

Reliability that stands out: solutions for the petrochemical industry

突出的可靠性: 石化行业解决方案



# Tough tasks, top performance 恶劣的条件, 卓越的性能

With decades of experience as suppliers to the petrochemical industry as well as in the field of raw materials extraction and processing, KSB delivers all that is needed in tough conditions.

KSB在石油石化以及原料提取和加工行业有着数十年的经验,可以提供全系列的产品, 保证恶劣条件下拥有卓越的性能。

KSB offers technically advanced, reliable and highly durable pumps, valves and all associated services.

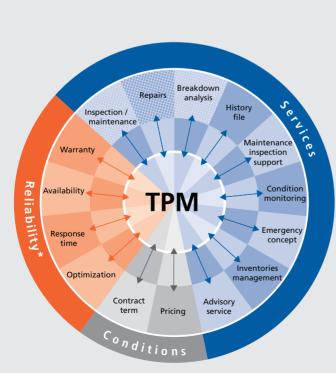
KSB products for the oil and gas industry meet the highest global standards of the American Petroleum Institute (API) for the technical design and performance of process pumps – including API 610 and API 685. Robust, safe, efficient and reliable: whenever tough tasks need to be fulfilled, KSB products are in their element.

The prime example for the outstanding performance and reliability of our pumps is KSB's family of RPH process pumps: the heavy-weight pumps meet the requirements of API 610 and are suitable for use wherever reliability and robust design as well as low operating and maintenance costs are a priority.

KSB提供技术先进、可靠性卓越、经久耐用的泵阀产品及服务。

KSB应用在石油石化和天然气领域的产品在技术和性能上可以完全满美国石油协会标准API610和API685。耐用、安全、效率、可靠性:无论在恶劣的工况下有何种要求,KSB总能满足您的需求。

流程泵RPH是KSB泵杰出性能和高可靠性的典型代表:重载型泵,完全符合API610标准;适用于任何需要可靠性高和稳健设计的工况,同时运行和维护成本极低。



 $^{\star}$  only in combination with the inspection / maintenance, repairs and breakdown analysis services

Performance rounded off: KSB Service 完美的表现: KSB服务

No other competitor offers a comparable wide range of services – with innovative solutions, short response times and superior consulting expertise. We provide comprehensive customer care, all from a single source. For example:

没有任何一家竞争对手可以像KSB一样提供如此广泛的服务——创新性的解决方案、快速响应、丰富的咨询经验。我们提供全面的服务,所有服务源于您的一个要求。

- KSB retrofit as an alternative to buying a new product, comprising measures for hydraulic and mechanical modifications or changes to the materials
- WHG- and SCCP-certified maintenance of your pumps and valves
- KSB TPM® Total Pump Management: our modular service concept for pumps, valves, motors and rotating equipment
- KSB 改造业务不仅是提供一台新泵,还包含了水力性能测量、机封 修改或者改变材料以优化新能的服务

For information about KSB Service, visit www.ksb.com/service 更多关于KSB服务的信息,请访问 www.ksb.com/service Sealing solutions 03

# Tailored sealing for every setting 定制机封以适应各种情况

High operating pressures, extreme temperatures and aggressive fluids place the highest and most diverse demands on a seal, thereby influencing the operating reliability of the pump and system. As your one-stop contact, KSB offers a complete package of individual sealing solutions for every application – ensuring maximum safety and reliability.

高运行压力、极端的温度和泵送腐蚀性液体对机封提出了极高且多样性的要求,机封的品质影响着泵及整个系统稳定性。KSB为您提供一站式服务,KSB针对各种应用提供一整套的机封解决方案,最大程度上确保运行的安全性和稳定性。

KSB offers the full spectrum: from API mechanical seals and systems that meet the requirements of API 682 and form a perfectly matched system together with the pump, to mag-drive pumps such as RPHmdp, a hermetically sealed API pump with magnetic drive, and canned motor pumps. It allows KSB to provide tailored solutions for the zero-leakage handling of fluids, even at maximum loads, for perfect and reliable tightness. Our products withstand extreme application requirements and ensure long service life.

KSB提供全方位服务: KSB产品全面: 符合API682 标准的系统和机封能与泵和整个系统完美匹配: 磁力驱动泵 RPHmdp完全无泄漏且符合 API685; 大量的屏蔽泵。这使得KSB能为客户提供零泄漏、最大负载运行或者完美可靠紧固的定制型服务。我们的产品经得起极端应用并可保证很长的服务寿命

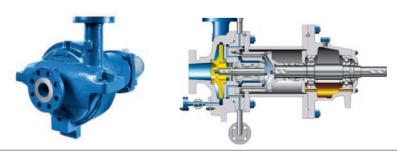
Mechanical seals and systems to API 682 机械密封和系统符合API682标准





RPHmdp: hermetically sealed volute casing pump with magnetic drive

RPHmdp: 磁力驱动的密封蜗壳泵



Volute casing pump to API 685 蜗壳泵,符合API685标准



#### Your benefits:

From KSB's own API mechanical seals and systems to mag-drive pumps and canned motor pumps – all from a single source, from the full-range supplier KSB.

#### 您的好处

从KSB自己的API机封和系统到磁力泵、屏蔽泵——您一个简单的要求,KSB可提供全系列的产品



# Outstanding performance, built to last: the RPH pump family 杰出的性能, 由始至终

Pumps of the RPH family fulfil the stringent requirements of the API standards API 610, API 682 or API 685. The broad selection of hydraulic systems, materials, sealing options and installation variants always allows you to find the right pump within the RPH family, suitable for the extreme conditions encountered in oil and gas applications.

No matter whether it's large quantities, high operating pressures, a sump or hermetically sealed pump – the RPH family offers a solution. Thanks to their robust design RPH, RPHb, RPH-V and RPHmdp pumps can also be used on offshore platforms.

RPH系列水泵完全符合API610,API682或API685标准。RPH系列泵具有水力范围宽广,材料、机封选择和安装方式多样性的特点,在石油石化和天然气应用中无论多极端的环境,始终能保证客户找到适合的产品。无论需要大流量、高运行压力的泵还是应用在液下或者密闭型的泵,RPH系列泵总能提供合适的产品。由于稳健的设计,RPH,RPHb,RPH-V和RPHmdp还可以应用于海洋平台。

#### **RPH**<sup>®</sup>

## Horizontal, radially split volute casing OH2 pump in back pull-out design to API 610

Pump for handling the large variety of petroleum products, mainly in refineries as well as in the chemical and petrochemical industries.

卧式、径向剖分式蜗壳、OH2型泵、采用后抽式设计,符合API610标准,可输送大部分的石油产品。主要用于精炼厂、化工、石化等行业。

DN 25–400 Q [m³/h] 4150 max. H [m] 270 max. p [bar] 110 max. T [°C] -70 to +450



#### **RPHb**

## Horizontal, radially split, double-stage volute casing BB2 pump to API 610

Pump for handling the large variety of petroleum products, mainly in refineries as well as in the chemical and petrochemical industries.

卧式、径向剖分式蜗壳、单吸两级叶轮、BB2型泵,符合API610标准,可输送大部分的石油产品。主要用于精炼厂、化工、石化等行业。

DN 80–200 Q [m³/h] 790 max. H [m] 430 max. p [bar] 100 max. T [°C] – 80 to +450



#### **RPHmdp**

## Horizontal, radially split volute casing OH2 pump in back pull-out design, with magnetic drive to API 685

Pump for handling aggressive, toxic, explosive, valuable, flammable or harmful liquids in the chemical, petrochemical and general industries.

卧式、径向剖分式蜗壳、OH2型泵、采用后抽式设计,符合API685标准。主要用于精炼厂、化工、石化等行业用来输送高腐蚀性、有毒有害、价值高或者易燃易爆产品。

DN 25–100 Q [m³/h] 300 max. H [m] 270 max. p [bar] 51 max. T [°C] –40 to +300



#### RPH-V

#### Vertical submersible VS4 pump to API 610

Pump for handling the large variety of petroleum products, can be used as a sump and tank pump mainly in refineries as well as in the chemical and petrochemical industries.

· 立式液下泵,VS4型泵,符合API610 标准,可输送大部分的石油产品。主 要用于精炼厂、化工、石化等行业用 来在水坑或者水槽内输送介质。

DN 25–80 Q [m³/h] 110 max. H [m] 170 max. p [bar] 35 max. T [°C] –30 to +230



## **Engineered to meet exacting requirements:** the CHTR type series

## 精准的满足工程需求: CHTR 系列产品

Depending on the respective customer, the requirements of the petroleum-processing industry can differ strongly and be very complex. Our answer to this is the CHTR type series.

Its modular design allows the latest version of the multi-stage barrel-type pump to API 610 to be adapted to meet all requirements. No matter whether

it's low volume flow rates under high pressure, large quantities at medium or maximum pressure, continuous or intermittent operation, the CHTR type series stands for top quality and reliability in any situation. Fully compatible with all systems, it impresses with its operating reliability, its absolute ease of service and its extremely robust and modular design - even at maximum loads. Applications at either low or very high temperatures can be covered, as well as those with aggressive or volatile fluids. To

meet these high demands, CHTR is available in a variety of materials to API 610. In addition, CHTR comes with a wide range of rotor balancing devices, and several bearing executions, which can, from case to case, be precisely adapted to the needs of the plant or application in order to provide an economic and effective solution. State-of-the-art calculation methods and tools are used to develop the ideal solutions upon which customers can fully

在石油化工领域,不同的客户的工艺流程和设 计要求不同,非常复杂。 这时我们推荐用CHTR系列产品。

模块化设计、最新模型的多级筒式泵,符合 API610标准, 能够适应复杂工况要求。无论是 小流量高扬程还是大流量高扬程,无论连续运 行还是间歇性运行, CHTR系列产品都有卓越 的表现,是最高质量和可靠性的代表。CHTR 可以在任何系统中稳定运行,以高运行可靠性 著称, 易于维护, 稳健和模块化的设计使其在 最大负载也能平稳运行。应用范围广泛, 甚至 可以在极低或极高温度下输送易腐蚀易挥发液 体。为了达到这些高要求,CHTR的材料涵盖 了API要求的各种材料类型。CHTR还拥有各种 转子平衡装置和轴承布置方案。来精准的满足 不同的应用和工厂的需求, 提供最为经济和高 效的解决方案。先进的计算方法和选型工具的 应用,为客户带来最理想和可靠的解决方案。

#### **CHTR**

#### Horizontal high-pressure barrel BB5 pump to API 610

Designed for extreme loads in the oil and gas industry

as well as in energy engineering. 卧式、高压筒袋式泵,BB5型泵,符合API610 标准。 主要应用于石油、天然气行业中的极端负载情况

50-300 Q [m<sup>3</sup>/h]1450 max. 4000 max. p [bar] T [°C] 400 max -60 to +450



## Overview of other KSB pumps for the petrochemical industry KSB石化行业泵概述

Pumps from KSB have become an institution on the market. This does not only apply to our process pumps but also to our auxiliary pumps designed to support processes.

KSB泵已经成为市场中的标杆。我们不仅能提供流程泵还能为辅助系统提供辅助泵

#### Other KSB API pumps KSB其它的API泵

**WKTR** 

#### Canned, vertical ring-section pump to API 610, type VS6

Pump for handling condensate and other NPSH critical products in industrial plants, particularly in refineries and petrochemical plants.

立式筒袋节段式水泵, VS6型泵, 符合API610标准。 主要用于泵送冷凝水和其它工业系统中对NPSHr有严 格要求的情况。尤其适用于 精炼厂和石油厂。

DN 40-150 Q [m<sup>3</sup>/h] 400 max. H [m] 350 max. p [bar] T [°C] 50 max -45 to +200

#### BB2 process pump to API 610. DIN ISO 13709 and API 682

Pump for handling the large variety of petroleum products, mainly in refineries as well as in the chemical and petro-chemical industries. Can also be used as thermal oil pump in solar thermal power plants and for pumping feed water in power stations and industrial plants. BB2型流程泵, 符合API 610, DIN ISO 13709 和 API 682标准,可输送大量的石化产品。主要用于精炼厂、化工 厂和石化工业。也可作为导热油泵用于太阳能电站,或者 作为给水泵用于电站和工厂。

250 and 300 Q [m3/h] 3800 max. H [m] 390 max p [bar] T [°C] 60 max. + 400 max

Other values on request

API 685series\*

#### Canned motor pump to API 685 from Nikkiso-KSB GmbH

Pump for handling aggressive, flammable and explosive liquids in the chemical and petrochemical industries. 屏蔽泵,符合API685 标准,由 Nikkiso-KSB生产。 在化工厂和石化工业中用于输送具有腐蚀性的和易燃

DN	40–150
Q [m³/h]	360
H [m]	220
p [bar]	40
T [°C]	+ 450

\*Only available in Europe, Russia, the Middle East and Africa

All data for 50 Hz operation

#### KSB auxiliary pumps

## **MegaCPK**

Horizontal, radially split volute casing pump in back pull-out design to EN 22 858 / ISO 2858 / ISO

Pump for handling aggressive liquids in the petrochemical industry and in refineries.

卧式,在向剖分式蜗壳,后抽式设计符合22 858 / ISO 2858 /ISO 5199。主要用于石化行业和炼油厂来输送腐 蚀性液体。

DN 25-250 Q [m³/h] H [m] 1160 max 162 max. p [bar] T [°C] 25 max. +400 max



#### **RDLO**

#### Volute casing pump for horizontal or vertical installation with double-entry radial impeller, mating flanges to DIN, ISO, BS or ANSI

Pump for handling and transporting water/process water with low solids content, e.g. in cooling and fire-fighting systems and intake pumping stations.

单级双吸轴向中开式蜗壳泵,法兰设计符合 DIN, ISO, BS 或 ANSI标准。主要用于输送低固体含量的水,比如冷 却水,消防系统和取水泵站。

350-700 Q [m³/h] 10000 max. H [m] 240 max. p [bar] T [°C] 25 max. +140 max

Other values on request



#### **UPA**

#### Single- or multistage centrifugal pump in ring-section design

Pumping clean or slightly contaminated water in irrigation and drainage, industrial water supply, fire-fighting systems, as well as drinking, raw and service water supply and pressure boosting. 具有节段式设计的单机或多级离心泵。用 于输送洁净或者受到轻微污染的水,排灌 和排水,工业供水,消防系统,饮用水, 生水和服务供水,增加系统。

DN	4–26
Q [m <sup>3</sup> /h]	2200 max.
H [m]	1500 max.
T [°C]	±50 may

#### Magnochem

#### Horizontal glandless volute casing pump in back pull-out design with magnetic coupling to ISO

Pump for handling aggressive, toxic, explosive, valuable, flammable, malodorous or harmful liquids in the chemical, petrochemical and general industries

卧式、无轴封、蜗壳采用背抽式设计,采用磁性联轴 器,设计符合ISO 2858 / ISO 5199标准。用于处理化 石油和工业行业中的有腐蚀性、有毒、易爆、贵 重、 易燃、有臭味或者有害的液体

DN 25-200 Q [m<sup>3</sup>/h] 1160 max. Ĥ [m] 162 max. p [bar] T [°C] 40 max. +300 max



#### Omega

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

Pumping raw, clean, service and sea water in water treatment plants, irrigation and drainage pumping stations, power stations, fire-fighting systems, shipbuilding and the petrochemical industry.

单级中开式离心泵, 可卧式或立式安装, 双吸径向叶轮, 法兰可按照 DIN, ISO, BS 或 ANSI标准生产。主要用于自来水厂、灌溉、排水泵站、电厂、消防系统、造船行业或者 石油化工行业中, 用来输送生水 纯净水、服务供水和海水

80-350 Q [m³/h] H [m] 2880 max. 210 max. p [bar] T [°C] 25 max. +140 max



Valves 07

## TRIODIS: totally reliable in the

## toughest conditions

## TRIODIS: 完全适用于最严苛的工况

High pressures of up to 100 bar, extreme temperatures from -250 to +200 °C, harsh conditions in aggressive environments: when things get really tough, the TRIODIS triple-offset butterfly valve will keep tight at all times. Maintenance-free, safe and reliable in case of fire and available in a large number of diameters, the TRIODIS high-performance butterfly valve stands for everything that defines valves from KSB: safety, reliability and technical innovation.

最高适用压力可达100bar,温度-250℃到+200℃,在腐蚀性环境等严酷工况下,TRIODIS三偏心蝶阀能始终保持良好密封。免维护,安全,防火。产品尺寸齐全。TRIODIS高性能蝶阀全面代表了KSB的阀门产品定义:安全,可靠,技术创新。



TRIODIS: butterfly valve in triple offset design for transporting liquefied natural gas TRODIS: 三偏心蝶阀,用于输送液化天

然气。

#### Perfect shut-off 可靠关断

TRIODIS ensures tight shut-off even in cryogenic applications and even at full rating. This is ensured, among other things, by the one-piece shaft design and extra long plain bearings. At the shaft passage, two independent seals ensure reliable tightness without the need to re-tighten the gland packing.

整体式阀杆和加长滑动轴承使TRIODIS在全压力和超低温情况下,都能保证可靠关断。在阀轴方向上,两处独立密封确保密封无泄漏,无需再次压紧填料函。

#### Easy maintenance 维修方便

The seat and the graphite packing can be replaced without specific tools. The vent hole can be used as an additional barrier for tightness at the shaft passage. The plug (fire-safe) at the bottom is used for fluid draining. 阀座和石墨填料均为可置换,无需特殊工具。阀轴方向上的通气孔可以作为确保密封的一个附加屏障。阀轴底部的塞头(防火型)用于泄流。

#### Safety and reliability 安全可靠

TRIODIS fulfils the fire-safety requirements to ISO 10497, and is fitted with an anti-blow out system to protect operators. TRIODIS does not need a travel stop for the closed position, the metal seat stops it naturally. TRIODIS满足ISO10497的防火要求,配有防吹装置以保护操作者。TRIODIS关闭时无需行程制动装置,因为金属阀座本身可以防止过关。

#### Reliable KSB design 可靠设计

The sealing surfaces are perfectly matched so that TRIODIS is bubble-tight, even at high pressures. It can be fitted with the HELICOFLEX® gasket which is recognised worldwide for its excellent sealing performance. TRIODIS密封面完美贴合,在高压情况下也不会有气泡产生。KSB 阀门可配世界知名的HELICOFLEX密封垫。

#### **KSB** valves

#### ISORIA 10/16/20/25

## Centred-disc AMRI butterfly valve with elastomer liner

Shut-off and control in all industrial and energy applications. AMRI中心型蝶阀,橡胶阀座,广泛适用于工业和能源领域的开关和控制

DN 32–1000 p [bar] 25 max. T [°C] –10 to +200



#### DANÄIS 150/MTII/TBTII

### Double-offset butterfly valve

Liquefied natural gas process chain, all liquefied gases, petroleum, gas, chemical and petrochemical industries. 双偏心蝶阀,应用于液化天然气供应链,液化气体、汽油,各种气体化学,石化等行业。

DN 50–1200 p [bar] 50 max. T [°C] –200 to +420



## TRIODIS MT/TBT

Triple-offset butterfly valve For use in high-pressure and cryogenic applications. 三偏心蝶阀,应用于高压和超低温工况

DN 150–1500 p [bar] 150 max. T [°C] –196 to +500



#### **MAMMOUTH**

## Centred-disc butterfly valve with elastomer liner

Water supply, water treatment, desalination (reverse osmosis MSF), shut-off and control duties in all industrial applications.

中心型蝶阀,橡胶阀座,应用于供水,水处理,脱盐(反渗透MSF)各工业领域的开关和控制。

DN 1050–4000 p [bar] up to 25 T [°C] 0 to +110



#### SISTO-16/-20

In industrial plants and power stations, suitable for drinking water, service water, air, technical gases, as well as abrasive and aggressive fluids in industrial and chemical plants.

法兰连接薄膜阀,应用于工厂 电站,饮用水,工业水,空气 天然气,以及各种颗粒性腐蚀 性介质。

Flanged end diaphragm valve

DN 20–100 p [bar] 25 max. T [°C] – 30 to +160

#### ANSI high-pressure valve ANSI高压阀 DN 1/5" – 24"

DN ½" – 24" Class 800–2500 T [°C] 0 to +593

**SICCA** 



#### ECOLINE

ANSI low-pressure valve ANSI低压阀 DN 2" – 36" Class 150, 300, 600, 800



上海部世代区江川路1400号
上海 200245
电话 +86 21 64301504
Email: ksbpump.shanghai@ksb.com
KSB Shanghai Pump Co.,Ltd
1400 Jiangchuan Road, Minhang District
Shanghai 200245
Tel: +86 21 64301504
E-mail: ksbpump.shanghai@ksb.com
MLLS (天津) 有限公司 (天津) 有用公司 (天津) 有用公司

广州方位310
广州市海球区石榴岗路10号地段生物工程大厦11层05-07室
广州 510310
传真 +86 20 29191001
传真 +86 20 29191009
Emailiksbpump.guangzhou@ksb.com
Guangzhou Branchoffice
Room 1105-1107,11th Floor, Biotechnology Mansion, Shiliugang Road, Haizhu District
Guangzhou 510310
Elt: +86 20 29191009
E-mail: ksbpump.guangzhou@ksb.com

上海訊土比录有限公司广州第一分公司(广州服务车间)
广州市黄城经济技术开发区瑞和路73号
广州 510310
Lid: +86 020 2203 0017
E-mail: ksbpump.guangzhou@ksb.com
KSB Shanghai Pump Co., Ltd. Guangzhou Second Branch (Guangzhou Service Workshop)
No.73, Ruihe Road, Huangpu Economic-Technological Development Area, Guangzhou St0310
Tel: +86 20 22030017
E-mail: ksbpump.guangzhou@ksb.com

西安分公司
胰皮合体 186 29 83375225
传真 +86 29 83375225
传真 +86 29 83375250
Email: ksbpump.xian@ksb.com
Xi'an Ilaison office
Room 1812,
PCCCGhanxi) Building,
No.12 Gaoxin Road, Xi'an
Xi'an 710075
Tel: +86 29 88375250
E-mail: ksbpump.xian@ksb.com

青岛办事处
青岛市事律中路12号丰合广场8座403
青岛36071
Tel: +86 532 80661151
传真 :+86 532 80661150
Emailiksbpump.qingdao@ksb.com
Qing Dao Ilaison office
Room 403, Building B, Fullhope Plaza
No.12 Hong Kong Central Road
Qingdao 265071
Tel: +86 532 80661151
Tel: +86 532 8066 1150
E-mail: ksbpump.qingdao@ksb.com

则出比率准有限公司
第二十8章 7471220
任義 +852 21471220
传真 +852 21471220
传真 +852 21471220
任持 +852 21471220
任持 +852 21471220
日本 +852 21471220



#### 联系人





上海凯士比泵有限公司 上海闵行江川路1400号 www.ksb.com.cn

Fax +852 21471230 E-mail: ksb.hongkong@ksb.com

KSB 24小时服务热线: 400-021-8000