The chemistry is right with KSB
The chemical pump range for limitless applications

No matter whether the fluids are aggressive, corrosive or explosive, our chemical pumps will hold up to any challenge: with a generation of technically highly advanced pump and valve type series, comprehensive service solutions and the chemical expert’s unique know-how.

Perfect solutions for every application
Besides reliable valves, KSB offers a unique modular pump design system for every application. A broad selection of hydraulic systems, impeller and casing designs, seal variants and a wide choice of materials enable the most demanding of fluids to be handled. Thanks to uniform standards and our widespread sales network, customers around the world can rely on the high quality and excellent service KSB provides.

The perfect combination – with efficient drives and automation
Only when combined with highly efficient drives and demand-driven control can the entire system be operated economically. The combination of the KSB SuPremE® IES motor*, the world’s most efficient magnet-less pump motor, and PumpDrive, KSB’s variable speed system, results in major energy savings and an extended service life at variable load profiles thanks to more efficient operation.

*IES in accordance with IEC/TS 60034-30-2 up to 15/18.5 kW (only for 1500 rpm types rated 0.55 kW, 0.75 kW, 2.2 kW, 3 kW, 4 kW: IES in preparation).
The safety of all those involved in repairing chemical pumps and valves takes first priority. As KSB meets all requirements set out in the guidelines of the German Chemical Industry Association (VCI), safe working conditions are ensured. The components are dismantled and cleaned by trained and experienced personnel in the presence of a specialist from the Materials Laboratory and in accordance with the operating manual.

FluidFuture®: 25 % reduction in energy costs in chemical applications

Working in cooperation with KSB, the international chemical company Solvay Fluor GmbH has modernised its recooling plant for producing hydrogen fluoride. Using the FluidFuture® energy efficiency concept, old oversized pumps were identified and replaced with efficient and optimally matched pump sets. The result: around 25 % less energy costs, representing about € 20,700 in savings per year.

Learn more about energy savings with FluidFuture® at www.ksb.com/fluidfuture
MegaCPK – the best standardised chemical pump in its class

A milestone in standardised chemical pumps: MegaCPK is our unique all-in package that offers energy efficiency, a wide choice of variants and operating reliability – thereby setting the basis for numerous standards.

The proven standardised chemical pump to DIN EN ISO 2858 / ISO 5199 and Directive 94/9/EC (ATEX) is especially used for handling aggressive liquids in the chemical and petrochemical industries.

Energy efficiency
Perfectly matched to the pump’s output, ensuring maximum energy savings:
- Extended range of sizes: identical operating data and conditions are achieved with smaller pump sizes.
- Impeller trimming for energy savings of up to 10 %

Wide range of variants
Thanks to its versatility, MegaCPK can be optimally adapted to the customers’ needs and various fluids:
- Comprehensive modular design system with a variety of pump sizes, materials and components
- Gland packing, single and double standardised mechanical seal or cartridge seal
- “Medium duty” bearing bracket design with a cylindrical roller bearing as a radial bearing and a double angular contact ball bearing as a fixed bearing or “economy” bearings arranged as floating ball bearings
- Oil or grease lubrication
- Cylindrical or conical casing cover for fluids with high solids content
- Hydraulic systems for standardised flow rates or high-performance variants depending on the customer’s specification.

Operating reliability
Right from the start, MegaCPK has been designed for maximum operating reliability:
- Back pull-out design for quick and easy maintenance
- Compliance with European ATEX Directives
- Version with coolable bearing brackets for fluid temperatures in excess of 200 °C
- Heatable variant for coagulating fluids
- Replaceable casing wear ring / impeller wear ring
- Optional shaft sleeve for minimised wear
- Minimal axial thrust
- Inducer as an option

www.ksb.com/megacpk
Magnochem – the mag-drive pump with endless possibilities

Designed to take on every challenge: with new operating modes for critical fluids and the magnetic coupling’s comprehensive modular design system, seal-less Magnochem incorporates the latest unique developments, providing maximum safety.

The versatile mag-drive pump to DIN EN ISO 2858 / ISO 5199 is particularly suitable for handling toxic, explosive or valuable liquids in the chemical, petrochemical or general industries.

With its ATEX approval, it ensures maximum operating reliability along with maximum efficiency and zero leakage.

**Maximum safety**
The optionally available leakage barrier and monitoring systems maximise safety and ensure zero pump leakage.

- No leakage to atmosphere
- Warning in the case of potential hazards

**Energy efficiency**
The magnetic coupling’s comprehensive modular design system allows Magnochem to be tailored to the optimum operating point:

- Different magnetic coupling diameters and lengths for each hydraulic system size
- Eddy current-free ceramic containment shroud
- Back-to-back plain bearing arrangement for minimum bearing load and improved fatigue strength
- Optional leakage barrier
- Silicon carbide plain bearings with DLC coating
- Ceramic containment shroud

**Wide range of variants**
With its two new operating modes, Magnochem can safely circulate even the most critical of fluids as a coolant or lubricant.

The new auxiliary impeller prevents pressure drops in the rotor space so that the fluid handled does not evaporate.

**Innovative technology**
Using cutting-edge manufacturing methods, KSB continually develops new designs:

- Auxiliary impeller for new operating modes
- Modular design principle for magnetic coupling
- Anti-swirl baffle to reduce potential vortices

www.ksb.com/magnochem
Innovative modular design for chemical pumps: 
Perfect match – ISO pumps for every application

When it comes to improving system availability and reducing life cycle costs, KSB has the right solution.

Same performance, smaller pumps

The selection charts developed by KSB offer a choice of 45 pump sizes and 58 hydraulic systems. This extensive choice combined with the fact that all of KSB’s pumps have been designed to meet the ISO requirements means that they are always as close as possible to the BEP as defined by the ISO 2858 standard. With the range of DIN EN ISO 2858/ISO 5199 pump family sizes of modular design, KSB offers maximum availability and exchangeability for operators of process engineering plants.
Full chemical range – pumps and valves in perfect combination

Every plant places specific demands on its components and their characteristics. That is why, for every application, KSB offers the perfect solution that meets the highest safety standards. Our comprehensive product range consists of different pump series and various types of butterfly and globe valves that reliably shut off even the most critical fluids.

### MegaCPK*

Standardised chemical pump with two bearing bracket variants

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<tbody>
<tr>
<td>25–250</td>
<td>1160</td>
<td>162</td>
<td>25</td>
<td>-40 to +400</td>
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</tbody>
</table>

### Magnochem*

Standardised chemical mag-drive pump

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</thead>
<tbody>
<tr>
<td>25–160</td>
<td>1160</td>
<td>162</td>
<td>40</td>
<td>-90 to +300</td>
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</tbody>
</table>

### Multitec*

High-pressure ring-section pump

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<tbody>
<tr>
<td>32–150</td>
<td>850</td>
<td>630</td>
<td>63 (100)</td>
<td>-10 to +200</td>
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### RPH / RPHmdp

Centrifugal pump with channel impeller

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<tbody>
<tr>
<td>40–900</td>
<td>15000</td>
<td>100</td>
<td>10</td>
<td>-40 to +120 (max. +280)</td>
</tr>
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</table>

### KWP

OH2 process pump to API 610 / standardised chemical mag-drive pump to API 685

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<td>15000</td>
<td>100</td>
<td>10</td>
<td>-40 to +120 (max. +280)</td>
</tr>
</tbody>
</table>

*Also available with PumpDrive variable speed system and KSB SuPremE® IES motor. IES in accordance with IEC/TS 60034 30-2 up to 15/18.5 kW (only for 1500 rpm types rated 0.55 kW, 0.75 kW, 2.2 kW, 3 kW, 4 kW: IES in preparation).

All data for 50 Hz operation

### NORI 40 ZXL/B/ZXS

Maintenance-free bellows-type globe valve

<table>
<thead>
<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–200</td>
<td>40</td>
<td>-10 to +450</td>
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</tbody>
</table>

### NORI 500 ZXSV

Globe valve with gland packing

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<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–65</td>
<td>500</td>
<td>-10 to +650</td>
</tr>
</tbody>
</table>

### STAAL 40 AKD/AKDS

Flanged or butt weld end gate valve with bolted bonnet

<table>
<thead>
<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
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</thead>
<tbody>
<tr>
<td>50–600</td>
<td>40</td>
<td>-10 to +400</td>
</tr>
</tbody>
</table>

### STAAL 100 AKD/AKDS

Flanged or butt weld end gate valve with bolted bonnet

<table>
<thead>
<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
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<tbody>
<tr>
<td>50–500</td>
<td>100</td>
<td>-10 to +550</td>
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</table>

### KE

Centred-disc butterfly valve with PFA Liner

<table>
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<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>40–600</td>
<td>10</td>
<td>-20 to +200</td>
</tr>
</tbody>
</table>

### ISORIA 10

Centred-disc butterfly valve with elastomer liner

<table>
<thead>
<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>40–1000</td>
<td>10</td>
<td>-10 to +200</td>
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</tbody>
</table>

### DANAIS 150

Double-offset butterfly valve

<table>
<thead>
<tr>
<th>DN</th>
<th>p [bar] max.</th>
<th>T [°C] min. to max.</th>
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</thead>
<tbody>
<tr>
<td>1000</td>
<td>25</td>
<td>-50 to +260</td>
</tr>
</tbody>
</table>

www.ksb.com/products
AMTRONIC and SMARTRONIC – safety and precision for valves

Valve automation plays a major role in the performance, reliability and overall efficiency of a plant – in a particularly space-saving way. With perfectly matched open-loop and closed-loop control units from the specialist for innovative valve solutions.

In line with its reliable valves, KSB offers a comprehensive range of smart automation technologies. The AMTRONIC on/off control unit and the SMARTRONIC positioner handle your process data with care and precision, controlling valves and enhancing performance. With their space-saving design, they simplify the installation as well as the maintenance of the entire range of valves in a plant.
## Knowing our stuff:
**KSB’s expertise in materials**

Particularly chemical applications place high demands on the safety of pumps and their components: extreme operating pressures and temperatures are not uncommon and the requirements for abrasion and corrosion resistance are especially high. In collaboration with universities and research institutes, KSB therefore conducts extensive research into new technologies and develops innovative materials, such as metals for casings, or ceramic, diamond and carbon materials for bearings.

For the extensive testing of materials, including those partly developed in house, KSB has modern resources of chemical analysis at its disposal and makes use of metallographic and mechanical examination methods. This unique know-how and expertise in different types of materials is applied in our own foundries and allows the materials to be individually tailored for use even in the most stringent of chemical applications.

<table>
<thead>
<tr>
<th>Material</th>
<th>Material designation</th>
<th>Material number</th>
<th>Brief description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norinox®</td>
<td>GX3CrNiMo19-11-2</td>
<td>(1.4409)</td>
<td>Cast austenitic stainless steel</td>
<td>Wide range of applications in industry and process engineering</td>
</tr>
<tr>
<td>Noridur®</td>
<td>GX3CrNiMoCuN24-6-2-3</td>
<td>1.4593</td>
<td>Duplex stainless steel</td>
<td>All kinds of chloride-containing fluids, reducing acids and acidic process water</td>
</tr>
<tr>
<td>Noridur® DAS</td>
<td>GX3CrNiMoCuN24-6-2-3</td>
<td></td>
<td>Wear-resistant duplex stainless steel</td>
<td>For pump components exposed to hydraulic loads in the handling of solids-laden acids and lyes</td>
</tr>
<tr>
<td>Noriclor®</td>
<td>GX3CrNiMoCuN24-6-5</td>
<td>1.4573</td>
<td>Super duplex stainless steel</td>
<td>For aggressive fluids in chemical process engineering</td>
</tr>
<tr>
<td>Noricid®</td>
<td>GX3CrNi5In20-13-5</td>
<td>9.4306</td>
<td>Special high-alloy austenitic cast steel</td>
<td>For highly oxidising acids such as concentrated nitric, chromic or sulphuric acids</td>
</tr>
<tr>
<td>Noricrom®</td>
<td>GX150CrNiMoCuN41-6-2</td>
<td>1.4475</td>
<td>Cast corrosion- and wear-resistant triplex steel</td>
<td>For strongly acidic, chloride-containing fluids with very high solids content</td>
</tr>
<tr>
<td>Titan</td>
<td>G-Ti2, G-Ti2Pd</td>
<td>3.7031, 3.7032</td>
<td>Highly corrosion-resistant special material</td>
<td>For oxidising fluids with high chloride content (e.g. chlorinated lyes in chlorine electrolysis)</td>
</tr>
<tr>
<td>Nickel chromium molybdenum alloy</td>
<td>G-NiMo17Cr</td>
<td></td>
<td>Highly corrosion-resistant, NiCrMo-base castings</td>
<td>For hot, concentrated acids</td>
</tr>
<tr>
<td>Nickel</td>
<td>G-Ni95</td>
<td>2.4170</td>
<td>Nickel-base cast material</td>
<td>For highly concentrated alkaline solutions /lyes</td>
</tr>
</tbody>
</table>
From a single source: your partner for pumps, valves and service

KSB supports you with the service packages you require: from installation and commissioning, inspections and maintenance right through to repairs on site or at one of our more than 170 service centres worldwide. With more than 3,000 experts, we are there for you, twenty four hours a day, seven days a week, capable of meeting the most stringent requirements thanks to SCCP-approvals. We are your dependable service partner for the whole spectrum of rotating equipment including non-KSB products.

Service and spare parts solutions to ensure everything runs like clockwork

We offer first-class service throughout the entire life cycle of your systems and during all project phases. Our comprehensive service package includes premium spare parts solutions for pumps and valves. With original spare parts we help avoid system downtimes and guarantee a high degree of safety and reliability.
**Maintenance inspection management**

With accurate planning and preparation our specialists ensure successful maintenance inspections of all products.

- Standard overhaul of valves, pumps and other rotating equipment of all makes, including manpower and logistics, tools and special machinery
- Provision of standard wear parts, gaskets and packings

**Retrofits: good can be made even better**

New framework conditions do not always require new pumps: KSB retrofit is the alternative to buying a new product and comprises measures for hydraulic and mechanical modifications or changes to the materials of your pumps and systems.

Your benefits:

- Reduced energy and maintenance costs
- Longer service life
- Increased availability
- Compliance with legal requirements
- Saves large investments in new equipment that may possibly require adaptations to the existing plant

**SES System Efficiency Service**

A comprehensive analysis using a data logger allows you to get a detailed insight of your pump system.

- Identification of potential savings and causes of any damage.
- Optimising energy efficiency to ensure sustainable operation and increase economic efficiency

**No compromises: KSB original spare parts**

With KSB original spare parts you’re on the safe side as regards the usual operating reliability of your pumps and valves.

Your benefits:

- No compromises on quality
- Operating reliability
- Available at short notice
- For your KSB pump to stay a KSB pump
- Reverse engineering, also for non-KSB products
Technology that makes its mark