

> Our technology. Your success. 我们的技术 您的成功
Pumps · Valves · Service 泵 · 阀 · 服务



Energy: we spend all ours
to save lots of yours.

能源：我们竭尽所能为您节省更多





"Energy efficiency is good news all round – for your company, the environment and generations to come."

"能源效率对全世界来说都是一个好消息 – 对您的企业、环境以及子孙后代。"

"We are an innovative supplier of pumps, valves and the relevant service. And because energy efficiency is everyone's business, we've developed a comprehensive concept we call "FluidFuture®".

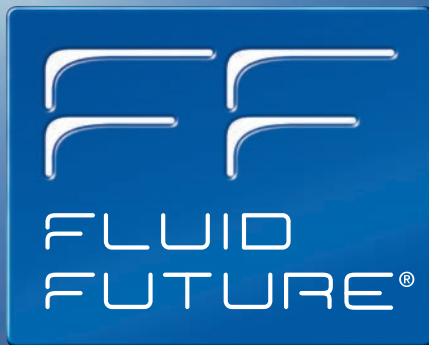
First and foremost, it aims to optimise your plant's overall efficiency. We achieve that by examining your entire hydraulic system to identify optimisation potential in each individual section. That way, you don't just save cash today. By ensuring reliability and extending total operating life, you take care of tomorrow as well. And with KSB and FluidFuture®, that's a tomorrow you can really get moving."

"我们是一家泵、阀以及相关服务的创新型供应商。由于能源效率与每个人都息息相关，我们制定了一个综合的概念，称之为"FluidFuture®"。首先，它的目的在于优化工厂的整体效率。我们通过检查整个液压系统确定每个部分的优化潜力来达到这个目的。这样的话，不只是节约了现在的成本。通过确保可靠性和延长总的运行寿命，你同样节约了未来的成本。通过KSB和FluidFuture®能效概念，这是您可以为之奋斗的明天。"

Dr Manfred Oesterle,
Head of Business Unit Automation and Drives
自动化和驱动业务部负责人

There's incredible potential for better energy efficiency.
Together, we can make best use of it.

能源效率有着巨大的潜力, **让我们一起充分的利用它。**



SYSTEM ANALYSIS

Our experts analyse your system and show where you can save energy – with SES System Efficiency Service or PumpMeter.



SELECTION

Your KSB partner or KSB EasySelect will help you find exactly the right pumps and valves.



HIGH-EFFICIENCY PUMPS & VALVES

Top pump and valve performance with minimum loss – all thanks to 140 years of innovation and expertise.



HIGH-EFFICIENCY DRIVES

Our high-efficiency motors even exceed today's standards.



DEMAND-DRIVEN OPERATION

Optimised control systems like PumpDrive continuously match pump output to system requirements.

The one purpose of energy efficiency measures is to make your plant run more economically. And we help you save money by looking at all the costs over the entire life cycle. In most cases energy accounts for more than one-third of total costs, and offers the greatest opportunity for savings. And this is where the new ErP regulations take effect: They have stipulated the minimum permissible energy efficiency levels of products since 2013. As part of FluidFuture®, we are already using high-efficiency pumps, valves and drives, which also exceed the stricter requirements applicable from 2015, thus making considerable energy savings. Maximising overall energy efficiency means your system runs better, longer and more cheaply – which speeds up your return on investment.

能源效率措施的目的之一是使您的工厂更经济地运行。而且我们可以帮助你通过关注整个生命周期的费用来降低成本。在多数情况下能源占总成本的三分之一以上，这给节约成本提供了最大的机会。这就是新的ErP规定起到的作用：自2013年起规定产品所允许的最低的能效等级。作为FluidFuture®能效概念的一部分，我们已经在使用高效的泵、阀和驱动装置，超过从2015年起生效的更加严格的要求，从而节约了大量能源。最大化整体能源效率意味着您的系统运行更好，更长和更便宜——从而加快了投资回报。



Further information is available on
www.ksb.com/fluidfuture

更多信息请访问
www.ksb.com/fluidfuture

Saving energy with ErP is just the start.

We optimise the entire system.

借助ErP节约能源 仅仅是个开始。我们优化整个系统

Global energy consumption using "Energy-related Products" – products with high energy requirements – continues to rise. It therefore became necessary to take measures that bring about a reduction in the long term, such as the ErP regulations that specify mandatory minimum efficiency levels for various product groups. These came into effect in 2013 and will gradually become stricter until 2020. KSB has been meeting this challenge for quite some time by using all of its expertise to develop particularly energy-efficient products. They exceed the efficiency requirements of the ErP regulations for 2015 – and partly even those applicable from 2017.

全球能源消耗，采用“能源相关产品” – 产品具有高能源要求，持续上升。因此，有必要采取措施减少长期能源消耗，例如ErP规定明确了不同产品组强制最低能效水平。这些已经在2013年生效并在2020年前逐步加严。长期以来KSB一直通过其所有专业知识开发节能型产品来应对这些挑战。其产品已经超过2015年的ErP规定能效要求-部分甚至适用于2017年以后的规定。

The goal: more efficiency 我们的目标：更高的效率

The minimum efficiency requirements of the ErP regulations for standardised water pumps and circulators are expressed in terms of the MEI (minimum efficiency index) and EEI (energy efficiency index) values.

The new, globally harmonised classes (IE Code) apply to almost all low-voltage three-phase motors.

www.ksb.com/fluidfuture/erp

对于标准化的水泵和循环器，ErP规定的最低能效要求用MEI（最低能效指数）和EEI（能效指数）值来表示。

新的全球统一的等级(IE代码)适用于几乎所有的低压三相电机。

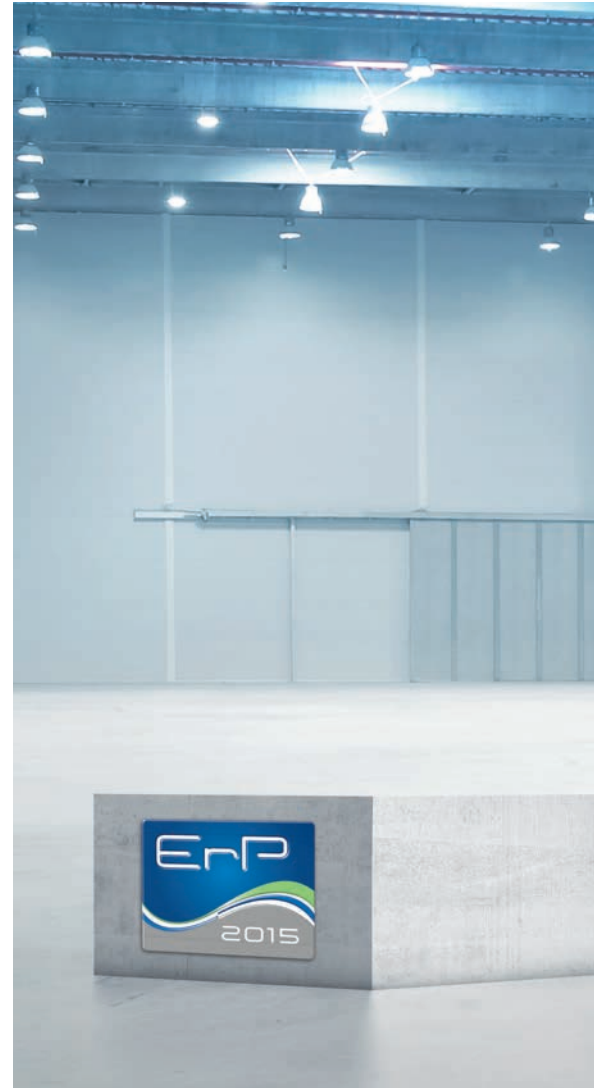
www.ksb.com/fluidfuture/erp

Maximum savings with FluidFuture®

借助FluidFuture®实现最大的节能

The ErP regulations play an important role in saving energy at component level. Optimising the overall efficiency of your plant, however, holds even more potential. This is where FluidFuture® takes effect.

ErP规定在组件等级的节能上发挥着很大的作用。优化您工厂的整体效率，拥有更多的潜力。这就是FluidFuture®作用所在。



At a glance 提示

The requirements for the minimum efficiency level of pumps and motors will gradually become stricter until 2020. The specified values that must either be attained or not exceeded are based on the individual product groups.

泵和电机的最低效率等级要求将会在2020年以前日趋严格。规定的值（必须达到或必须不超过）基于不同的产品组。

The high-efficiency products from KSB are ahead of their time: They exceed the minimum requirements for 2015 and even 2017 with their outstanding efficiencies.

KSB 的高效产品是走在时代前列的：它们凭借其杰出的效率超过2015年甚至2017年的最低要求。



*IE4 to IEC (CD) 60034-30 Ed.2

For standardised water pumps, the unit is:

对于标准化水泵，内容为
MEI (minimum efficiency index):
a high value = high efficiency
From January 2015: MEI \geq 0.40

For circulators, the unit is:

对于循环器，内容为
EEI (energy efficiency index):
a low value = high efficiency
From 1 August 2015: EEI \leq 0.23

For electric motors, the following codes apply:

对于电动机，以下代码适用
IE4 = Super premium efficiency
IE3 = Premium efficiency
IE2 = High efficiency

Since January 2015: IE3 or IE2 with frequency inverter P = 7.5 kW – 375 kW

From 1 January 2017: IE3 or IE2 with frequency inverter P = 0.75 kW – 375 kW

To keep a system running, you have to know it inside out.

为了保持系统正常运行，您必须对此了如指掌

A pump is a complex component in a larger system. Improvements in energy efficiency come from lots of small details, but the focus always has to be on analysis of the overall system. That is just as true of existing plants as of new designs. Careful examination of the pump's load profile is required both under current operating conditions and with a view to future demands. The aim is to identify savings potential both today and tomorrow, and then achieve those savings in a comprehensive systems approach. Doing that requires years of experience and expertise. KSB has both – and brings you the benefits through its highly qualified consultants, top-class products and specialised service offers.

泵是在一个较大系统中的复杂的组件。提高能源效率来自于很多小细节，但重点始终在于分析整体系统。对于现有的工厂如此，新设计亦如是。从当前运行情况和从长远需求两方面关注泵的负载曲线。其目的在于确定现在和未来的节能潜力并在一个全面的系统方法中实现节能。这样做需要多年的经验和专业知识。KSB 具备这些经验和知识 – 通过其高素质的咨询，一流的产品和专业的服务给您带来更多的利益。



SYSTEM ANALYSIS

Our experts analyse your system and show where you can save energy – with SES System Efficiency Service or PumpMeter.

"Recognising the smallest details in highly complex systems and processes requires transparency. I'm here to provide it."

"在高度复杂的系统和流程中意识到最小的细节，必须要求透明度。我愿为之效力。"

Dr Falk Schäfer,
Head of SES System Efficiency Service
SES 系统效率服务负责人



PumpMeter: transparency for more efficiency of your pump PumpMeter水泵监控装置:透明度-为了泵的更高效率

Our innovative PumpMeter increases the transparency of pump operation, and helps you identify further potential for energy savings. PumpMeter tracks all the key data and displays them clearly. You can check the current operating point at every stage, and see precisely how the load profile develops over time. If PumpMeter indicates optimisation potential, then it's worth doing a Pump Operation Check. KSB's energy efficiency experts will evaluate the load profile measured by the pump monitoring unit. On this basis, they will provide concrete tips and recommend courses of action for increasing the availability and efficiency of the analysed pump.

www.ksb.com/fluidfuture/pumpmeter

我们创新的PumpMeter监控装置提高了泵运转的透明度，并能帮助您确定进一步节约能源的潜力。PumpMeter监控装置跟踪所有关键数据并将其清楚地显示出来。您可以在每一级检查当前的工作点，并能清楚地看到随着时间的变化负载曲线的发展。若PumpMeter显示出优化的潜能，就值得做泵运行检查。KSB节能专家将对由泵监测单元测得负载曲线作出评估。在此基础上，他们将提供用于提高泵的可用性和效率的具体建议和行动步骤。

www.ksb.com/fluidfuture/pumpmeter



Etabloc with PumpMeter
带PumpMeter监控装置的 Etabloc



**SES System Efficiency Service:
reliable analysis of your multiple pump system**
SES 系统效率服务: 多泵系统的可靠性分析

Take our tried and tested SES System Efficiency Service, for example. A data logger records process and vibration values at the site. Those enable us to identify the pump's current load profile and compare it with the specifications. Then we can recommend actions to maximise energy efficiency and ensure that your pumps and systems run economically.

www.ksb.com/fluidfuture/ses

以久经试验的 SES 系统效率服务举例。数据记录器现场记录过程和振动值。这些可以帮助我们确定泵负载曲线并与其规格参数进行比较。然后我们建议最大限度的提高能源效率确保泵和系统经济地运行。

www.ksb.com/fluidfuture/ses

Our selection **turns planning**
into partnership.

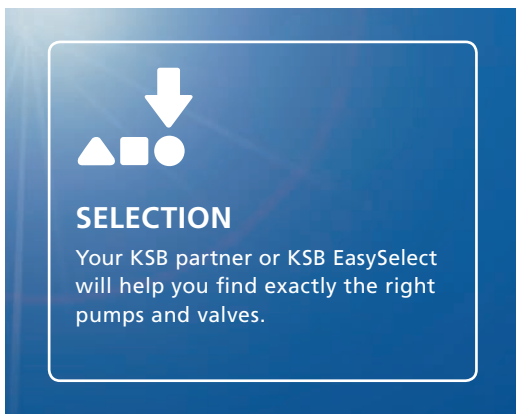
我们的选择 **把计划转变成合作关系**



Our KSB consultants all have one aim: to find the ideal technical solution for long-term cost savings. That means working in close partnership with you, the customer. And it means taking a comprehensive approach that will stand the test of time. We use a wide range of professional instruments, or put them at your direct disposal. You can access KSB EasySelect, for example.

Our well-known pump and valve selection program lets you make the choice and reduce your long-term costs.

我们 KSB 的顾问都有一个共同的目标: 对长期的成本节约提供理想的技术解决方案。这意味着与客户您密切的合作。也就是说要采取经得起时间考验的全面性的方法。我们采用多样的专业仪器这也可以由您自行选择。例如进入 KSB EasySelect 选型系统选择。您可以在我们知名的泵和阀选型方案中做出选择并降低长期成本。



SELECTION
Your KSB partner or KSB EasySelect will help you find exactly the right pumps and valves.



"Partnership? For me, that means understanding my customers so that I can offer the best solution for each of them."

"合作伙伴? 对于我来说就是从客户角度出发为他们提供最佳的解决方案。"

Jürgen Schraff,
Sales South Germany
德国南部销售

You know where you are, because we know what's what 您知道您在哪一步, 因为我们知道全部

For us, strategic partnerships start right from the design phase. Together with each customer we analyse the transport task in question, and check exactly what is needed. That way, we meet all the process requirements economically and sustainably. After all, what really matters are the total life cycle costs. After the information and design phase, it's time for realisation. That's where the detail engineering comes in: We look for alternatives that might be even better suited. Which is yet another difference between KSB and its competitors.

对于我们来说, 战略合作伙伴从设计阶段开始。我们同每一个客户一起分析有疑问的输送任务, 并确定真正所需要的。这样的话, 我们可以经济地并可持续性地满足所有过程要求。毕竟, 我们关心的是全生命周期成本。咨询和设计阶段之后, 是实施阶段。也就是细化设计: 我们寻找更合适的可选方案。这也是 KSB 与其竞争对手的另一个不同之处。

Quick and easy: KSB EasySelect

简单快捷: KSB EasySelect

KSB EasySelect has proved its worth, time and again. It is the only program on the market that lets you choose your pumps and valves. KSB EasySelect is quick, clear and simple to use.

Step by step, the program takes you through the KSB product range and finds the right product for every requirement – whether it is a pump, valve or a complete module with valve, actuator and matching automation solution. The choice is yours, seven days a week and round the clock. And of course your KSB partner is available by phone or e-mail as well.

www.ksb.com/fluidfuture/easysselect

KSB Easy Select 选型系统已经一次又一次的证明其价值所在。这是市场上让您选择泵和阀门的唯一程序。KSB EasySelect 选型系统快速, 清晰简单易用。该程序将一步一步指导您通过 KSB 产品范围找到符合所有要求的那个产品—无论是泵, 阀或带阀、执行机构以及配套的自动化解决方案的一个完整模块。您可以在任何时候选用这个系统, 选择权在您。当然您也可以通过电话或电子邮件与您的 KSB 合作伙伴取得联系, 寻求帮助。

www.ksb.com/fluidfuture/easysselect

Really big differences come from really small details.

大的差异源自很小的细节

A complex fluid transport system puts heavy demands on the interplay of pump, valves and the other components. For energy-efficient, problem-free operation, absolute precision is key. A pump's most important performance criterion is that it runs at its actual operating point in its maximum efficiency range. Pumps running at their best efficiency point are quieter and have a longer operating life.

一个复杂的流体输送系统，需要泵、阀门和其它部件之间密切协调。高效、无故障地运行，高精度是关键。泵最重要的性能指标是泵的实际工作点上在其高效区运行。泵在最佳效率点运行时，噪声更小，使用寿命更长。





HIGH-EFFICIENCY PUMPS & VALVES

Top pump and valve performance
with minimum loss – all thanks to
140 years of innovation and expertise.





HIGH-EFFICIENCY PUMPS & VALVES

Top pump and valve performance with minimum loss – all thanks to 140 years of innovation and expertise.

"High-precision results depend on more than just cutting-edge technology. You also need highly skilled professionals."

"高精度不仅仅取决于尖端的技术。您还需要高技能的专业人才。"

Dr Jochen Fritz, Head of Research –
Hydraulics and Structural Mechanics
水力学和结构力学研究负责人



As a supplier of pumps, valves and the relevant service, we keep a constant eye on the pump system in its entirety. This is why we offer you all-in solutions from a single source: pumps and valves that complement each other perfectly, thus increasing the energy efficiency of your system. Because by combining the right components, we enable you to maximise the hydraulic savings potential of the plant and reduce your energy requirements.

作为一个泵、阀和相关服务的供应商，我们持续关注泵是整个系统。这就是为什么我们为您提供整体的解决方案：泵和阀门能完全相辅相成，从而能提高您的系统的能源效率。由于通过组合合适组件的方法，我们使您能够最大限度的提高工厂水力效率和降低您的能源需求。

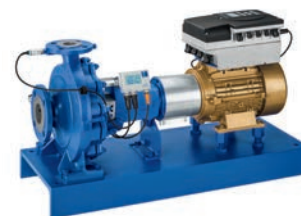
High-efficiency standardised water pumps 高效标准化水泵

The success of the Eta type series speaks for itself: Around 70,000 pumps are installed each year in, for example, industrial and building service facilities. Thanks to the various sizes, variants and materials, every pump of the Movitec type series can also be adapted to the specific requirements of the respective plant. This enables exceptional efficiency levels to be achieved in each of the many applications as well as it maximises the savings potential of the entire plant.

www.ksb.com/fluidfuture/waterpumps

Eta系列的成功有目共睹：每年大约有70,000台该型号的泵安装用于例如工业和建筑服务设施。由于不同的尺寸、变型和材料，使得每一台 Movitec 型系列泵能适用于各个工厂的特殊要求。这使在众多应用中实现极高的效率水平以及使整个工厂的节能潜力最大化成为可能。

www.ksb.com/fluidfuture/waterpumps



Etanorm



High-efficiency circulators 高效循环器

KSB expertise for products big and small: The circulators from KSB offer many benefits in the area of heating, ventilation and air-conditioning. With their easy handling, the continuous monitoring of the pump's operating status and the reliable plug & pump concept, they are particularly user-friendly and reliable. The optimised hydraulic components and integrated speed control also maximise the savings potential of the plant.

www.ksb.com/fluidfuture/circulators

KSB 专业于大大小小的产品：KSB的循环器在加热、通风和空气调节方面提供很多好处。借助其操作简单的特点，泵运行状态的连续监测和可靠的plug & pump概念，它们是极其人性化 and 可靠的。优化的水力部件和整体速度的控制也能使工厂的节能潜力最大化。

www.ksb.com/fluidfuture/circulators



Calio



Further high-efficiency pumps & valves 更高效率的泵&阀

Technical equipment with optimised hydraulic properties and maximum efficiency also makes an important contribution to the energy efficiency of a plant in applications that are not defined in the ErP regulations. In addition, a reliable pump drive is essential in ensuring the availability of the system. KSB meets the plant's strict requirements for products with its intelligent technology, broad diversity, flexibility and ease of servicing.

www.ksb.com/fluidfuture/higheffpumps

具有优化的水力特性和最大效率的技术设备在ErP规定未定义的工厂中应用时，同样对能源效率有重要贡献。此外，一个可靠的泵驱动装置在确保系统的可用性上是至关重要的。KSB 以其智能化的技术，广泛的多样性、灵活性和易于维护性满足工厂对于产品的严格要求。

www.ksb.com/fluidfuture/higheffpumps



MegaCPK

Impeller trimming 叶轮切割

Whether with standard pumps or special variants, there are several good ways to save energy. Optimum flow passage and speed control both contribute; impeller trimming is another cost-effective option. This involves reducing the outside diameter until the pump output exactly matches customer needs. Just a small drop in efficiency enables a significant reduction in pump input power. This means no energy is wasted.

www.ksb.com/fluidfuture/impeller-trimming

无论是标准泵或特殊变型，在节约能源上均有些好的方法。优化流道和控制流速都有助于节能；叶轮切割是另一个符合成本效益的选择。这包括减小外径以便达到泵输出精确匹配客户的需求。仅是效率上的一点点下降能够使泵输出功率显著降低。这意味着不存在能源浪费。

www.ksb.com/fluidfuture/impeller-trimming



Trimmed impeller

Energy-optimised valves 能源优化阀

The choice of valves plays a major role in determining a system's energy efficiency.

The KSB range includes BOA-H globe valves with optimum insulation, NORI 40 Y-valves designed especially for heat transfer systems and BOAX butterfly valves, whose hydraulically favourable flow path keeps pressure losses to a minimum.

That means lower performance requirements – so you may even be able to choose a smaller pump. With the SERIES 2000 swing check valve, we also have a valve with exceptional flow properties, which gives you the potential to make further savings.

阀门的选择在确定系统能效中发挥了主要作用。KSB 该系列包括具有最佳绝缘的BOA-H截止阀，专为传热系统设计的NORI 40 Y-型阀和BOAX 蝶阀，其优越的水力性能确保流道的压力损失最小。这意味着更低性能要求- 因此你甚至可以选择更小的泵。SERIES 2000旋启式止回阀以及我们拥有其它流动特性的阀门能帮助您节省更多。

www.ksb.com/fluidfuture/insulation

www.ksb.com/fluidfuture/butterfly-valves



BOA®-H

High-efficiency drives for every need.

Only at KSB.

为每一个需求高效驱动。仅在KSB

A pump system's efficiency depends heavily on its motor, so a suitable drive should always be based on what exactly is needed. This is why KSB analyses the exact load profile and selects a motor which matches the customer requirements for energy efficiency, investment costs and resource efficiency. As the only full-liner on the market, we present you with a complete portfolio of pump drives: from efficient asynchronous to innovative synchronous motors. For a drive solution that is perfectly tailored to your specific requirements.

一个泵系统的效率主要取决于其电机，所以一个合适的驱动装置应始终立足于精确的需求。这就是为什么 KSB 分析精确的负载曲线并选择符合客户能源效率，投资成本和资源利用率要求的电机。作为市场上唯一的成套设备供应商，我们将为您呈现泵驱动装置的完整组合：从高效型异步电机至创新型同步电机。这是完全根据您的特定要求的驱动解决方案。



HIGH-EFFICIENCY DRIVES

Our high-efficiency motors even exceed today's standards.



"My driving force? Finding the perfect individual drive solution for each customer."
"我的动力？为每位客户找到完美的解决方案。"

Ralf Kurrich,
Head of Research and Development –
Submersible Motors
潜水电机研发部负责人

Our efficient asynchronous motors 我们高效型的异步电机

For static load profiles IE3 asynchronous motors that are suitable for direct-on-line (DOL) starting are used for the entire power range. They all satisfy the currently applicable requirements of the ErP regulations. For specific systems and load profiles IE4 asynchronous motors might be the right solution.

If fluctuating flow rate demand makes investing in a variable speed system worthwhile, KSB recommends using IE2 asynchronous motors with frequency inverter for ratings above 45 kW. KSB's own development, the submersible motors of Amarex KRT, also meet the requirements of efficiency class IE3*.

对于静态负荷曲线适合直接启动(DOL)的IE3异步电机适用于整个功率范围。IE3异步电机都能满足ErP规定目前适用的要求。对于特殊的系统和负荷曲线IE4异步电机可能是正确的解决方案。如果值得为波动流量的需求投资一个变速系统，额定功率大于45 kW时，KSB推荐使用带变频器的IE2异步电机。KSB自主研发的Amarex KRT潜水电机也符合效率等级IE3*。

www.ksb.com/fluidfuture/supreme-motors

Our innovative synchronous motors 我们创新型的同步电机

Variable load profiles are best served by our innovative synchronous motors. A true highlight is the magnet-less SuPremE® IE4** motor. Generally fitted with a speed control system, this drive is particularly efficient at part load. Already today it exceeds the ErP requirements for 2017 and satisfies efficiency level IE4 to IEC (CD) 60034-30. Top efficiency is also characteristic of our synchronous motors for submersible motor pumps and our circulators: You can save at least 8 % in energy and thus costs by using a UMA-S 150E motor with frequency inverter, and up to 40 % by using a Calio circulator in load-optimised operating mode.

负载多变时，最好选用我们创新型的同步电机。需要突出介绍的是无磁SuPremE® IE4**电机。这种电机一般会与速度控制系统配套，在部分负载时这种电机是非常高效的。现在它已经超过2017年的ErP规定并满足IEC (CD) 60034-30能效等级IE4。高效率也是我们同步潜水电机和循环器的特点：通过使用带变频器的UMA-S 150E电机在能源和成本上至少能节省8%，通过使用Calio循环器在负载优化运行模式下最高能节省40%。

www.ksb.com/fluidfuture/submersible-motors

*Standard IEC 60034-30 is not mandatory for submersible motors. Efficiencies are calculated/derived in analogy to the measuring method described in IEC 60034-2. The marking is used for submersible motors whose efficiencies are comparable to those of standardised motors to IEC 60034-30.

**IE4 to IEC (CD) 60034-30 Ed.2

*对于潜水电机，标准IEC 60034-30不是强制性要求的。效率计算类似于IEC 60034-2中描述的测量方法。该标志用于其效率可与标准的IEC 60034-30电机相比的潜水电机。



KSB SuPremE® IE4** motor





It's not the maximum that counts.

It's the optimum.

重要的不是最大。而是优化

We take our responsibility seriously. At KSB we make sure our pumps are not only designed for high efficiency. Low energy requirements and a high availability of the pump over its entire service life are equally as important to us. It's not the maximum that counts. It is about responding to changing requirements over the entire operating life with suitable control concepts.

Because analysing actual system requirements in detail is the only way we can ensure your pump runs in its optimum operating mode. Your benefit? Your power bill will be reduced by up to 70 %.

我们非常地负责任。在KSB 我们确保我们的泵不仅仅是为高效率设计。低能源需求和泵整个使用寿命期间的高可用性对我们来说也很重要。重要的不是最大。而是关于在整个使用寿命期间以合适的控制概念应对不断变化的需求因为详细分析实际系统需求是我们确保泵在最佳工作模式下运行的唯一方法。关于给您带来的好处? 您的能源开支将会减少 70 % 以上。

The interaction of pumps, valves and precise automation solutions is geared for maximum efficiency – and, hence, maximum savings in energy and costs.

KSB泵、阀和相关服务的共同点就是高效率。我们的能效专家和高精度的自动化解决方案确保KSB 产品为您节约更多能源和成本。



Flexibility



DEMAND-DRIVEN OPERATION

Optimised control systems like PumpDrive continuously match pump output to system requirements.

"Optimisation means constant adaptation to your needs. Those can change with time – so we have to stay flexible."

"优化意味着不断适应您的需求。这些可能会随时间改变 – 所以我们必须保持灵活性。"

Marjan Silovic,
International Business Development – Automation
国际业务发展 – 自动化



Flexible speed control with the new PumpDrive 借助新型 PumpDrive 变速系统灵活控速

Speed control pays. Especially for fluctuating demand, using the new PumpDrive speed control system is highly recommended. Based on even more transparency and comprehensive pump know-how it continually adjusts the pump output to what is needed. The enhanced PumpDrive also features a number of new functions which make sure that the pump is operated at its optimum at all times. This results not only in a more energyefficient operation, it also increases the availability of the pump. 控制速度有很多好处。特别是针对不断变化的需求，我们强烈推荐使用新型 PumpDrive 变速系统。基于更多的监控和全面的泵技术，PumpDrive 能连续地调整泵输出达到相应要求。增强型 PumpDrive 变速系统 还采用一些新的功能，这使得泵始终在最佳运行状态。这样不仅使泵更节能地运行也提高其可用性。

www.ksb.com/fluidfuture/pumpdrive



Etaline® PumpDrive

BOA-Systronic pump/valve control system BOA-Systronic 泵/阀 控制系统

Close examination of an entire system includes attention to heating and cooling performance. That offers further opportunities to save energy. For heating and cooling circuits in building services applications, we have developed BOA-Systronic. It controls not only the flow rate, but also the energy transport. A further example of how we think beyond the tasks of fluid transport.

整个系统的精密检查包括加热和冷却性能。这样给节省能源提供了更多的机会。针对在建筑服务中应用的加热和冷却回路，我们开发了 BOA-Systronic。BOA-Systronic 不仅能控制流量，还能控制能量传输。我们的思考超过流体输送任务本身的进一步例子。

www.ksb.com/fluidfuture/boa-systronic

Energy savings with FluidFuture®.

Our successes speak for themselves.

借助FluidFuture®节约能源。我们的成功不言而喻

Targeted optimisation and a comprehensive analysis of the overall system make full use of potential savings – savings beyond all expectations.

针对性的优化和整体系统的分析，充分节约每一个潜在可节约的地方——节省量超过所有的期望值

Saving up to 90 % of energy input in the future 在未来节省高达90 %能源输入

Heidelberger Druckmaschinen AG

Optimisation of the cooling lubricant circuit of the grinding machines

海德堡印刷机械股份公司优化研磨机上冷却润滑的循环系统

- Analysis of the system and possible saving potentials
- Replacement of the four fixed speed pumps with Etanorm pumps, fitted with PumpMeter, PumpDrive and variable speed KSB SuPremE® IE4* motors
- Replacement of the installed swing check valves with pneumatically actuated butterfly valves
- Update of the control system and adjustment to part-load operation
- 分析系统和可能存在的节能潜力
- 用配有PumpMeter, PumpDrive 和变速的 KSB SuPremE® IE4* 电机的Etanorm 泵替换四台恒速泵
- 用气动蝶阀替代安装的旋启式止回阀
- 更新控制系统并调整部分负载运行

*IE4 to IEC (CD) 60034-30 Ed.2

Uwe Ricker, Heidelberger Druckmaschinen AG: 海德堡印刷机械股份公司

"Astounding efficiency: 90 % energy savings with our cooling lubricant pumps."

"惊人的效率：借助我们的冷却润滑泵节省90 % 的能源。"



**40 % less
energy input**
节省**40 %** 能源输入

Miele & Cie. KG

New refrigeration system
Miele & Cie. 合资公司
新的制冷系统



**Saving up to
60 % of energy**
节省高达**60 %** 的能源

ProMinent Dosiertechnik GmbH

Equipment for a new pump test facility
普罗名特流体控制有限公司
新泵试验设施设备



**53 % energy savings
on average**
平均节省**53 %** 的能源

Salzgitter Flachstahl GmbH

General overhaul of the district
heating system
萨尔茨吉特扁钢厂
集中供热系统的大检修



**Power consumption
lowered by 25 %**
功率消耗降低了**25 %**

Solvay Fluor GmbH

Modernisation of the recooling plant
for producing hydrogen fluoride
苏威氟化学有限公司
用于生产氟化氢的二次冷却装置的现代化
改造



For more information visit 更多信息请访问
www.ksb.com/fluidfuture-en/references/

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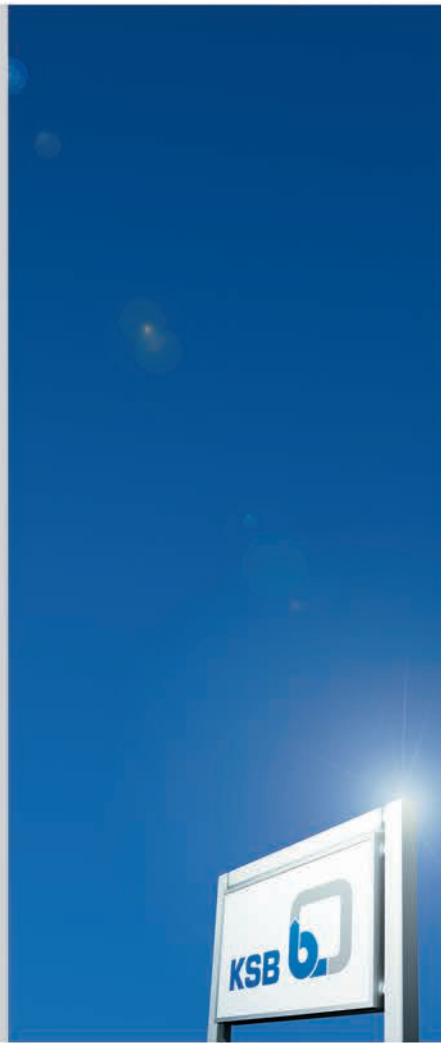
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