

► Our technology. Your success.

Pumps • Valves • Service



## Hops and High-tech

# KSB – A Strong Partner for the Brewing Industry



## The most important ingredients for brewing beer:

### Pumps, valves and service from KSB

Many breweries face major challenges due to the industry's high quality and safety standards, the increasing variety of beers and the issue of sustainability. Thanks to over 140 years of experience in transporting liquids, KSB has a profound understanding of every one of these challenges.

KSB's unique combination of expertise, quality and extensive portfolio of products and services makes us one of the most sought-after partners in the brewing industry. KSB is the only provider in the world offering efficient all-in solutions across all phases of the system life cycle, right from the initial stages of the project.

As a one-stop provider, KSB offers breweries everything they need to operate their system. They can also rest assured that all system components will work together perfectly. Reliable operation, easy maintenance and low operating and life cycle costs are all part of the package with KSB.

As the processes involved in beer production are highly energy intensive, the right energy efficiency measures can substantially reduce the greatest cost factors. Here, too, KSB is ideally equipped to provide expert support.

KSB conducts comprehensive system analyses that evaluate the brewing system as a whole. Customers also benefit from KSB's many years of experience in developing Industry 4.0 solutions, for example the innovative monitoring solution, KSB Guard.

Do you still have questions?

Full-service provider KSB SupremeServ is there to support you worldwide, with more than 3,000 service specialists in over 170 service centres.



## The FluidFuture® energy-saving concept: Maximum savings through system analysis

With FluidFuture® KSB optimises the energy management of your brewery system in four steps. To achieve maximum energy efficiency, KSB looks at the hydraulic system as a whole and its entire life cycle. Our combination of expertise, experience with energy efficiency optimisation, and future-oriented products and services result in maximum savings for you.

Find out more!

Energy management with FluidFuture® optimises the energy efficiency of your system in four steps for maximum energy savings.



No third party necessary: As a full-service provider, KSB provides support throughout the entire life cycle of your system with a comprehensive range of services and spare parts.



## KSB and the brewing industry: A strong team for over 140 years

Did you know that one of KSB's first products was a steam trap that was used in breweries? Today, more than 140 years later, KSB's portfolio features all the essential pumps and valves for the modern brewing process. Covering all phases of the system life cycle, we offer products for both primary and secondary processes.

KSB works together closely with the most important associations, societies and consultancies in the brewing and food industries, including the European Hygienic Engineering and Design Group (EHEDG), the Research and Teaching Institute for Brewing in Berlin (Versuchs- und Lehranstalt für Brauerei, VLB) and the education and consulting institute Doemens.

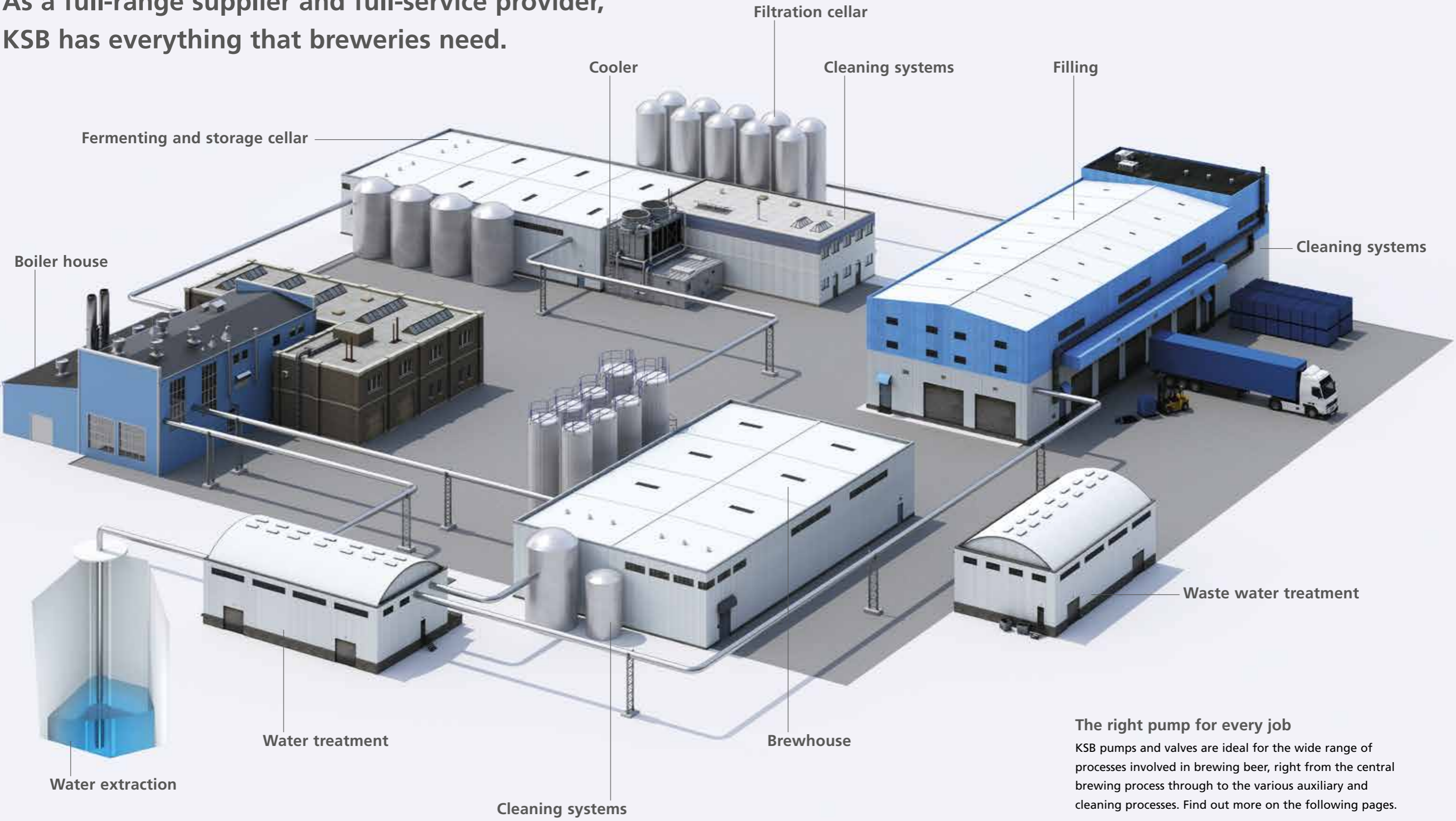
When talking with KSB's application experts and process engineers, customers really notice that our experts know exactly what is important in a modern brewery, from gentle handling of the fluids through to the rules of hygienic design. KSB's valuable knowledge is relied on by the most renowned breweries in the world, for example the BrewDog brewery in Scotland and the Sapporo brewery in Vietnam.

All components from KSB stand out for their high level of operating efficiency. Thanks to their hygienic design, they are also very resource-friendly to clean. Important factors that guarantee that breweries worldwide can consistently deliver a high and reproducible level of quality.



Advertisement in 1890 for one of KSB's first products: a steam trap.

**The right solution for every process step:**  
 As a full-range supplier and full-service provider,  
 KSB has everything that breweries need.



**The right pump for every job**  
 KSB pumps and valves are ideal for the wide range of processes involved in brewing beer, right from the central brewing process through to the various auxiliary and cleaning processes. Find out more on the following pages.

## From water extraction to filling: KSB is your partner for all stages of the brewing process.



### Water extraction & water treatment

Alongside hops, yeast and malt, water is the most important element in beer. Its quality and properties play a crucial role in the brewing result. KSB's Movitec has proven itself to be especially successful in water treatment, as it generates the high pressures required for water treatment and can be installed vertically inline to save space.



### Brewhouse

The brewhouse is where the foundation for every beer is laid. It is particularly important that all processes mesh together perfectly here. Many breweries therefore rely on KSB's expertise for transporting their mash and wort. Due to its efficient hydraulic system and mechanical seals perfectly matched to the fluid handled, KSB's Etanorm C is frequently used in the brewhouse.



### Boiler house

Breweries need heat energy at various points in the process. The heat is generated in the boiler house, where particularly high temperatures and pressures place exacting demands on the pump selected. KSB's Multitec is therefore the ideal pump here. Featuring an extra robust design for long-term and trouble-free operation, its low NPSH<sub>r</sub> value prevents the risk of damage from cavitation.



### Fermenting and storage cellar

Preventing contamination during fermentation is essential for brewing high-quality beer. A single weak point can render an entire production batch unusable. KSB's Vitalobe has become indispensable in the fermenting and storage cellar as it combines two things: the clean transport of liquids and gentle handling of sensitive fluids such as yeast.



### Filtration cellar

The beer is filtered and stabilised in the filtration cellar. Yeast and any remaining trub are removed, giving the beer its glossy sheen. For many breweries, KSB's Vitachrom is the first choice, as it is particularly gentle on the fluid handled even when transporting large volumes. Its zero dead volume design also guarantees perfect CIP/SIP cleanability.



### Filling

Filling is the final step in the brewing process. Whether bottle rinsing, crate washing or pasteurisation of the filled bottles, many breweries rely on Etachrom. It offers a high level of operating reliability, easy servicing and energy efficiency. For example, it is especially resistant to alkaline solutions and particularly low-wear thanks to the integrated anti-swirl baffle.



### Cooler

Brewing beer, or more precisely the necessary fermentation and storage process, is virtually impossible without cooling. KSB provides reliable mechanical cooling support for breweries with its Etabloc close-coupled pump. Featuring a space-saving design, it ensures outstanding efficiency – especially in combination with the flexible PumpDrive variable speed system.



### Cleaning systems

Many breweries use Vita pumps as supply and return pumps for cleaning in place (CIP). They reliably transport cleaning agents, hot and cold water as well as disinfectants. All Vita pumps can also be cleaned without leaving behind any residue and comply with the criteria of the European Hygienic Engineering & Design Group (EHEDG). Cross-contamination is therefore prevented.



### Waste water treatment

In addition to biological and chemical substances, brewery waste water often also contains solids such as shards, labels or crown corks. Powerful and corrosion-resistant pumps are needed here, such as KSB's Amarex KRT. Their entire impeller geometry is designed so that even solids-laden fluids can be easily transported with high levels of efficiency.

## Pumps for primary processes

Wherever beer is produced, mixed or bottled, pumps are integrated into the production and the cleaning cycles. As an industry expert, KSB knows what is important: the most stringent standards of hygiene and high operational reliability and availability. Only then can processes run reliably and efficiently over many years. The Vita pump range from KSB is therefore particularly in demand among breweries.

With a total of five different type series, it is ideal for perfectly sterile processes. All Vita pumps are made of the highest quality materials and are designed with very little dead volume. Depending on the type series, they can also be enhanced with automation solutions.

Smart solutions that KSB offers for its Vita pumps include the PumpMeter pump monitoring unit and the PumpDrive variable speed system. A recent addition is the innovative monitoring solution, KSB Guard. It monitors the vibration and temperature values of your pump at regular intervals and notifies you immediately of any deviations.

KSB Guard: the smart system for comprehensive monitoring of your pumps!  
Prevent malfunctions and downtimes using the cloud-based monitoring system KSB Guard.  
Find out more now.



KSB SupremeServ at work

### Vitachrom Rolled steel centrifugal pump

**Description:** Service-friendly non-self-priming single-stage hygienic close-coupled pump in back pull-out design with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system. The pump features a semi-open impeller and electropolished surfaces. It is very easy to clean by CIP/SIP thanks to its almost complete lack of dead volume and narrow clearances.

**Applications:** Hygienic handling of fluids in the beverage, food and pharmaceutical industries as well as in the chemical industry.



Technical data:	
DN	50 – 125
Q [m³/h]	≤ 340
H [m]	≤ 100
p [bar]	≤ 12
T [°C]	≥ -30 – ≤ +110

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000030>

### Vitacast / Vitacast Bloc Investment cast centrifugal pump

**Description:** Service-friendly volute casing pump with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system. Designed with very little dead volume; open impeller, electropolished surface, excellent efficiency. Also available with a trolley (accessory).

**Applications:** Hygienic handling of fluids in the beverage, food and pharmaceutical industries as well as in the chemical industry.



Technical data:	
DN	32 – 200
Q [m³/h]	≤ 540
H [m]	≤ 105
p [bar]	≤ 10
T [°C]	≥ -20 – ≤ +140

These data refer to 50 Hz operation.  
Also available for 60 Hz. Other ratings possible on request.



<http://shop.ksb.com/catalog/k0/en/product/ES000785>

### Vitaprime Self-priming centrifugal pump

**Description:** Service-friendly close-coupled side channel pump (self-priming) with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system. Hygienic design for the highest requirements on cleanability (CIP/SIP-compatible). Also available with a trolley (accessory).

**Applications:** Hygienic handling of fluids in the beverage, food and pharmaceutical industries as well as in the chemical industry.



Technical data:	
DN	40 – 80
Q [m³/h]	≤ 58
H [m]	≤ 45
p [bar]	≤ 10
T [°C]	≥ -20 – ≤ +100

These data refer to 50 Hz operation.  
Also available for 60 Hz. Other ratings possible on request.



<http://shop.ksb.com/catalog/k0/en/product/ES000787>

### Vitastage Multistage centrifugal pump

**Description:** Multistage centrifugal pump in close-coupled design for vertical or horizontal installation. All wetted components are made of 1.4401/1.4408 (AISI 316/CF8M) stainless steel. Versatile, robust and especially energy-efficient. CIP/SIP-compatible. All materials comply with FDA standards and EN 1935/2004. Trolley available among other accessories.

**Applications:** Hygienic handling of fluids in the beverage and food industries as well as in the chemical industry.



Technical data:	
Q [m³/h]	≤ 12.5
H [m]	≤ 150
p [bar]	≤ 16
T [°C]	≥ -20 – ≤ +140

These data refer to 50 Hz operation. Also available for 60 Hz. Other ratings possible on request.



<http://shop.ksb.com/catalog/k0/en/product/ES000788>

### Vitalobe Rotary lobe pump

**Description:** Sturdy rotary lobe pump in hygienic design, bi-directional operation possible, horizontal or vertical orientation of connections. Hygienic design, highly CIP/SIP-compatible due to its almost complete lack of dead volume and narrow clearances. Installed as a pump set with gear unit and standardised motor. Accessories include a trolley, heatable casing or casing cover and overpressure protection unit.

**Applications:** Hygienic and gentle handling of sensitive or high-viscosity fluids in the food, beverage and pharmaceutical industries, the chemical industry and general process engineering.



Technical data:	
DN	25 – 200
Q [m³/h]	≤ 342
H [m]	≤ 200
p [bar]	≤ 20
T [°C]	≥ -40 – ≤ +180

These data refer to 50 Hz operation. Also available for 60 Hz. Other ratings possible on request.



<http://shop.ksb.com/catalog/k0/en/product/ES000847>



## Pumps for secondary processes

KSB pumps are also an excellent choice for secondary processes in the brewing industry because they are especially reliable and economical. Applications in which they are used include water

treatment, waste water transport, as heat exchangers for heating and cooling, steam generation and transporting hot and cold water.

### Etanorm, Etabloc Standardised water pump

**Description:** Horizontal volute casing pump, single-stage, with ratings and main dimensions to EN 733, long-coupled, back pull-out design, with replaceable shaft sleeves / shaft protecting sleeves and casing wear rings, with motor-mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor of efficiency class IE4/IE5.

**Applications:** Pumping clean or aggressive liquids not chemically or mechanically aggressive to the pump materials in water supply systems, cooling water circuits, swimming pools, fire-fighting systems, irrigation systems, drainage systems, heating systems, air-conditioning systems, spray irrigation systems.



Technical data:	
DN	25 – 125
Q [m³/h]	≤ 640
H [m]	≤ 160
p [bar]	≤ 16
T [°C]	≥ -30 – ≤ +140

These data refer to 50 Hz operation. Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000062>

### Etachrom L Stainless steel pump

**Description:** Horizontal single-stage annular casing pump, with ratings and main dimensions to EN 733, with replaceable casing wear rings and motor-mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor of efficiency class IE4/IE5.

**Applications:** Cleaning systems (bottle rinsing, crate washing, etc.), water treatment plants, water supply systems, fire-fighting systems, spray irrigation systems, general irrigation systems, drainage systems, hot-water heating systems, air-conditioning systems, industrial washing plants, general industry, disposal of paint sludge, surface treatment.



Technical data:	
DN	25 – 80
Q [m³/h]	≤ 260
H [m]	≤ 105
p [bar]	≤ 12
T [°C]	≥ -30 – ≤ +110

These data refer to 50 Hz operation. Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000065>



## Movitec High-pressure in-line pump

**Description:** Multi-stage, vertical, high-pressure centrifugal pump in ring-section design with suction and discharge nozzles of identical nominal diameters arranged opposite to each other (in-line design), close-coupled drive. With KSB SuPremE, a magnetless synchronous reluctance motor of efficiency class IE4/IE5.

**Applications:** Spray irrigation, irrigation, washing, water treatment, fire-fighting and pressure boosting systems, hot water and cooling water recirculation, boiler feed systems, etc.



### Technical data:

Rp	1 – 2
DN	25 – 125
Q [m³/h]	≤ 160
H [m]	≤ 401
p [bar]	≤ 40
T [°C]	≥ -20 – ≤ +140
n [min⁻¹]	max. 2900

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000854>

## KWP Pump for solids-laden fluids

**Description:** Horizontal radially split volute casing pump in back pull-out design, single-stage, single-entry, available with various impeller types: closed multi-channel impeller, open multi-vane impeller and free-flow impeller. ATEX-compliant version available.

**Applications:** Paper industry, cellulose industry, sugar industry, food industry, power plants, chemical industry, petrochemical industry, flue gas desulphurisation, coal upgrading plants, industrial engineering, waste water transport, seawater desalination / reverse osmosis.



### Technical data:

DN	40 – 900
Q [m³/h]	≤ 160
H [m]	≤ 401
p [bar]	≤ 40
T [°C]	≥ -20 – ≤ +140
n [min⁻¹]	max. 2900

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000018>

## Multitec High-pressure ring-section pump

**Description:** Multistage horizontal or vertical centrifugal pump in ring-section design, long-coupled or close-coupled, with axial or radial suction nozzle, cast radial impellers and motor-mounted variable speed system. ATEX-compliant version available.

**Applications:** Water supply, drinking water supply, industry, pressure boosting, irrigation, power stations, heating systems, filtering systems, fire-fighting systems, reverse osmosis systems, snow-making systems and washing plants.



### Technical data:

DN	25 – 250
Q [m³/h]	≤ 1500
H [m]	≤ 1000
p [bar]	≤ 100
T [°C]	≥ -10 – ≤ +200
n [min⁻¹]	max. 3500

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000214>

## UPA 150C Submersible borehole pump

**Description:** All-stainless steel single-stage or multistage centrifugal pump in ring-section design for well diameters of 150 mm (6 inches) and above.

**Applications:** Spray irrigation systems, general irrigation systems, drawdown of groundwater levels, domestic water supply, fountains, heat pump systems, water supply systems.



### Technical data:

DN	150
Q [m³/h]	≤ 79
H [m]	≤ 440
T [°C]	+50

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000003>

## Etanorm SYT Heat transfer fluid pump

**Description:** Horizontal volute casing pump in back pull-out design, single-stage, with ratings and dimensions to EN 733, radially split volute casing with integrally cast pump feet. KSB SuPremE motor of efficiency class IE4/IE5 and variable speed system.

**Applications:** Heat transfer systems, hot water recirculation.



### Technical data:

DN	25 – 300
Q [m³/h]	≤ 1900
H [m]	≤ 102
p [bar]	≤ 16
T [°C]	≥ -30 – ≤ +350

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000790>

## HPK-L Hot water pump

**Description:** Horizontal radially split volute casing pump in back pull-out design to ISO 2858 / ISO 5199, single-stage, single-entry, with radial impeller. Equipped with heat barrier, seal chamber air-cooled by integrated fan impeller, no external cooling. ATEX-compliant version available.

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



### Technical data:

DN	25 – 250
Q [m³/h]	≤ 1900
H [m]	≤ 102
p [bar]	≤ 16
T [°C]	≥ -30 – ≤ +350

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000036>

## Amarex KRT Submersible motor pump

**Description:** Horizontal or vertical single-stage submersible motor pump in close-coupled design, with various next-generation impeller types, for wet or dry installation, stationary or transportable version, with energy-saving motor and models for use in potentially explosive atmospheres.

**Applications:** Pumping all types of waste water in water and waste water management, seawater desalination and industry, especially untreated waste water containing long fibres and solid substances, fluids containing gas or air, and raw, activated and digested sludge.



### Technical data:

DN	40 – 700
Q [m³/h]	≤ 10080
H [m]	≤ 120
T [°C]	≤ +60
n [min⁻¹]	max. 2900

These data refer to 50 Hz operation.  
Also available for 60 Hz.



<http://shop.ksb.com/catalog/k0/en/product/ES000092>



## Valves from KSB:

### The right solution for every application

From globe valves, gate valves, butterfly valves, ball valves, diaphragm valves and control valves to actuators and positioners, KSB has a wide variety of valves to complement its extensive range of pumps, underlining its leading position as a

full-range supplier for hydraulic applications. All valves comply with the latest safety regulations and operate with excellent energy efficiency. KSB also provides professional valves service for all makes, regardless of the design, size and manufacturer.

	Water treatment/ water extraction	Boiler house	Cooler	Cleaning systems	Waste water treatment	Brewhouse	Fermenting and storage cellar	Filtration cellar	Filling
Globe valves	BOA-Compact EKB, BOACHEM-ZXA, BOACHEM-ZXAB, ECOLINE GLV 150- 300	BOA-H, BOA-H Mat P, BOA-H Mat E, NORI 40 ZXL/ZXS, NORI 40 ZXL/ZXS, ECOLINE GLC 150- 600, ECOLINE GLF 150-600, BOACHEM- ZXA, BOACHEM-ZX- AB	BOA-Compact, BOA-Compact EKB, BOA-SuperCompact, BOA-W, ECOLINE GLC 150-600, ECOLINE GLF 150-600	BOACHEM-ZXA, BOACHEM-ZXAB, ECOLINE GLV 150-300	-	ECOLINE GLV 150-300	ECOLINE GLV 150-300	-	-
Gate valves	COBRA-SGP/SGO/ SGF, COBRA-SCBS, ECOLINE GTV 150- 300	ECOLINE GTC 150- 600, ECOLINE GTF 150- 600, ECOLINE GT 40, STAAL 40 AKD/ AKDS	ECOLINE GTC 150- 600, ECOLINE GTF 150-600	HERA-BD, HERA-SH, ECOLINE GTV 150-300	HERA-BD, HERA-SH	HERA-BD, HERA-SH, ECOLINE GTV 150-300	ECOLINE GTV 150-300	-	-
Butterfly valves	BOAX-B, BOAX-S/SF, ISORIA 10	DANAIS 150, KE	BOAX-B, BOAX-S/SF, ISORIA 10	BOAX-B, BOAX-S/SF, ISORIA 10, KE	BOAX-B, BOAX-S/SF, ISORIA 10	BOAX-B, ISORIA 10	BOAX-B, ISORIA 10	BOAX-B, ISORIA 10	-
Diaphragm valves	SISTO-16TWA, SISTO-16RGA	SISTO-10, SISTO-16	SISTO-10, SISTO-16	SISTO-C, SISTO-10, SISTO-16	SISTO-KB	-	SISTO-C	SISTO-C	In exceptional cases SISTO-C
Lift check valves	BOACHEM-RXA	NORI 40 RXL/RXS, BOA-R, BOACHEM-RXA, ECOLINE PTF 150- 600	BOA-RVK, ECOLINE PTF 150- 600	BOACHEM-RXA	-	-	-	-	-
Swing check valves	SISTO-RSK, SISTO-RSKS, ECOLINE SCV 150-300, SERIE 2000	SERIE 2000, ECOLINE SCC 150-600, ECOLINE SCF 150-600, BOACHEM-RXA, STAAL 40 AKK/AKKS	SISTO-RSK, ECOLINE SCC 150-600, ECOLINE SCF 150-600	BOACHEM-RXA, ECOLINE SCV 150-300, SERIE 2000	-	ECOLINE SCV 150-300	ECOLINE SCV 150-300	-	-
Strainers	BOACHEM-FSA, ECOLINE FYC 150- 600, ECOLINE FYF 800	NORI 40 FSL/FSS, BOA-S, ECOLINE FYC 150- 600, ECOLINE FYF 800, BOACHEM-FSA	BOA-S, ECOLINE FYC 150-600, ECOLINE FYF 800	BOACHEM-FSA, ECOLINE FYC 150-300, ECOLINE FYF 800	-	ECOLINE FYC 150-300, ECOLINE FYF 800	ECOLINE FYC 150-300, ECOLINE FYF 800	-	-
Measurement valves	BOA-Control IMS, BOA-Control IMS EKB	-	BOA-Control IMS, BOA-Control IMS EKB	-	-	-	-	-	-
Control valves	BOA-CVE EKB	BOA-CVE H, BOA-CVP H	BOA-CVE C/CS/W/ EKB	-	-	-	-	-	-

#### BOA-H globe valve

Maintenance-free and reliable

The BOA-H bellows-type globe valve is completely maintenance-free, making it ideal for continuous operation in demanding brewery applications. It offers a good throttling function with excellent flow coefficients

**Description:** Bellows-type globe valve to DIN/EN with flanged ends, with on/off disc or throttling plug, standard position indicator with colour coding for identification of valve design, replaceable valve disc; bellows protected when valve is in fully open position; seat/disc interface made of wear and corrosion resistant chrome steel or chrome nickel steel.

**Applications:** Hot-water heating systems, high-temperature hot water heating systems, cooling circuits, heat transfer systems, general steam applications in building services and industry. Other fluids on request.



#### ISORIA 10/16 butterfly valve

Absolutely leak-tight and versatile

ISORIA, the maintenance-free, centred-disc butterfly valve from KSB, stands for reliable operation, shut-off and sealing. It is available in a range of versions: with lever, pneumatic, electric or hydraulic actuator.

**Description:** Centred-disc butterfly valve, sealed by elastomer liner, with lever or manual gearbox, pneumatic, electric or hydraulic actuator. Wafer-type body (T1), semi-lug body (T2), full-lug body (T4) or U-section body with flat faces (T5). Body types T2 and T4 are suitable for downstream dismantling and dead-end service with counterflange. EN, ASME, JIS connections.

**Applications:** Shut-off and control duties in all industrial and energy sectors.







Technology that **makes its mark**

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Your local KSB representative:

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