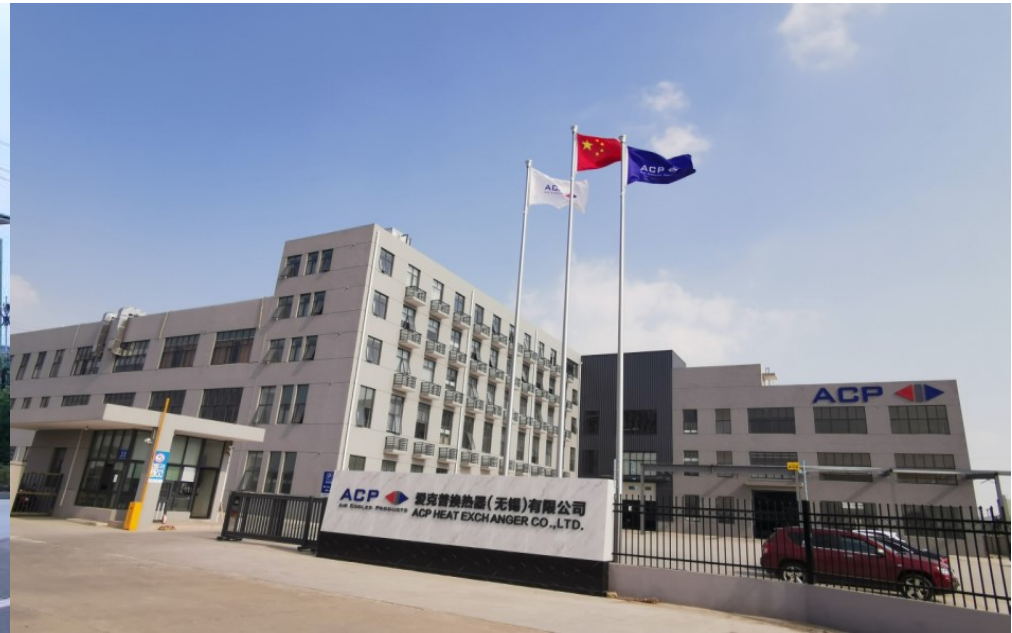
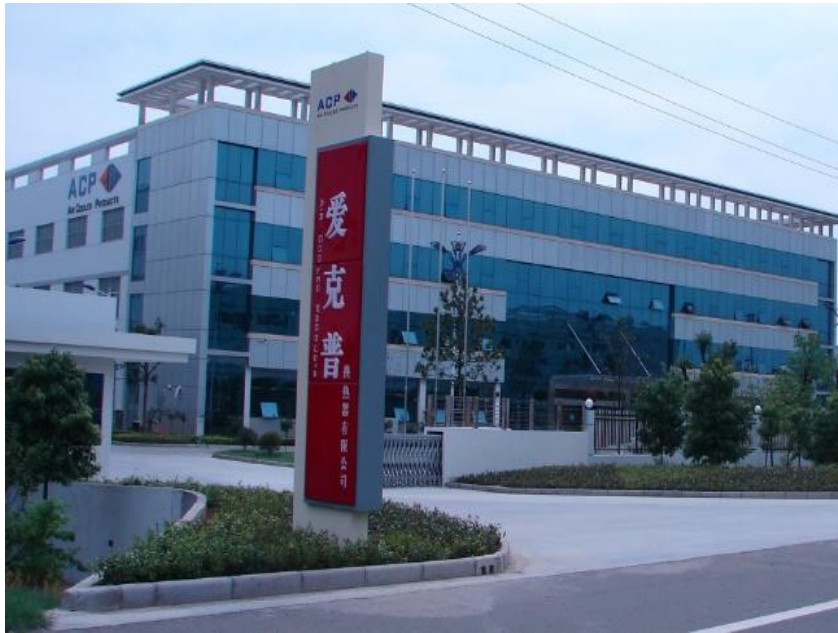




Quality Air Cooled Products

Overview



Certification:

ISO 9001:2015 Certificated
EN15085-2 certificated
PED 97/23/CE certificated
ASME Certificated
IATF16949

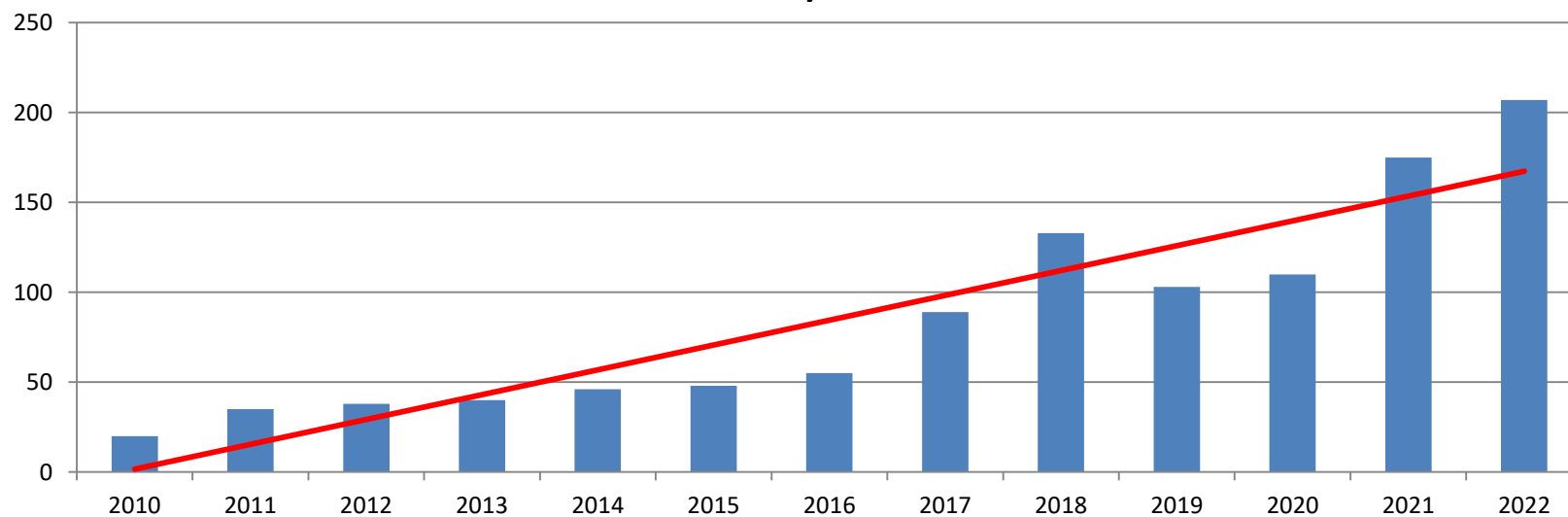
Quality Policy:

1. Stable Quality
2. Optimize management
3. Continuous Improvement
4. Customer Satisfaction

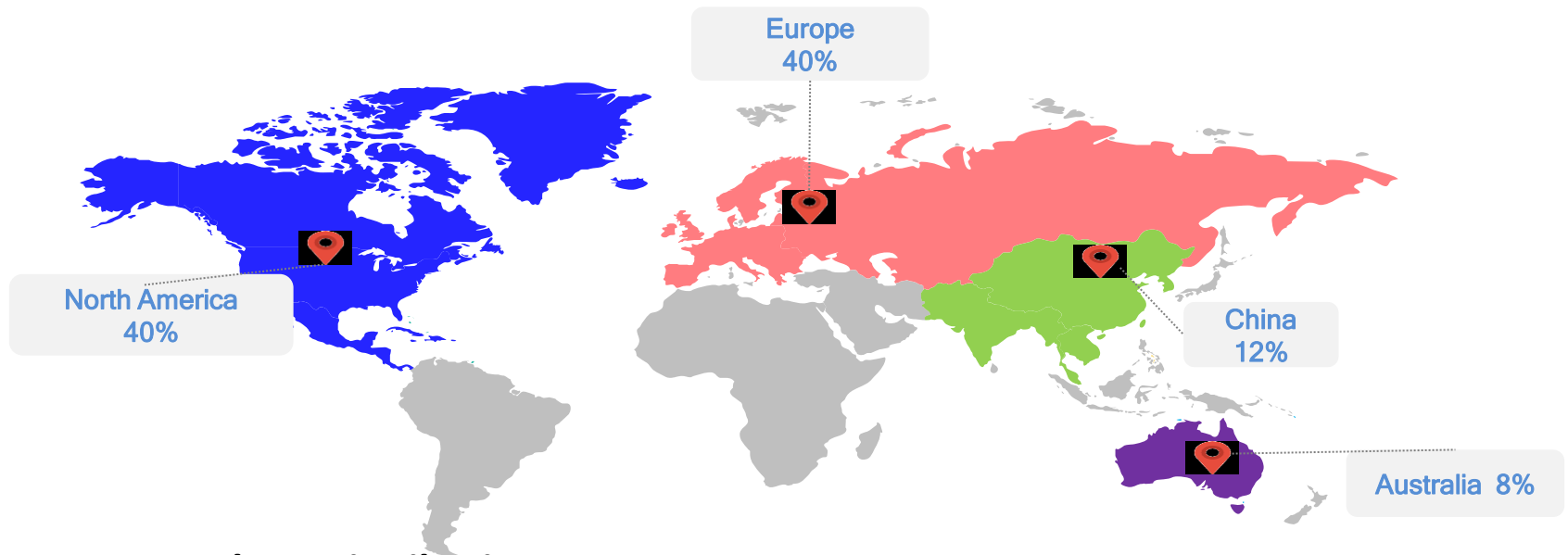
Overview

Founded in:	Nov 2007
Number of Employees:	250
Workshop Size:	25,000 m²
Production method:	Vacuum Brazing, CAB brazing, Arc Welding
Max. Product Size:	3,800 mm x 1,100 mm x 1,300 mm (Size of single unit)
Capacity:	25,000 pcs/month
Main Products:	Customized cooling systems for construction machinery, hydraulic systems, air compressors, generators, vehicles - Oil/Air cooler - Water/Air cooler - Air/Air cooler - Combi-cooler_Oil/Water/Air - Complete cooling package (Cooler, fan shroud, fan...) - Heat sink - Heat recovery - Cold plate

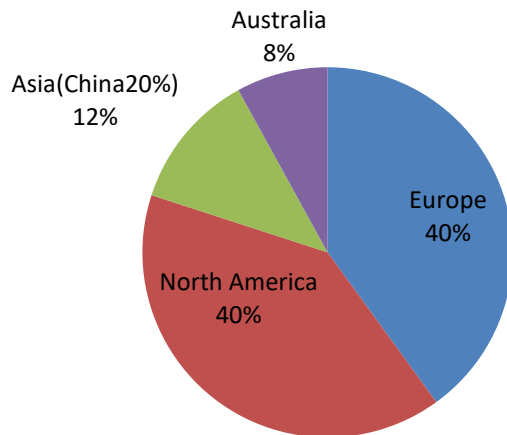
Annual Sales (million/CNY)



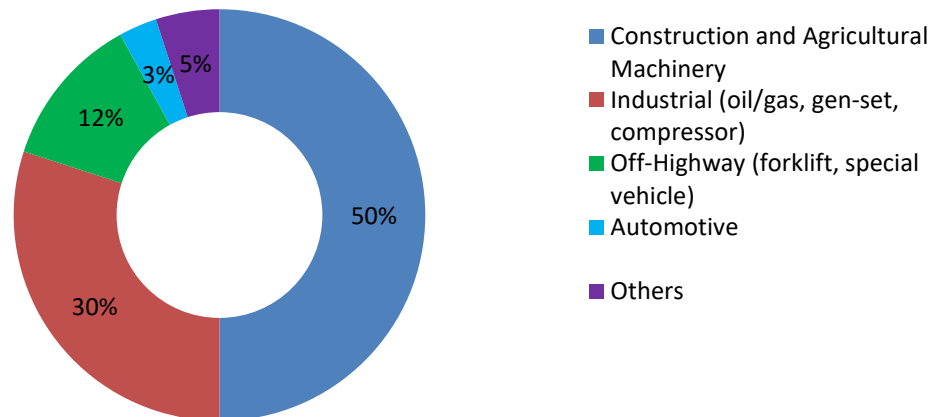
Marketing – Segments



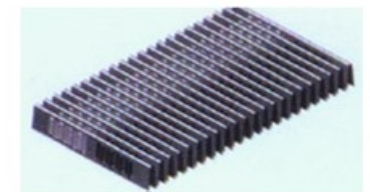
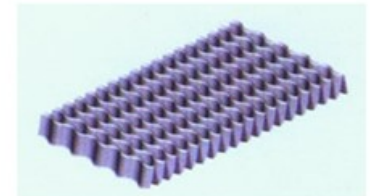
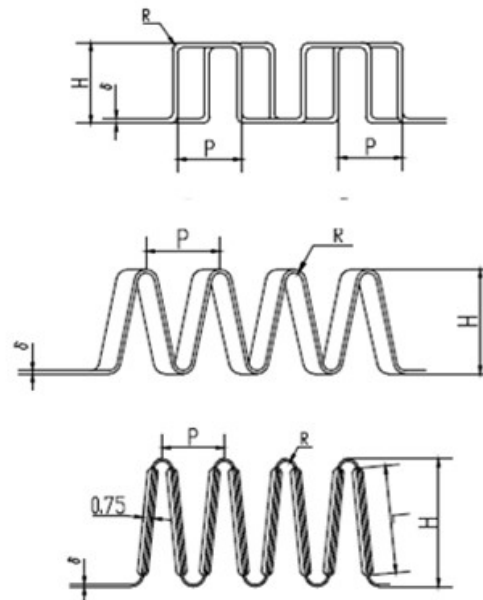
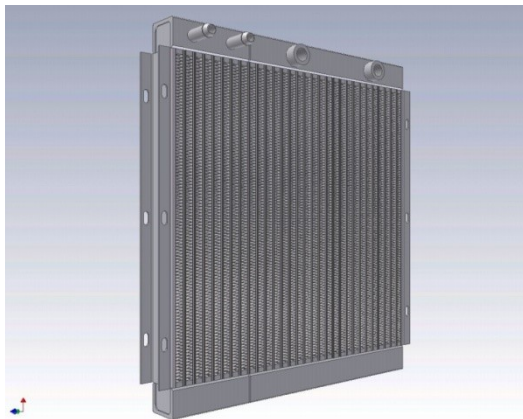
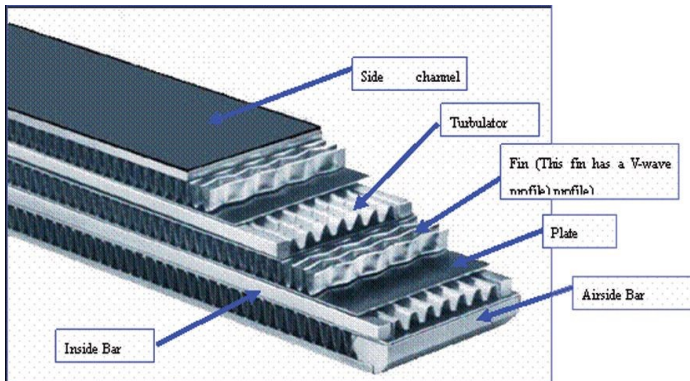
Market Distribution



Application Area

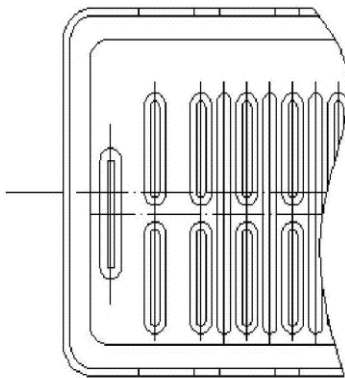
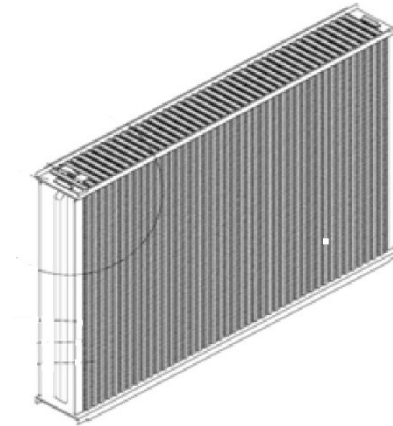
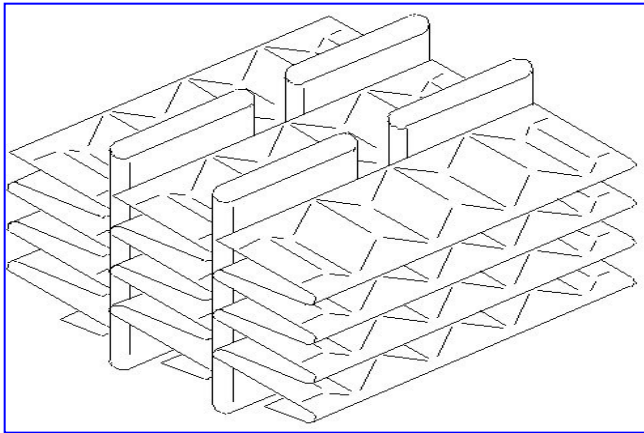


Bar-Plate Core structure

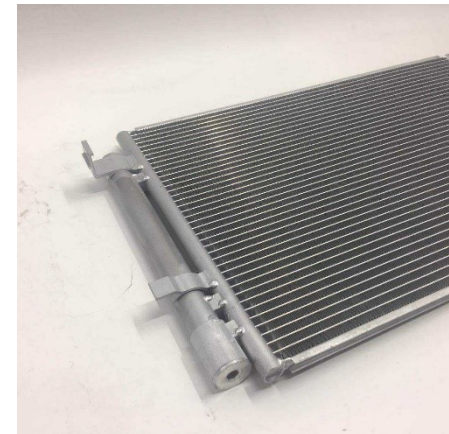
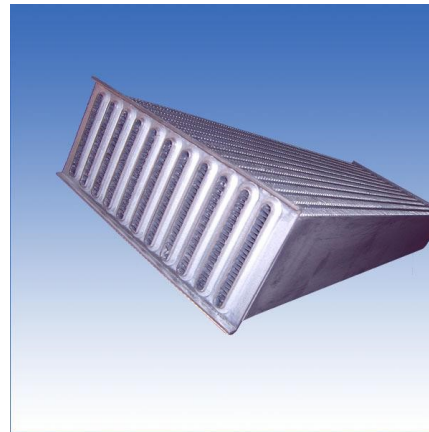


Different type of turbulator and fin for different application, high working pressure;
CAC,RAD,HOC,TOC

Tube-fin core structure



(2a)



**Light, high efficiency, for big quantity;
RAD, CAC, Condenser etc.**

Products and services



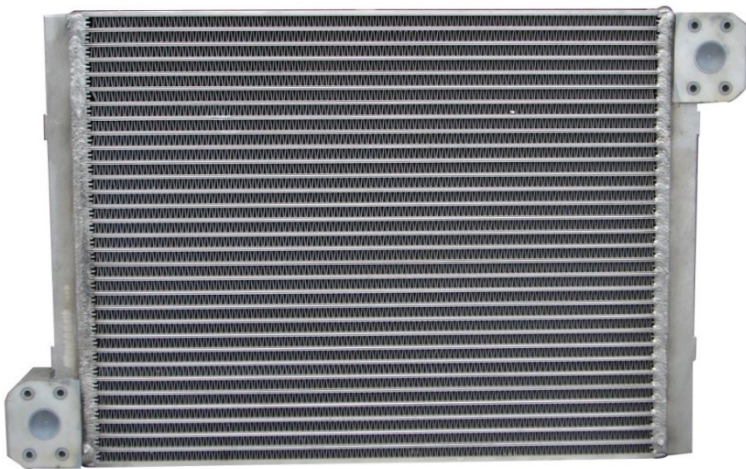
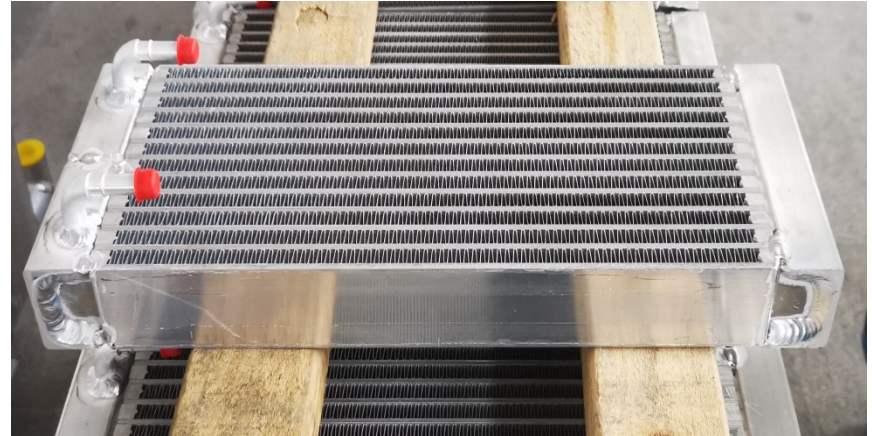
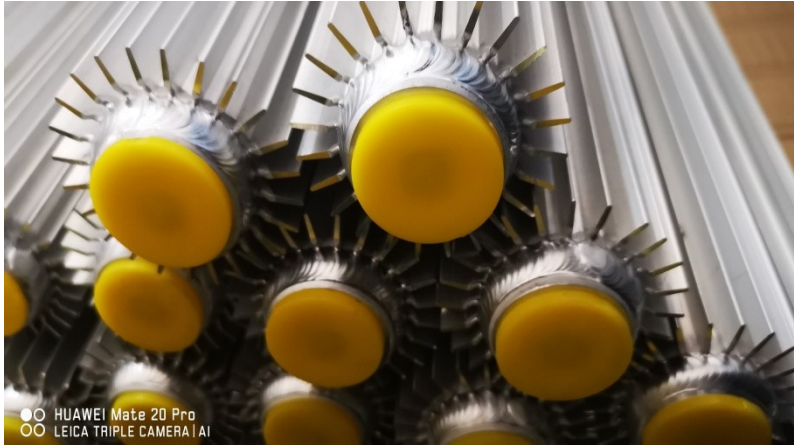
Oil coolers and After coolers for air compressors

Products and services



Pre-cooled heat exchangers for refrigerated air dryers

Products and services



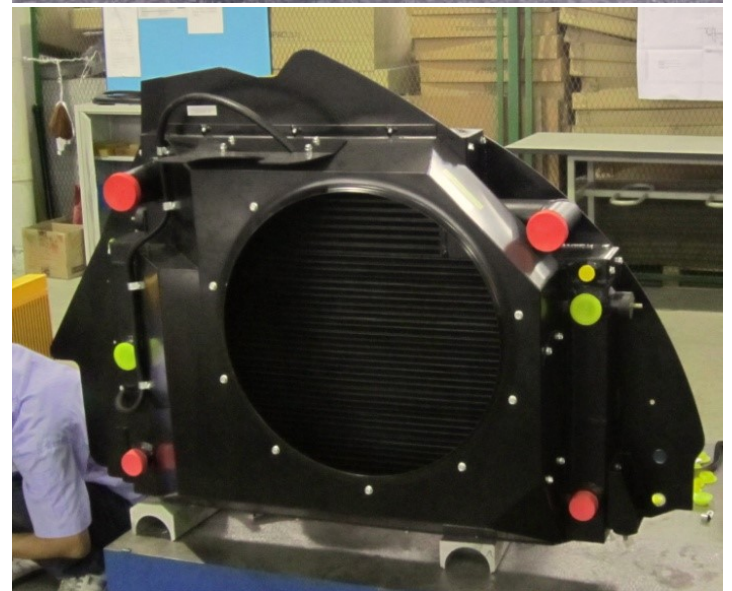
Oil Coolers

Products and services



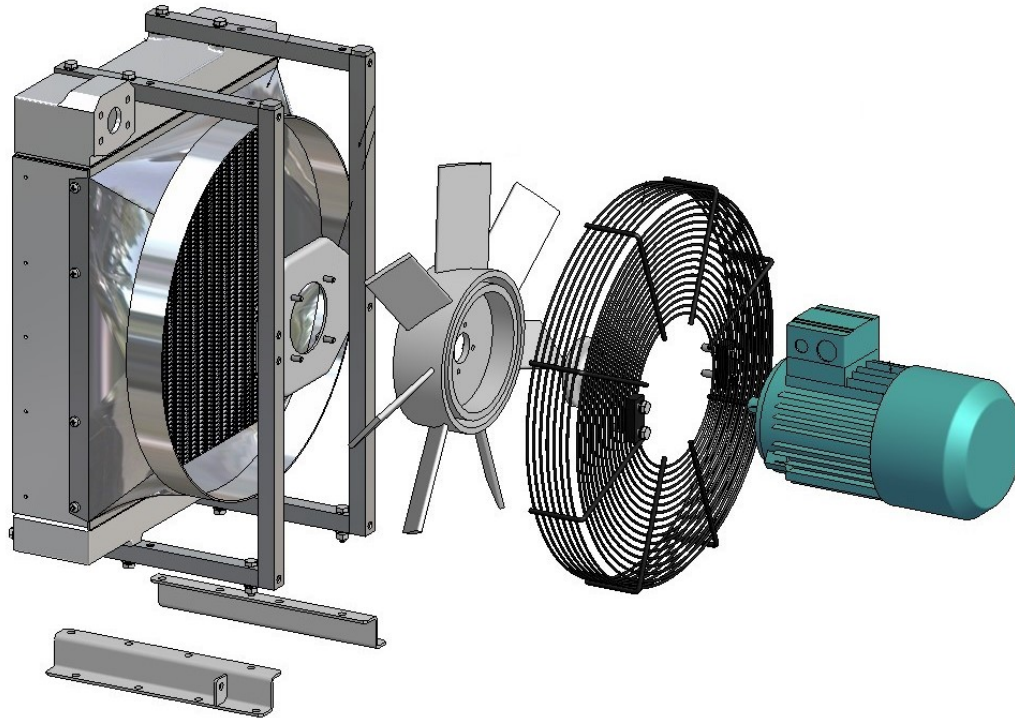
CAC/Radiator/Hydraulic oil combi-coolers for construction machinery

Products and services



Customized Cooling Packages

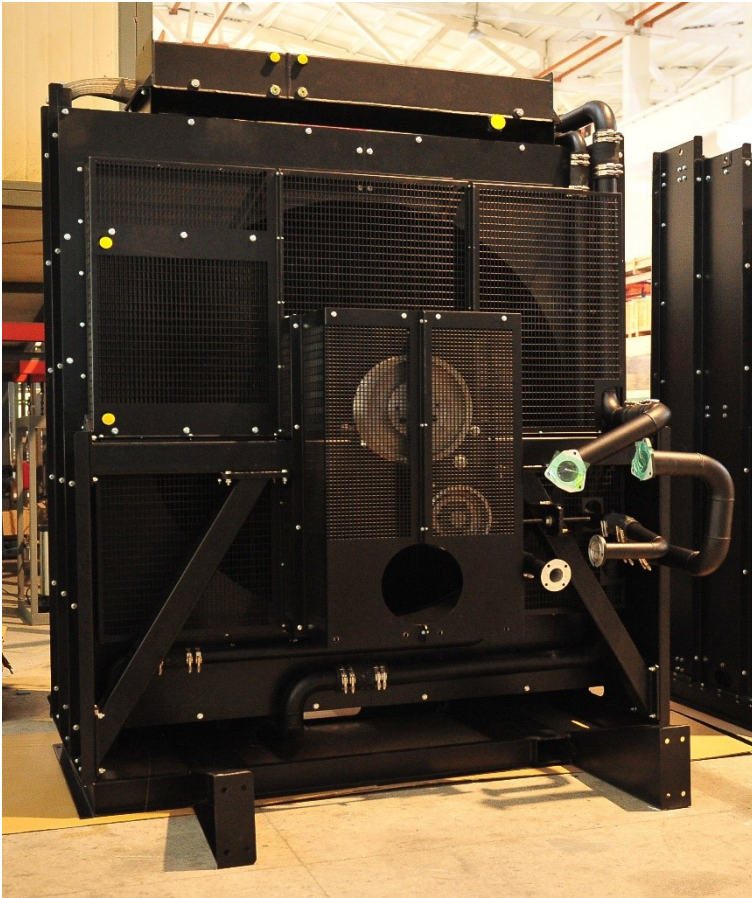
Products and services



**Cooling package including fan shroud, fan, fan motor
(DC/AC/Hydraulic), thermostat, etc.**



Products and services



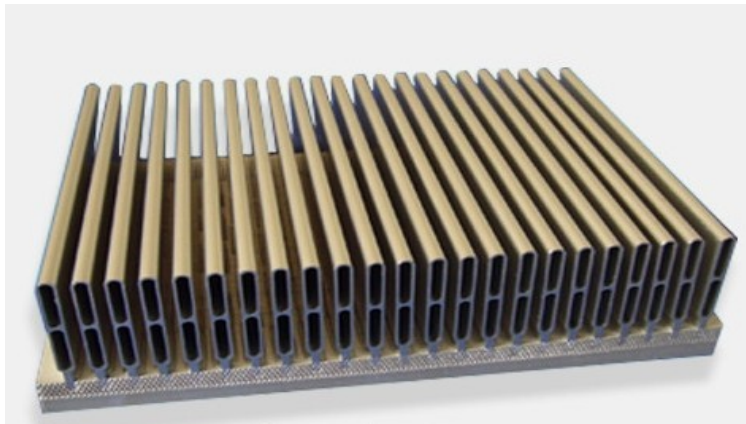
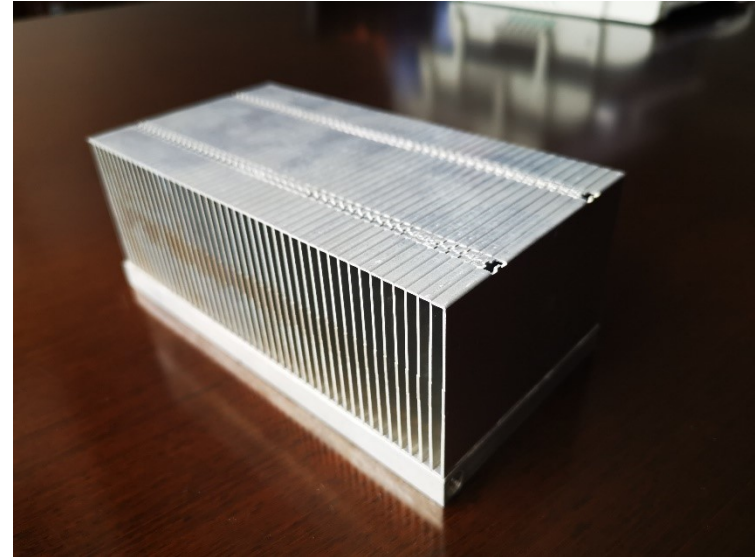
Cooling solutions for Genset

Products and services



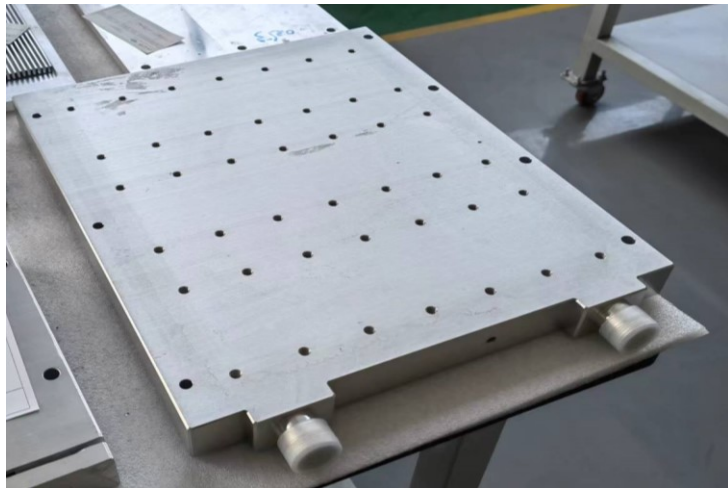
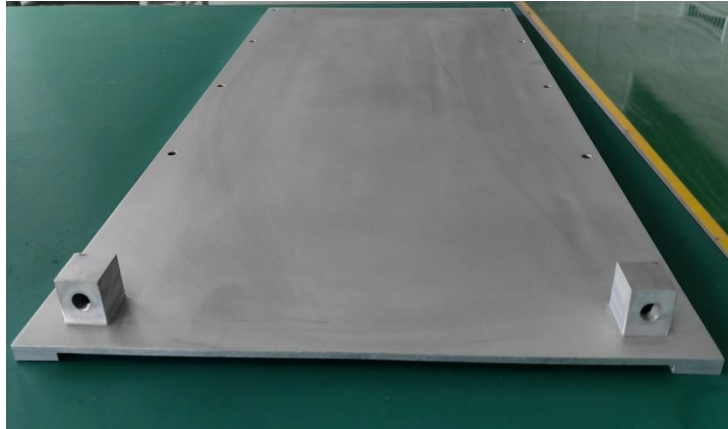
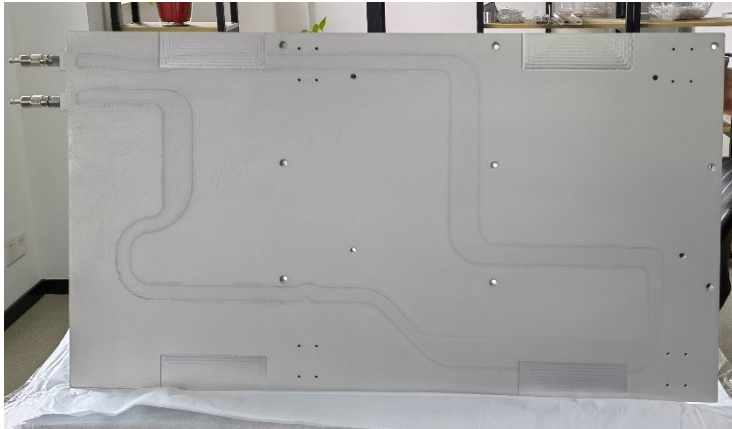
Heat exchanger for heat recovery system

Products and services



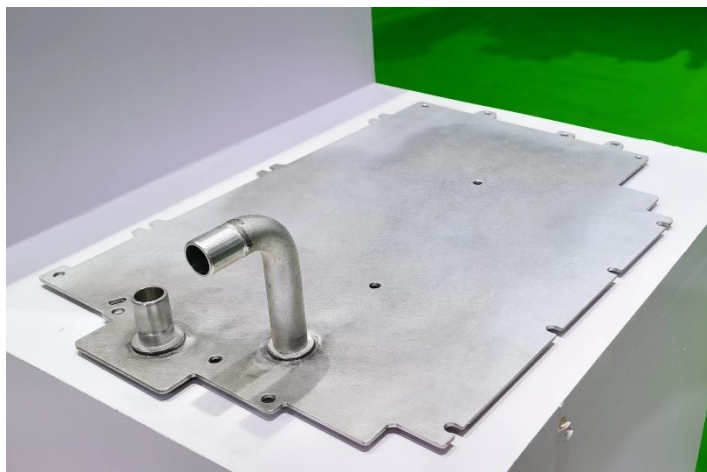
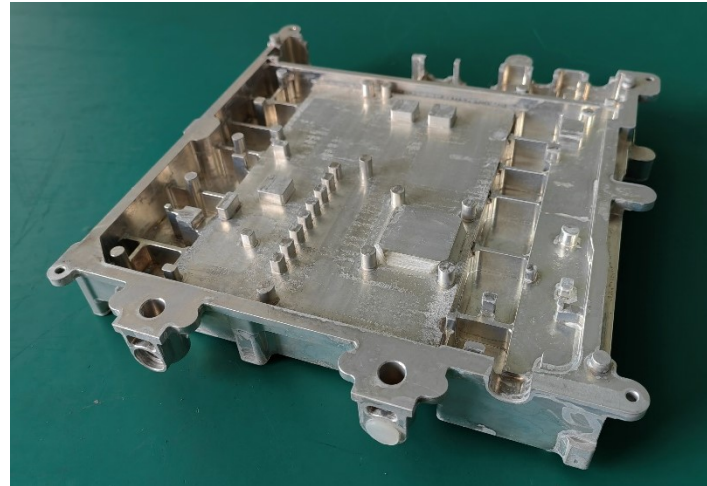
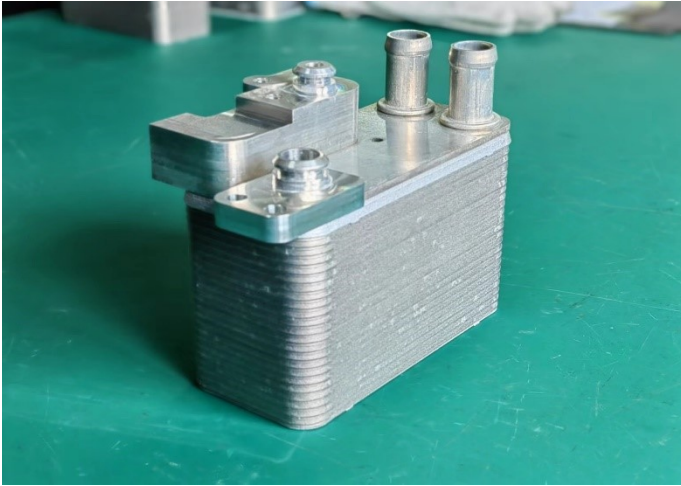
Air cooler(Heat Sink) for electronic components

Products and services



Cold plate for electronic components, electric power, battery

Products and services



Chiller, Cold plate for MCU, and ADAS
Water-cooled CAC for fuel cell

Our products are used widely in all kinds of applications-:

- **Construction machinery, Agriculture Machinery, forest machinery;**
- **Air compressors;**
- **compressed air dryer**
- **Hydraulic & Lubrication system**
- **Railroad Vehicle**
- **Wind power generator**
- **Truck and Special Vehicle**
- **Mobile Genset**
- **Robot and Industrial Automation device**
- **E-care thermal Management**
- **Power storage**
- **Server and workstation CPU**

Products and services

Customized aluminium-coolers for engineering and mobile hydraulic



Products and services

ACP 
AIR COOLED PRODUCTS



Customer requirements

Radiator

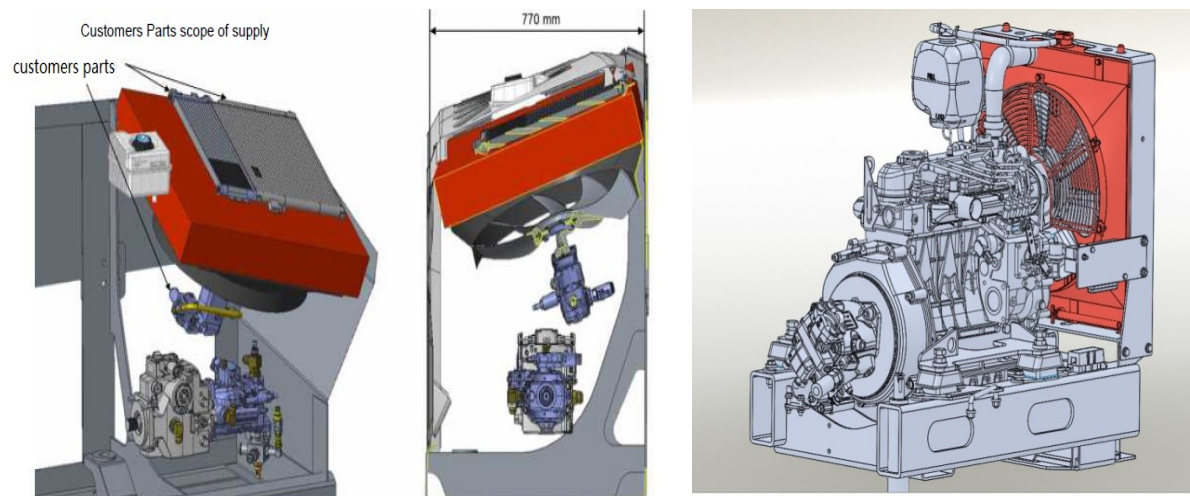
Parameter	Units	STD
Altitude	m	170
Size	mm	770 (tank to tank)* 420 (width)* 85 (depth)
Ambient Temp.	°C	30
Cold Side Velocity	m/min	236
Hot Side Fluid	-	50%Glycol
Hot Side Flow Rate	LPM	165
Hot Side Fluid Inlet Temp	°C	80
Cold Side Pressure Drop Target	Pa	<=130.8
Hot Side Pressure Drop Target	kPa	<=11.7
Heat Transfer Target	KW	>=58.7

Hydraulic oil cooler

Parameter	Units	STD
Altitude	m	170
Size	mm	815 (tank to tank)* 590 (width)* 85 (depth)
Ambient Temp.	°C	30
Cold Side Velocity	m/min	206
Hot Side Fluid	-	SAE-10W
Hot Side Oil Flow Rate	LPM	219
Hot Side Fluid Inlet Temp	°C	63
Cold Side Pressure Drop Target	Pa	<=131.3
Hot Side Pressure Drop Target	kPa	<=91.2
Heat Transfer	KW	>=44.1

ATAAC

Parameter	Units	STD
Altitude	m	170
Size	mm	770 (tank to tank)* 255 (width)* 90 (depth)
Ambient Temp.	°C	30
Cold Side Velocity	m/min	159
Hot Side Fluid	-	Air
Hot Side Flow Rate	Kg/hr	457
Hot Side Fluid Inlet Temp	°C	183.8
Hot Side Fluid Inlet Absolute Pressure	kPa-a	255
Cold Side Pressure Drop Target	Pa	<=142.6
Hot Side Pressure Drop Target	kPa	<=2.12
Heat Transfer Target	KW	>=18.7

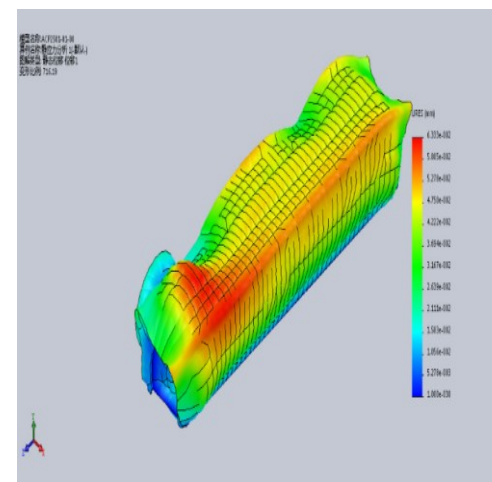
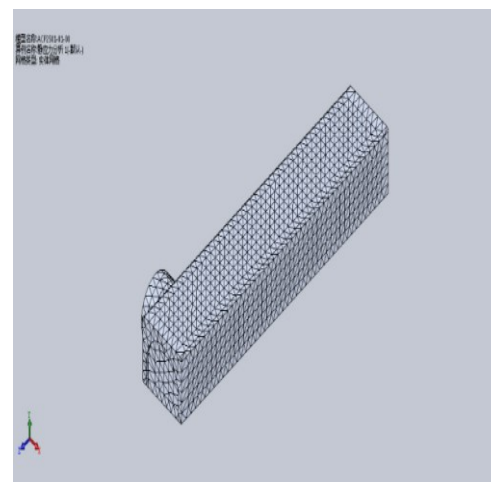


2.6.1. Validation plan

	Engine coolant	Charge air	Hydraulic oil
Cycled pressure	20.000 cycles at 1 bar 2.000 cycles at 1,5 bar Frequency: 1-5 Hz Temperature: 110 °C	10 ⁵ cycles at 2,7 bar Frequency: 1-5 Hz Temperature: 180 °C	10 ⁵ cycles at 5 bar 1.000 cycles at 10 bar Frequency: 1-5 Hz Temperature: 100 °C
Thermal shocks	ΔT: 70°C 2000 cycles Frequency: 3-10 c/hour	ΔT: 65°C 3000 cycles Frequency: 3-10 c/hour	ΔT: 130°C 2000 cycles Frequency: 3-10 c/hour.
Vibration	Acceleration: ± 5 g vertical axis, 25 Hz, 4 million cycles Acceleration: ± 2 g X and Z axis, 25 Hz, 4 million cycles		
Thermal	Cooling test according to heat rejection § 2.4.1		
Internal ΔP	Internal pressure drop, according to flows in table 2.4.1		
External ΔP	External air pressure drop for a frontal air velocity of 5 and 10 m/s		
Mechanical shocks	Fall from 0,20 m high Fall rocking from upright position		
Salt fog	Test according to PR NF EN ISO 9227		

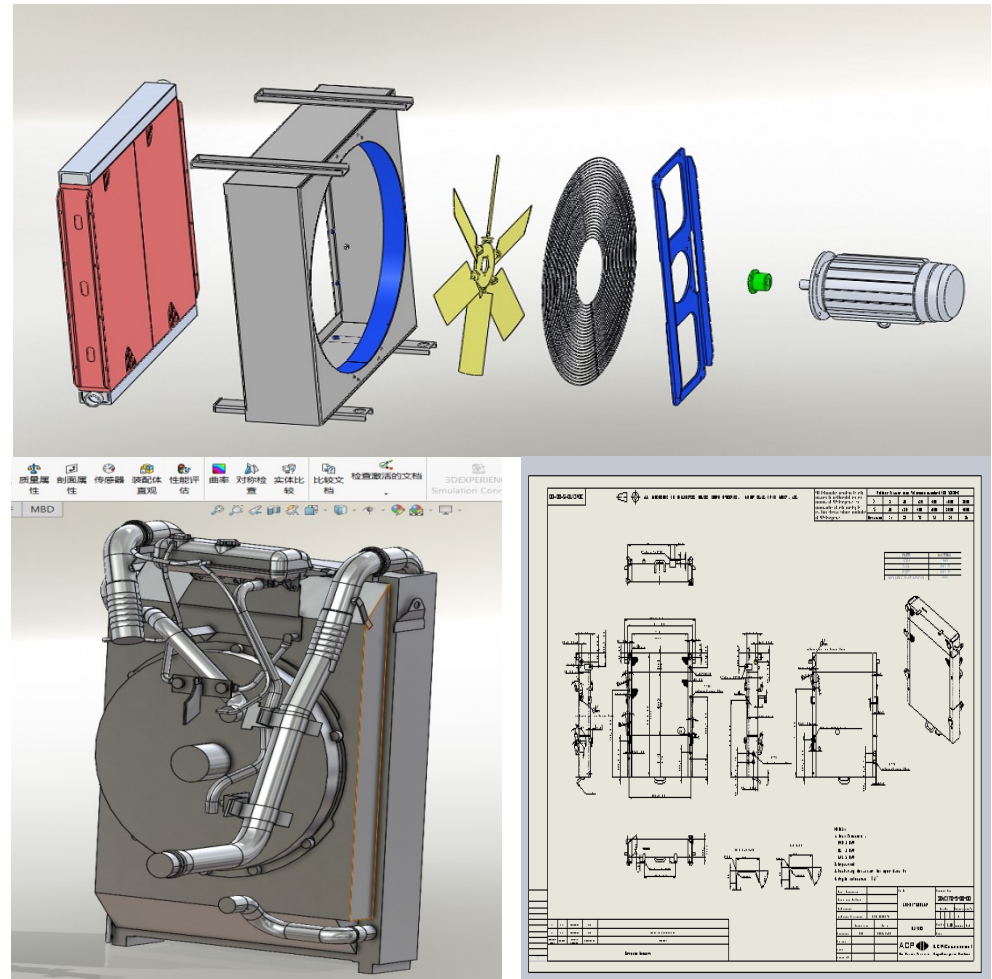
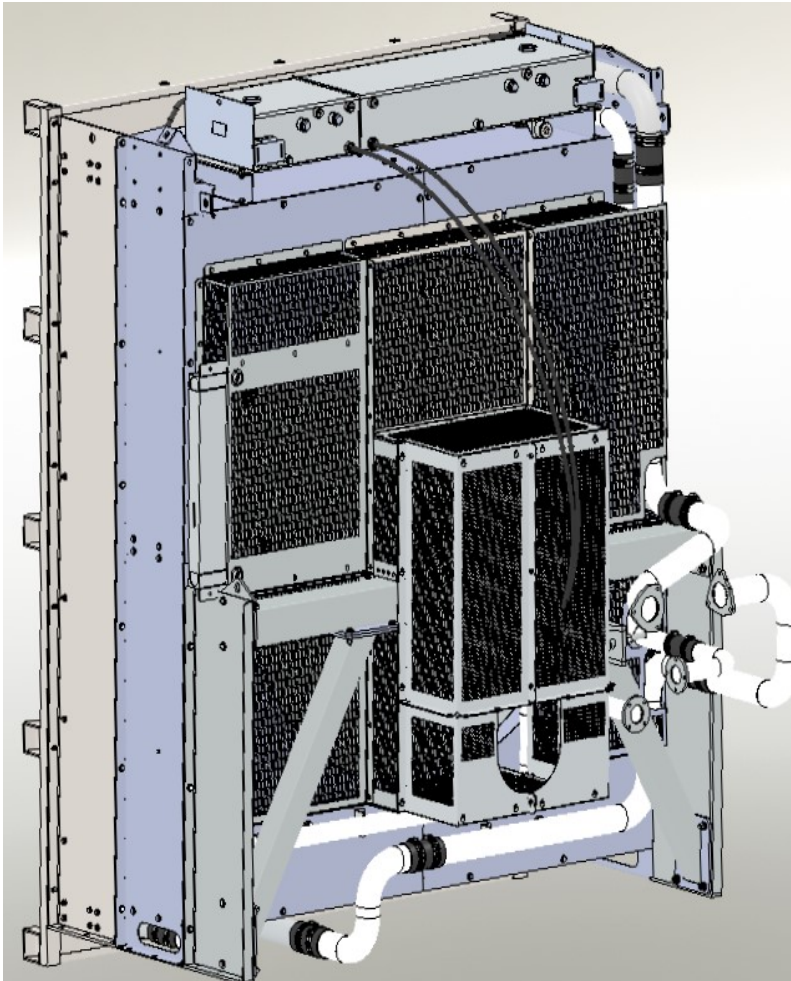
ACP
AIR COOLED PRODUCTS

Design FMEA

[illegible]

Products Development

Installation design & Simulation



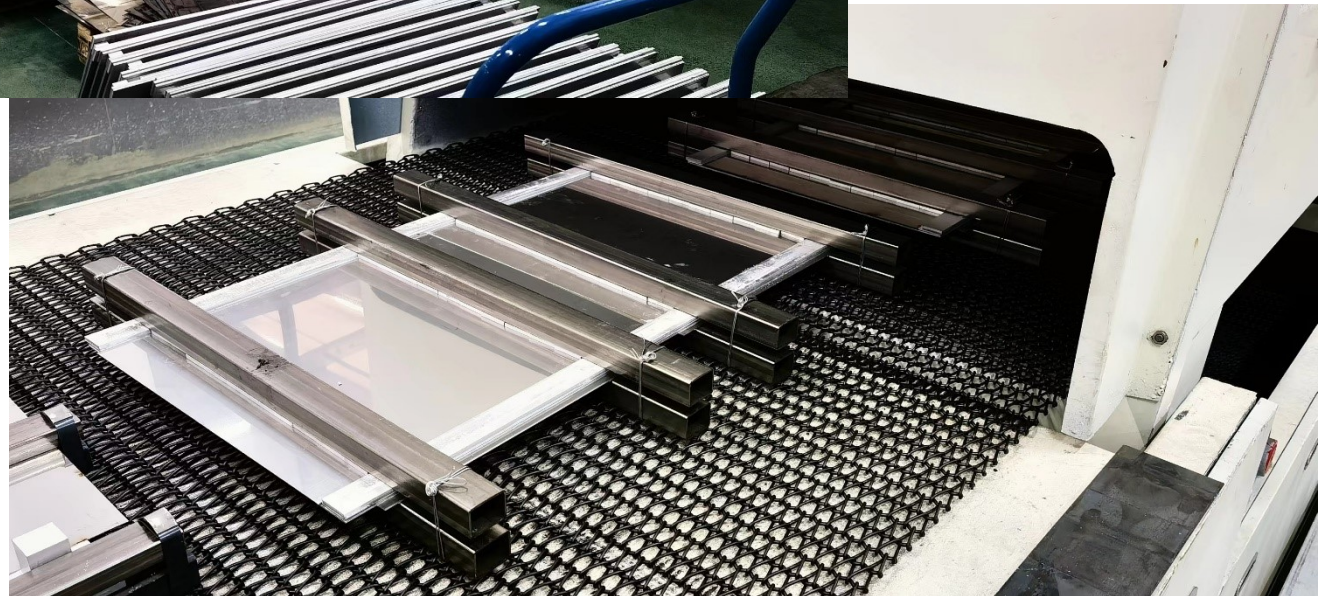
Production Details



Production Details



CAB brazing

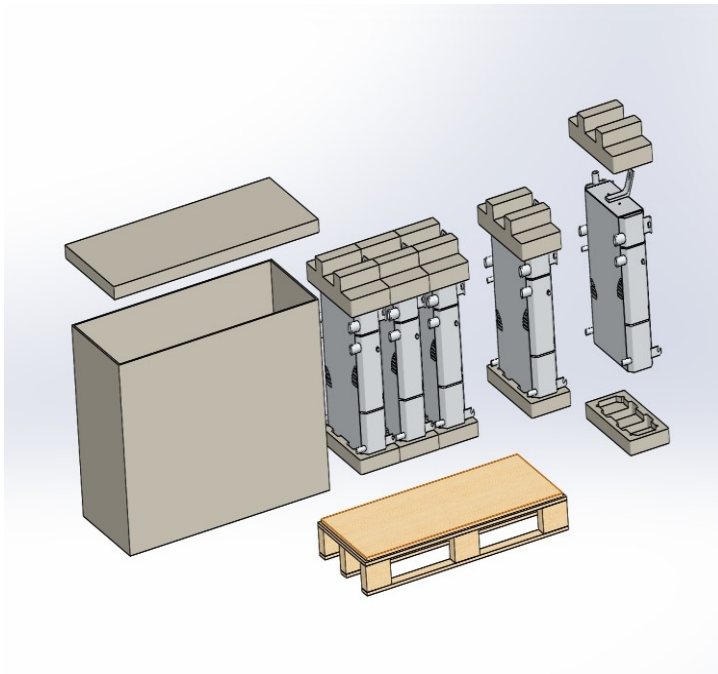


Production Details

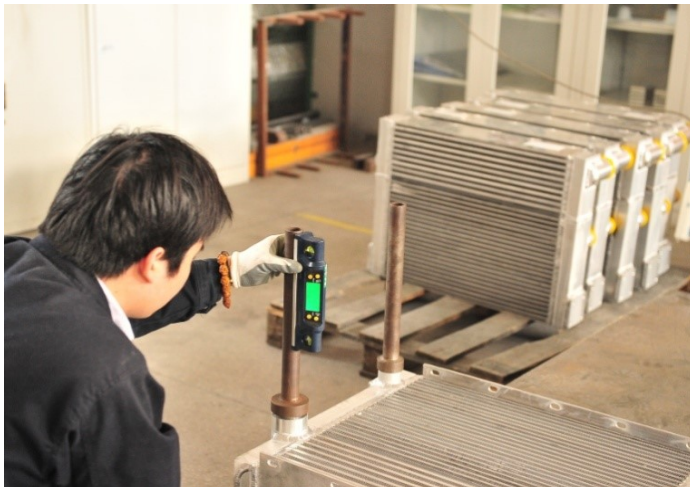
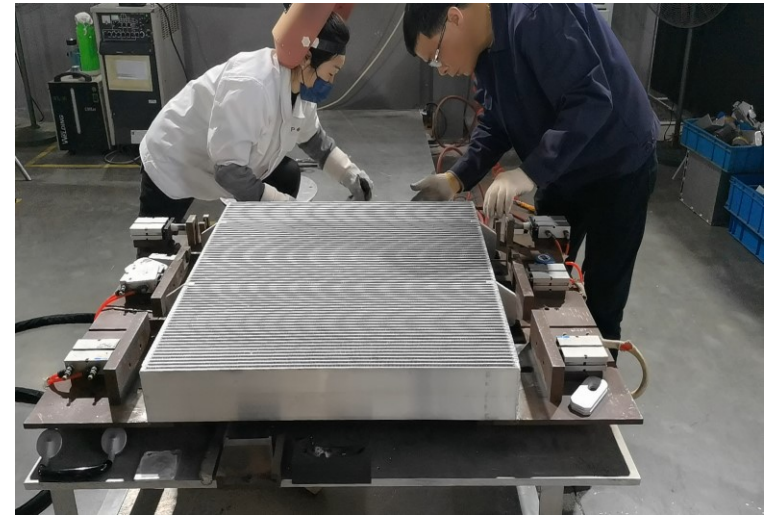


Production Details

- Utilize MRP to manage logistics
- Operate warehouse per FIFO principle.
- Delivery products to 20+ countries and 100+ customers.

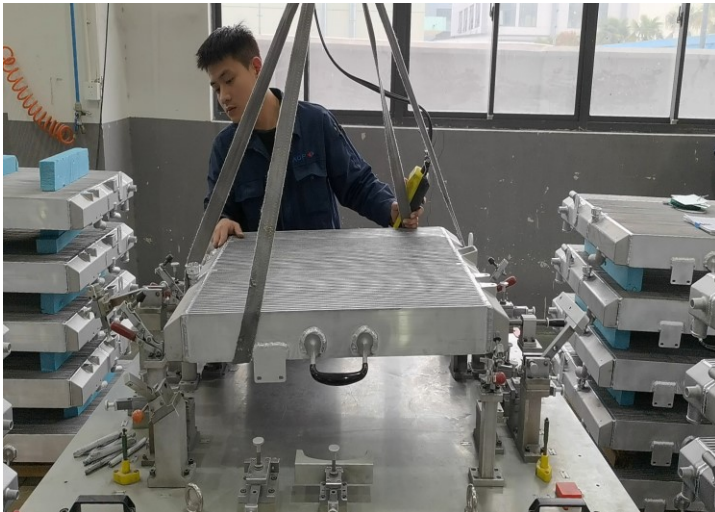
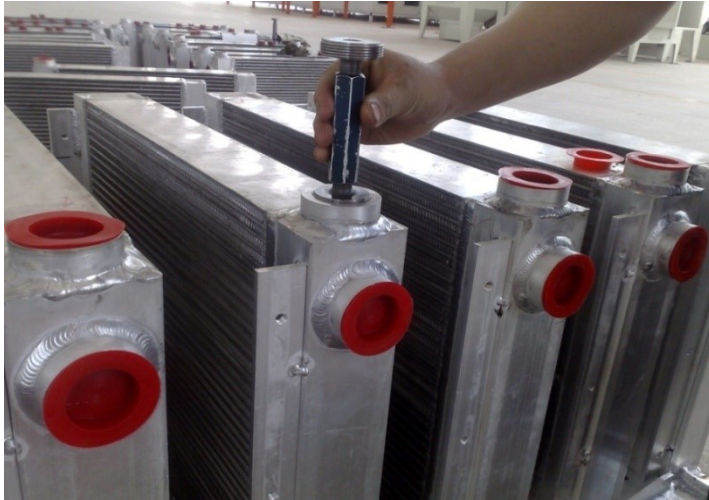


Quality Control

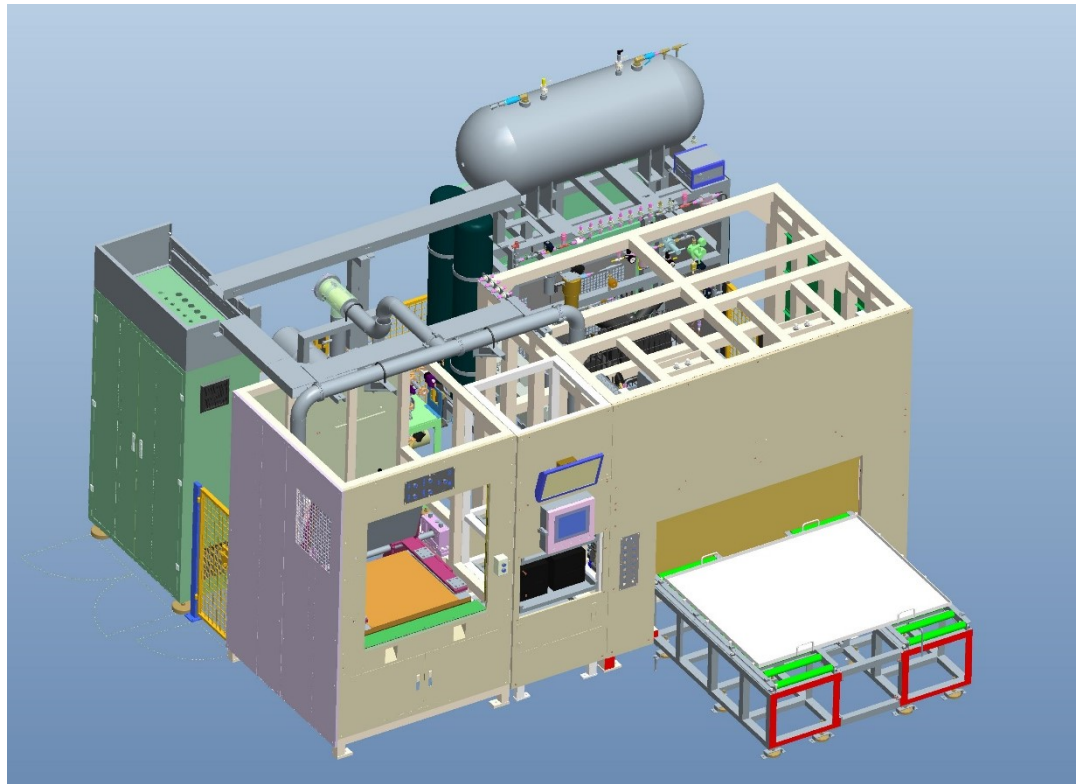
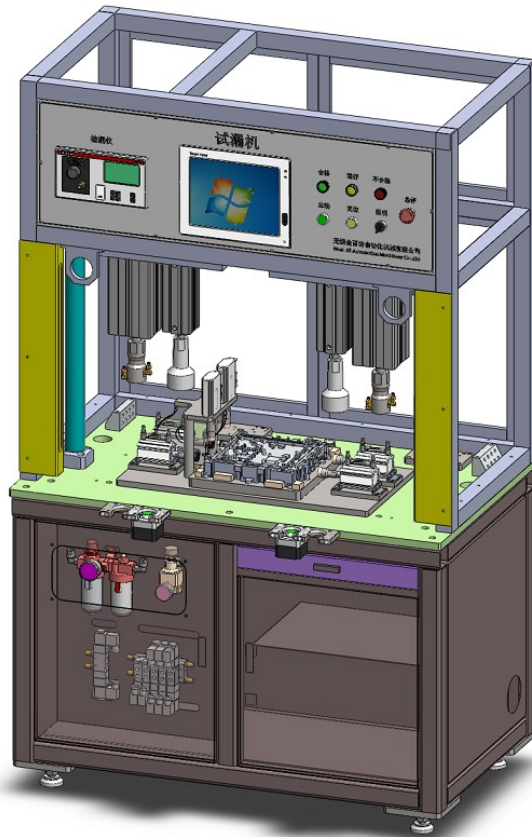


Process inspection, Assembly fixtured used

Quality Control



**Inspection fixtured widely;
100% leakage test;**

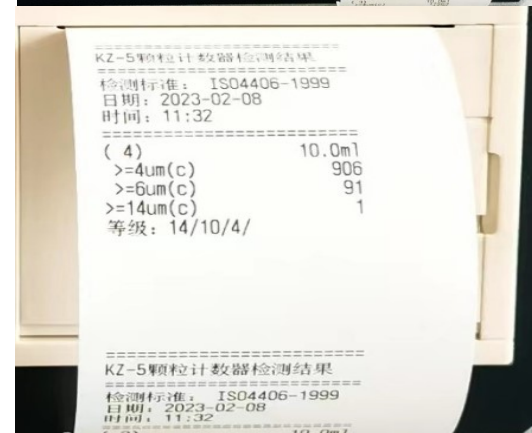


Dry air leakage detector
Helium leakage detector

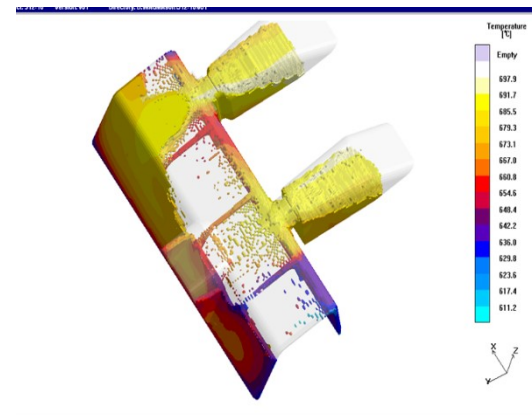
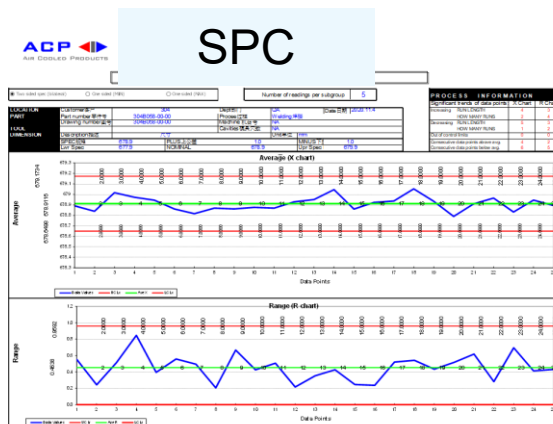
Quality Control



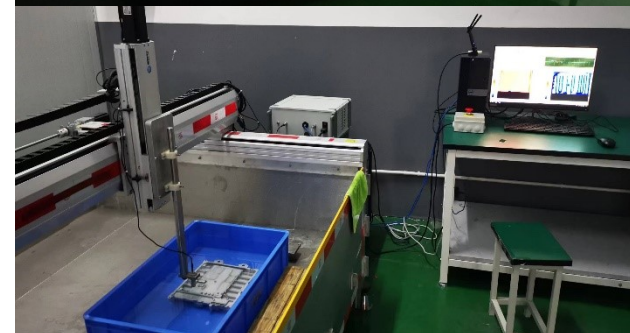
Inside cleanliness flush and online detector



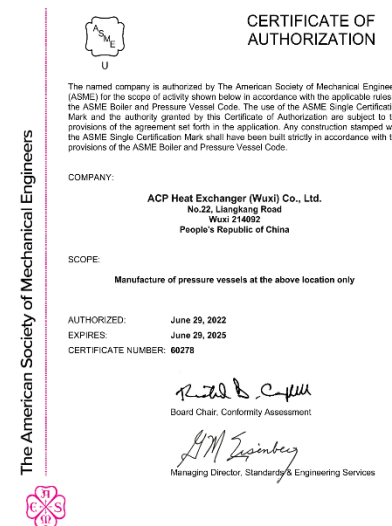
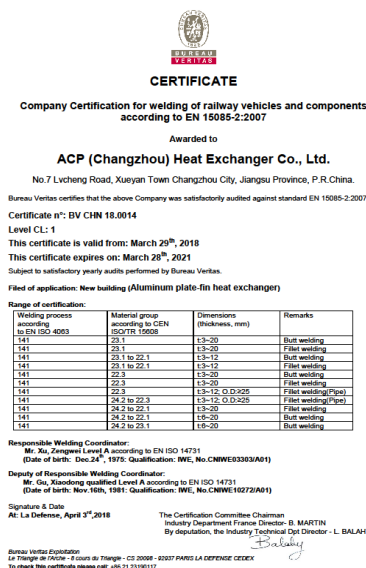
continuous improvement



- 100% Leakage test
- 100% Working pressure test
- Each product given serial number
- Helium leakage test on special products
- Cut-apart analysis
- Burst test
- Cleanliness test



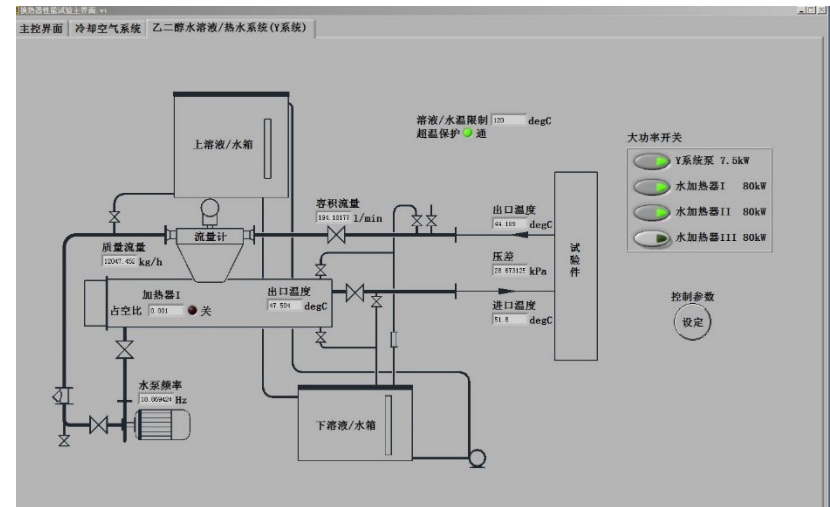
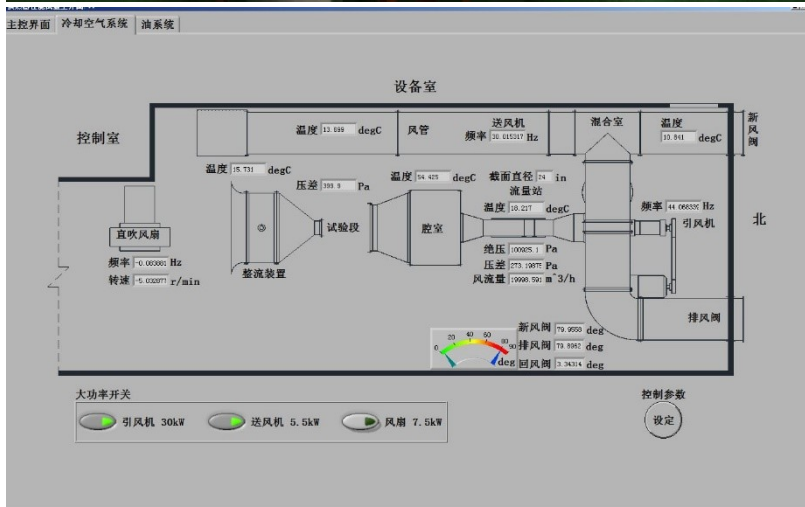
Quality Control



- ◆ ISO9001:2015
- ◆ EN 15085-2:2007 CL-1
- ◆ PED certificate 97/23/CE
- ◆ ASME certificate
- ◆ IATF 16949

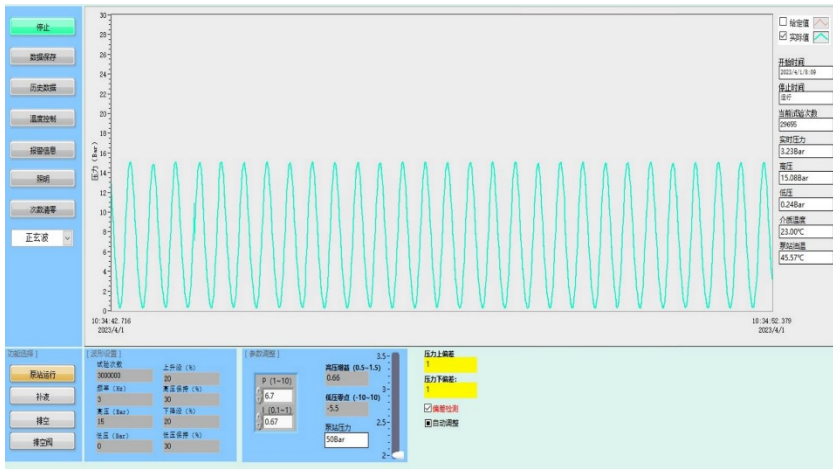
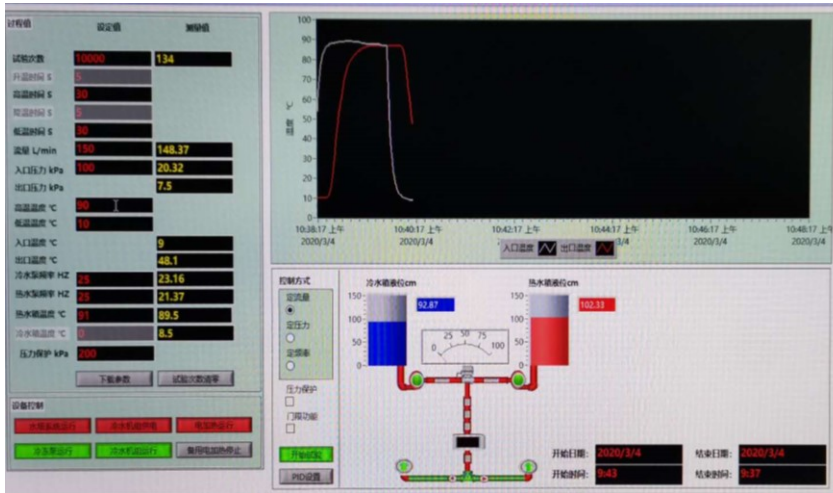
- **Professional thermal design team**
 - Heat transfer calculation, simulation and design
- **Performance test lab**
 - Heat performance test (Wind tunnel)
 - Pressure cycle test
 - Thermal cycle test
 - Cleanliness test

Research & Development



Heat transfer performance test (Wind tunnel)
Oil, Water, Air different medium

Research & Development

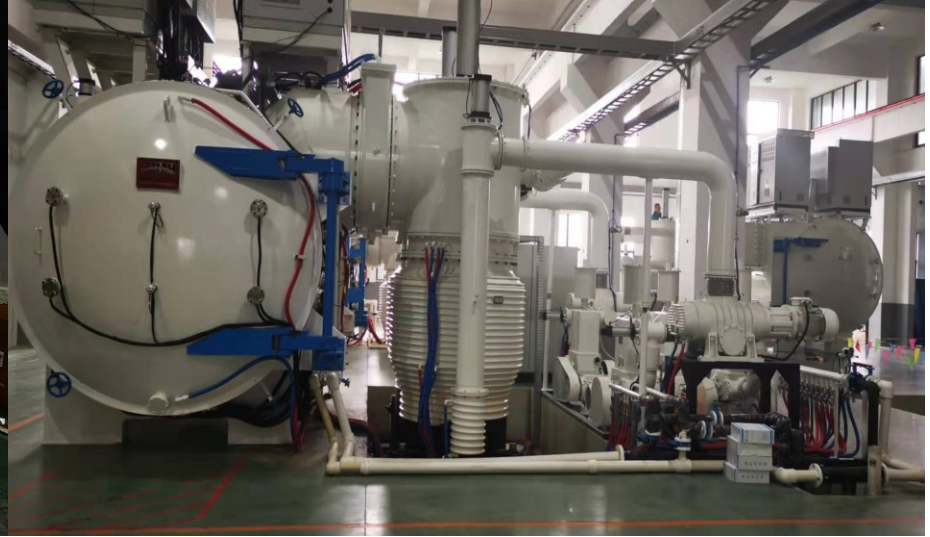


Mechanical Performance test:-
Thermal cycle test
Pressure cycle test

New Factory



New Factory



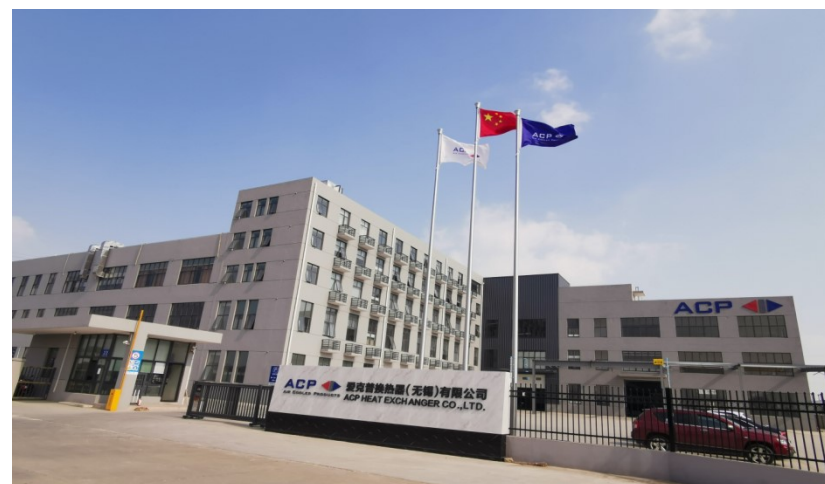
- **Top Class Quality**

- **Raw material components inspected strictly**
- **Each process be controlled strictly**
- **Each piece of cooler be leakage tested and pressure tested before delivery**
- **Advanced manufacture technical**
- **Top Class brazing core, max 185bar burst pressure, >92% first pass rate.**

- **Better Service**
 - **Easy to Communicate**
 - **Rapid response to customer**
 - **Stronger technical support**
 - **Short delivery time**
 - **Service partner in Europe**

- **Competitive Price**
 - **Quality of top class**
 - **Price of low costs**

Quality Aluminum Coolers



WE OFFER PROGRESSIVE, COMPLETE, TOP QUALITY SOLUTIONS AND ASSIST OUR CUSTOMERS IN INCREASING THEIR OWN COMPETITIVENESS.

Contact: Bobby Wang
E-mail: bobby.wang@acp-cooler.com
Tel: +86-510-85680800
M.P: +86-15906185129

Quality Aluminum Coolers



Thank You!