

# 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) - process gas waste heat recovery systems, transfer line exchangers and scraped surface exchangers - 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 manufacturing and service tasks.

We fix malfunctions and procure spare parts. We provide support in planning and the processing of new components in your systems. We also offer services for your modification/alteration as well as support with your revisions and maintenance of existing components.

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

Our services and products:

- Pressure vessels and heat exchangers services
- Workshop
- HP and LP preheaters and special pressure vessels

Pressure Vessels and  
Heat Exchangers

# SERVICES

## MANUFACTURING AND SERVICE FROM A SINGLE SOURCE

Planning and delivery of new components.

Support with modification/alteration, revisions and maintenance of existing components.

**BORSIG Process Heat Exchanger GmbH** offers you support in the planning and supply of new components, modification/alteration, revisions and maintenance of existing components as well as spare parts supply. Our range of services includes the repair of heat exchangers, steam drums, quench coolers, reactors, waste heat systems, collectors, coolers and special equipment as well as high pressure pipings.

We work quickly and reliably both during planned shutdown inspections and unscheduled downtimes. Our well-trained, highly qualified BORSIG team carries out on-site repair and modification work on equipment, pressure vessels and pipelines. Our services also include strength calculations, documentation, drawing revisions and parts lists.

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. 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 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 110t

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 industries 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 110t.

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 gapless implementation
- nozzle SAW, circular and longitudinal SAW
- TIG
- MIG
- MAG
- electric manual welding
- weld cladding with strip or wire filler metal
- 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, Federal Water Act § 62AwSV, SCC, ASME U, U2 & S as well as Manufacture License of Special Equipment A2 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 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
- Occupational Safety SCC\*\*
- ASME U, U2, R and S
- SQL Licence for China  
(Pressure vessels 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  
Federal Water Act § 62AwSV



# BORSIG

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