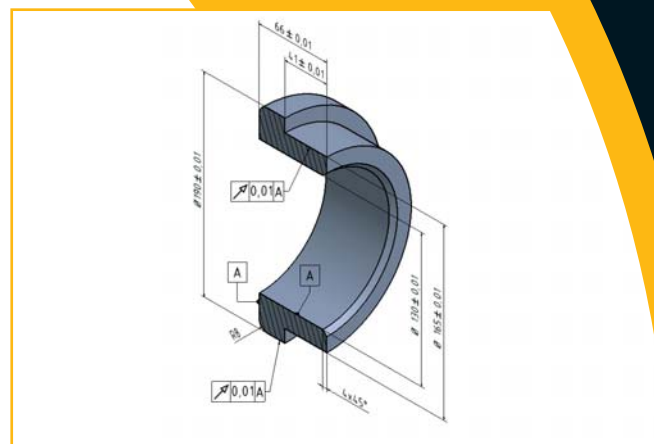




Container ship

Diesel engine construction

Whether it's giants of the ocean or stationary power stations, whether it's powerful 2 or 4-stroke engines – Kuhn Special Steel is also heavily involved with the supply of valve seat rings in the construction of large diesel engines. The internal diameters produced for this start at about 30 mm and cover the entire range from top to bottom. Our valve seat rings used in high temperatures are exposed to a combination of abrasive and corrosive wear, which is why special alloys produced by us are used here.



Drawing of valve seat ring

Our know-how applied for you

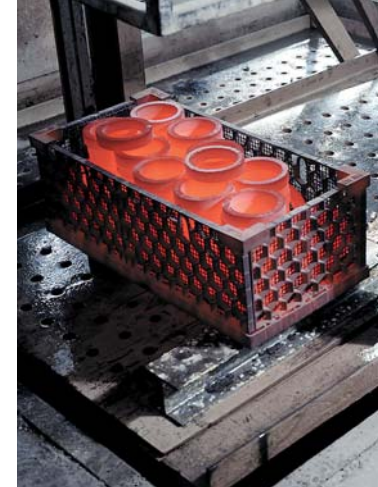
Kuhn valve seat rings vary from high-alloy grey cast iron products to pure, iron-free chromium-nickel or cobalt-based alloys. Thanks to the centrifugal casting technique, we can guarantee the greatest purity and optimum structure that cannot be achieved in this form with any other casting technique.

4-axis lathe



The additional benefits to you:

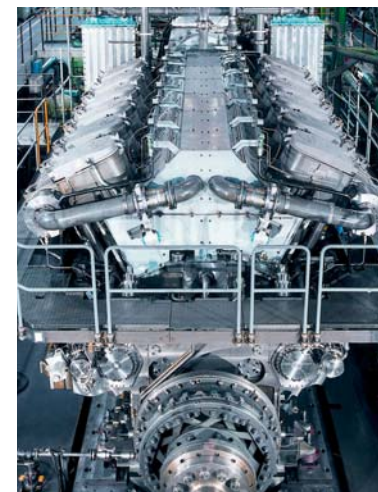
- Valve ring seats optionally in premachined or completely finished form – including the tightest fit measurements and tolerances of shape
- Programme of materials for all requirements of cast alloys that can be manufactured – whether to existing standards or to an individual customer standard.



Heat treatment

Benefit from our strengths!

- Over 45 years' experience in centrifugal casting
- 16 centrifugal casting machines and 7 furnaces in use
- Secure manufacture of high-alloy chromium-nickel alloys or grey cast iron alloys incl. cost-optimised selection of materials
- Advice and development of materials for abrasive use even in temperatures as high as 1,000°C or higher
- The most accurate processing on the most up-to-date and efficient 4-axis lathes.



Large diesel engine

Materials:

Wear-resistant steels:

Tool steels

- Cold-working steels
- Hot-working steels
- High speed steels

Cast iron:

- Alloy cast iron
- Austenitic cast iron
- Chromium gravity cast iron
- Ferritic carbide gravity cast iron

Nickel-based alloys

Cobalt-based alloys

Possible size range:

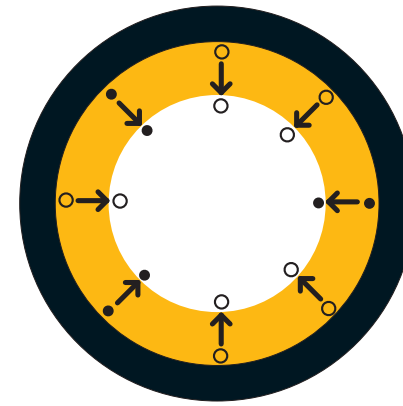
Maximum external diameter 1,100 mm (in exceptional cases up to about 1,300 mm) and 3.3 tonnes cast weight depending on the wall thickness.



Valve seat rings made of centrifugal castings guarantee the highest level of purity and optimum structure.

Kuhn Special Steel 
 Reliable solutions. Always.

**Diesel Engine
 Construction**



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Kuhn Special Steel 
 Reliable solutions. Always.

The centrifugal casting technique

Our core competence is in the centrifugal casting technique with subsequent finishing. We have mastered the application of this production technique for the most varied stainless steels and alloys. The range varies from low-alloy steels to iron-free alloys. We contribute our materials know-how as early as the development phase so as to produce a perfect product at the end.

We manufacture over 70 % of our products as finished products individually and precisely to customers' drawings. And individual parts and small runs represent no problem for us. Moreover we manufacture each one in materials that can be cast reliably with the centrifugal casting technique and we are also happy to manufacture special materials to your particular specifications.

In centrifugal casting, the steel is cast via the axis of rotation into a rotating canister and it solidifies at up to 120 times the acceleration due to gravity. These great rotation forces and the solidification in an inward direction create a particularly dense and pure structure. Impurities and gas inclusions are driven to the surface and can be removed in subsequent processing.

The products manufactured with this technique therefore have outstanding technological properties that are greatly superior in many areas to conventional static casting.

Our varied options for the preparation and finishing of rotationally condensed stainless steel meet our customers' most varied requirements. Whether it's lathes, finishing and polishing machines or our CNC processing centres – our great strength as a specialist in centrifugal casting is also matched in finishing.