



**YOUR PARTNER FOR COOLING SOLUTIONS**





## Company Profile

---

Aban Air Cooler Co. (AAC), a private joint stock company, was founded in Shiraz, Iran in 1996.

AAC production facility is located in North West side of Shiraz with covered area of 26,500 m<sup>2</sup> on a total surface of 105,000 m<sup>2</sup>.

AAC, as a solution provider, specializes in engineering, design, production and supply, installation and commissioning of heat transfer systems for oil, gas and petrochemical plants, direct/indirect power plant cooling systems, skid mounted process packages and water refrigeration packages for variety of applications.

By undertaking advances methodologies in supply chain management, AAC integrates supply and demand management across customers, vendors and subsidiaries, with primary responsibility for linking major business functions and business processes into a cohesive and high performance business model.

Customer satisfaction defines the priorities of our industrial and commercial policies.



## Products:

**The following is an overview of the products which AAC offers to its customers:**

- Process Cooling Systems (Oil, Gas, and Chemical Process Plants)
  - Air Cooled Heat Exchangers (ACHE)
  - Shell and Tube Heat Exchangers
  - Helical Exchangers
  - Air Cooled Condensers (A-type / V-type)
  - Pressure Vessel
  - Columns / Towers
  - Drums
- Power Plant Cooling System
  - Combined Cycle Power Plant
    - Air Cooled Condensers – Direct Cooling
    - Heller (Heller – Forgo) Cooling System – Indirect Cooling
    - Auxiliary Cooling
    - Peak Cooling
  - Steam Power Plant
    - Air Cooled Condensers
    - Heller Cooling System
    - Auxiliary Cooling
  - Gas Power Plants
    - Fin-Fan Coolers (Water and Lube Oil Coolers)
- Water Refrigeration Packages
- Degassing System
- Skid Mounted Process Packages for different industrial, petrochemical and refinery applications
- Air Separation Unit
- Different Types of Fins i.e. plate fins, corrugated fins, spiral extruded fins, embedded fins and wrapped-on fins (L, LL, KL and KLM)

## Services:

**AAC provides the following services to its clients:**

- Engineering and Design
  - Basic Design
  - Front-end Engineering
  - Detail Engineering
- Procurement and Supply Services
- On-site Services
  - Construction
  - Installation
  - Commissioning
  - Supervision and Management
- After Sales Services







**MARKET DRIVEN,  
PROCESS BASED**







## AIR COOLER - Air Cooled Heat Exchanger (ACHE)

ACHes are commonly used where a reliable source of water is not available as a cooling media. Even when water is available, ACHes are sometimes favored for environmental, economic or operational reasons. An ACH is designed to exchange heat with a fluid using the cheapest and most available medium, AIR. Various types of ACHes are designed and manufactured according to requirements and specifications of our clients. The main types of ACHes are Forced Draft or Induced Draft type. The less sensitive to certain changes in weather conditions are induced draft type, whereas, the airflow distribution through heat exchanger is more uniform in the forced draft type. Due to relatively high escape velocity of the air from the fans, the induced draft system is less susceptible to crosswinds and recirculation of hot air.

## **WHEREVER COOLING IS REQUIRED IN PRODUCTION PROCESSES WE PROVIDE OUR OPTIMUM SOLUTIONS.**

AAC develops suitable special designs for the specific applications of our customers i.e. circulating air coolers, anode protection systems, heating coils, deluging systems to combine benefits of dry cooling with those of evaporative cooling.

Each tube bundle is manufactured, tested, and stamped in strict accordance with rigid industry codes and standards.

With a mindset of manufacturing quality, economic efficiency and flexibility, AAC offers a variety of air cooler designs for all applications, starting with simple components and ending with complex process engineering.







WE COOL IT DRY

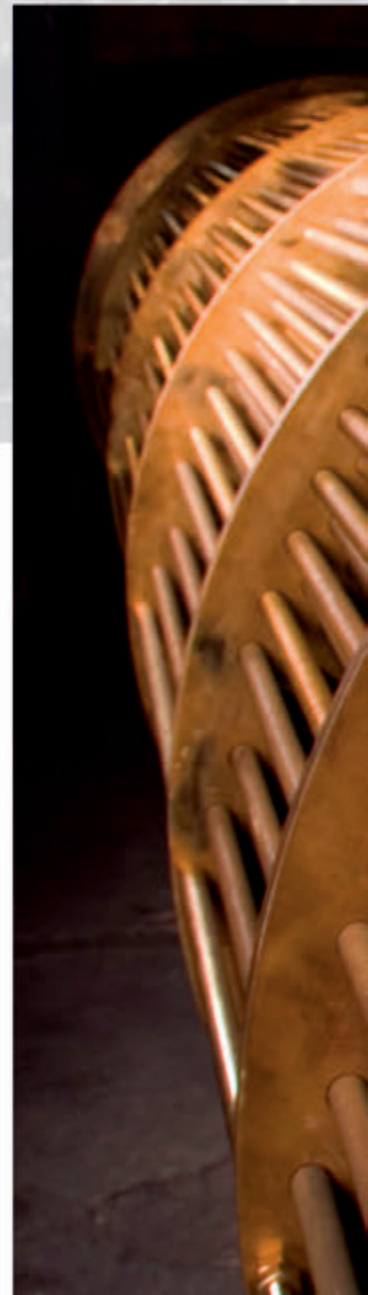


## ACHEs are mostly used as:

- Process Cooler
- Gas / CNG / LNG / GTL Cooler, Condenser and etc.
- Lube Oil Cooler
- Gas and Steam Condenser
- Evaporator
- Intercooler
- Aftercooler







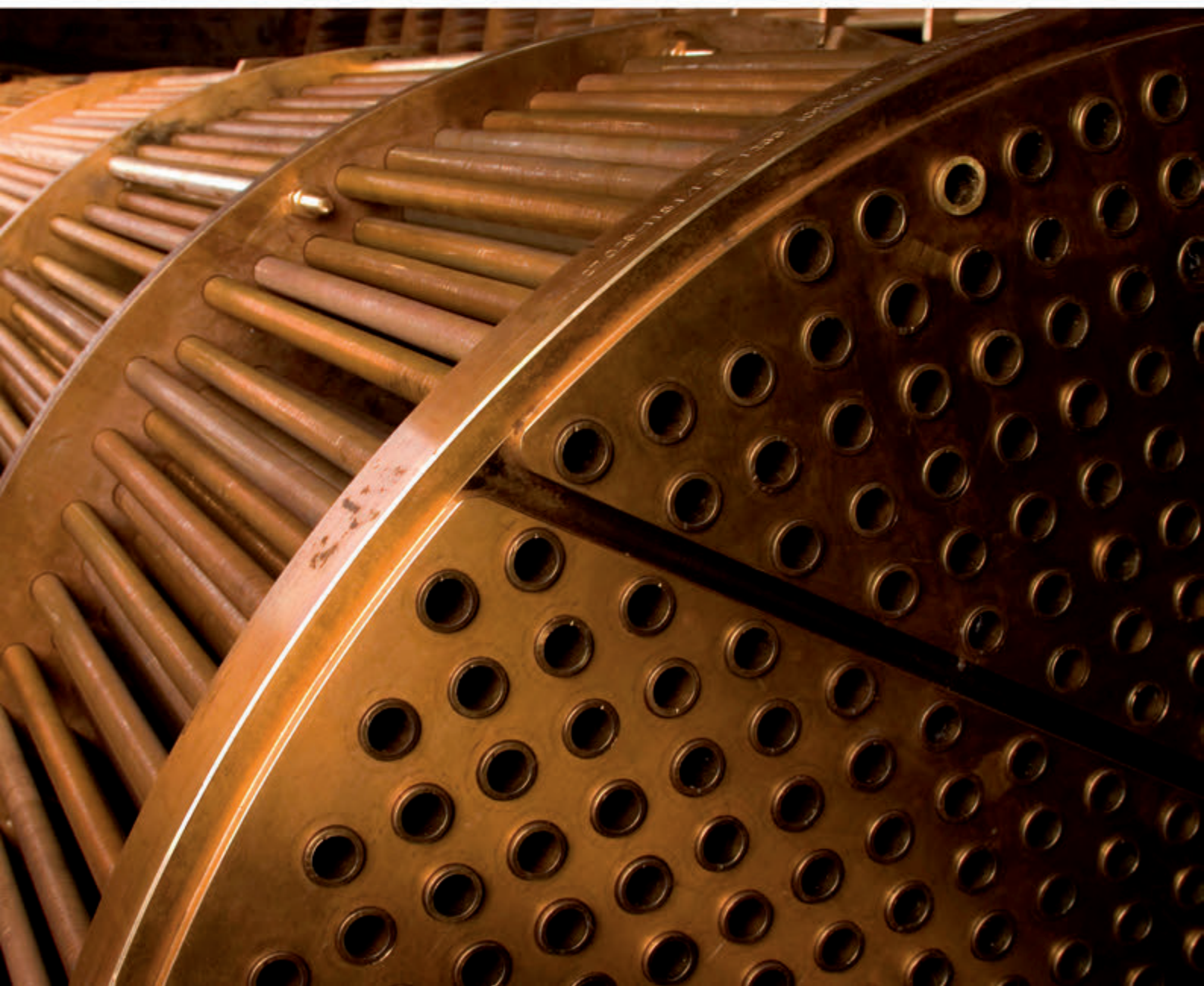
## Shell and Tube Heat Exchanger (STHE)

Shell and tube heat exchangers in various configurations are probably the most widespread and commonly used basic heat exchanger configuration in the process industries. A shell and tube heat exchanger (STHE) provides a comparatively large ratio of heat transfer area to volume and weight in a form, which is relatively easy to construct in a wide range of sizes, whereas it is mechanically rugged enough to withstand normal shop fabrication, shipping and field erection stresses.



## **WE KNOW HOW TO BALANCE THE ENERGY**

AAC designs and manufactures shell and tube heat exchangers for refineries, petrochemicals, gas, process, food and power plant industries in complete range of configurations and in full compliance with international standards i.e. ASME, TEMA and API. Enjoying our strong sourcing capabilities in combination with up to date know hows and state of the art production facilities, AAC is able to provide shell and tube heat exchangers in a full range of materials and widest range of operational conditions according to customer's requirements and specification.



**WE KNOW  
HOW TO  
BALANCE THE ENERGY**









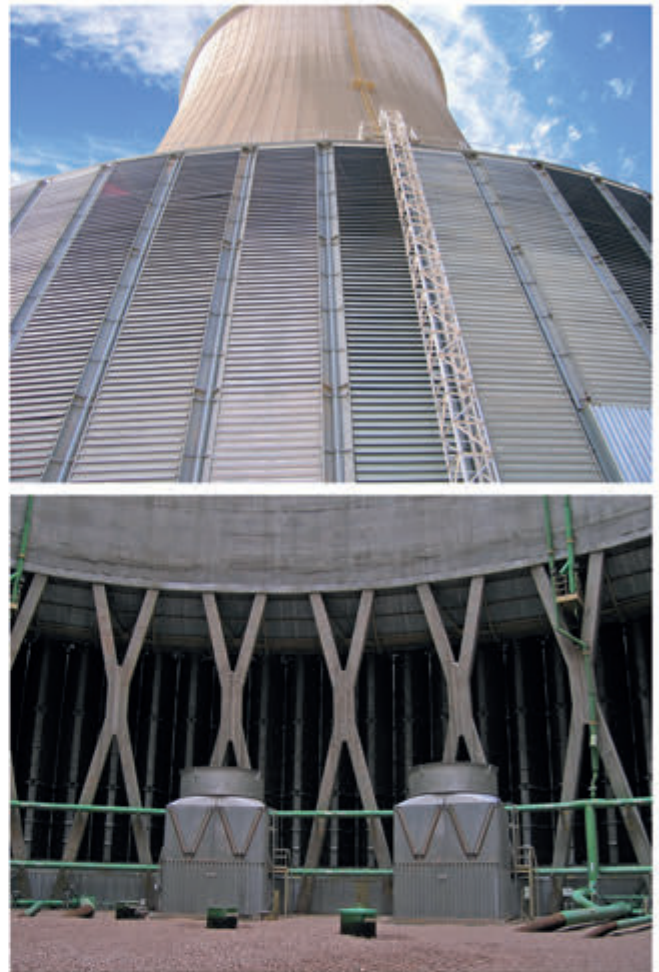
## Power Plant Cooling

### Heller – Forgo Heat Exchanger

Heller (Heller-Forgo) heat exchangers, (a special design of air cooled heat exchanger) are solely designed and manufactured for Combined Cycle Gas Turbine (CCPP) and Steam (Thermal) Power Plants. All aluminum tube bundles, chemically coated for higher corrosion resistance, deliver a high thermal performance and long lasting product.

Indirect Dry Cooling Systems include a water-cooled condenser, circulating water mains and a dry cooling tower accommodating our manufactured air cooled heat exchangers. The water-cooled condenser can either be DC Jet or Surface Condenser type.

The cooling tower can either be of natural draft or mechanical draft type.



### Air Cooled Condenser (ACC)

Air Cooled Condensers (ACC), are designed and manufactured by AAC in two types of Multi and Single Row which are installed mostly in power plants, LNG and GTL or similar plants. An ACC consists of cells arranged in parallel rows. The fin tube bundles are arranged on the fan deck. The airflow through the heat exchanger bundles is achieved by forced-draft fans. The ACC normally comprises the supporting steel/concrete structure, steam ducting from the turbine exhaust to the heat exchanger bundles, the fin tube bundles, fan units, condensate tank, condensate and drain pumps, evacuation system, interconnecting piping and instrumentation.







## Water Refrigeration Package

Design, Manufacturing, Installation and Commissioning of Refrigeration Package is done to suit capacity and temperature condition as required in process. Required standards and specifications are considered and applied in design and manufacturing processes. All products are manufactured with best quality through AAC quality procedure and assurance manual.

R-22, alternate refrigerant (R-134a, R-501, R410a), Ammonia, Propylene, Propane, and Butane can be used as the refrigerant for the unit. Pressure vessels and shell & tube heat exchanger of each package are designed according to ASME code and High Gas Safety Control Law.

Heat Exchangers which are utilized in the package could be selected and delivered from the range of Shell & Tube type, Plate type and Air-cooled type.

Package types are manufactured and delivered as follows:

- Screw compressor unit
- Condensing unit
- Chiller package
- Refrigerator
- Refrigeration package











**EXPERIENCE  
MAKES THE DIFFERENCE.**

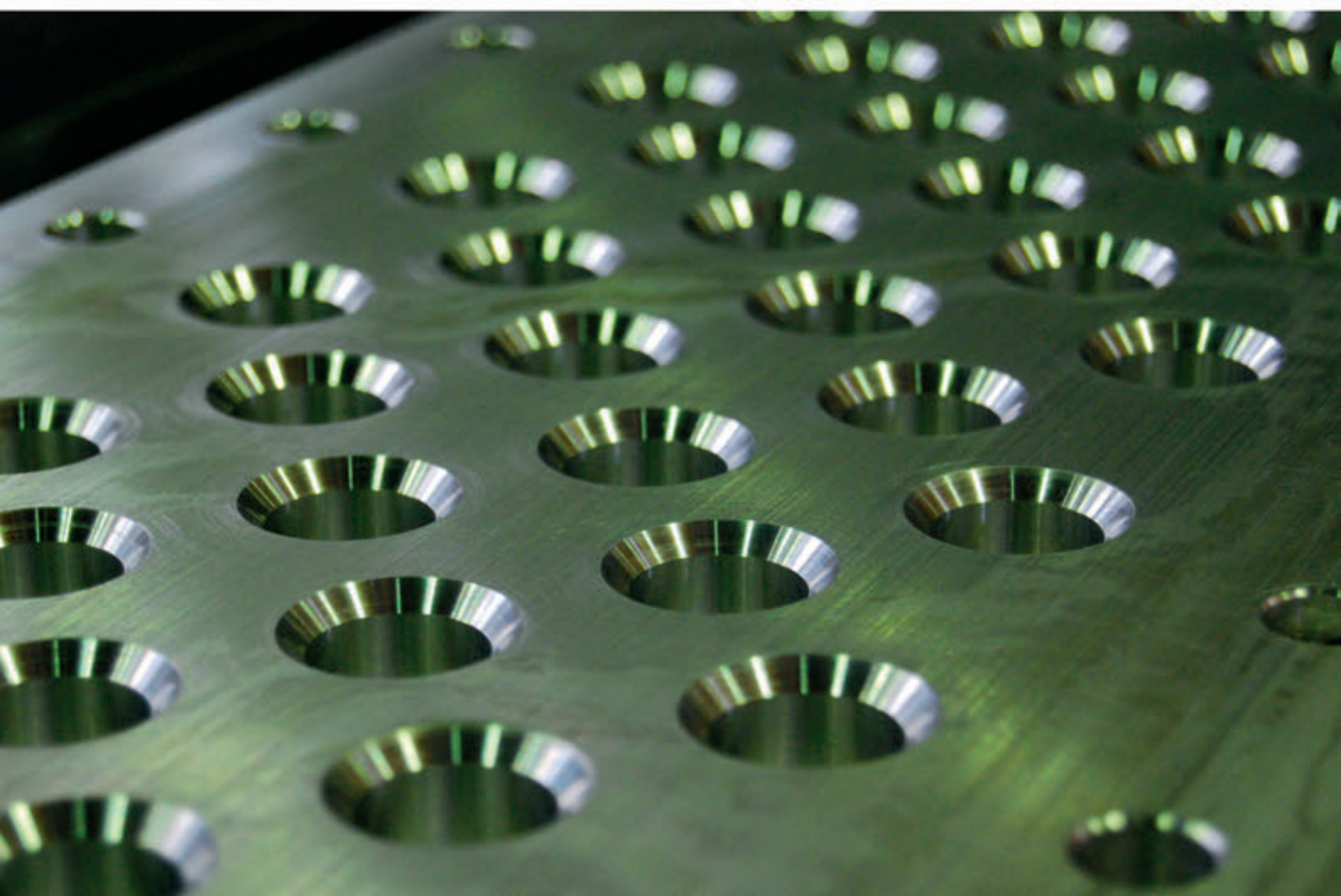


## Production

Our reputation as a highly reliable supplier is built on a long tradition of knowledge and technical skills, always striving for continuous improvement. The demonstrated quality of our products is assured by adopting the highest competence into every step of the manufacturing process. The 105,000 m<sup>2</sup> manufacturing facility has 26,500 m<sup>2</sup> of workspace amply outfitted with metal working machineries, computerized systems and more.

We also, have customized in-house developed machineries to fulfill our efficiency and precision needs. With an additional 68,000 m<sup>2</sup> of storage, marshaling, and assembly areas, AAC has largest production capacity for heat transfer equipment in the region. Our impressive physical plant, combined with a workforce of continuous improvement, provides our customers with a unique solution for all thermal problems.

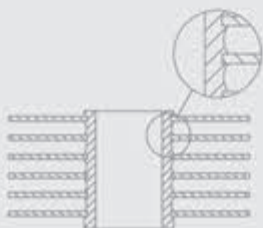
Customers have peace of mind knowing AAC is on the job. Whether it is a full unit turnaround, replacing a complete heat exchanger or tube bundle, or repairing a component in our shop, AAC coordinates and handles the entire job, as your single point of responsibility with no handoffs.





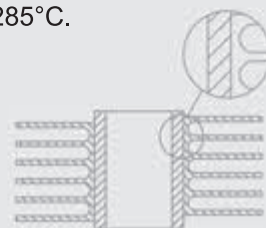
### **‘G’ Fin**

(Embedded Fin) The fin strip is wound into a machined groove and securely locked into place by back filling with base tube material. This ensures that maximum heat transfer is maintained at high tube metal temperature. Maximum operating temperature for this fin type is 400° C.



### **‘Extruded High Fin’**

This fin type is formed from a bi-metallic tube consisting of aluminum outer tube and an inner tube of almost any material. The fin is formed by rolling material from the outside of the exterior tube to give an integral fin with excellent heat transfer properties and longevity. Extruded fin offers excellent corrosion protection of the base tube. Maximum operating temperature for this fin type is 285°C.

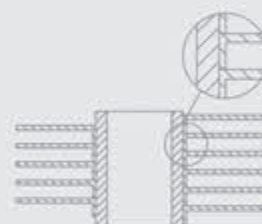






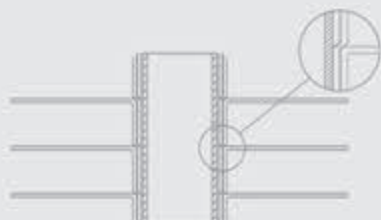
### **‘L’ Fin**

The strip material is subjected to controlled deformation under tension giving the optimum contact pressure of the foot of the fin onto the base tube thus maximize the heat transfer properties. The foot of the fin considerably enhances the corrosion protection of the base tube. Maximum operating temperature for this fin type is 120°C.



### **‘KL’ Fin**

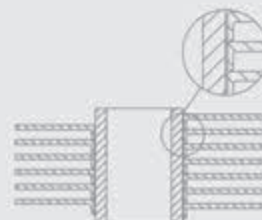
Manufactured exactly as the ‘L’ fin except that the base tube is knurled before application of the fin foot. After application the fin foot is knurled into the corresponding knurling on the base tube thereby enhancing the bond between the fin and tube resulting in improved heat transfer characteristics. Maximum operating temperature for this fin type is 260°C.

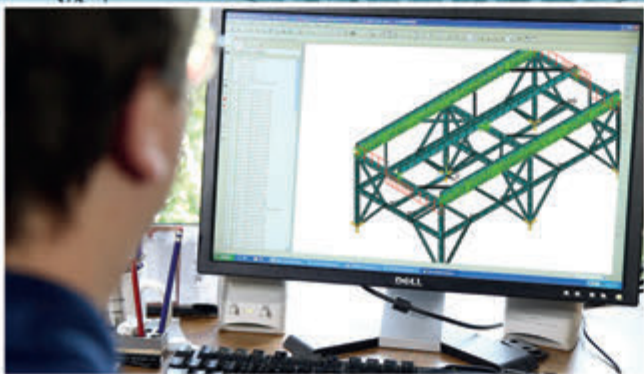
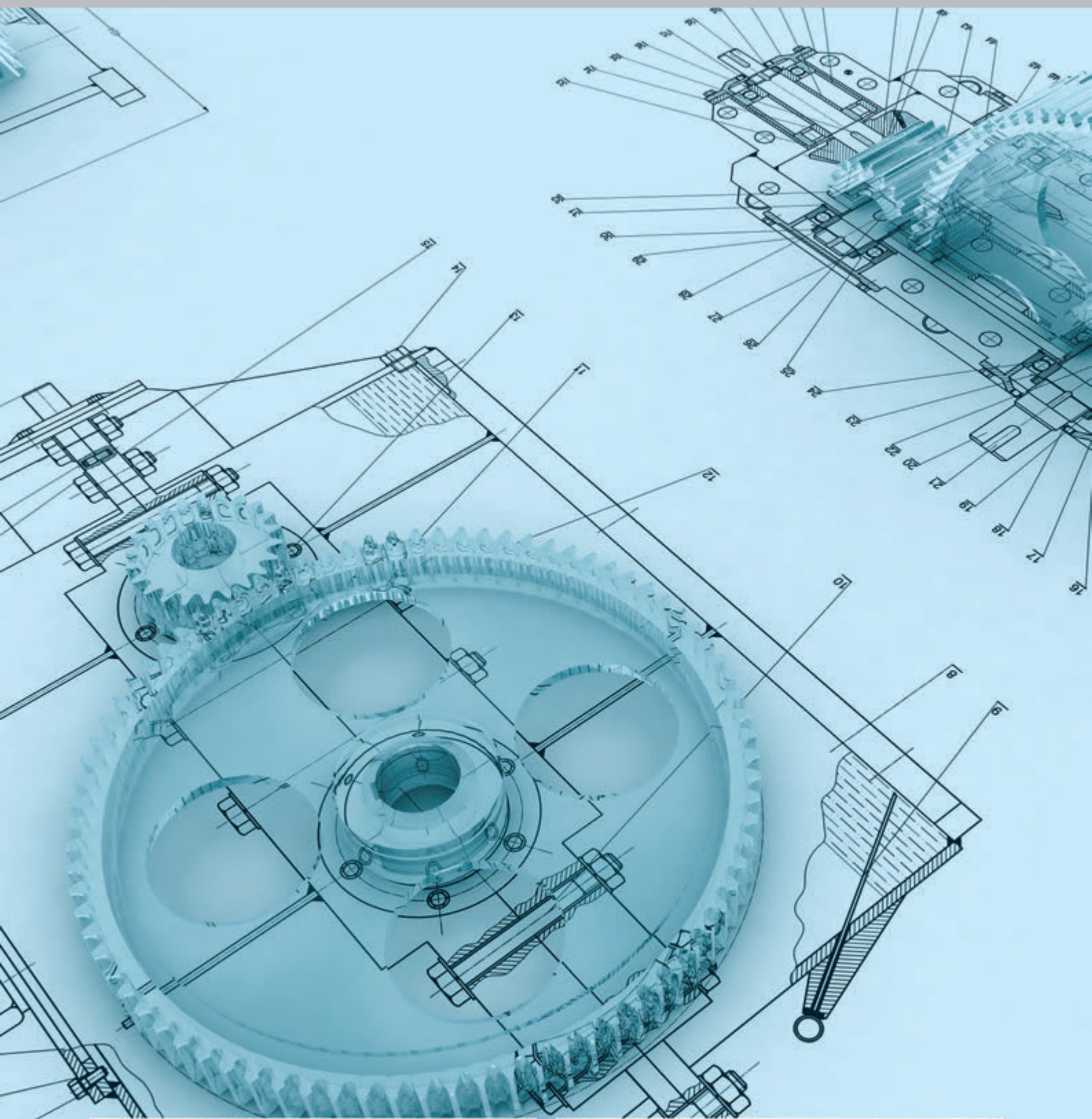


### **‘LL’ Fin**

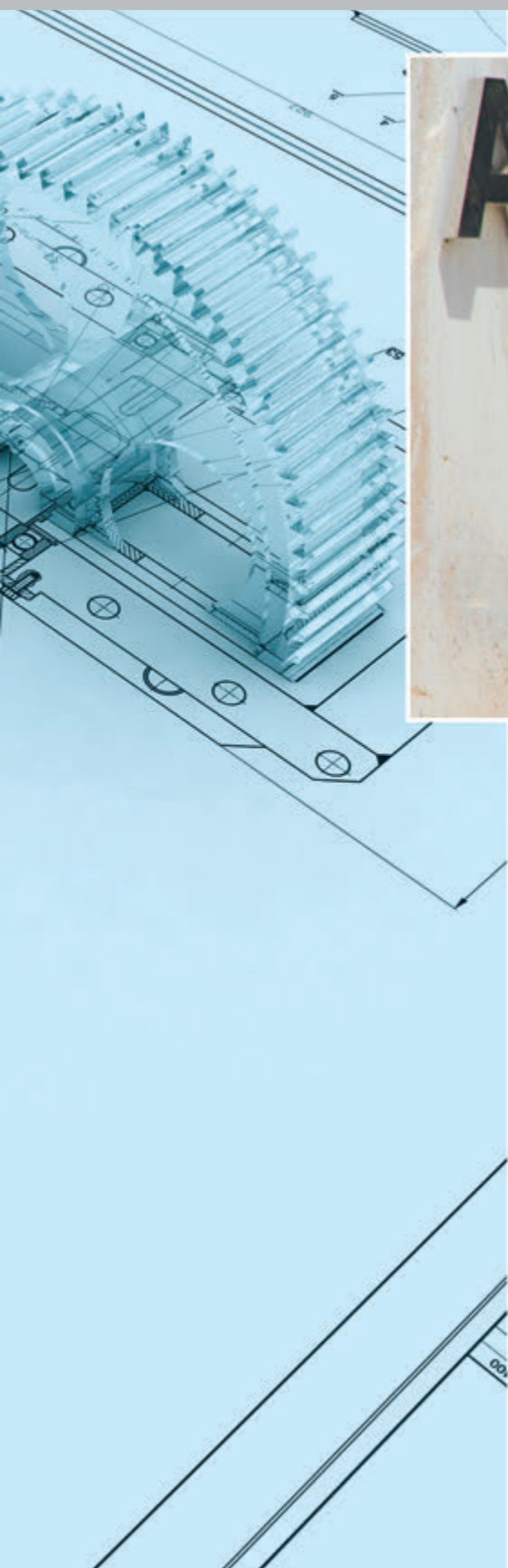
Manufactured in the same way as the ‘L’ fin type except that the fin foot is overlapped to completely enclose the base tube, thereby giving excellent corrosion resistance. This type of tube is often used as an alternative to the more expensive extruded type fin in corrosive environments.

Maximum operating temperature for this fin type is 150°C.









## DESIGN & ENGINEERING

The World Over, engineering organizations face three key challenges to win in a dynamic business environment:

**Agility:** Making quick and informed decisions in a complex, fast-paced, competitive business environment, and understanding cost/value implications across the value chain.

**Innovation:** Adopting innovations in engineering concepts, technologies and business systems to be on the cutting edge and create more value for customers.

**Profitability:** Maximizing customer opportunity across the relationship life cycle with offerings needed to gain repeat business, wallet share, and stability.

Well-trained engineers, using the latest computer design tools, with comprehensive knowledge, combined with decades of experience, translate the proposal into a design that meet all the latest ASME, TEMA and other internationally accepted codes and standards.

**Our engineering and design team provides the following services:**

- Conceptual and Basic Design
- Process/Chemical Design
- Engineering and Product Development Solutions
- Mechanical Design
- Metallurgical/Welding Design
- Civil and Structural Design
- Power, Electrical and Instrumentation Design
- Prototype-in cooperation with R&D team

## QA/QC

### Quality Assurance

### Quality Control

---

Quality assurance (QA) refers to planned and systematic production processes that provide confidence in a product's suitability for its intended purpose. It is a set of activities intended to ensure that products and/or services satisfy AAC customer's requirements in a systematic and reliable fashion. Whereas quality control emphasizes testing and blocking the release of defective products, quality assurance is about improving and stabilizing production and associated processes to avoid or at least minimize an issue that leads to the defects in the first place. Competition to provide specialized products and services results in breakthroughs as well as long-term growth and change.

Quality assurance verifies that any customer offering, regardless if it is new or evolved, is produced and offered with the best materials, in the most comprehensive way, with the latest related standards. The goal to exceed customer expectations in a measurable and accountable process is provided by quality assurance. In AAC, Quality Assurance is characterized by two key principles. "fit for purpose" The product should be suitable for the intended purpose. (Customer Satisfaction) "right first time" Mistake should be eliminated. QA includes regulation of the quality of raw materials, assemblies, products and components, services relate to production; management, production and inspection processes.

AAC is committed to produce high quality products and delivering well above market standard services. Latest revision of standards and project specification combined with years of experience and well-trained staff enables us to deliver our products at the highest level of quality.







AAC is well acquainted and experienced in engineering, design, and manufacturing of heat transfer Equipment and pressure vessels in accordance with the following codes and standards:

- API 660/661
- TEMA
- ASTM
- ASME
- IPS
- BS
- DIN
- IEC

Maintaining and augmentation of the quality level of our products is our first priority and corporate strategy; hence, we conserve the right for our customers/clients to perform the full survey over our methods and procedures in order to be assured of offered quality.

## Research & Development

Our objective to satisfy our customer's expectations is fulfilled through continuous research and development activities for developing, improving and optimizing the products, services and processes.

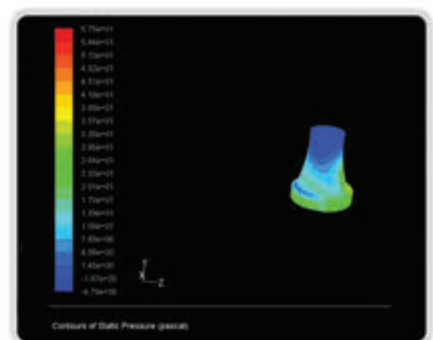
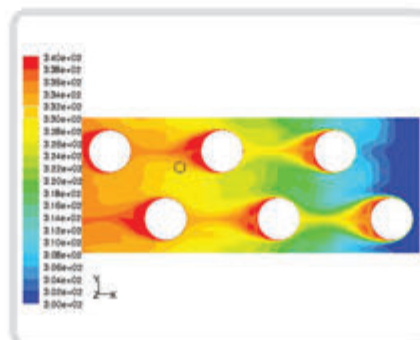
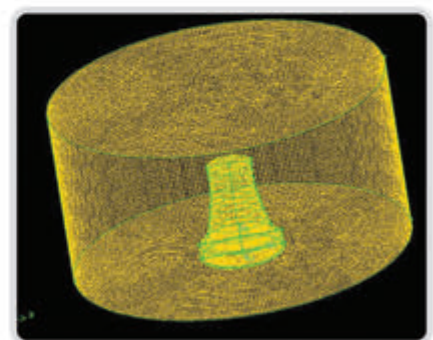
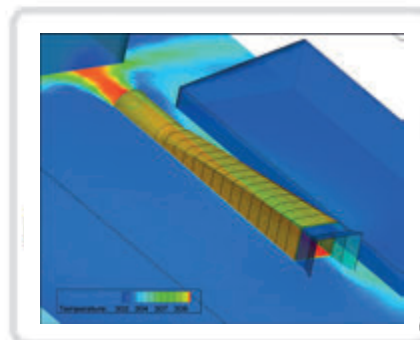
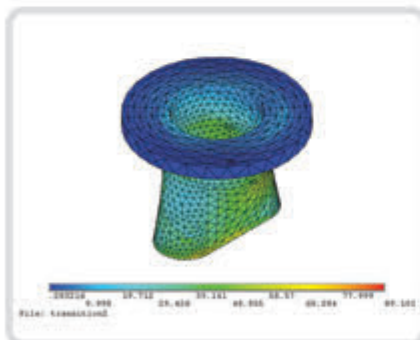
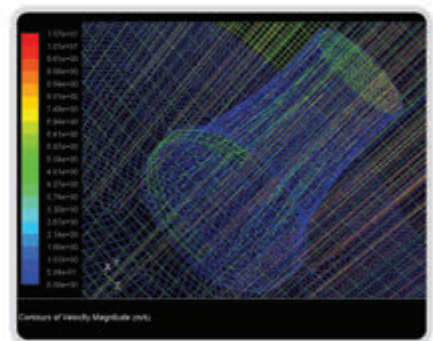
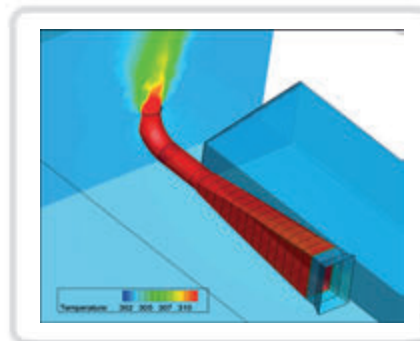
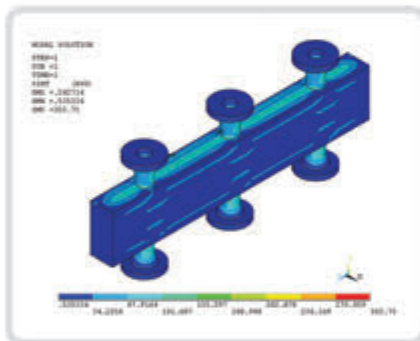
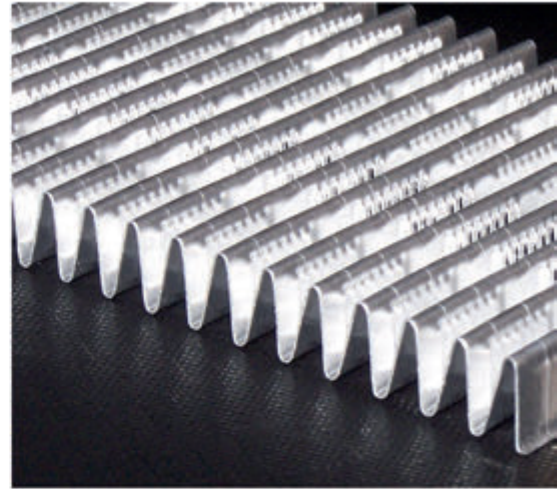
AAC allocates a large part of resources and efforts in research and development to improve our products continuously.

Theoretical analysis, experimental investigation, Finite Element Analysis (FEA), computational Fluid Dynamics (CFD) and prototyping for validation of new ideas are performed by our R&D team of specialists in closed connection with universities, consulting firms and research institutes.

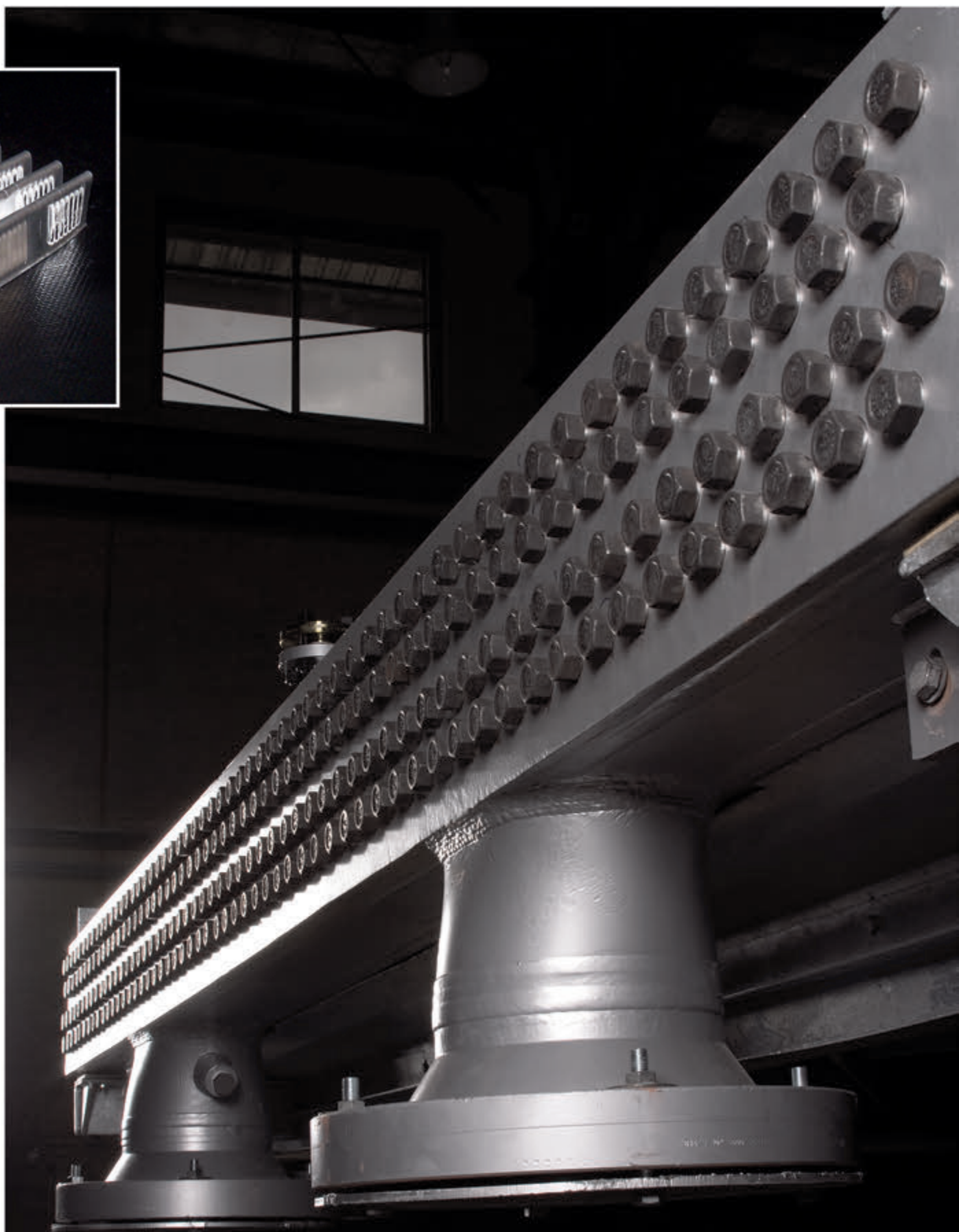
Small, one to one scale model and type tests in wind tunnels and CFD modeling are used to determine the operating characteristics of cooling systems.

We use the latest software and hardware to simulate the operating behavior of the equipment and adapt them to individual customer specification.

We provide our clients with the best conditions to be technically and economically equipped for the future.







**WE COOL IT DRY**



## Installation

AAC has allocated an independent division to handle all installation and commissioning to be able to carry out market demands. We are what we repeatedly do; therefore, in AAC excellence is not an act but is a habit.

Our team is capable and well equipped to supervise, conduct, and perform installation and commissioning of all its products in the field, with highly trained staff and expert labor force in all fields of engineering, planning, civil, mechanical, electrical, and Instrument upon client's request.

All AAC staff and engineering can draw on extensive practical experience gained in many installation and assignments. The vast majority of this specialized staff can look back on several years of professional experience, sometimes gained under extremely difficult conditions.



## After Sales Services

At AAC we are aware that customers are the assets of every business and after sales services plays an important role in customer satisfaction and customer retention.

To generate customer loyalty and for branding purposes, AAC offers a full scope of services including engineering, procurement, supply of complete units, precommissioning, commissioning, supervision over complete installation process and start-up for its products.

AAC Ensures full after sales services:

Supply of spare parts i.e. finned tubes, plugs, gaskets, bearing, fan blades, pulleys, motors etc.

Troubleshooting or revamping performance optimization, Complete repair and retubing services in our workshop.

AAC provides spare parts for all related products, either from ready stock or manufactured on demand in full compliance with the original parts.



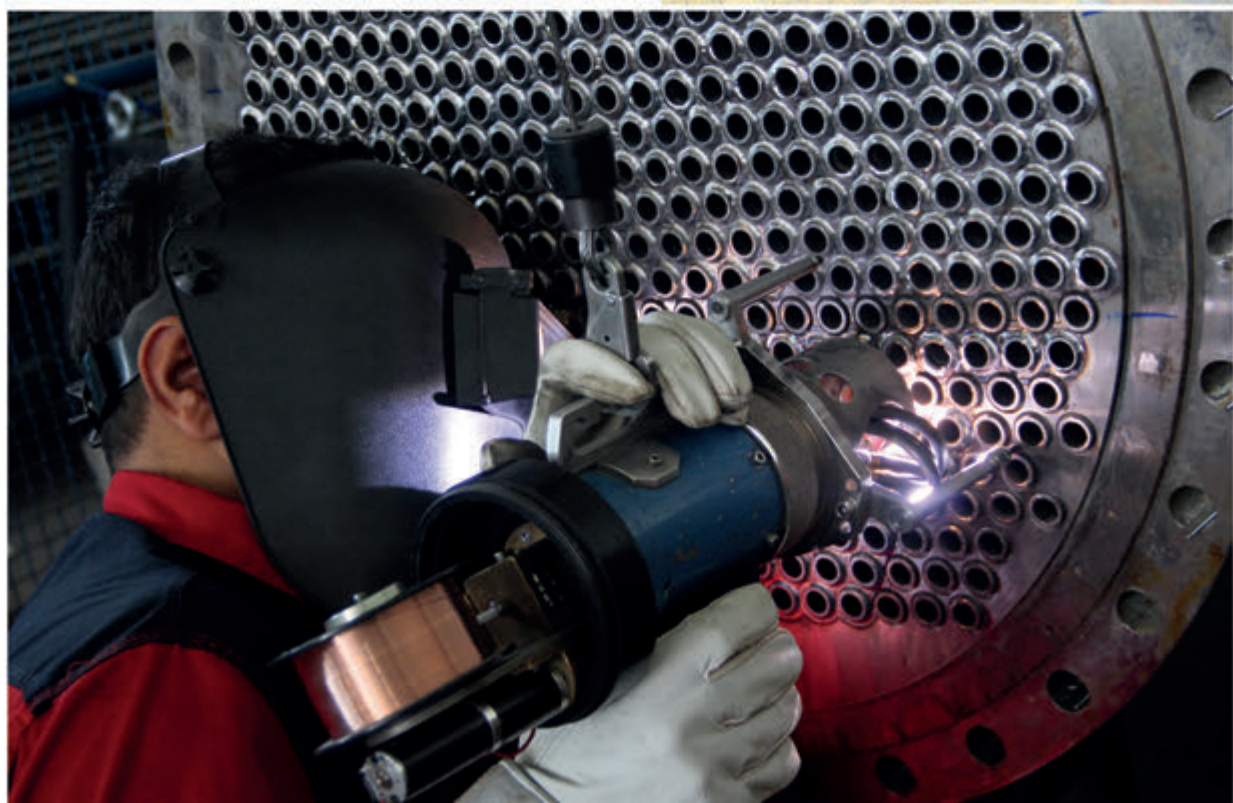
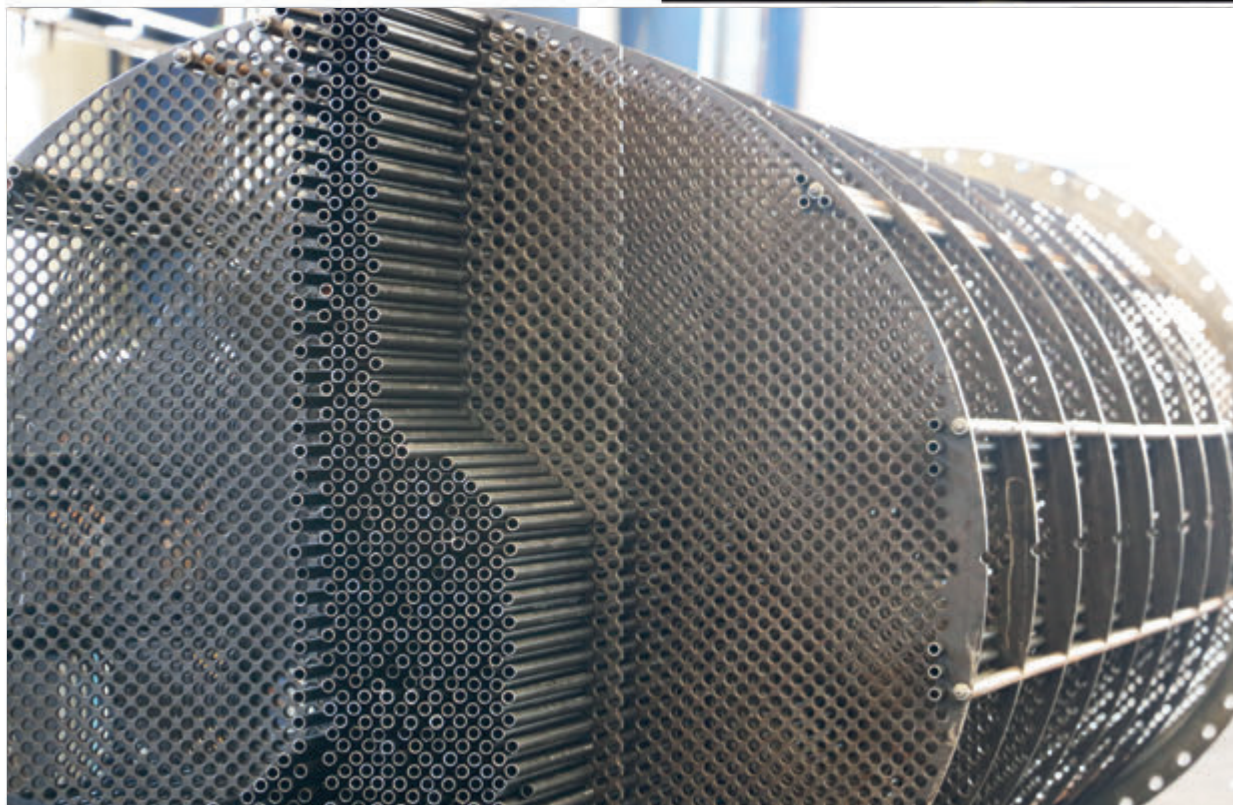














**EXPERIENCE  
MAKES THE DIFFERENCE.**



















Aban Air Cooler Co.  
شرکت کولر هوایی آبان

دفتر مرکزی و کارخانه :

شیراز / دوکوهک / ورودی دوم شهر صدرا / کیلومتر ۲  
تلفن : ۰۰۰۰۳۶۴۳۳۰۷۱ +۹۸ فکس : ۰۳۳۰۳۶۴۳۳۰۷۱ +۹۸

کدپستی : ۵۸۷۵۵ - ۷۱۹۹۱

دفتر فروش :

تهران / خیابان ولیعصر / بلوار اسفندیار / پلاک هفت / طبقه اول  
تلفن : ۰۵۴۰۲۴۰۲۲۰۲۱ +۹۸ فکس : ۰۵۵۰۲۲۰۲۲۰۲۱ +۹۸

کدپستی : ۱۷۳۳۸ - ۱۹۶۷۹

Head Office and Factory :

2nd Entrance of Sadra town, Dokoohak, Shiraz, Iran  
Tel: +98 71 3643 3000 Fax: +98 71 3643 3033

Postal Code : 71991 - 58755

Sales Office :

Floor 1, No 7, Esfandiar Blvd, Africa Blvd, Tehran, Iran

Tel: +98 21 22024054 -5 Fax: +98 21 22022505

Postal Code: 19679 -17338

info@abanaircooler.com

www.abanaircooler.com

