

► Our technology. Your success.

Pumps • Valves • Service



Discover the power within: LUV boiler recirculation pumps



At the heart of **efficient power**

A look inside almost any power plant will reveal a variety of KSB products. Since 1871, we have been supplying innovative pumps for the modern power industry. Today, our continuing research and technical innovation keep us at the cutting edge of centrifugal pump technology.

Wherever the circulation of hot fluids under high pressure is required, KSB's LUV pumps are on hand to provide customers with maximum levels of safety, efficiency and reliability. The single-shaft concept, combined with our unique wet squirrel cage motor, offers a hermetically sealed

(leakproof) product, which has been delivered more than 1700 times since its first appearance in 1953.

KSB's success is built on more than half a century of research, development and experience from which our customers benefit.

Reliable energy supply with KSB

Today's growing demand for electricity is covered across the globe by highly efficient power plants with ever-increasing pressures and temperatures.



KSB – a well-known name in any language

As a world market leader in the power plant sector, KSB continues to pioneer new territories. Our global partners speak for our success, as we provide pump technology for a wide variety of projects across international borders. The following plants are some examples of how we are shaping world energy:

- Rihand, India, stage II, 2 x 500 MW controlled circulation boiler
- Niederaussem, Germany, 1x 950 MW supercritical boiler
- Iskenderun Bay, Turkey, 2 x 605 MW supercritical boiler
- Yuhuan, China, 4 x 1000 MW supercritical boiler
- Mouda, India, 2 x 660 MW supercritical boiler, (ASME - IBR)
- Sostanj, Slovenia, Block b 6 x 600 MW supercritical boiler, (EU-Standard (PED+CE))
- Jeddah South, Saudi Arabia, 4 x supercritical boiler, (ASME)
- Laiwu, China, 2 x 1000 MW, twice reheated boiler, (ASME 400bar)



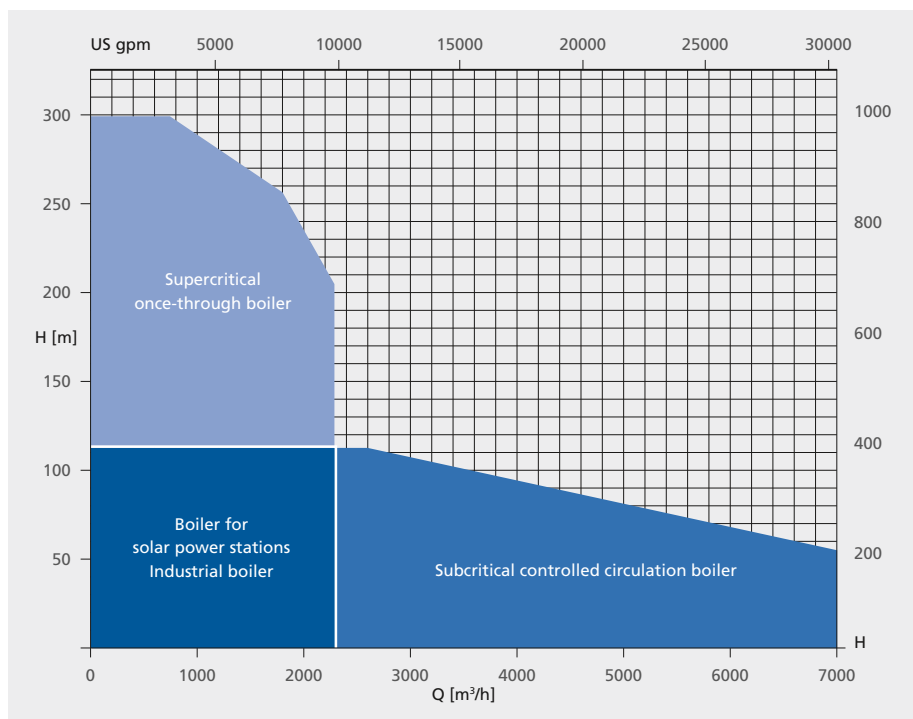


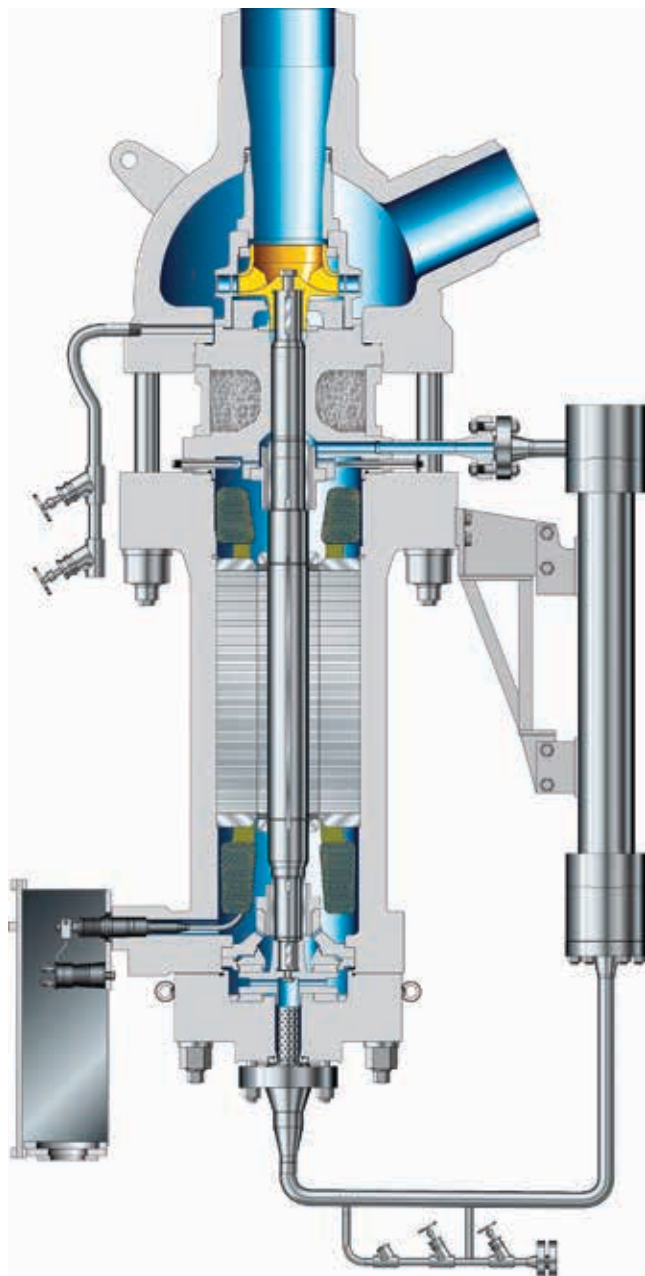
Impressive all round – the LUV boiler recirculation pump

The LUV boiler recirculation pump is specially designed for use in supercritical power stations. Every component is tailored for high pressures and temperatures. The LUV achieves remarkable levels of efficiency and reliability.

Flexibility according to your use

The LUV pump is a flexible design for deployment in a variety of boiler systems. The modular design concept means we can configure all pump components exactly according to your performance and layout requirements.





Technical data*

Pressure	Up to 400 bar (40 MPa)
Flow rate	Up to 7000 m ³ /h (30820 gpm)
Head	Up to 300 m (985 ft)
Temperature	Up to 425 °C (805 °F)
Codes	ASME, IBR, EU-Standard (PED+CE)**
Operating voltage	Up to 12 kV
Frequency	50 / 60 Hz

* Higher ratings on request

** According to latest standards

Operating reliability

- Completely forged pressure enclosure
- Hermetically sealed (zero leakage, no mechanical seals)
- Bearings designed for the highest loads under transient operating conditions
- Forged casing with optimised thermo-elastic design

Reliability during upset conditions

- Motor cooling through thermo-syphon effect
- Optimised heat barrier minimises heat transfer to the motor; no cooling of heat barrier required

Low power consumption

- Well-proven design with high hydraulic efficiency
- Wet winding technology for high motor efficiency

Low life cycle costs

- Long maintenance intervals
- Long reduced-shank studs to cope with high pressure and temperature transients
- Special winding technology for long motor service life

Low maintenance costs

- Pull-out design for straightforward replacement
- Optimised rotor-dynamic behaviour with low vibrations
- Easy access to wear parts

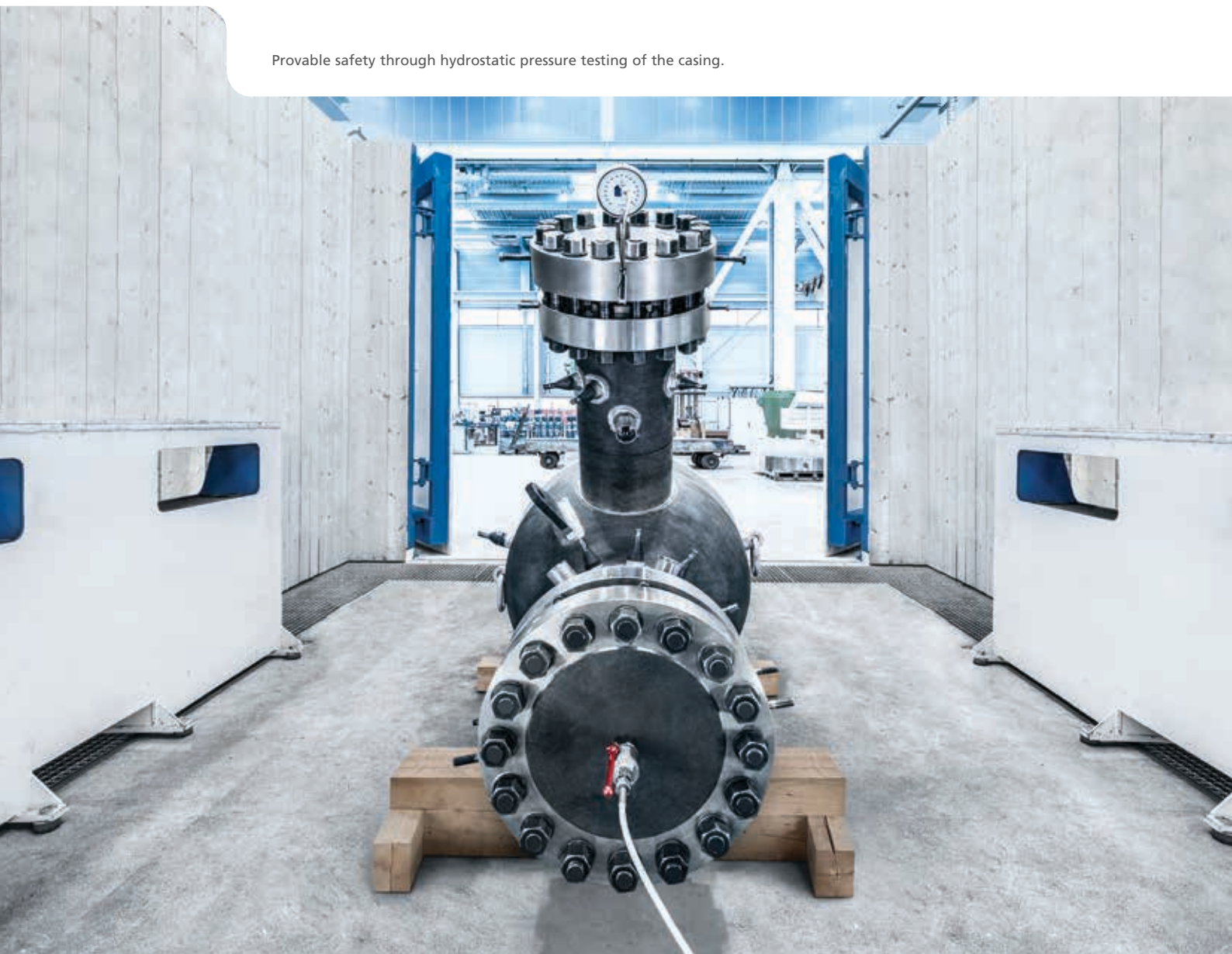
LUV made in Germany

Generating reliable power – glandless LUV pumps

KSB has an impressive history of supplying boiler recirculation pumps, especially for supercritical once-through boilers. Together with leading boiler manufacturers and design institutes, we have been helping to increase temperature and pressure limits for decades, while applying innovative materials and techniques.

Performance is unmatched in this hermetically sealed pump and motor unit. With a thermo-elastic spherical pump casing, suspension mounting with long reduced-shank studs, ‘thermal throttle’ heat barrier design and unique split ring, the LUV is optimised to manage the most severe temperature and pressure transients of today’s boilers.

Provable safety through hydrostatic pressure testing of the casing.





Well-executed motor windings are the basis for long service lives.

We craft fluidity for our customers – also in service

Boiler recirculation pumps in power plants have to fulfil demanding requirements in terms of both function and availability. We have therefore developed individual service solutions which, ranging from expert consultation and installation, servicing, maintenance and repairs to optimisation, ensure proper and reliable operation of your system.

As well as ensuring all statutory regulations are met, our manufacturing know-how also enables us to satisfy the requirements for quality and reliability. For motor-winding servicing we only deploy KSB experts with extensive experience and skilled craftsmanship. They stabilise the end windings with supports, markedly increasing both reliability and service life.

Our service specialists are exceptionally well trained, especially in the field of energy applications; in combination with high-quality technology and innovative materials they can make a decisive contribution to the reliability of your system. Whether engaged in preventative or reactive measures on-site or in the workshop, we have around 3000 service staff at over 160 service centres attending to our customers' needs.

Stay on the safe side with KSB Service:

- A single contact for all service questions regarding your LUV pumps
- Extensive experience and manufacturer's know-how
- Certified to DIN EN ISO 9001, KTA 1401 / KTA 3201.3 and SCC^P
- Warranty on all repairs/complete overhauls
- Transparency through the keeping of a history file (including all repairs and modifications made)
- 24-hour service



Technology that **makes its mark**

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