

**State-of-the-art technology you can build on.**



## The new production facility – an investment in the future.

Numerous nuclear power stations and high-efficiency fossil-fuelled power plants with outputs of over 800 MW are presently being planned around the world to meet the ever growing global demand for more energy. Specifically, there is a demand for boiler feed pumps capable of coping with high temperatures and high pressures. The new production facility in Frankenthal represents an important step forward: With additional production capacities for large pumps, including an integrated pump test facility with a 20 MW motor, KSB, as the world's leading manufacturer of

power plant pumps, will further strengthen its top position in the global market. This new production facility is a strong pillar in our global manufacturing network.

The decision to build the production facility in Frankenthal also is a declaration of confidence in Germany as a production site: At the company's birthplace and headquarters, we invest in highly motivated, highly skilled employees and offer a secure future at one of the most desirable employer's in the region.



## Step by step on the road to success.

The new production facility allows us to bundle all of our strengths as a base for perfectly interlinking processes: These range from welding technology and mechanical production processes, via assembly of complete pump sets and performance testing, to packaging and shipment. For every part of the process, we consistently utilise our entire know-how in order to successfully produce large pumps – thereby taking advantage of the short distances of a single location and short throughput times.

As part of every order, Integrated Management makes sure that the necessary approvals, qualifications and certifications are available for every stage of the production process. In addition to these, order-specific documents are provided for every acceptance test.

### Integrated Management

- Quality Management
- Occupational Health and Safety Management
- Environmental Management
- Sustainability Management

Codes:

- ISO 9001, KTA, DGR, AD 2000, DVGW, ASME, RCC-M, etc
- OHSAS 18001
- ISO 14001
- ISO 26000



## Solutions put to test.

To make sure our customers always obtain the best possible products, we offer performance tests to a range of standards. These tests ensure that all contractually guaranteed data are met. Our new test facility for power station pump units is one of the technically most advanced, efficient and powerful in the world.

### Standard tests

- Hydraulic performance tests in compliance with international acceptance standards (DIN EN ISO 9906, ASME PTC 8.2, HI)
- Measurement of hydraulic characteristics, e. g. pressure, flow rate and temperature
- Speed-controlled performance test

### Special tests (on request)

- Determination of NPSH value
- Hot water performance test
- Vibration measurement
- Noise measurement
- Leakage measurement
- Pressure pulsation measurement
- Thermal shock test



## We test thoroughly and with an eye for detail.

On our test facility, we subject our products to thorough tests under real conditions. After all, our aim is to help our customers lead their competitive fields. A performance test of the ordered pump on our new test facility using the test facility motor or a string test of the complete pump set provides our customers with a solid base for success.



### Test facility

- Up to 500 bar
- 20 MW test facility motor
- Flow rate measurements up to 3,500 m<sup>3</sup>/h
- Both directions of rotation possible
- Speed control by means of frequency inverter; speeds up to 6,800 min<sup>-1</sup>
- Cold and hot water performance tests

### String test Performance test of pump set with original motor

- Max. 20 MW electric motor
- Start via 50/60 Hz frequency inverter
- Booster pump, motor, variable speed geared coupling and main pump can be installed on the foundation



# Excellence based on highest quality.

Before a product leaves our factory, we make absolutely sure it meets the highest requirements in terms of safety and reliability. Each is therefore subjected to an extensive series of quality assurance tests.

## Our quality assurance tests at a glance

### Non-destructive materials testing

- Dye penetrant testing
- Magnetic particle examination
- Ultrasonic testing
- Radiographic testing

Codes:

AD 2000, DIN EN 473, ASME SNT-TC-1A, etc.

## Mechanical production

### Machinery used in the manufacture of large components

- CNC vertical lathe  
Swing 4.70 m  
Weight of work piece up to 50 t  
Driven tools
- CNC floor type boring machine  
Carrying capacity of worktable = 45 t  
Traversed distance y-axis = 3.5 m / x-axis = 10 m



## We work hand in hand. Every step of the production process.

To manufacture an excellent product, every single part of the production process is of decisive importance. Therefore, whilst keeping the product as a whole in focus at every stage of the process, we take great care not to lose track of individual, important details. This single-minded commitment to excellence is what makes a great product: Based on a sequence of operations carefully designed to link up perfectly with each other. And driven by our policy to leave nothing to chance.

### Welding

- Submerged-arc welding techniques for strip and wire welding with video monitoring
- Handling of work pieces weighing up to 100 t
- Various manual welding techniques
- Combined welding/trimming cabin
- Electrically heated bogie hearth furnace with air circulation for working temperatures of up to 800°C and a unit weight of up to 50 t



## Assembly and dismantling

- Assembly workplaces dimensioned for handling large pumps > 10 t
- Application of gentle tightening techniques
- Assembly pits to optimise ergonomics as well as technical handling
- Special tools and devices to facilitate assembly



## Piping

- Completing of pump to turn it into a complete pump set
- Mounting of pump set on the baseplate
- Making of complete piping





## Painting

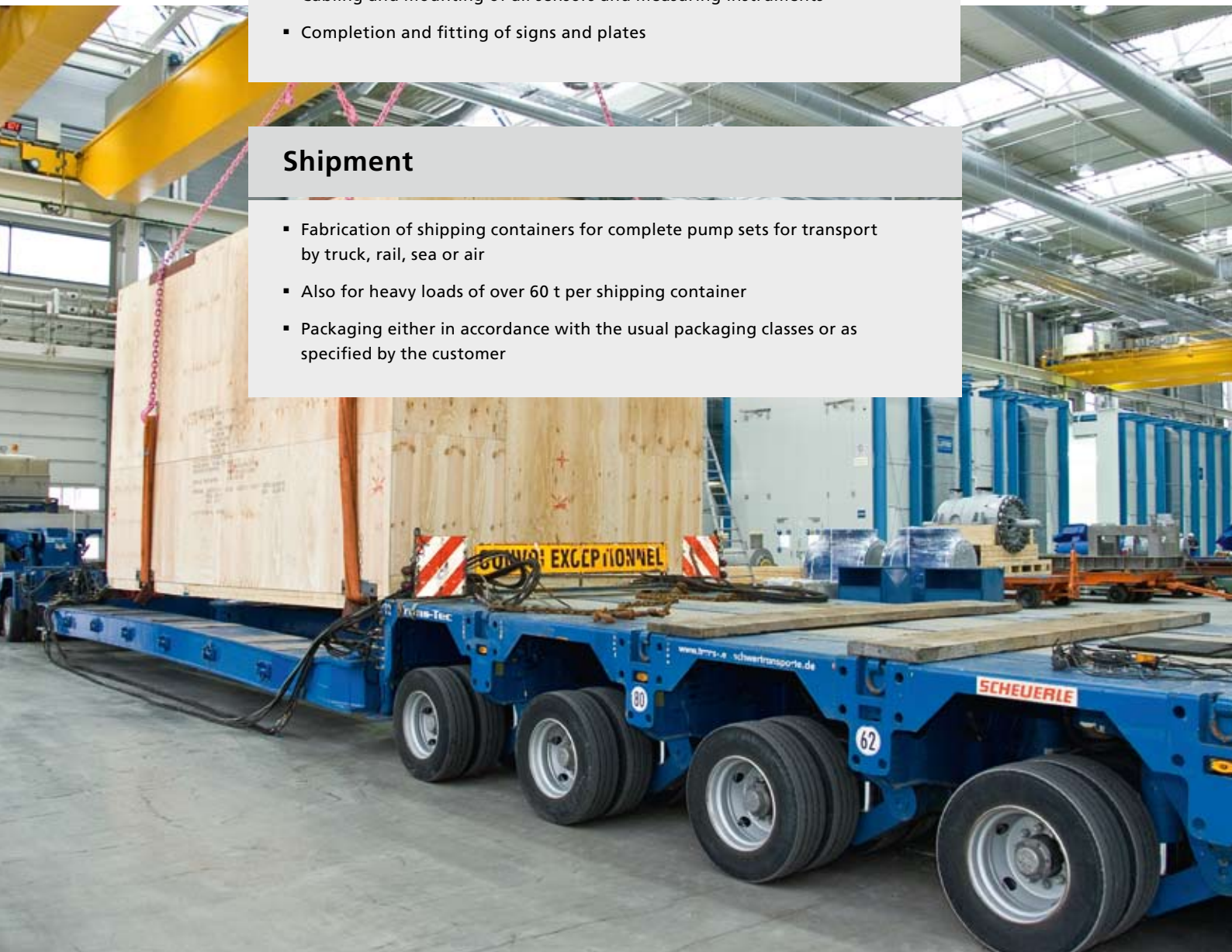
- Painting cabin equipped for speedy drying
- Separate cleaning cabin for preparation and degreasing of work pieces
- Painting of pumps and associated piping according to customer's specification
- One-component and two-component paints as well as high-temperature paints for special applications

## Final assembly and equipping with instruments

- Mounting of the painted pump (set) on the baseplate
- Fitting of insulation
- Mounting of all pipes and instruments
- Cabling and mounting of all sensors and measuring instruments
- Completion and fitting of signs and plates

## Shipment

- Fabrication of shipping containers for complete pump sets for transport by truck, rail, sea or air
- Also for heavy loads of over 60 t per shipping container
- Packaging either in accordance with the usual packaging classes or as specified by the customer



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More space for solutions.



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