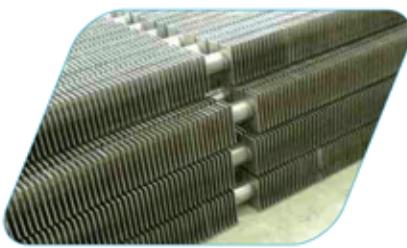




HF ERW Helical Fin Tube



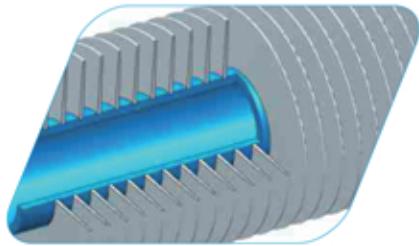
DC ERW H/HH Fin Tube



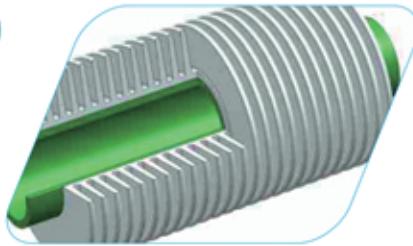
DC ERW Stud Pipe



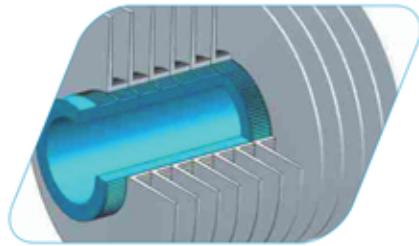
Embedded(G) Fin Tube



Extruded(DR)/combined



L/LL/KL Fin Tube



CHANGZHOU AIDEAR REFRIGERATION TECHNOLOGY CO.,LTD

# ABOUT US

## Aidear

An excellent and professional refrigeration resources and solutions provider.

Main products are tube & fin heat exchangers, Microchannel heat exchanger, air cooler, condenser and units, raw materials and the components for heat exchangers, automatic machines for heat exchangers, and the complete solutions for customer.

## We

Based on Honesty, Responsible, Technology and continuous Innovation.

Work on refrigeration resource integration & solutions, one station service for customer Persist in customer first, always think for customer

Focus on create Maximum value for customer.

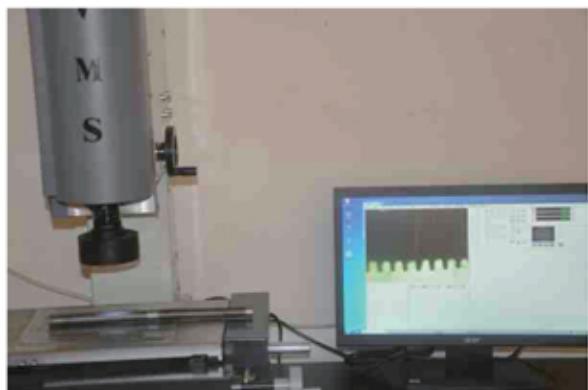
Aidear, your ideal!



Computer Controlled Pull-off Tester  
(To Examine Welding Performance of Weld Zone )



Micro-hardness (HV) Tester



Computer Controlled Microscope Projector



Portable Digital Hardness Tester



Ultrasonic Thickness Gauge

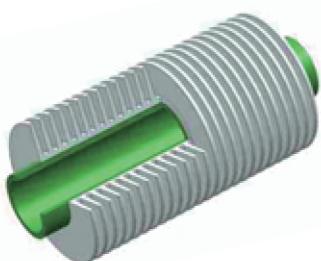


Portable PMI Tester  
PMI:Positive Material Identification

## Extruded Bimetal Finned Tubes ("DR" Type)

A clean plain tube is inserted into an aluminum sleeve. The fins are extruded from this sleeve around the tube. In this process, the inside diameter of the sleeve is reduced and the sleeve is pressed onto the core plain tube. This process produces a strong bond contact with excellent heat transfer coefficient.

The extruded fins could be solid and serrated.



Aluminum finned tubes are used in steam air heater, condensers, air fin coolers etc...

Operation temperature: 300°C (Max)  
Tube materials: carbon steel, stainless steel, copper or any metal can be applied.

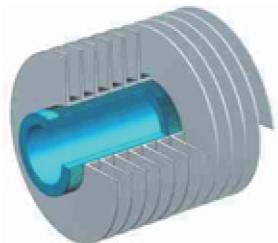
Fin material: Aluminum (Grade 1100/1060/6063 etc)

All dimensions are in Inches and specification upon your requests.				
Tube OD	Fin Height	Fin Thickness	Fins per Pitch(Density)	
5/8	3/8,1/2	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10, 11, 12	
3/4	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10, 11, 12	
1	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10, 11	
1 1/4	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10,	
1 1/2	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10, 11	
1 3/4	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10	
2	3/8,1/2,5/8	.015/.016/ .020	4, 5, 6, 7, 8, 9, 10	



## L Fin/ Tension Wound Fin Tubes ("L" Type)

The fin material is folded to form a 'L' shape and then tension wound around the base tube. The feet of the fins are joined together and cover the whole of the finned surface.

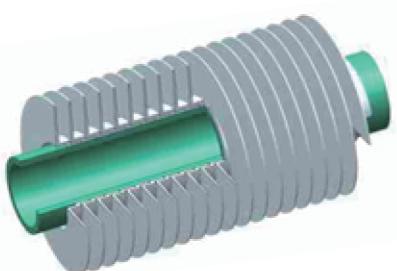


Operation temperature: 150°C max.  
Tube materials: carbon steel, stainless steel, copper or any metal can be applied.  
Fin material: Aluminum, copper and carbon steel.

## LL Fin/Overlapped Footed Fin Tubes ("LL" or "DL" Type)

The fin strip is folded into a DOUBLE L shape, and wound onto the base tube surface under tension, the feet of the fins are joined together and cover the finned surface.

This LL fin shape is much more efficiently protected by continuous strip cover, against corrosive environment and easier clearing.



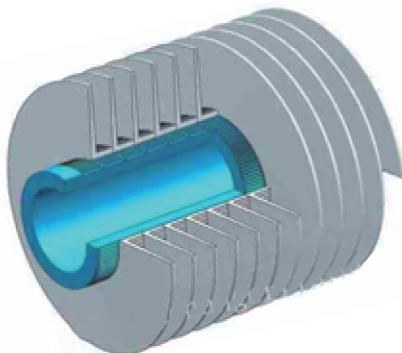
Operation temperature: 175°C max.  
Tube materials: carbon steel, stainless steel, copper or any metal can be applied.  
Fin material: Aluminum, copper and carbon steel.



## KL Fin/Knurled Footed Fin Tubes ("KL" Type)

The 'KL' fin tube is developed from the L fin tube. The root of fins is knurled simultaneously with inner tube, thus ensuring the tight contact between fins and plain tube.

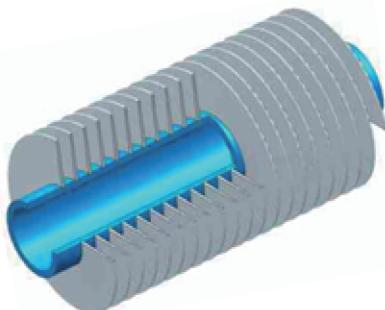
The KL fin tubes are preferred when used in slightly more aggressive conditions for increased higher temperatrure and enhanched the corrosion protection to the outside wall of the tube.



Operation temperature: 250°Cmax.  
Tube materials: carbon steel, stainless steel, copper or any metal can be applied.  
Fin material: Aluminum, copper and carbon steel.

## G Base/Embedded Footed Fin Tubes ("G" Type)

G base fluted fin tubes are provided with high, helical fins and offer special good heat transfer characteristics. The special manufacturing process which consists in placing the fin in a pre-shaped groove with a defined pitch and rolling it securely at high contact pressure, ensure a perfect and permant bond between plain tubes and fins.



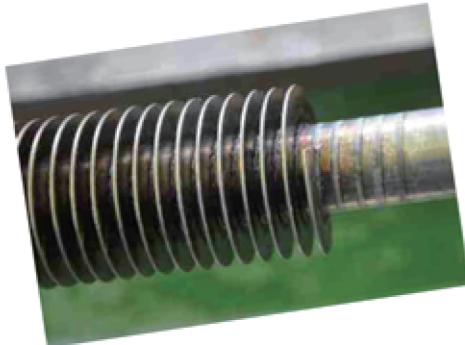
Advantage of the G-fin  
Excellent heat transfer  
Permanent bond between the tube and fin, as the fin is firmly rolled into the grooved core tube (fin :aluminum or stee or core)  
High thermal and mechanical resistance  
Application rang:up to 400°C with aluminum fins



## High Frequency Welding Fin Tube ("HFW" Type)

The fin strip is welded continuously and spirally wound onto a polished plain tube. And the tube and fins are bonded together by using high frequency resistance welding technique. This manufacturing method ensures high heat transfer coefficient and a perfect contact between plain tube and fins.

The welded fins could be solid and serrated. And also, all helical welded tubes could be BENT in the middle or at both ends; we call it 'Hairpin' tubes.



Welded finned tubes are used in fired heater, economizers, boilers, pre-heaters etc...

Operation temperature: 550°C max.

Tube materials: carbon steel, stainless steel, Alloy steel can be applied.

Fin material: carbon steel, stainless steel

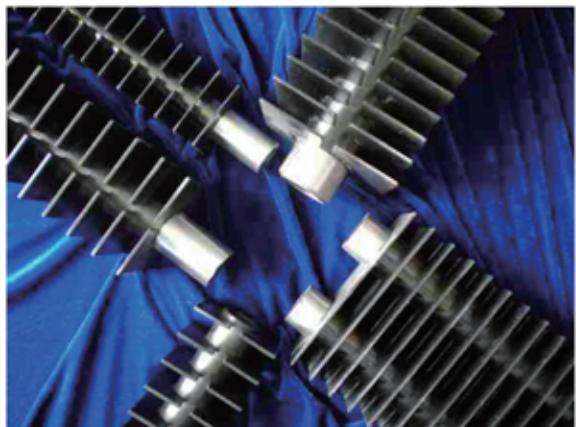
All dimensions are in mm and specification upon your requests.				
Helical Steel Fin Tubes Fabrication Supply Range	Solid Fins(mm)		Serrated Fins(mm)	
	Min.	Max.	Min.	Max.
Tube OD(mm)	19	219	19	219
Fin Height(mm)	8	26	8	32
Fin Thickness(mm)	0.8	2.8	1	1.6
Fins Density(mm)	4(250FPM)	20	3.3(303FPM)	20
Tube Length(mm)	N/A	18000	N/A	18000



## Square/Rectangular Welding Fin Tube ("H"/"HH" Type)

Square or Rectangular fins are welded onto ONE steel base tube. We call it 'H' fin Tube.  
Square or Rectangular H Fins are welded onto TWO steel base tube. We call it 'HH' or 'DOUBLE H' Fin Tube.

The Square or Rectangular H/HH Finned Tube quality is assured by hydrostatic or pneumatic tests, eddy current tests and tensile tests in order to verify the mechanical bonding between inner tubes and outer fins.



Square/Rectangular Welding Fin Tubes are used in economizers, boilers, marine boilers etc...  
Operation temperature: 550°C max.  
Tube materials: carbon steel, stainless steel, Alloy steel can be applied.  
Fin material: carbon steel, stainless steel

<b>All dimensions are in mm and specification upon your requests.</b>	
Descriptions of H/HH Fin Tube	Specifications we make
Tube OD(mm)	25mm to 51mm
Tube Wall thickness(mm)	2.5mm Min.
Tube length(mm)	18000mm Max.
Fin thickness(mm)	1.5mm to 3.5mm
Fin pitch(mm)	8 mm Min.



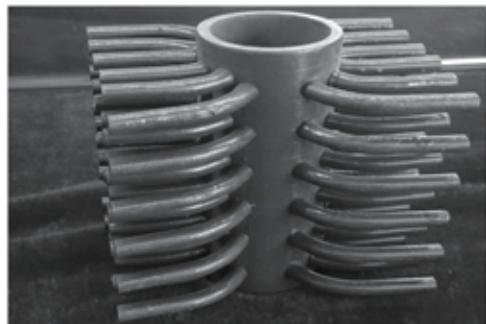
## Studded Tube/Pipe

Studs are fully automatically welded onto the plain tube by resistance welding. The shapes of studs are cylindrical or elliptical.

Due to their high rigidity, studded tubes can be used even under extreme temperature and pressure conditions, as furnace, chemical, petrochemical industry and power station etc.



Tube materials: carbon steel, stainless steel, Alloy steel can be applied.  
Fin material: carbon steel, stainless steel

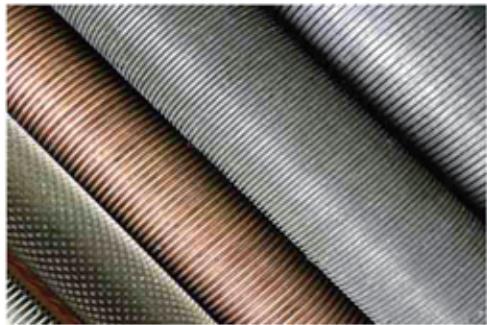


All dimensions are in mm and specification upon your requests.	
General Descriptions of Studded tubes	Specifications we make
Tube OD(mm)	38mm~219mm
Tube Wall Thickness(mm)	4mm~15mm
Tube Length(mm)	16,000mm Max.
Studs OD(mm)	6mm~16mm
Studs Height(mm)	10mm~45mm



## Integral Low Fin Tube

The Integral Low Finned Tubes find the preference in the following industrial sectors: Heating systems, ventilation systems, refrigeration and climate control systems, mechanical engineering, and power plant technology etc...



Low Fin (Integral) tubing is a type of extruded tubing that consists of small low fins. The low fin tube is very similar to the extruded "high fin" types but these tubes have the same diameter as the base tube.

Low Fin Enhanced tubes can be used in standard shell and tube baffles and tube sheets. The primary advantage for the low fin tube is providing surface enhancement and better heat transfer over smooth tubing.

Products in picture are knurled low fin tube/T-shaped fluted fin tube/Integral low fin tube

## Twisted Tube

Twisted tube is a kind of enhanced heat transfer tubes and its structure feature is that each cross section is oval, when assembled heat exchanger they can be mixed bundles. That is, the mixture of twisted tube and plain tube, and also can be a pure twisted tube bundles.

Seamless steel twisted tubes used for producing heat exchangers are complete one tube without any joints. And the heat transfer coefficient of the twisted tubes is 40% higher than the plain tubes, while the pressure drop is almost same.

Materials: carbon steel, stainless steel and copper



## Longitudinal Fin Tube

The fins are welded onto the plain tubes in the longitudinal direction along the length of the tube, by resistance welding or welding with filler material (Spot welded).

The fin strip is first formed into a U-shaped channel, such that each leg of the U will form a fin. The channels are cut to the appropriate length and then oriented along the length of the tube and resistance welded in place.

The channels are welded in pairs, diametrically opposed — therefore the number of fins specified must always be a multiple of four.



Longitudinal fins types: one-piece shape, standard U bent shape, cut & twist, perforated etc...

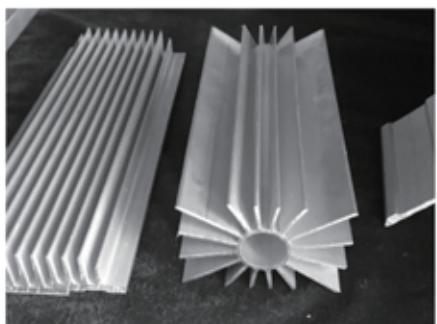
The longitudinal finned tubes are widely used in following fields, as heat exchanges, fired heaters, gas coolers and heaters, tank heaters etc.

**All dimensions are in mm and specification upon your requests.**

Tubes Materials	Carbon Steel,Stainless Steel,Alloy Steel,Nickel Alloys
Fins Material	Carbon Steel,Stainless Steel
Bare tube size:OD	OD19.05mm-OD60mm
Fin height	6.35/12.7/19.05/25.4
Number of fins:	16/20/24/32/40

## Aluminum Heat Sink Profiles

Material: aluminum alloy; 6063, 6061, 6082, 6005, T5, T6...



Section Shapes : I, U, T, C, Z, L, H, square, round, flat, hollow, T-slot and other complicated shapes by clients requirements.

Process:

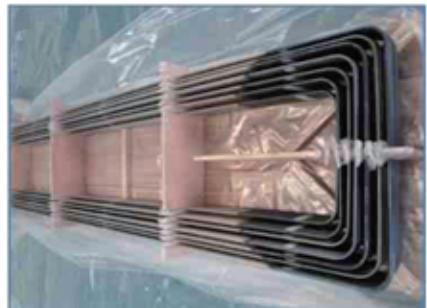
Diedesign → Diemaking → Smelting&alloying → QC → Extruding → Cutting → Heat Treatment → QC → Surface treatment → QC → Welding → Packing → QC → Shipping → After Sale Service



L/R and S/R Elbow (45° / 90° / 180° )



Bend (Cold Bend & Hot Bend)



U Tubes are made from plain tubes and finned tubes and they are wildly used in shell and tube heat exchangers and water boilers.

We can supply you every kind of finned tube for you manufacture tube bundle heat exchanger, we also can supply you tube bundle even complete set of equipment if necessary.



Hydrostatic Pressure Test



Running Test Before Delivery



Ex-work Delivery Status

**Tension Wound (L/LL/KL) Finning machine,  
Embedded (G) Type Finning Machine**

## Machine Specifications:

1. Tube Diameter : OD12.7mm-50.8mm
2. Tube Length : No Limit
3. Fin Height : 6mm-16mm
4. Fin Pitch : 6FPI-12FPI
5. Production Speed : 0.9M~1.2M/Min
6. Tube Material : CS/SS/Alloy Steel/Copper Tube/Bronze Tube
7. Fin Material : Aluminum, Cooper
8. Process : Mechanical Tension Wrapped or Embedded
9. Power Requirement: Customer will provide local electrical power and we will meet it.

Dimensions Data are in Inches and specification upon your requests.

Tube OD	Fin Height	Fin Thickness	Fins per Pitch(Density)
5/8	3/8,1/2	.015/.016/.020	6, 7, 8, 9, 10, 11, 12
3/4	5/8,1/2	.015/.016/.020	6, 7, 8, 9, 10, 11, 12
1	5/8,1/2	.015/.016/.020	6, 7, 8, 9, 10, 11, 12
1 1/4	5/8,1/2	.015/.016/.020	6, 7, 8, 9, 10, 11, 12
1 1/2	5/8,1/2	.015/.016/.020	6, 7, 8, 9, 10, 11, 12



## Extruded Fin Tubes & Low Fin Tubes Machine



For Low fin tubes: OD12mm ~ OD 25.4mm with 26 FPI / 28FPI / 30FPI / 36FPI

For Extruded fin tubes:

OF12mm~OD38.1mm with 8FPI /9FPI /10FPI /11FPI /12FPI

Material: Seamless steel tubes (Carbon steel, Stainless steel, Alloy steel), Copper/Brass/Brone, Titanium, Aluminum alloy etc

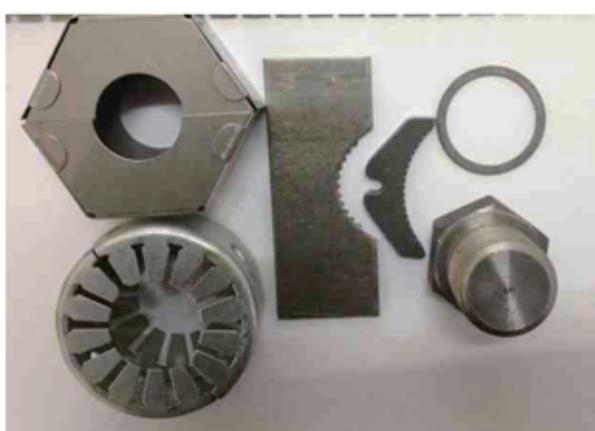
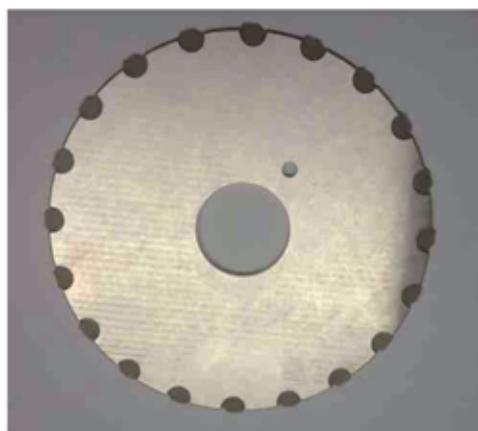
1. Extrusion machine mode No: Reliance-1118(Our internal design No.)
2. Extrusion equipment power output: 380V/50HZ (Chinese Standard).
3. The motors of export extrusion finning machine are supplied upon clients' requests.

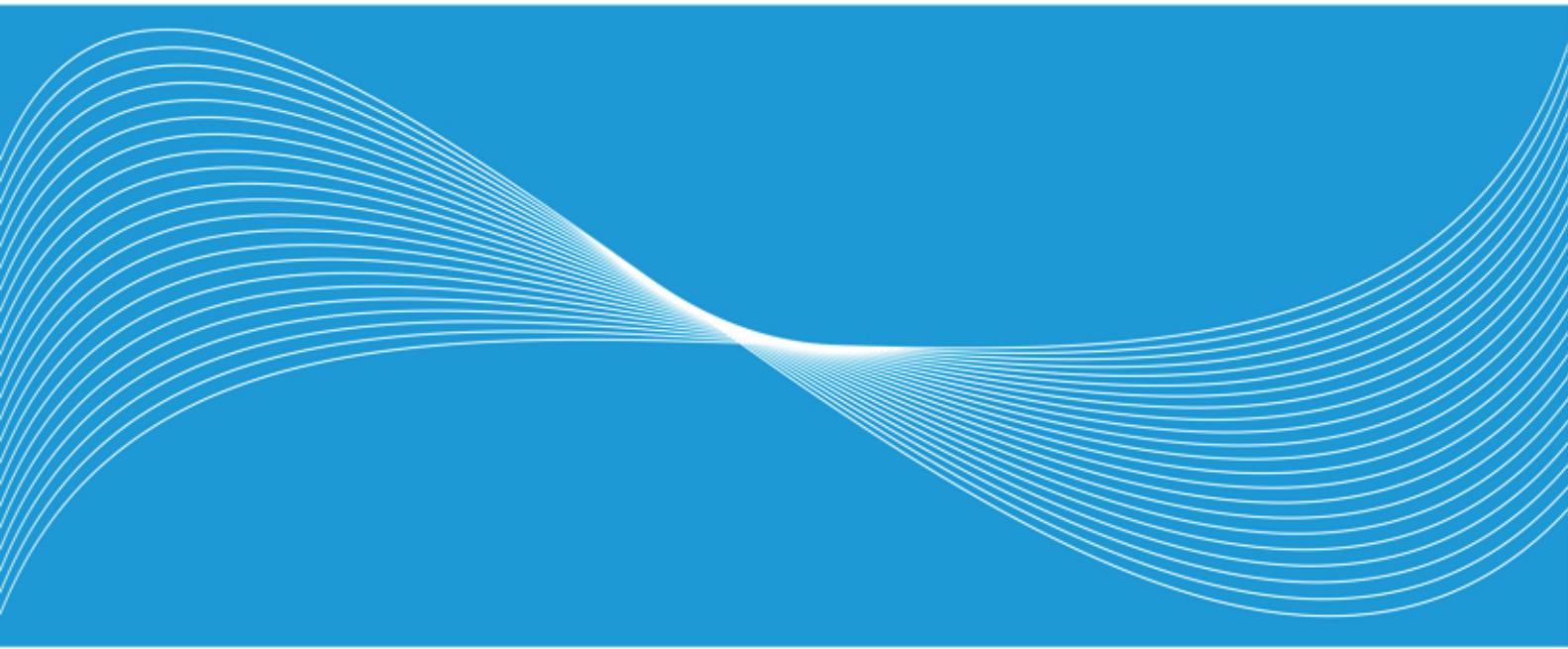
One complete set of Extruded Finning Machine consisting following:

1. Finning head
2. Cooling systems for finning head
3. Extrusion tooling disks (knives) in groups
4. Technical know-how (Operation Manual in English)

Service after Sales

1. Technical support
2. Operation training at your site or in Reliance's Plant or both
3. Information on maximum production criteria
4. Reference charts
5. Specifications for tube and fin stock





**常州爱迪尔制冷科技有限公司**  
Changzhou Aidear Refrigeration Technology Co.,Ltd

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