

# BORSIG

BORSIG  
PROCESS HEAT  
EXCHANGER  
GMBH

## INDUSTRIAL SERVICES



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# ABOUT BORSIG PROCESS HEAT EXCHANGER GMBH

**BORSIG Process Heat Exchanger GmbH** supplies pressure vessels and heat exchangers for cooling gases at very high temperatures (up to 1,500 °C) and high pressure (up to 35,000 kPa) for the chemical and petrochemical industries and provides comprehensive industrial services.

The industrial services at the company's Gladbeck site has decades of experience in planning, performing and implementing all kinds of assembly, manufacturing and service tasks.

We fix malfunctions and procure spare parts. We provide support in planning, delivery and the installation of new components in your systems. We also modify, inspect and maintain existing components provided by us or third parties.

**Competent, quick and close to the customer - our efficient service and installation team makes this claim reality.**

Our services and products:

- Pressure vessels - field service and repair
- Workshop
- HP and LP preheaters and special pressure vessels and heat exchangers

Pressure Vessels and  
Heat Exchangers

# ASSEMBLY & SERVICES

## MANUFACTURING AND SERVICE FROM A SINGLE SOURCE

Planning, delivery and  
installation of new  
components.  
Conversions, revisions and  
maintenance of existing  
components



**BORSIG Process Heat Exchanger GmbH** plans, delivers and installs new components and provides conversions, revisions and maintenance and troubleshooting of existing components as well as spare parts delivery and a 24-hour standby service.

Our range of services includes the disassembly, assembly and repair of heat exchangers, steam drums, quench coolers, reactors, waste heat systems, collectors, coolers and special equipment, high pressure piping, ball valves and other machines.

We work quickly and reliably both during planned shut-down inspections and unscheduled downtimes. Our well-trained, highly qualified BORSIG team carries out on-site assembly, repair and modification work on equipment, pressure vessels and pipelines. Our services also include structural analysis, strength calculations, documentation, drawing revisions and parts lists as well as the coordination of third-party services on request.



Our specialists offer a reliable service for olefin plants and oil gasification plants as well as special repairs to heat exchangers and combustion chambers, including those with chrome nickel steels, nickel-based alloys, alloy or CF8C materials. Our high occupational safety standard leads to outstanding results. We help you to put your system back into operation as quickly as possible.

Our qualified employees in the technical and manufacturing departments work towards complete solutions tailored to your process conditions and specifications. In addition to various types of heat exchangers, we also offer individual solutions for equipment of all kinds, from engineering to assembly, even in special materials.

Our assembly team's innovative approaches are supported by the wide range of services offered by our production facility in Gladbeck. The prefabrication of replacement tube bundles or other components can also be carried out at short notice, regardless of the manufacturer.



# WORKSHOP



## HIGH LEVEL PRODUCTION AND OVERHAUL

5,250 m<sup>2</sup> indoor workshop  
facilities,  
32,000 m<sup>2</sup> open space,  
crane capacity up to 100t

The Gladbeck site of **BORSIG Process Heat Exchanger GmbH** has all the necessary workshop equipment and qualified staff for the new production and general overhaul of vessels in the chemical and petrochemical industry and energy sector. Our plant covers an area of 38,000 m<sup>2</sup> of which 5,250 m<sup>2</sup> is heated and has crane capacities of up to 100t.

Scheduled shutdown maintenance as well as unscheduled shutdowns always take place under tight deadlines. Our workshop can produce replacement parts at short notice or refurbish existing components. This includes the machining of sealing surfaces, the straightening of tube bundles, the replacement and expansion of tubes, the renewal of baffles and water chambers as well as other mechanical machining possibilities necessary for repair work.

The following welding processes are used in construction, repair and maintenance work:

- automatic tube welding including seamless implementation
- nozzle SAW, circular and longitudinal SAW, tandem SAW
- TIG
- MIG
- MAG
- electric manual welding
- weld cladding with ribbon and wire
- cladding



Our well-trained, highly skilled welders exploit a large portfolio of WPQRs to manufacture to your specifications. In addition to the usual range of heat-resistant and stainless steels, we have many years of experience with the following materials: X10CrMoVNb9-1 (P91), P92, X20CrMoV 12.1, NiCuMoNb35, 7CrMoVTiB10-10 and GX40CrNiNb4535 centrifugal casting (reformer tubes).

#### INSPECTION TECHNOLOGY

Ultrasonic inspection by manual UT, PAUT, TOFD, X-ray inspection, dye penetrant and magnetic particle inspections, hardness testing, PMI.

#### CERTIFICATES

DIN EN ISO 9001, DIN EN ISO 14001, AD 2000 HP0, TRD 201, DIN EN ISO 3834-2, WHG § 19, SCC, ASME U, U2 & S as well as Manufacture License of Special Equipment A1 for China.



# HP & LP PRE- HEATERS



## AND SPECIAL VESSELS

for

- oil refineries
- petrochemical & chemical industries
- power plants

The high pressure preheater is used in a power plant cycle process to preheat feed water between the boiler feed pump and the evaporator inlet. Preheating increases the inlet temperature of the feed water entering the steam boiler. This relieves the pressure on the boiler as it requires less energy to evaporate the process water. This saves fuel, which increases the efficiency of the overall process.

For the actual process of preheating, superheated steam is taken from power plant turbines. The heat is extracted from the steam in the desuperheater section to just above saturated steam temperature. This causes the steam in the downstream condensate section to condense immediately. The condensate is then cooled even further and used to supply the feedwater. For this purpose, the condensate is accelerated by special installations shortly before leaving the preheater which facilitates heat transfer at this point.

**BORSIG Process Heat Exchanger GmbH** production site in Gladbeck offers suitable services for tube bundle heat exchanger requirements or other types according to DGRL 2014/68/EU, AD 2000 and API.





Our qualified staff in the technical office and workshop offer complete solutions tailored to your process conditions and specifications.

In addition to various types of heat exchangers, we also offer individual solutions from engineering to assembly for all types of equipment including special materials.



# QUALITY



## INDEPENDENT QUALITY ASSURANCE AND CONTROL

Quality assurance and control activities are independent of the manufacturing process or product lines and guarantee that all materials, components, assemblies, products and service operations are executed in accordance with all specified requirements.

Quality assurance monitors the adherence to national and international specifications, statutory and contract provisions as well as the directives, standards and regulations stipulated by **BORSIG Process Heat Exchanger GmbH**.

In order to ensure even better interaction between quality, work safety and environmental management, individual management systems have been merged to form an Integrated Management System (IMS).



**CERTIFICATES OF THE BORSIG GROUP  
(Extract)**

- Quality Management  
DIN EN ISO 9001
- Environmental Management System  
DIN EN ISO 14001
- Occupation Safety SCC\*\*
- ASME U, U2, R and S
- SQL Licence for China  
(Pressure vessels A1, A2)
- Manufacturer and Welding Shop acc. to  
AD 2000 - Code HP 0, TRD 201 and  
DIN EN ISO 3834-2 and  
EN 1090-2, EXC4
- Korean Gas Safety
- Specialist company acc. to WHG § 19



# BORSIG

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