

## AIR COOLED HEAT EXCHANGER (ACHE)

### FINNED TUBE



### UNIT APPLICATION :

*Air Cooler Heat Exchanger*

*Air Heater*

*Oil Cooler*

*Dehumidifier*

*Gas Cooler*

*Inter Cooler*

*After Cooler*

*Economizer*

*Radiator cooler*

*Steam Air Heater*

*Thermal Oil Air Heater*

*Charge Air Cooler*

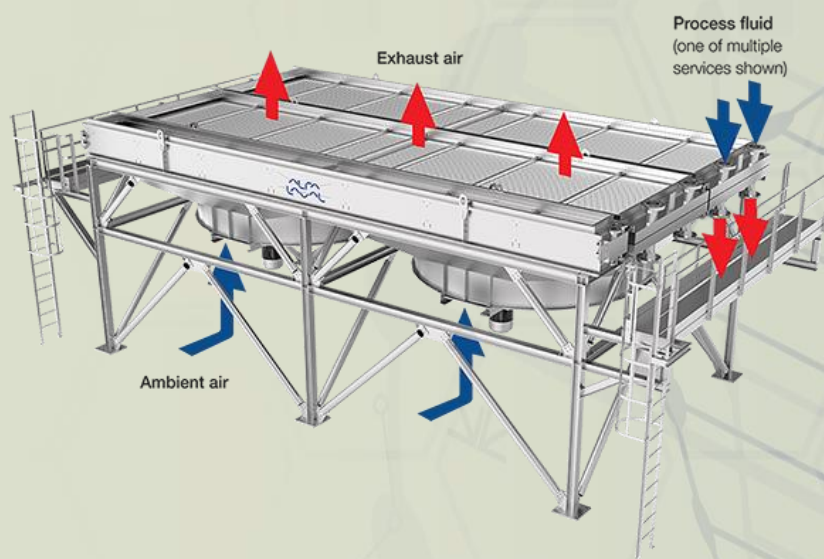
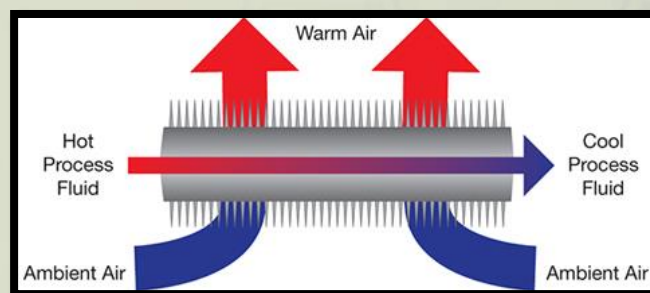
Air Cooled Heat Exchanger (ACHE) is a heat rejection equipment where the excess process heat is rejected to the atmosphere. It works on the principle of convection and conduction to dissipate heat from process fluid to air.

Heating media can use Steam, Thermal Oil, Flue gas.

Cooling media can use Cooling Water, Chilled Water, Ambient Air

Very easy installation and placement of the unit does not require a large area

### FLUID PROCESS





We perform Design and fabrication according to customer requirements using very accurate Software Engineering.

Then we carry out fabrication in our workshop by going through very strict quality control procedures and stages.

We are committed to maintaining the quality of materials and the end result of excellent unit performance as our commitment to maintaining customer trust.

#### FEATURE ;

1. Excellent heat transfer enables a compact device design
2. Materials can be selected according to the specifications
3. Heaters can be combined according to the specifications
4. A combination type, therefore replacement of individual sections is possible
5. Combinations can be selected according to the objective, from low pressure to high pressure



STEAM TO AIR FOR AIR HEATER



GAS COOLER HEAT EXCHANGER

Tension wound finned tubes, embedded finned tubes and extruded finned tubes are main devices for air coolers and the common application fields are:

- Heat exchangers for power plants (electric, nuclear, thermal and geothermal power plants)
- Steam condensate systems
- Chemical and petrochemical industry
- Food processing plants and refrigeration technology
- Industrial (steel mills, incinerators, gas compression facilities).

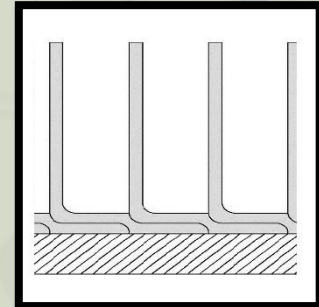
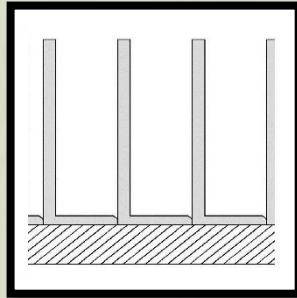
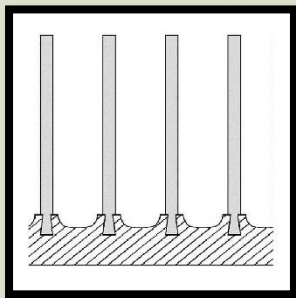
By providing a choice of tube and fin materials according to application needs by adjusting to the type of fluid used, we provide a choice of standard tubes with a very unique construction.

We offers different finned tubes: tension wound finned tubes, embedded finned tubes and extruded finned tubes.

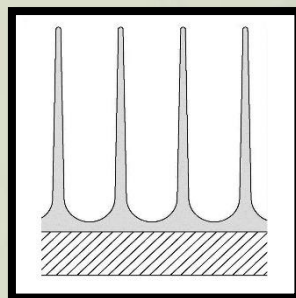
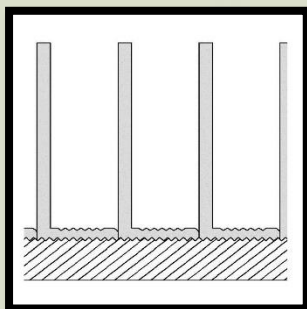
Tension wound finned tubes are formed by winding a strip made of aluminium or copper around the tube under tension. The strip winding technology provides different types of fins: G-Fin, L-Fin, LL-Fin, KL-Fin.

Embedded fins (G-Fins) are made by winding aluminium or copper strip into a helical groove machined on the outer surface of the tube.

<b>G- FIN</b>	<b>L- FIN</b>	<b>LL- FIN</b>
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<b>KL- FIN</b>	<b>EXTRUDED- FIN</b>
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Extruded finned tubes are bimetallic tubes whose outer aluminium surface is finned by cold plastic deformation.

### Fin Material – Extruded-fin Finned Tubes

Fins	SB209 – B209 Aluminium Alloy 1050 or 1060	SB75 – B75 Cooper
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### Fin Material – G-fin; L-fin; LL-fin; KL-fin Finned Tubes

Fins	EN573 – 3 Aluminium Alloy 1050 or 1060	SB152 – B152 Cooper
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### Tube Material – G-fin; L-fin; LL-fin; KL-fin Extruded-Finned Tubes

Tube	SA179-A179 Carbon Steel	SA213-A213 Stainless Steel
	SB75-B75 Copper	SB111-B111 Copper Alloy

### Technical Specification-G-fin; L-fin; LL-fin; KL-fin; Extruded-fin Finned Tubes

Fin Type	Length		Tube OD		Thk		Fins Diameter		Fins Dencity	
	(m)	(ft)	(mm)	(Inc)	(mm)	(BWG)	(mm)	(Inch)	Fins/m	Fins/inc
L-fin	0,3	1	15,88	5/8"	0,89	20	38,10	1-1/2	236	6
LL-fin										
KL-fin	~	~	~	~	~	~	~	~	~	~
G-fin	18	59	50,8	2"	3,76	9	76,20	3"	472	12
Extruded										

### Technical Specification-G-fin; L-fin; LL-fin; KL-fin; Extruded-fin Finned Tubes

Fin Type	Working Temp	Resistance	
		Corrosion	Mechanical
L-fin	135 ~ 155 °C	↑	↓ ↓
LL-fin	155 ~ 165 °C	↑	↓
KL-fin	165 ~ 185 °C	↑	↑
G-fin	380 ~ 420 °C	↓	↑
Extruded	280 ~ 300 °C	↑ ↑	↑ ↑

## **Inspections and Test**

**G-fin; L-fin; LL-fin; KL-fin; Extruded-fin Finned Tubes**

**Chemical Composition**

**Mechanical Properties**

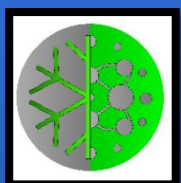
**Hydrostatic Test**

**Pneumatic Test**

**Boroscopic Inspection**

**Eddy Current Test**

**Tensile Test (Only for Bimetallic Tube)**



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