



**air cooled systems
and air heaters**

COMPETENT PARTNERS

Company overview

We would like to introduce ourselves as your competent partner in heat transfer.

Since 1990 the ALZ GmbH designs and manufactures heat exchangers with bare and finned tubes as well as whole air cooled heat exchanger units and air cooled condensers (ACC) for turbine exhaust steam.

As a modern, medium sized company we do not only have the required know how but are also very flexible in handling our projects. With our experience and the application of the best available technology we became one of the leading suppliers in Germany. It is always our primary goal to meet the requirements of our customers.

Therefore we concentrate all working steps from engineering to the fabrication of our heat exchangers at a single location. Our office and workshop are located in Dorsten, Germany.

Our engineering services range from the thermodynamic design to the preparation of all required calculation-, construction- and manufacturing-documents.

With our inhouse fabrication we have a high flexibility and the best possible means to secure delivery dates. For our customers the quality of our work as well as the fabrication progress is transparent at all times. Our goal to always deliver the best possible quality is

documented and assured through our own quality management system which is certified since 1994 according DIN EN ISO 9001:2000.

We would be glad to be at your service.
Please contact us.



„With our experience and the application of the best available technology we became one of the leading suppliers in Germany.“



COMPETENT PARTNERS



Following our customers demands our scope of supply of air cooled heat exchangers comprises

- heat-exchanger bundles with welded bonnet headers, removable cover plate- or plug-headers
- horizontal, vertical, A-frame or V-frame arrangement
- axial fans in forced or induced draught installation
- complete steel construction with ladders and walkways
- auxiliary equipment such as frequency converters and control cabinets
- erection on site and commissioning support



Air cooled heat exchangers (ACHE)

Process cooling with air as cooling medium is used successfully in many industry branches and becomes more important with steadily increasing costs for cooling water. At locations where cooling water is not available it is often the only possibility for the cooling of process streams. Our engineering departments place their know how for the thermodynamic and mechanical design

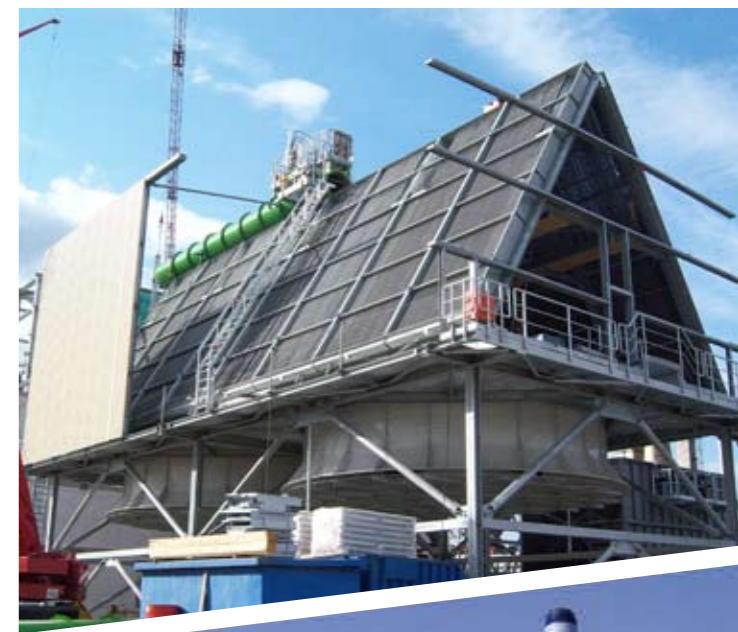
of complete air cooled heat exchanger units at your disposal. Design and construction are carried out according national and international standards as well as customer specifications. Through all stages of engineering we are using professional software applications. Our engineering and manufacturing services are focussed on the specific needs of our customers.





Following our customers demands our scope of supply of air cooled condensers comprises

- complete unit engineering
- heat exchanger bundles with aluminium finned tubes
- steel construction including wind wall
- axial fans in forced draught installation
- steam duct
- piping for condensate system
- evacuation unit
- condensate tank including required pumps
- cabling, switchgear cabinets, instrumentation
- erection on site and commissioning
- training for operational staff



Air cooled condensers (ACC)

Air cooled condensers are used for the condensation of turbine exhaust steam in power plants. According to the condition of the steam the condensation takes place under vacuum conditions. During that process the heat of condensation is transferred directly to the ambient air.

The ACC-units have an A-frame construction with cooling fans in forced draught installation. The steam is distributed via a steam duct to the heat exchanger bundles. Each bundle has an integrated reflux-part to achieve reliable condensation and removal of noncondensables.





ALZ-heat-exchangers as plant components

ALZ-heat-exchangers are used as plant components for the heating and cooling of gas streams.

The used materials can be carbon steel, various types of stainless steel and duplex materials. Therefore the heat exchangers can be used for a variety of applications. Among them are the heating of air and flue gas in power plants and waste-to-energy facilities as well as air

heating in drying plants. Heat recovery from flue gas is another possible application.

As heat transfer medium usually steam, thermal oil or water are used. ALZ-heat-exchangers are customized according to the individual requirements of our customers. A variety of tube types (finned and bare tubes) are available. For smooth integration into the plants the heat exchangers

can be built with different casing options. Among them are airtight casings with flanged connections to air ducts and types with enlarged tube sheets for installation into existing casings. Transition pieces for the intersection from the heat exchanger face area to existing air ducts can also be included in our scope of supply.





Engineering and fabrication

Our engineering services always comply with the requirements of our customers. They range from the thermodynamic and mechanical design to the complete calculation-, construction- and manufacturing-documents. Also included are all clarifications with the appointed notified body.

We specially focus on consulting services regarding thermodynamic and design engineering. We solely work

with professional design and CAD software such as HTRI Xchanger Suite and Autocad Inventor. The compliance with national and international standards as well as customer specifications is considered mandatory.

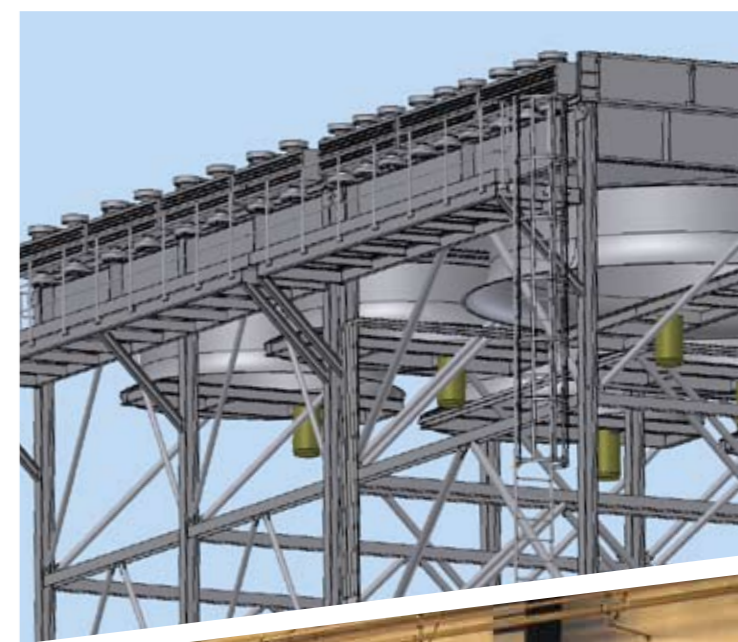
The effective organization of our engineering departments with short response times and a close co-operation with our customers ensure the highest possible efficiency from the start.

The satisfaction of our customers is always a priority to us. To ensure the quality of our products the fabrication of our heat exchanger bundles is carried out completely in our workshop in Dorsten, Germany. The machines and equipment for tube finning are inhouse developments.

The focus of our fabrication lies on an optimized execution of the welding procedures on the pressure bearing parts. Separated processing of carbon steel and stainless steel is mandatory for us.

By using state-of-the-art welding procedures we ensure a constantly high fabrication-quality. All our welders are certified according the applicable regulations.

This goes also for the applied welding procedures which include GTAW-, GMAW-, SAW- and SMAW-welding. Comprehensive non-destructive testing supplements our quality standards.



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