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## **Part: No Frost Fin Evaporator**

### **Product Description:**

No-Frost Fin Evaporator used in different types of single door, double doors and multi-doors no-frost refrigerators. It is also can be used as evaporator or condenser for other refrigeration equipment and refrigeration appliance.

### **Product Characteristics:**

- Fin punched with flanging height 1.5mm, directly contact with aluminum tube, greatly increased heat exchange area & exchange efficiency.
- The aluminum tube bended completely without any joint, then pulling the al-tube inside the fins by mould, more tight contact.
- With tube expansion system adopted, more tight contact between fins & tubes, heat exchange efficiency increased 40~60%
- Fin pitches can be free engineered as per cooling request
- Super cleanness for R134a refrigerant
- Besides the evaporator main body without any brazing points; it highly reduces and avoids the risk of leakage.

### **Material:**

- Al pipe (O.D8~10mm) X (Wall thickness 0.7~1.0mm), brand: Gold-Dragon
- Fin: fin stock aluminum foil, thickness is 0.13~0.25mm
- Inlet & outlet tube: Al-Copper tube

### **Structure:**

- Straight pipe type: needs the support bracket
- Inclined pipe type: reduces welding points, increases air flow; saves space; no needs support bracket, which can further save cost.

### **Inner cleanness for R134a:**

Residual moisture:  $\leq 20\text{mg/m}^2$   
Residual impurity:  $\leq 30\text{mg/m}^2$   
Residual mineral oil:  $\leq 7\text{mg/m}^2$   
Residual chlorine:  $\leq 0.3\text{ mg/m}^2$   
Residual paraffin:  $\leq 0.2\text{ mg/m}^2$

### **Coating quality: Chemical oxidization**

- Cathode oxidization with oxidation film: 12~30um
- Corrosion resistant:  $\geq 96\text{hrs}$

### **Manufacturing process**

Fin punching, Aluminum tube bend & expansion, clean, weld, leakage test, drying, surface treatment, nitrogen gas charging, package

### **Remarks:**

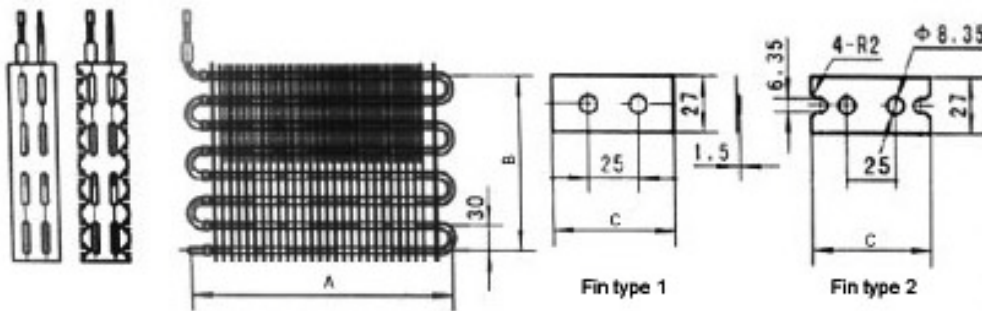
- Outlet position be engineered by client
- Its ASS'Y with heater & accumulator available.
- Fin type 1 no needs heater; Fin type 2 needs heater
- Client's own drawing available to develop

**Key Quality Control:**

- Inner cleanness, washed 1<sup>st</sup> time, to get rid of inner impurity etc, leakage testing
- Then anodized evaporator to make one anodizing film on surface of evaporator to increase its corrosion resistance, and wash again.
- 0.1~0.15Mpa inner Nitrogen gas pressure
- Rust free liquid on end tubes, finally check leakage.
- **Pressure keeping**
  1. Check dewell needle head with leakage or not, the deweel gun with leakage or not.
  2. Adjust pressure adjust valve, to make exit pressure within 0.6~0.8Mpa
  3. Check dewell time: insert dewell needle inside cap, after pressure keeping test pressure within 0.1~0.15MPa without change; if not qualified then need to adjust dewell time till good. (dewell time: about 8s)
  4. For internal installed cap, insert dewell needle into tube, turn on switch, the dewell indication light onset; and dewell indication light off when dewell time arrives.
  5. For external installed cap, the cap shall insert 1/5 depth, dewell needle insert inside tube from 1/3 place of cap side, dewell to 0.1~0.15MPa, then pull needle and then press cap to inner tube uickly.
- **Enclosure cap leakage test:**
  1. Cup with 2/3 rust free liquid
  2. Put the cap inside liquid over 3s, check there is air bubble or not; if cap hole or needle hole has air bubble, then need to shake evaporator or clean it and re-test, if there is no air bubble, it is qualified piece; if it still has air bubble, then needs to take it out to replace cap and re-make pressure keeping leakage test.

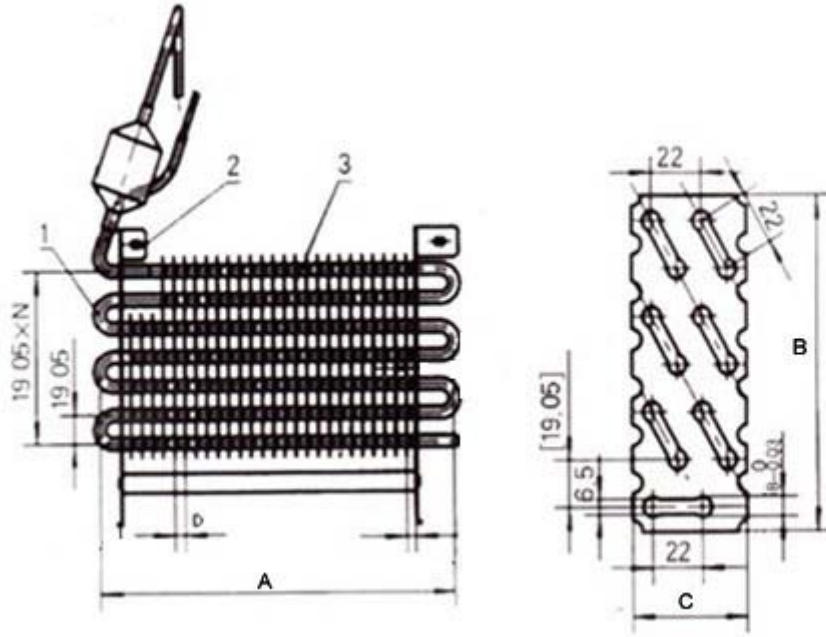
**Product Size:**

**Straight pipe type**



Item	A	B	C
Size Limitation	220~750mm	50~600mm	52/60mm

**Inclined pipe type**



Item	A	B	C
Size Limitation	150~650mm	57~520mm	52/60mm

**Product Equipment:**

Tube straight machine



Fins expansion line



Bending machine



Helium spectrometer & recovery system



Salt Test Machine



**Daily production capacity:** 4000pcs

**Production Process Quality Control:**

1<sup>st</sup> washing of impurity & oil



Leakage test



Anodizing & washing



Pressure checking



Size checking by 1:1 drawing



Storage before packing



**Product Picture:**



We can produce by customer order or sample, also can help customer design and produce different models of fin evaporator.

Welcome sending your drawing or sample to us.