



**Our forged engine
pistons ensure that
the famous luxury
cruise liner
RMS Queen Mary 2
is able to sail the
seven seas.**

**Forging steel
since 1891.**

**We develop, produce and market sophisticated,
customer-specific product solutions made of steel.**

Over 125 years of experience makes us experts when it comes to closed-die forging, heat treatment, metallurgy, welding processes, machining and manufacturing of components.



Forging methods:

- Closed-die forging
- Hot extrusion



Process reliability:

- Simulation of the processes
- Automation
- In-process quality assurance

Advantages and properties of forged components:

Optimised weight and increased fatigue strength.

Due to:

Defined grain structure, high ductility,
high core density.

**Please get in touch for further information
and our tailor-made solutions.**



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**Partner of the
marine industry**

- Closed-die forging
- Hot extrusion
- Heat treatment
- Welding
- Machining
- Manufacturing of components



ON WATER 

Range of products for the marine industry



Piston heads

Ø 275 - 660 mm

w 35 - 380 kg



Piston bodies

Ø 200 - 470 mm

w 80 - 415 kg



Flange yokes

Øxh 355x120 - 570x540 mm

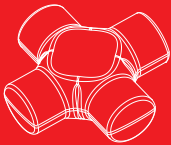
w 25 - 515 kg



Shaft yokes

Øxh 220x510 - 340x760 mm

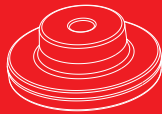
w 50 - 245 kg



Journal crosses

axb 275x275 - 1.040x1.040 mm

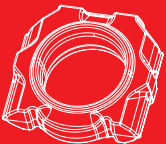
w 25 - 1.550 kg



Clutch hubs

Ø 325 - 680 mm

w 37 - 410 kg



Connecting rod bearings

axb 270x275 - 740x748 mm

w 30 - 425 kg



Driven shafts

Øxl 210x320 - 380x660 mm

w 40 - 190 kg

Marine industry range of services

We are among the very few specialists in forged components for marine industry. Our forte is the cost-effective production of small and medium-sized batches of exceptional quality.

Machining

Machinery specialised for:

Turning	up to Ø 1.300 x 950 mm
Milling (X/Y/Z)	1.050 mm / 510 mm / 510 mm
Machining centres	up to Ø 920 x 1.800 mm

Materials engineering

Steel grades:

Carbon steels
Quenched and tempered steels / case-hardened steels
Austenitic steels
Ferritic / martensitic steels (stainless)
Duplex steels (stainless)

Heat treatment:

+QT (hardening and tempering)
+N (normalising)
+FP (isothermal annealing)
+A (soft annealing)
+AT (solution annealing)

Quality management

Certificates:

DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
DIN EN ISO 50001:2018

Approvals:

American Bureau of Shipping
Bureau Veritas
DNV • GL
Lloyd's Register
DIN EN 15085-2 CL1
AD 2000-Merkblatt W0
DGRL 2014/68/EU
KTA 3201.1 Abs. 3 u. KTA 3211.1 Abs. 3

Testing methods

Our own laboratory offers destructive and non-destructive testing.

3D measurement

X-axis: 1.200 mm
Y-axis: 2.000 mm
Z-axis: 1.000 mm