KSB heat transfer engineering: a comprehensive range covering every requirement
From a supplier to a partner: full-circle expertise creates added value

As far as heat transfer fluids are concerned, you can rely on KSB’s full-circle expertise and unique package of products and services. It is made up of pumps, valves, proven automation and drive technology and a comprehensive set of services designed to fill every need. We have the perfect solution for every requirement. This makes KSB your partner of choice for any kind of heat transfer application.

Maximum support – whenever you need it
Safe pumps and valves are a basic requirement of heat transfer systems. KSB is more than a supplier of components. The know-how gained from decades of experience in the field of heat transfer engineering enables us to offer our customers products that meet the highest quality and safety standards. With our all-in package our customer support starts as early as the planning phase, and we never lose track of combining the best deal, costs and delivery times. Short response periods, transparent communication and maximum reliability across all stages of a project: our performance will leave you convinced. Safety you can rely on. It’s a promise.

KSB’s heat transfer range:
the perfect product for every application

- Pumps:
  - Etanorm, Etaline, Etabloc SYT
  - Etanorm RSY
  - HPK-L
  - RPH
  - RPHmdp
  - Magnochem
  - Ecochem Non-Seal®
  - HX/HY (Nikkiso-KSB)

- Shut-off valve:
  - NORI 40 ZYLB/ZYSB
  - BOA-H
  - TRIODIS 150–300

- Non-return valve:
  - NORI 40 RXL/RXS
  - BOA-R
  - SERIE 2000 Class 150–300

- Strainer:
  - NORI 40 FSL/FSS
  - BOA-S
Every heat transfer fluid pump a highlight – just as Etanorm SYT

With its unique product range and first-class technical features, KSB sets standards in the field of heat transfer fluid pumps. Our products and services cover solutions for all system conditions and safety requirements. A special highlight is the Etanorm SYT pump, a premium product that has proven its worth around the world.

Etanorm SYT is the ideal solution whenever thermal oils have to be conveyed safely and efficiently. The pump is a true all-rounder, equally suited for handling mineral and synthetic thermal oils. Its highly effective venting chamber VenJet® ensures maximum operating reliability. The vent valve (patent pending) makes sure that the gases contained by the fluid handled are separated from the liquid and collected in a separate space. By this method, the gases can be eliminated in a controlled manner by means of a screw plug. One design variant of the SYT with a double mechanical seal and SiC/SiC plain bearings meets the highest demands on operating reliability and safety.

Your benefits at a glance:

**Operating reliability**
- Highly effective venting chamber ensures optimum venting
- Confined gaskets
- Design variant with double mechanical seal in tandem arrangement
- Anti- seize carbon plain bearing lubricated by the fluid handled

**High reliability**
- Sturdy discharge cover designed for high rigidity
- Optimised heat barrier, little wear
- Ease of service
- Replaceable casing wear rings
- Easily dismantled bearing bracket

**Energy efficiency**
- Optimised hydraulic system for high efficiency
- Each impeller trimmed to match the specified duty point
- On option, available with KSB PumpDrive and KSB SuPremE® IE4* motor for maximum efficiency

**Etanorm SYT / RSY**

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

**Etabloc SYT / Etaline SYT**

**Technical data:**
- **DN:** 25–100
- **Q [m³/h]:** 280 max.
- **H [m]:** 67 max.
- **p [bar]:** 16 max.
- **T [°C]:** +350 max.

**HPK-L**

**Technical data:**
- **DN:** 25–250
- **Q [m³/h]:** 1130 max.
- **H [m]:** 155 max.
- **p [bar]:** 40 max.
- **T [°C]:** –70 to +450

**RPH**

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

*IE4 in accordance with IEC (CD) 60034-30 Ed. 2

**Optional in combination with wall-mounted PumpDrive

All data for 50 Hz operation
RPHmdp

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

Suitable for handling mineral and synthetic thermal oils in systems to API specifications

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

Magnochem**

Horizontal glandless volute casing pump in back pull-out design with magnetic coupling to ISO 2858 / ISO 5199e

Pump with magnetic coupling for higher reliability and safety in operation, zero leakage and longer service intervals

Technical data:
- DN  25 – 200
- Q [m³/h]  1160 max.
- H [m]  162 max.
- p [bar]  40 max.
- T [°C]  +300 max.

Ecochem Non-Seal®

Horizontal glandless volute casing pump in back pull-out design with fully enclosed, hermetically sealed canned motor

Pump designed to meet the most exacting requirements which combines KSB’s proven hydraulic system with Nikkiso’s outstanding motor technology and meets the demands for zero leakage and long service intervals

Basic variant HN for the general chemical and petrochemical industries, HP variant for liquefied gas, high-temperature variant HT for heat transfer applications, HS variant perfectly suitable for polymerising or ferrite-containing fluids

Technical data:
- DN  25 – 200
- Q [m³/h]  570 max.
- H [m]  162 max.
- p [bar]  40 max.
- T [°C]  +400 max.

HX / HY (Nikkiso-KSB)

Horizontal seal-less single-stage pump with fully enclosed canned motor, uncooled and cooled ATEX-compliant version available

Suitable for handling thermal oils. Pump with ceramic winding, can be used without cooling for fluids of temperatures up to 350 °C. Hermetical tightness and long service intervals

Technical data:
- DN  32 – 100
- Q [m³/h]  200 max.
- H [m]  100 max.
- p [bar]  40 max.
- T [°C]  +350 max.

All data for 50 Hz operation

**Optional in combination with wall-mounted PumpDrive

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First-class technology pays for itself

The pump is a fundamental component of any heat transfer fluid system. In order to track down the maximum savings potential for today and tomorrow and take full advantage of it within the scope of a holistic system approach, it takes many years of experience and expertise. KSB offers you high-quality automation and drive solutions. The best solution for every application

PumpDrive

Optimum operating speeds for maximum savings

Variable speed control for maximum energy efficiency, also in heat transfer fluid applications

The PumpDrive speed control unit from KSB ensures optimum operation and hence energy savings, be it mounted on a wall or in a control cabinet.

KSB SuPremE® IE4* motor

The energy diet for your system

In variable load operation the most energy efficient drive solution for Etanorm SYT, HPK-L and Magnochem pumps for greatest possible transparency and optimum operation

*IE4 in accordance with IEC (CD) 60034-30 Ed. 2

**Optional in combination with wall-mounted PumpDrive

*IE4 in accordance with IEC (CD) 60034-30 Ed. 2
Uncompromisingly reliable: valves made by KSB

Besides heat transfer fluid pumps, KSB's product portfolio also includes the valves to ideally match our pumps. In numerous applications our heat transfer fluid valves are a dependable parameter, for example where robustness, versatility and precision are concerned. KSB's shut-off and non-return valves ideally complement the pump range, allowing us to offer our customers everything they need. From a single source.

Highest temperatures, extreme pressures and the most aggressive of fluids: in heat transfer engineering, valves have to be capable of withstanding the most demanding conditions. For these demanding applications, KSB has the products to cope with every requirement. As far as shut-off valves are concerned, globe valves and butterfly valves made of all common materials are part of our product offer for all temperature and operating pressure ranges. The hydraulically optimised flow paths, the high degree of service and installation friendliness, as well as the uncompromising safeness and reliability of our valves are the result of our many years of expertise in the heat transfer field and the continuous further development of our products.

Our valves

<table>
<thead>
<tr>
<th>Type of product</th>
<th>Design</th>
<th>KSB products</th>
<th>Material</th>
<th>Temperature</th>
<th>Pressure class</th>
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<td>Shut-off valve</td>
<td>Bellows-type globe valve</td>
<td>NORI 40 ZYLB/ZYSB</td>
<td>Steel, Nodular cast iron</td>
<td>Up to 350 °C</td>
<td>PN 16 – 25, PN 16 – 40, PN 20 – 50</td>
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<td>NORI 40 RXL/RXS</td>
<td>Steel</td>
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<td></td>
<td>Sealing check valves</td>
<td>SERIE 2000 Class 150 – 300</td>
<td>Steel</td>
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<tr>
<td>Strainers</td>
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<td></td>
</tr>
</tbody>
</table>

NORI 40 RXL/RXS
Flanged or weld end non-return valve made of cast steel
Non-return valve of proven design for the demanding heat transfer fluid applications. Non-return valve from the NORI 40 series. The non-return valve is the perfect addition to the NORI 40 series of valves.

| p [bar] | 16/25 |
| DN | 15 – 300 |
| T [°C] | −10 to + 450 |

TRIODIS 150 – 300
Triple-offset butterfly valve made of cast steel
Fulfils highest standards: the high-performance shut-off valve that offers absolute tightness, absolute safety, absolute reliability, and absolute ease of service.

| p [bar] | 25 |
| DN | 50 – 600 |
| T [°C] | −10 to + 450 |

BOA-H
Flanged end bellows-type globe valve made of nodular cast iron
Shut-off valve for absolute safety and reliability in continuous operation; energy efficiency and user-friendliness even at highest temperatures; to ensure optimum handling in heat transfer fluid systems. The short bonnet can be fully insulated and absolutely minimises the valves’ heat losses.

| p [bar] | 16/25 |
| DN | 15 – 300 |
| T [°C] | −10 to + 350 |

BOA-R
Flanged end non-return valve made of nodular cast iron
Non-return valve of time-tested design for demanding applications in heat transfer fluid transport.

| p [bar] | 16 |
| DN | 15 – 300 |
| T [°C] | −10 to + 450 |

BOA-S
Flanged end, nodular cast iron strainer with standard or fine mesh
The ideal complement to our BOA valves.

| p [bar] | 16/25 |
| DN | 15 – 300 |
| T [°C] | −10 to + 350 |

NORI 40 RXL/RXS
Flanged or weld end bellows-type globe valve made of cast steel
The NORI 40 bellows-type globe valve for added safety and optimised throughflow in hot applications thanks to double-walled stainless steel bellows, back-up gland packing of pure graphite, fully confined bonnet gasket and hard-faced valve seat.

| p [bar] | 25/40 |
| DN | 15 – 300 |
| T [°C] | −10 to + 450 |

NORI 40 FSL/FSS
Flanged or weld end cast steel strainer with standard or fine mesh
The perfect addition to the series of NORI shut-off valves. With the NORI 40 types FSS (weld ends) and FSL (flanged ends) KSB has a strainer in its product range that has the same safety and quality features as the tried and tested shut-off valve. Fulfils high safety standards and has a long service life. As an option, the strainer can be supplied with magnetic inserts to filter out metal particles.

| p [bar] | 25/40 |
| DN | 15 – 300 |
| T [°C] | −10 to + 450 |

TRIODIS 150 – 300
Triple-offset butterfly valve made of cast steel
Fulfils highest standards: the high-performance shut-off valve that offers absolute tightness, absolute safety, absolute reliability, and absolute ease of service.

| p [bar] | 25 |
| DN | 50 – 600 |
| T [°C] | −10 to + 450 |

NORI 40 ZYLB/ZYSB
Non-return valve of time-tested design for demanding applications in heat transfer fluid transport.

| p [bar] | 16 |
| DN | 15 – 300 |
| T [°C] | −10 to + 350 |

NORI 40 RXL/RXS
Flanged or weld end non-return valve made of cast steel
Non-return valve of proven design for the demanding heat transfer fluid applications. Non-return valve from the NORI 40 series. The non-return valve is the perfect addition to the NORI 40 series of valves.

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TRIODIS 150 – 300
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| p [bar] | 25 |
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| T [°C] | −10 to + 450 |
Best possible support:
100 percent, 365 days, 24 hours

You can rely on KSB’s comprehensive product range, second-to-none engineering know-how and holistic advice and support during the entire life cycle of your system. After all, as your reliable partner we are aware of your circumstances, so that we can support you with our tailored spare parts and service solutions as best we can.

For modern heat transfer fluid systems in trade and industry, the professional and intelligent interaction of many components is an absolute must. KSB supports you at every process stage with the service packages you require and has the answers to all your questions. More than 3000 highly trained service specialists in more than 160 service centres around the world assist you in that and make sure that you can hand over your heat transfer fluid systems according to schedule and ready for operation to your customers. Our specialists are very well trained and their work exceeds the usual certifications and meets the highest standards to SCC². But that is not all we have to offer: whenever necessary, we work out customised proposals for the modernisation, retrofitting and upgrading of the pumps and other rotating equipment installed in your customer’s systems jointly with our experts from the materials laboratory, fluid mechanics and other specialist departments.

These proposals are thoroughly thought out from the start. So, trust the service expertise of KSB and benefit from the added value only a strong partner can provide.