



# TAF THERMISCHE APPARATE FREIBERG GMBH

## YOUR EXPERT FOR SPECIAL SOLUTIONS IN PLANT ENGINEERING

TAF Thermische Apparate Freiberg GmbH is your partner for customized and sustainable solutions in mechanical and plant engineering. With expertise in the development of pilot and research facilities, and the manufacture of complex process plants, we offer innovative and customer-specific technological solutions.



### ENGINEERING

Our engineers develop innovative solutions and provide feasibility studies, basic and detail engineering, specialized technical solutions, and implement modifications, revamps, plant expansions, and commissioning. Our projects and technical solutions aim to promote environmentally friendly and sustainable processes.



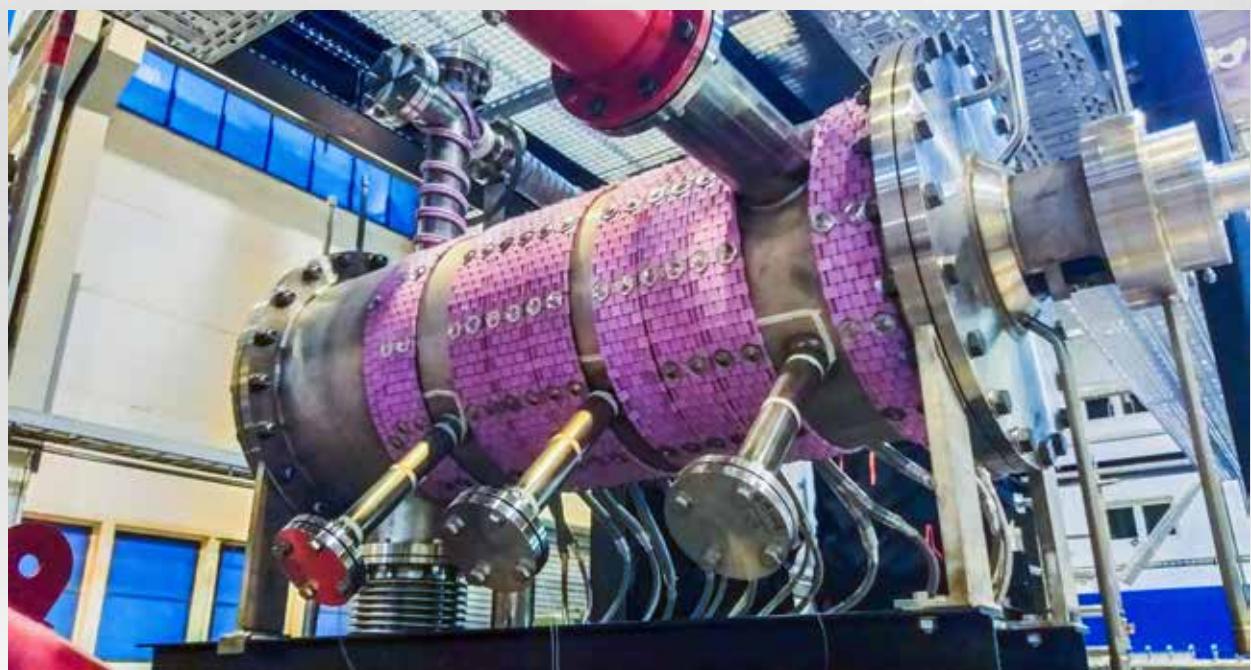
### MANUFACTURE

Our 1,900 sqm manufacturing hall allows to manufacture equipment up to 4,500 mm in diameter and weighing up to twelve tons, process a wide variety of steels and special alloys, and manufacture complex assemblies in cooperation with highly specialized partners.



### SERVICE

Our services include strength calculations, non-destructive testing (NDT), design and manufacture of WHG (Water Resources Act)-compliant equipment, as well as strength and leak testing of pressure equipment.



Pyrolysis reactor during assembly

# ABOUT US



## WHO WE ARE

TAF Thermische Apparate Freiberg GmbH, part of the Pörner Group, is a leading mechanical and plant engineering company. Since our foundation in 1997, we have specialized in customized solutions with a strong focus on sustainability and innovation.



## OUR FOCUS AREAS

- Custom design and manufacturing
- Extensive expertise in process temperatures and pressures
- Close cooperation with universities and research institutes



TECHNISCHE  
UNIVERSITÄT  
DRESDEN

TUBAF  
TU-BERGAKADEMIE  
FREIBERG  
Die Ressourceneffizienz  
Seit 1970

## OUR HISTORY

1997

2006

2011

2022

Founded from the  
model workshops  
of the German Fuel  
Institute

Part of the  
CHOREN Group

Part of the  
Pörner Group

Since 2022, a fully integrated  
subsidiary of the Pörner Group



Factory premises in Freiberg with 1,900 sqm TAF manufacture hall

# EXPERTISE AND EXPERIENCE

## OUR OFFERINGS

TAF's expertise ranges from the design and manufacture of pilot and research facilities to complex process plants and test rigs. As an approved welding specialist for the manufacture and repair of steam boilers, pressure vessels and piping, the company has all the relevant certifications and quality assurance procedures.

### Engineering

- Preliminary exploration, consulting, feasibility studies
- Basic and detail engineering
- Development of special engineering solutions
- Modification, revamps, and extension of industrial plants
- Plant commissioning

### Manufacture of

- Turnkey process plants
- Pressure equipment, apparatus, burners, heat exchangers and reactors
- Dust handling and cooling systems
- Bulk material handling and silo discharge systems for lumpy and flowing materials
- Test rigs
- Special engineering solutions and package units

Our company offers a wide range of services from concept development to commissioning. TAF stands for innovative and sustainable solutions tailored to the individual needs of our customers.

### Services

- Strength calculations
- Non-Destructive Testing (NDT)
- Design/manufacture of equipment according to Water Resources Act (WHG)
- Strength testing of pressure equipment and leak testing

### Certifications

- AD 2000-Merkblatt HP0 / DIN EN 13445-4
- Approval for self-certified pressure equipment up to Category II of Directive 2014/68/EU (Module A2)
- EN ISO 3834-2
- ISO 9001:2015
- Certified specialist company according to the Water Resources Act (WHG)



## ADVANTAGES FOR OUR CUSTOMERS



### Innovative solutions:

We develop customized technological solutions precisely tailored to our customers' needs. Long-standing collaborations with universities and research institutes provide access to the latest scientific research.



### Cooperations:

Close cooperation with renowned research institutions and industrial customers guarantees the highest quality standards and innovative solutions. In addition, an effective network with local partners facilitates the efficient realization of complete plants.



### Efficiency:

We accelerate order processing of urgently needed components by working in shifts when necessary.

# SELECTED REFERENCES

## Pyrolysis Plant

Turn-key delivery of a pyrolysis pilot plant for the investigation of low-temperature gasification of various feedstocks and mixtures from plastics; feedstocks can be expanded to biomass.

- **Client:** Fraunhofer Institute for Ceramic Technologies and Systems IKTS
- **Location:** Freiberg (Germany)
- **Services:** Overall planning including conceptual design, basic engineering, detail engineering, manufacturing, assembly, commissioning
- **Commissioning:** 2023



## Phosphorus Recovery Plant

Overall planning and installation of a multi-fuel conversion plant for the recovery of phosphorus and synthesis gas from sewage sludge.

- **Client:** RWE Power AG
- **Location:** Bergheim-Niederaußem (Germany)
- **Services:** Basic engineering, detail engineering, equipment manufacture, procurement, assembly, site management, commissioning
- **Commissioning:** 2021



## Biomass Research Facility

Overall planning of a plant for thermal processing of various biomasses from agricultural residues (e.g., straw, hemp, flax), the wood industry (e.g., damaged wood, sawmill residues, bark), and fast-growing plants (e.g., miscanthus) for the production of cellulose.

- **Client:** Dresden University of Technology
- **Location:** Tharandt (Germany)
- **Services:** New conceptual design, basic engineering, detail engineering, manufacturing, assembly, commissioning, personnel training
- **Commissioning:** 2022



## Biomass Syngas Plant

Manufacture of a 1 MW pilot plant for the production of syngas from torrefied waste and used wood.

- **Client:** Torrgas B.V.
- **Location:** Delfzijl (The Netherlands)
- **Services:** Basic engineering, detail engineering, procurement, manufacturing of process units, project management, construction supervision, commissioning support
- **Commissioning:** 2018

