

► **Our technology. Your success.**

Pumps • Valves • Service

**The Eta pump family** keeps the world on the move



## Around the globe. Always ready to help.

### A pump family for every occasion

The name Eta is and remains a generic term for standardised water pumps. With its unrivalled variety of versions and related services, this pump family is the market's gold standard. The world's best selling standardised water pumps have proved themselves through decades of consistent optimisation.

Whether it be water supply, cooling water, fire-fighting systems, spray irrigation, service water, condensate pumping or heating and air conditioning – Eta is in use around the world ensuring water is on the move in millions of applications. Eta is part of our daily life, without us even realising it. For example when we take our coffee with sugar, sit in an air-conditioned room or relax at the swimming pool. These everyday situations often hide complex processes. And the Eta pump family ensures that these processes function reliably. At any time, in any place: Eta keeps the world on the move.

#### Reference project: AUDI Hungary



An excellent example of the successful use of KSB Eta pumps can be seen in the optimisation process completed with our customer AUDI Hungary. Before our redesign, emulsion supply was handled by 37 kW pumps. By analysing their operation with the Pump-Meter monitoring unit, KSB was able to establish the optimum operating mode, revealing that the task could be handled by just three Eta pumps. This resulted in energy reductions of **30 %** translating to an annual saving of **€ 27,360**.

### Eta and I – simply inseparable



#### Breakfasting with Etanorm

Wherever sugar is produced, an Etanorm pump is never far away. So it is usually the high-performance Etanorm which sweetens the start of the day.



#### On the go with Etaline

When things start to get stressful, it pays to keep a cool head. Luckily the flexible Etaline in-line pump is on hand to ensure a pleasant climate.



### Global quality – regional flexibility

Straightforward global procurement options and excellent availability of Eta pumps and spare parts: The Eta family is manufactured to the same quality standards in every factory worldwide and adapted to regional requirements.



### Afternoons with Etabloc

Now and then you need to treat yourself to a little refreshment and relaxation. Filtration systems incorporating the compact Etabloc close-coupled pump ensure pure bathing pleasure.



### At home with Etanorm SYT

There's just no place like home! Reliable Etanorm SYT thermal oil and hot water pumps ensure a firm footing when used in the production of parquet flooring.



## Maximum efficiency – Save energy with the Eta family

In choosing KSB's Eta you are always opting for an efficient solution: The family's outstanding hydraulic design achieves excellent efficiency rates allowing substantial energy savings. We can also optimise the energy efficiency of an entire hydraulic system via our FluidFuture® energy savings concept.

Every Eta built by us is fitted with an impeller that is trimmed exactly to the optimum operating point. Offering impeller trimming as standard allows significant energy savings resulting in markedly reduced operating costs. Eta pumps also feature extremely high efficiency levels of up to 80 % and improved

NPSH values achieved via CFD and impeller hydraulic design verified through experimental testing. With the flushing channel positioned on the rear side, Eta benefits from a hydraulically optimised design that contributes to improved efficiency.



### Unlock savings potential – Drive down operating costs

When it comes to energy efficiency, KSB always goes the extra mile: With FluidFuture®, we take the entire hydraulic system into consideration in order to reveal all possible strategies for reducing energy and thus saving costs. Ultimately, the most substantial savings can only be achieved when all components of an entire system have been perfectly matched to each other. An analysis using precise measurement data forms the basis for further optimisation. KSB offers various options for determining savings potential. More information at [www.ksb.com/fluidfuture](http://www.ksb.com/fluidfuture)



### KSB Sonolyzer:

- This free app can diagnose whether a fixed-speed asynchronous motor is operating in part-load conditions by listening to the noise it produces. Further measurements will only be taken where economically viable. More information at [www.ksb.com/sonolyzer](http://www.ksb.com/sonolyzer)



### PumpMeter:

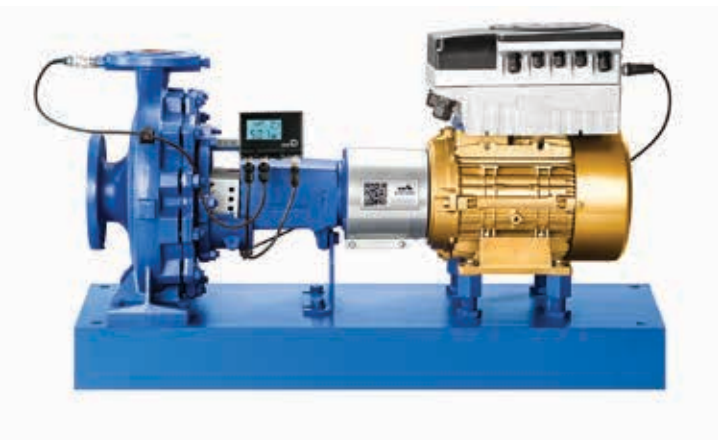
- Analysis is performed by recording and evaluating the load profile. PumpMeter calculates the differential pressure and establishes the pump's operating point by measuring the pump's suction and discharge pressure around the clock.

### SES System Efficiency Service®:

- For complex systems, comprehensive measurements are performed using a data logger.

### Determining system structure and selection of motor and automation:

- Based on the load profile and the geodetic head, we calculate how many pumps and which operating modes are required.
- In the case of operation at a primarily static duty point, asynchronous motors in the IE3 or IE4 efficiency classes for DOL starting without frequency inverters are employed.
- The most substantial savings are achieved by combining Eta pumps with the KSB SuPremE® IE5\* motor, the world's most efficient magnetless pump motor, and the PumpDrive variable speed system.
- For variable load profiles, using a speed control system can generate energy savings of up to 60 % compared with mains operation.

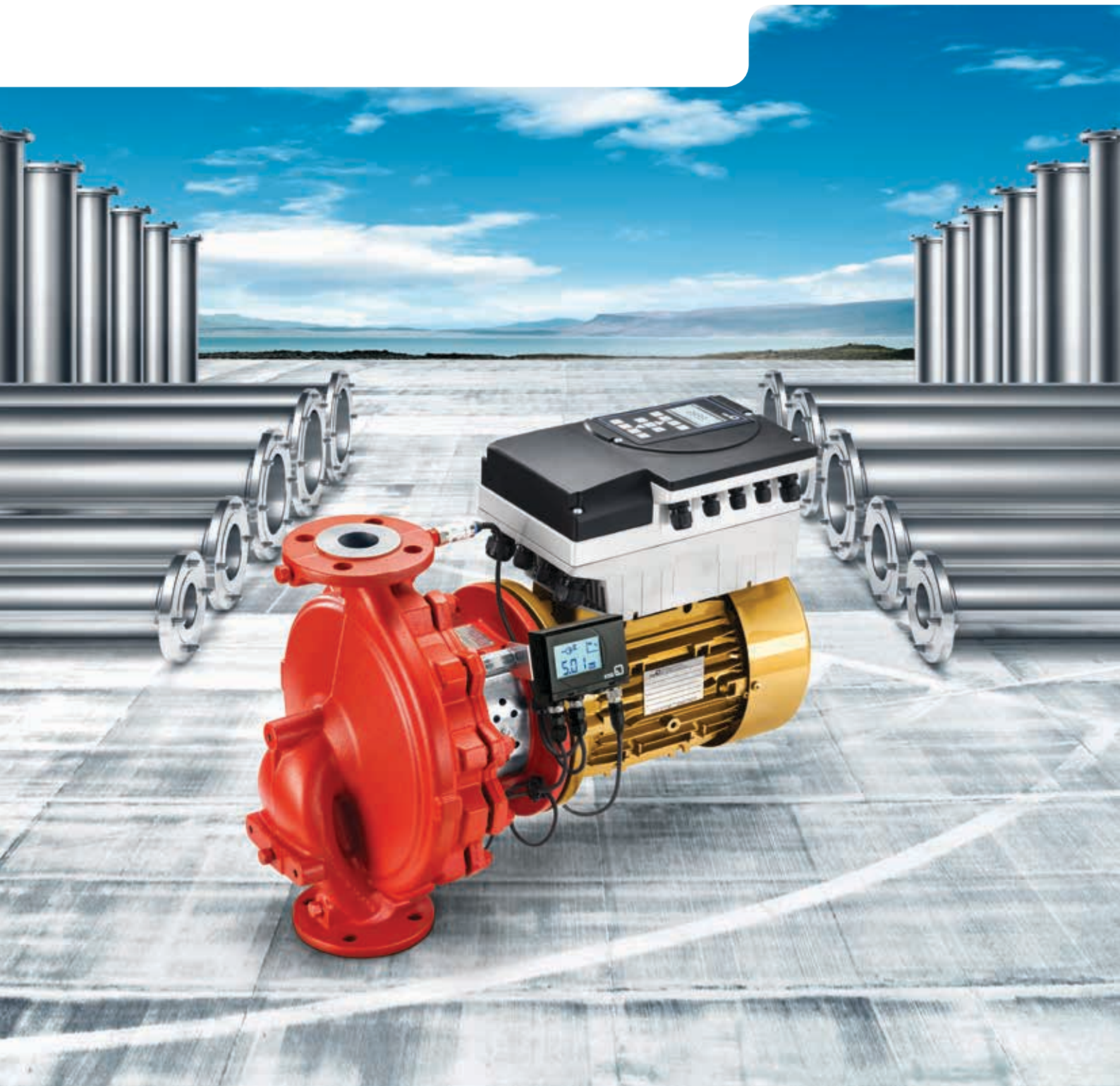


KSB Etanorm combined with the KSB SuPremE® IE5\* motor: With its optimised hydraulic design, the efficient standardised water pump in long-coupled design can save up to 7000 kW/h of energy a year.

\*IE5 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: IE5 in preparation)

## Unparalleled diversity: **Highest levels of flexibility** as standard

When other pumps run out of flexible options, Eta is just getting started. Not for nothing does the standardised water pump offer more variants than almost any other – 99 % of all pumps sold are customised during manufacture. The pump family's diversity is breathtaking, as can be clearly seen in the wealth of variants available for individual type series. With Eta, KSB offers the solution for any and every specific situation together with a guarantee for low-wear operation.



43 different sizes are available for Etanorm and Etabloc alone. Depending on the size selected, the casing cover comes in either clamped or bolted design, with the clamped casing cover featuring a transport lock which facilitates installation and service.

Either grease-lubricated or oil-lubricated bearings are available for all sizes. A shaft protecting sleeve is fitted on shafts sealed with a gland packing, and a shaft sleeve is fitted on shafts sealed with a mechanical seal.

Etanorm sizes 65-40-315, 80-65-315, 100-80-315 and 125-100-315 are available for 2-pole operation with reinforced bearings. This allows operation with a minimum shut-off head of 160 m. Additional sizes for smaller flow rates are also available.

#### The right material:

- Every size is assigned materials which are matched to the fluid handled and mode of operation as standard.
- For extreme operating conditions, we also offer an extended standard which allows different materials to be combined.
- Wetted parts are stocked in grey cast iron, cast steel, bronze and nodular cast iron and can thus be selected for countless applications.
- The pump's external dimensions depend on the material selected.

#### Always making the right connection:

- On Etanorm pumps with a bearing bracket for grease-lubricated or oil-lubricated bearings, the connections for draining, filling and venting are drilled and closed.
- Auxiliary connections can be selected for measuring instruments or pressure sensors.

#### Optimal sealing:

- The Eta pumps' shaft seal can be a gland packing or mechanical seal – also with flushing liquid supply for specific variants.
- Regardless of the temperature and specific properties of the fluid handled, KSB offers mechanical seals with installation dimensions to DIN 12756 to ensure efficient and reliable operation.
- For fluids which tend to stick, Eta comes equipped with double mechanical seals in tandem arrangement with quench liquid.
- A back-to-back arrangement variant is available for aggressive, hazardous, toxic and flammable fluids or particularly abrasive media.



The flexible Etaline in combination with the KSB SuPremE® IE5\* motor: This combination is principally used in heating, ventilation and air-conditioning applications. Its in-line design makes it also well suited to industry and process engineering.

\*IE5 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: IE5 in preparation)



## Maintenance made simple – with the **easy-to-service** Eta family

KSB's Eta family of pumps offers a particularly straightforward solution in terms of servicing and maintenance. Whether through advanced design features or comprehensive KSB service: We give our all to ensure the smooth operation and highest possible availability of your system.

### More service – more plus points: Maintain the highest availability levels with KSB services

For us, the provision of optimal pump and system service comes as a matter of course. We are on hand around the clock with over 3000 highly qualified specialists in more than 160 service centres worldwide. Although designed for low wear, some pump

components are inevitably subjected to a degree of wear. When their wear limit is reached, spare parts kits are readily available for these components. The online Customer Portal allows you to quickly and easily order the products you require. Many standard components are dispatched on the day you order them – delivery from the Central Spare Parts Warehouse in Worms, Germany, is often performed within 24 hours for many EU countries.

More information at [www.ksb.com/customerportal](http://www.ksb.com/customerportal)

With our rapid delivery programme selected type series and versions of the Eta family can be supplied within **48 hours**. A guarantee of premium KSB quality: All Eta pump family series now come with a 24-month warranty as standard instead of the previous 12-month warranty.

**24-MONTH  
WARRANTY**



The versatile Etabloc in combination with the KSB SuPremE® IE5 motor: This pump features an especially space-saving design and provides reliable and cost-effective pumping in numerous applications.

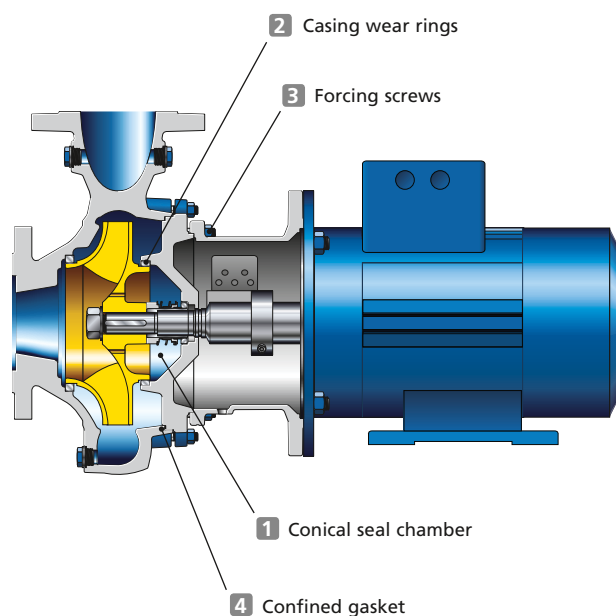
\*IE5 in accordance with IEC/TS 60034-30-2 up to 15/18.5 kW (only for 1500 rpm types rated 0.55 kW, 0.75 kW, 2.2 kW, 3 kW, 4 kW: IE5 in preparation)





From the design phase onwards, every Eta pump is developed to be as easy to maintain as possible.

- 1 Conical seal chamber:** The seal chamber has a conical shape, which helps improve reliability and contributes to a longer service life of the single mechanical seal. The conical seal chamber allows for excellent venting and flushing of the mechanical seal while reliably protecting it from any small solids. Two anti-swirl baffles are employed to offer extra protection against wear. These ensure that turbulence in the casing cover is minimised, significantly slowing the wear process.
- 2 Numerous casing wear ring options:** For additional wear reduction, casing wear rings are fitted on both the suction and discharge side. These are available in various materials also suitable for demanding fluids where required.
- 3 Forcing screws:** Safe and straightforward dismantling is facilitated by forcing screws which can be fitted at the interface between volute casing and casing cover.
- 4 Confined gasket:** A fully confined casing gasket also improves protection against wear. As the gasket does not have to be aligned, assembly and dismantling are simplified.



## Proven a million times over and always reliable – The **safe bet** for every requirement

Increased availability, minimal maintenance and long service life – this pump family from KSB is designed for absolute operating reliability. Using Eta pumps is a guarantee for dependability in operation in the most diverse applications.

Designed for up to 16 bar, Eta pumps can handle various intake conditions and high pressures, significantly improving system reliability.

Eta also boasts exceptional NPSH values allowing it to operate at relatively low inlet pressures.

Its ability to run smoothly with extremely low vibrations and with virtually no cavitation across a wide operating range means wear is minimised. Further wear reduction is effected by the use of a fully confined casing gasket. Your benefit: substantial savings due to low site investment costs.





The Eta family also benefits from significantly larger thread sizes on their studs, with FE-optimised screwed connections meeting the most stringent safety requirements.

Extended connection options and the simultaneous connection of pressure gauges are possible at the discharge nozzle.

### **Etanorm SYT: the all-rounder for heat transfer fluid applications**

Whenever things get hot, you need specialists on hand. The SYT variant of Etanorm, Etaline and Etabloc is the ideal solution whenever thermal oils have to be conveyed safely and efficiently. The pump is a true allrounder, being equally suited to handling mineral or synthetic thermal oils and extremely reliable thanks to its highly effective VenJet® venting contour.

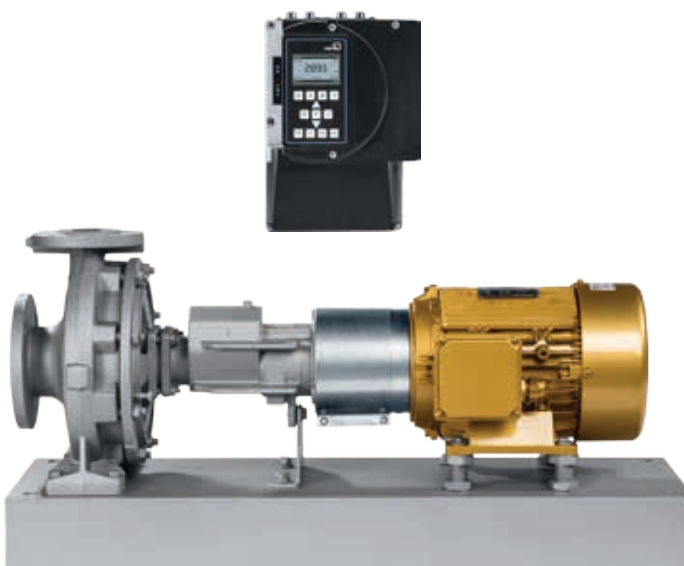
### **Etanorm SYT boasts favourable ribbed design**

The Etanorm SYT casing cover is stiffened with four ribs in the heat barrier area which extend radially outward to support the flange. This ribbed design markedly reduces deformation, thus minimising the impact of any misalignment on the pump set including its bearings and shaft seals. The ribbed design also functions to optimise the cooling distance: Heat transfer to the bearing bracket is reduced so that its temperature remains below critical levels even when pumping hot fluids.

**Patented solution – High-efficiency VenJet® venting contour**  
KSB's patented venting contour helps ensure absolute operating reliability:



- The mechanical seal chamber features a venting contour comprising two casing ribs extending into the chamber.
- The venting contour has proved its ability to reliably separate gas during pump operation.
- The gas collects in the space created by one of the two casing ribs.



Etanorm SYT in combination with the KSB SuPremE® IE5\* motor – for heat transfer systems or hot water circulation: Provides maximum operating reliability with the highly effective VenJet® venting contour.

\*IE5 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: IE5 in preparation)



# The whole world of Eta

The comprehensive Eta pump family offers a variety of high-performance products and coordinated system solutions for applications in heating, cooling, water supply, waste water disposal, pressure boosting, fire fighting and many more. Our systems expertise helps us provide you with the optimum pump solution for your specific requirements.

## Etanorm



DN	25–150
Q [m³/h]	max. 740
H [m]	max. 160
p [bar]	max. 16
T [°C]	–30 to +140

**Description:** Single-stage volute casing pump with ratings to EN 733 and complying with the requirements of Directive 2009/125/EC, radially split volute casing with integrally cast pump feet, replaceable casing wear rings (optional for casing material C), closed radial impeller with multiply curved vanes, single mechanical seals to EN 12756, double mechanical seals to EN 12756, and a shaft equipped with replaceable shaft protecting sleeve in the shaft seal area.

**Applications:** Pumping pure liquids that are not chemically or mechanically aggressive to the pump materials: water supply, cooling water, swimming pool water, fire-fighting systems, seawater, spray irrigation, fire-fighting water, irrigation, service water, cleaning agents, drinking water, brackish water, drainage, condensate, heating, air-conditioning, oils, hot water.

● PumpMeter, PumpDrive, KSB SuPremE

[www.ksbiran.com](http://www.ksbiran.com)

## Etanorm-R



DN	125–300
Q [m³/h]	max. 1900
H [m]	max. 102
p [bar]	max. 16
T [°C]	max. +140

**Description:** Horizontal, long-coupled, single-stage volute casing pump (pump sizes 125-500 with two stages) in back pull-out design. Replaceable shaft sleeves/shaft protecting sleeves and casing wear rings. ATEX-compliant version available.

**Applications:** Spray irrigation, irrigation, drainage, district heating, water supply systems, heating and air-conditioning systems, condensate transport, swimming pools, fire-fighting systems, handling hot water, cooling water, fire-fighting water, oil, brine, drinking water, brackish water, service water, etc.

● PumpMeter, PumpDrive, control unit/switchgear, KSB SuPremE

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## Etaline



DN	32–200
Q [m³/h]	max. 700
H [m]	max. 95
p [bar]	max. 16
T [°C]	–30 to +140

**Description:** Single-stage volute casing pump in in-line design with standardised motor; pump shaft and motor shaft are rigidly connected.

**Applications:** Hot water heating systems, cooling circuits, air-conditioning systems, water supply systems, service water supply systems and industrial recirculation systems.

● PumpMeter, PumpDrive, control unit/switchgear, KSB SuPremE

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## Etaline-R



DN	150–350
Q [m³/h]	max. 1900
H [m]	max. 93
p [bar]	max. 25
T [°C]	–30 to +140

**Description:** Close-coupled, vertical in-line pump with volute casing and standardised motor.

**Applications:** Hot water heating systems, cooling circuits, air-conditioning systems, water supply systems, service water supply systems and industrial recirculation systems.

● PumpMeter, PumpDrive, control unit/switchgear, KSB SuPremE

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## Etaline Z



DN	32–200
Q [m³/h]	max. 1095
H [m]	max. 38.5
p [bar]	max. 16
T [°C]	–30 to +140

**Description:** Single-stage volute casing pump in in-line twin design with standardised motor; pump shaft and motor shaft are rigidly connected.

**Applications:** Hot water heating systems, cooling circuits, air-conditioning systems, water supply systems, service water supply systems and industrial recirculation systems.

 PumpMeter, PumpDrive, control unit/switchgear, KSB SuPremE

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## Etaline L / DL



Etaline L:	
DN	25–80
Q [m³/h]	max. 95
H [m]	max. 21
p [bar]	max. 10
T [°C]	–15 to +120

**Description Etaline L:** Single-stage volute casing pump in close-coupled in-line design with common motor/pump shaft and uncooled mechanical seal.

**Description Etaline DL:** Single-stage volute casing pump in close-coupled in-line design as twin pump with common motor/pump shaft and uncooled mechanical seal PumpMeter, PumpDrive, control unit / switchgear, KSB SuPremE®.

**Applications:** Hot water heating systems, cooling circuits, air-conditioning systems, water supply systems, service water supply systems, swimming pools and industrial recirculation systems.

 PumpMeter, PumpDrive, KSB SuPremE

[www.ksbiran.com](http://www.ksbiran.com)

## Etabloc



DN	25–150
Q [m³/h]	max. 740
H [m]	max. 160
p [bar]	max. 16
T [°C]	–30 to +140

**Description:** Single-stage volute casing pump with ratings to EN 733 and complying with the requirements of Directive 2009/125/EC, radially split volute casing, integrally cast pump feet on some volute casings, replaceable casing wear rings (optional for casing material C), closed radial impeller with multiply curved vanes, single mechanical seals to EN 12756, double mechanical seals to EN 12756, and a shaft equipped with replaceable shaft protecting sleeve in the shaft seal area.

**Applications:** Spray irrigation, irrigation, drainage, water supply systems, heating and air-conditioning systems, condensate transport, swimming pools, handling hot water, cooling water, fire-fighting water, seawater, oil, brine, drinking water, cleaning agents, brackish water, service water, etc.

 PumpMeter, PumpDrive, KSB SuPremE

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## Etanorm SYT / RSY



DN	25–300
Q [m³/h]	max. 1900
H [m]	max. 102
p [bar]	max. 16
T [°C]	max. +350

**Description:** Single-stage volute casing pump in back pull-out design, horizontal installation, ratings and dimensions to EN 733, radially split volute casing with integrally cast pump feet, replaceable casing wear rings, closed radial impeller with multiply curved vanes, single mechanical seal to EN 12756, double mechanical seal to EN 12756, drive-end bearings: rolling element bearings, pump-end bearings: plain bearings.

**Applications:** Heat transfer systems (DIN 4754, VDI 3033) or hot water recirculation.

 PumpDrive, KSB SuPremE

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## Etabloc SYT



DN	25–80
Q [m³/h]	max. 337
H [m]	max. 99
p [bar]	max. 16
T [°C]	max. +350

**Description:** Single-stage volute casing pump in back pull-out design with ratings to EN 733, for horizontal and vertical installation, radially split volute casing, replaceable casing wear rings, volute casing with integrally cast pump feet, closed radial impeller with multiply curved vanes, single mechanical seal to EN 12756, product-lubricated carbon plain bearing and grease-lubricated radial ball bearing in the motor housing.

**Applications:** Heat transfer systems (DIN 4754, VDI 3033) or hot water recirculation.

 PumpDrive, KSB SuPremE

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## Etaline SYT



DN	32–100
Q [m³/h]	max. 316
H [m]	max. 101
p [bar]	max. 16
T [°C]	max. +350

**Description:** Single-stage volute casing pump in in-line design with standardised motor; pump shaft and motor shaft are rigidly connected.

**Applications:** Heat transfer systems (DIN 4754, VDI 3033) or hot water recirculation.

 PumpDrive, KSB SuPremE

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## Etachrom B



DN	25–80
Q [m³/h]	max. 250
H [m]	max. 105
p [bar]	max. 12
T [°C]	max. +110

**Description:** Horizontal single-stage circular casing pump, with ratings and main dimensions to EN 733, replaceable casing wear rings. ATEX-compliant version available.

**Applications:** Spray irrigation, irrigation, drainage, water supply systems, heating and air-conditioning systems, fire-fighting systems, condensate transport, swimming pools; for handling hot water, cooling water, fire-fighting water, oil, drinking water, cleaning agents and service water.

 PumpMeter, PumpDrive, KSB SuPremE

[www.ksbiran.com](http://www.ksbiran.com)

## Etachrom L



DN	25–80
Q [m³/h]	max. 250
H [m]	max. 105
p [bar]	max. 12
T [°C]	–30 to +110

**Description:** Horizontal single-stage annular casing pump, with ratings and main dimensions to EN 733, with replaceable casing wear rings. ATEX-compliant version available.

**Applications:** Water supply systems, spray irrigation, irrigation, drainage, heating and air-conditioning systems, fire-fighting systems; pumping drinking water, service water, hot water, cooling water, swimming pool water, fire-fighting water, condensate, oil and cleaning agents.

 PumpMeter, PumpDrive, KSB SuPremE

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## Etaseco / Etaseco-I



DN	32–100
Q [m³/h]	max. 250
H [m]	max. 162
p [bar]	max. 16
T [°C]	max. +140

Data for 50 Hz operation

**Description:** Horizontal/vertical seal-less volute casing pump in back pull-out design with fully enclosed canned motor, low noise emission, with radial impeller, single-stage, single-entry, casing connecting dimensions to EN 733.

**Applications:** Pumping aggressive, flammable, toxic, volatile or valuable fluids in the chemical and petrochemical industries, in environmental and industrial engineering.

 PumpMeter, PumpDrive

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## Etaseco RVP



DN	32
Q [m³/h]	max. 20
H [m]	max. 25
p [bar]	max. 10
T [°C]	max. +85

**Description:** Horizontal/vertical seal-less volute casing pump in back pull-out design with fully enclosed canned motor, low noise emission, with radial impeller, single-stage, single-entry.

**Applications:** Pumping toxic, volatile or valuable fluids in environmental engineering and industrial applications and use as coolant pump in cooling systems. Transport vehicles, environmental engineering and industry; applications where low noise emission, smooth running or long service intervals are required.

 PumpMeter, PumpDrive

[www.ksbiran.com](http://www.ksbiran.com)

## Etanorm V



DN	32–150
Q [m³/h]	max. 675
H [m]	max. 102
p [bar]	max. 16
T [°C]	max. +95

**Description:** Single-stage volute casing pump, with ratings to EN 733, for vertical installation in closed tanks under atmospheric pressure. Suitable for immersion depths of up to 2000 mm.

**Applications:** Pumping neutral degreasing and phosphating solutions, wash water with degreasing agents, dip paints, etc.

 PumpDrive, KSB SuPremE, LevelControl

[www.ksbiran.com](http://www.ksbiran.com)

## Etaprime L



DN	25–125
Q [m³/h]	max. 180
H [m]	max. 85
p [bar]	max. 10
T [°C]	max. +90

Data for 50 Hz operation  
Also available for 60 Hz

**Description:** Horizontal, self-priming volute casing pump in back pull-out design, single-stage, with open multi-vane impeller, long-coupled. ATEX-compliant version available.

**Applications:** Pumping clean, contaminated or aggressive liquids not containing abrasive substances and/or solids.

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Technology that **makes its mark**

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**KSB IRAN**

خیابان سعدی جنوبی ، جنب بانک آینده ، مجتمع تجاری سعدی ، طبقه اول ، واحد ۱۱۳

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