此我们可以为电站改造和在运行制定严密的计划:从检查到生产新的部件,新泵或阀门安装试运行。即使是简单的的改造也可以发挥重大作用:

- 节能,增效和减少排放量
- 监测,自动预警
- 利用率高,延长使用寿命
- 使用方便, 免维修, 缩减辅助系统



Residur® reduces life cycle costs Residur® 降低生命周期成本

Tubular casing pumps in power station cooling circuits operate round the clock under the toughest conditions. Radial bearings made of conventional materials need constant lubrication with fresh water or filtered media handled. That costs time and money. Our specially developed Residur ceramic bearings are lubricated directly by the medium handled. You can retrofit them to any tubular casing pump. Residur has been in use since the early 1980's. Over 25 years, these ceramic bearings save about 50 % of the costs associated with conventional models. Investment costs are recouped in three years.

发电站冷却系统中的简体式泵在极为严酷的条件下也要保持高效运行。传统材料制成的径向轴承需要不间断地以淡水或经过滤过的介质进行润滑。这种方式既费时又费钱。凯士比特别开发的Residur陶瓷轴承可直接由输送的介质予以润滑。任何简体式泵经改造后均可使用,Residur产品早在二十世纪八十年代即投入使用。经过了25年的发展,如今的陶瓷轴承可节省50%与传统模式有关的成本。三年内即可收回投资。



Life cycle costs in % 生命周期成本%



Cells turn a problem into an advantage 小小凹槽将问题转化为优势

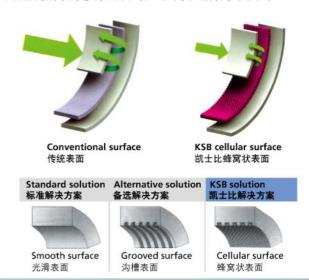
In centrifugal pumps, all cylindrical annular clearances are medium-swept. Conventional casing wear rings induce considerable efficiency losses caused by circumferential flow in the annular clearances. However, the clearances act as supplementary bearings and can, depending on their shape, significantly improve the dynamic behaviour of the rotor. KSB has developed cellular surface wear rings to benefit from this

在离心泵中,所有的口环间隙都会让介质流过。传统的泵体密封环会因为间隙中产生的回流而造成极大的效率损失。但是,如果将口环作为辅助轴承使用,可根据其形状,大大改进转子的动态特性。凯士比开发的蜂窝状磨损环即得益于此效应。



effect. Thanks to their regular pattern of exactly calculated and spark-eroded recesses (cells) with an axis perpendicular to the direction of flow, axial and circumferential flows are extensively decelerated by swirling. This, in turn, leads to optimum stabilisation of the rotor and to much more extensive reduction of leakage losses – as compared to conventional surfaces. Efficiency increases considerably, energy costs fall noticeably, and operating reliability improves.

由于凹口(蜂窝状)经过精确计算及电火花加工,其呈现出的形状十分规则。加上与流体方向垂直的轴线,轴向流及环状流的速度可通过旋转大为递减。这使得转子能保持最佳的稳定性,且与传统表面相比,泄漏损失也大大降低。效率大幅提高则意味着能耗成本的急剧下降,并且提高了运行的可靠性。



Making it work best for you.

You want optimum performance from your power station 24 hours a day. Which is why we are on call right around the clock. From the project phase through order processing, and on to continuous after-sales service. More than 1,500 KSB specialists form a service network that spans the world. One of our 100-plus service centres is sure to be near you. For us, rapid, comprehensive service is an integral part of product quality. Frequent staff training keeps our standards high. And in parallel we offer detailed, directly relevant courses for our power sta-

您想使您的电站保持全天的高性能运行,这就是为什么我们随时整装待发。从项目开始到订单处理以及售后服务,由1500多名KSB专家构成的服务网络遍布世界各地。100多家服务中心,总有一个在您身边。对于我们而言,快速、全面的服务是产品品质的一个重要组成部分。高频率的员工培训使我们保持较高的水准。同时我们也会向电站客户提供详细的、直接相关的培训服务。KSB的质量管理是多方面的,但目标自始至终是一致的,严于律己。

tion customers. At KSB, there are many sides to quality. But the goal is always the same: to meet our own particularly strict de mands. We take legal regulations as a starting-point, and usually go much further. Our business processes are founded on recognised global quality guidelines, a modern integrated management system (quality management, environmental management, and occupational health and safety), and a quality policy based on the European Foundation for Quality Management (EFQM) business excellence model.

我们以合法准则为出发点,基于此,我们走的更远。我们的管理流程建立在全球公认的质量标准和现代化的综合管理系统上(质量管理体系,环境管理体系以及职业健康和安全管理标准),质量方针建立在欧洲质量管理基金会(EFQM)极其出色的管理模式上。















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