

Machine list + core competences



# Your contract manufacturer for mechanical engineering



Welding  
Machining  
Coating  
Assembling  
Project management





We realise it -  
**as we have for five generations!**

With our **highly-qualified employees** and state-of-the-art machine pool, we are one of the largest contract manufacturers for mechanical engineering in Europe.

We are experts in the fields of project management, welding, machining, coating, assembling and quality testing. Our total **hall area of 35,000 m<sup>2</sup>** enables us to carry out even the most difficult orders reliably, exactly and in compliance with your deadlines.

We would like to introduce ourselves to your company as a **high-performance partner** who, through professional and trustworthy teamwork, offers you the best possible solutions for the tasks and problems posed by your business.

We are able to produce and assemble almost anything related to mechanical engineering.

The following machine list outlines our areas of expertise and will give you an overview of the technical scope and capacities of our company.

**We gladly invite you to visit our factory halls so that you can get an impression of our performance capabilities.**

Send your requests – we will gladly draw up an offer for you, and promise to respond promptly and confidentially.

Kurt F. Kinkele

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Project management



Welding



Machining



Coating



Assembling



Quality testing

# Project management

We offer top-quality processes for one-off and repeat production with many years of experience in the following industries:

- General mechanical engineering
- Aviation and aerospace technology
- Vacuum technology
- Nuclear technology
- Offshore & marine systems
- Cranes and cableways
- Defensive technology
- Large research facilities

We have the experience, organisation and tools to make your project a success, as well as to meet your quality, cost and deadline targets.

Our project managers with international experience are there for you!

We are your specialist for

- Parts and entire assemblies – with dimensions up to 20 x 4 x 5 m and unit weights up to 5 t – and complete assemblies with weights up to, or even exceeding, 250 t
- Machines completely ready for operation, from procurement to commissioning
- Special projects for unusual applications

and we will support your project from the kick-off to the project conclusion.

Upon request, we will also take on the development of your basic engineering design and draw up all production documents for you.

We can process all the common CAD formats. We have 15 AutoCAD Inventor licenses for this purpose. Furthermore, we are equipped with project planning software, meeting rooms and customer offices, and we can host conferences both on the phone and online.

# Welding

One-off and repeat production for unit weights up to 50 t and in exceptional cases even heavier, general and high-strength structural steels, ferritic and austenitic stainless steels, nickel and cobalt base alloys as well as aluminium.

Our 70 highly-qualified employees, certified in accordance with EN 287, and a comprehensive welding supervision by an experienced team of welding engineers and welding specialists will ensure the success of your project.

## Preparation and follow-up

Blasting systems with separate areas for structural steels, stainless steels and aluminium with maximum workpiece dimensions of

- l = 5,000 mm
- w = 5,000 mm
- h = 15,000 mm



Submerged arc welding

## Approvals and certifications:

- EN 1090-1 Load-bearing individual parts and construction kits for steel structures up to EXC4 in accordance with EN 1090-2
- EN 1090-1 Load-bearing individual parts and construction kits for aluminium structures up to EXC4 in accordance with EN 1090-2
- ISO 3834-2 Quality requirements for fusion welding of metallic materials
  - Comprehensive quality demands
- AD 2000 leaflet HP0
- Pressure equipment directive 2014/68/EC
- EN 15085-2 Welding of rail-bound vehicles and vehicle parts
- DIN 2303 Manufacturer's qualification for class Q2 military products
- Germanischer Lloyd certificate for welding of ship-building design

The current certificates can also be found at: <http://www.kinkele.de/zertifikate.html>



Schuler Pressen, Germany:  
Assembly & riveting of a telescopic conveyor



robot welding



manual welding

## Welding hall 1 (structural steels)

with an area of 4,250 m<sup>2</sup> / a height of 11 m, including 2,500 m<sup>2</sup> without supporting columns (100 x 25 m) and a crane capacity of 40 t / a crane-hook height of 8 m

## Welding hall 2 (stainless steels)

completely separate from the structural steel area, with an area of 750 m<sup>2</sup> (30 x 25 m) / a height of 11 m and a crane capacity of 16 t / a crane-hook height of 8 m

## Automated welding

- Submerged arc welding machine with a high deposit rate for large seam volumes
- Rotating and turning devices with a carrying capacity of 20 t
- Robot welding system with two independently moving arms and a maximum movement path of 20,000 x 5,000 x 3,000 mm
- Robot welding system for application of nickel- and cobalt-based welding additives „PTA welding“
- Automatic linear welding system (tractor)

## Assembly & riveting

Riveting working area with modular tensioning system to set up riveting devices for large individual parts in one-off production with a maximum process equipment size of

- 20 x 11 m

## Manual welding

- Tungsten inert gas welding
- MMA, manual metal arc welding
- MAG/MIG, metal active gas / metal inert gas welding
- PTA, powder plasma transferred arc welding
- Submerged arc welding
- Bolt welding up to diameters of 22 mm

# Machining

High-precision processing for mechanical engineering, including for large dimensions and difficult to machine materials, with 70 highly-qualified employees, all with specialist training. Coordination is ensured by experienced master craftsmen.

## Vertical turning

Three CNC vertical turning and milling machines with powered tools for turning-milling processing for maximum workpiece dimensions of

- Turning diameter: 5,000 mm
- Turning height: 3,000 mm
- Mass: 40 t

## Portal milling machines (gantry structure)

Two CNC portal milling machines for five-sided machining with different angle heads for maximum workpiece dimensions of

- l = 18,500 mm
- w = 4,200 mm
- h = 3,400 mm



## Lateral milling machines

Eight CNC milling machines with angle heads of many different performance classes for maximum movement paths of

- X = 14,250 mm
- Y = 3,000 mm
- Z = 1,500 mm

Indexing device for rotation-symmetric workpieces for

- Turning diameter: 1,800 mm
- Turning length: 12,000 mm
- Mass: 12 t

## Horizontal boring mills with rotary table

Six CNC machining mills for five-side processing with different milling heads.

## Processing centres

Four CNC universal milling machines for many different special sizes, on shuttle tables.

This includes a five-axe milling centre for complex turning/milling processing for maximum workpiece dimensions of

- X = 4,000 mm
- Y = 2,000 mm
- Mass: 3 t



Lateral milling machine 16 m



boring mill processing



pendulum processing

# Coating

Wet-coating techniques at the highest quality level and a closed water circuit, as well as ten highly-qualified employees, process mechanics from our own training programme and a coating inspector (Frosio-certified Level 3)

**Post-processing, coating and drying halls**  
with an area of 1,500 m<sup>2</sup> / a height of 10 m

**Techniques**

- Airmix
- Double membrane
- Airless

**Performance range**

- Hydro coatings
- Heat-resistant paints
- Single-layer, structural and vacuum paints
- Offshore chalybeate-water construction coatings
- Decontaminable coatings for nuclear technology



Double membrane coating



airless coating



airmix procedures

# Assembling

Complete assembly including commissioning, comprised of electrical, hydraulic and pneumatic systems

- High precision even when setting up entire assemblies on a large scale
- Three undivided halls without impeding columns
- 40 highly-qualified employees
- Precision engineering mechanics from our own training programme
- Master mechanical engineers with the additional qualifications in pressure and vacuum testing LTZ

## Assembly hall 1

with a gate size of 8 x 6 m and an area of 2,250 m<sup>2</sup> (100 x 22.5 m), including two pits (10 x 6 m, 5 m deep), a crane capacity of 50 t / a crane-hook height of 13.4 m, and accessible by truck-mounted cranes when handling higher loads

## Assembly hall 2

with a gate size of 8 x 6 m and an area of 1,080 m<sup>2</sup> (48 x 22.5 m), a crane capacity of 25 t / a crane-hook height of 8.70 m

## Assembly hall 3

with a gate size of 5.40 x 5 m and an area of 360 m<sup>2</sup> (24 x 15 m), a crane capacity of 6.3 t / a crane-hook height of 4.30 m

## Further equipment

- Heavy-load forklift for hoisting up to 15 t, with a lifting height of 4 m
- Lifting work platforms up to 17 m in height



compressors



lifting devices for nuclear technology



telescope



XFEL undulator



materials handling

large image: production lane for spiral tubes

# Quality testing, NDT & measuring technology

Comprehensive quality management system, certifications in accordance with

- ISO 9007:2008
- KTA 1401 (nuclear technology)
- High-precision measuring technology for large individual parts and restamping authorisation for materials for plants requiring monitoring
- 20 highly-qualified employees for these fields
  - Laser tracker measurement
  - Measuring machine
  - Acceptance and documentation and non-destructive weld testing (NDT)

## Laser tracker

with measuring errors of 5 µm/m and a measuring radius of up to 60 m

## Measuring machine (Wenzel L1012)

with measuring errors of 5 µm/m and maximum workpiece dimensions of

- l = 3,500 mm
- w = 1,000 mm
- h = 1,200 mm

## Marking tables

with maximum workpiece dimensions of

- l = 8,500 mm
- w = 4,000 mm
- h = 2,500 mm

## Electronic measurability for

surface quality, material composition (PMI), hardness and temperature

## NDT

- Visual testing (VT)
- Dye penetration testing (PT)
- Ultrasound testing (US)
- Magnetic powder testing (MT)
- Own inspection staff with level 2 qualifications in accordance with DIN EN ISO 9712



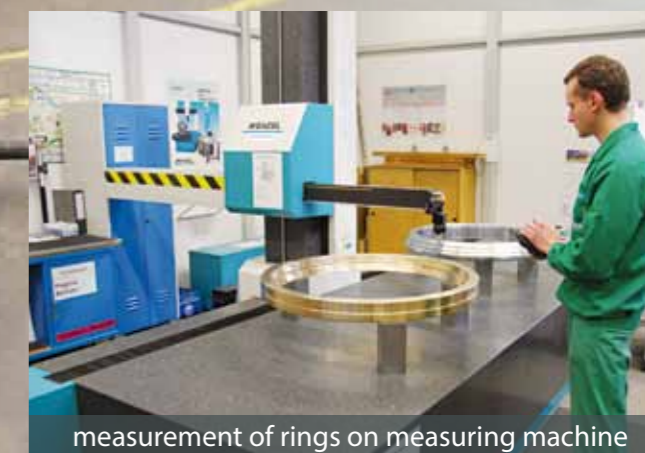
Laser tracker



marking



laser tracker measurement XFEL undulator



measurement of rings on measuring machine



Your contract manufacturer for mechanical engineering



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