

## Industrial and Commercial Refrigeration

**Size Range** : 1 to 20 Tons, Nominal

Starcore Refrigeration Ltd. Model Series CRPC / FRPC/ BFRPC/ For Medium and Low Temperature Application For Use With R22, R134 A, R404A, R717.



## System Description

- Ceiling Suspended / Floor Mounted
- GI Powder Coated Epoxy casing with Corrosion resistant paint
- Propeller or axial flow fans options available, suited for an application
- Fans factory wired with an electrical junction box
- Internally enhanced Copper tubes (For R22, R134 A, R404 A)/ Plain SS304L or Aluminum tubes (For R717 Applications) Degreased and mechanically expanded With Aluminum fins, spacing varying from 3.175 mm to 6.35 mm furnace brazed.
- Insulated Drain Tray to avoid condensate dripping due to cold surface
- With special defrost mechanisms suited for different models

## Quality Assurance

- All the Evaporators are made to comply with EC Machine Directives 89/392/EEC
- Safety of Electrical Appliances: As per EN/60/335-1 (CE61-50)
- Safety Applications as per CE-EN60/335-2-40 applicable for all air conditioners
- Electromagnetic Compatibility as per 89/336 EEC
- Low Tension application as per 73/23 EEC

- Fan Guards as per safety norms EN 294
- Coils Pressure tested to 250 Psig

## **Equipment**

### **General :**

Factory-assembled, single piece, forced draft evaporators factory wired capable of working with refrigerants R22, R14 A, R404A, R717.

### **Unit Cabinet :**

- Unit cabinet constructed of galvanized steel, coated with corrosion resistant epoxy powder coat paint of 50 to 100 micron thickness.
- Insulated Drain tray with tray heaters (only for low temperature units)

### **Fans :**

- Propeller Fan or Tube Axial Fans (Only for low temperature units)

Degree of Protection for Motors: IP44

Degree of Protection for Junction Box IP55 For Low temperature applications fan casing is wound with heaters and insulated so as to prevent ice build up

- All Fan blades statically and dynamically balanced.
- Fan shroud and grill plastic coated, so designed to ensure maximum throw and even distribution.
- AMCA certified fans

### **Evaporator Coil :**

- Choice of three Tubes with Copper, SS304 or Aluminum based on application Fining done with Aluminum
- Tubes degreased and mechanically expanded, tested under a pressure of 250 Psig.
- Copper tubes are internally enhanced with rake ridges to increase the heat transfer coefficient.
- All Direct Expansion Coil provided with a multiple hole brass distributor and thermostatic expansion valve, while Flooded and Overfeed liquid systems provided with orifice plates in the headers to ensure even feed to all circuits.

- Choice of Half, Full Double Circuits available to ensure minimum pressure drop of refrigerant through coil.
- Built on COMPUTATIONAL FLUID DYNAMICS MODEL All coils are so designed for low dehumidification and frost accumulation and high turbulent flow ensuring a lesser surface area for high heat transfer.
- All coils are of staggered construction with variable fin pitch starting from 3.175 to 8.46 mm.

### **Refrigeration Components :**

Pressure Ports are so provided to measure and thereby adjust coil superheat correctly, which can save energy in the excess of 8%.

### **Controls and Safeties :**

#### **1. Minimum control functions include:**

- Control wire terminal blocks.
- Ice frost sensor capable of defrost initiation.

### **Electrical Requirements :**

- Nominal unit electrical characteristics are 400 v 3-ph, 50 Hz. The unit is capable of satisfactory operation within voltage limits of 380v to 420 v.
- Unit electrical power is a single-point connection.
- Unit control circuit is 220 Volts.

### **Special Features (OPTIONAL) :**

- Fan Parking for High Discharge Pressure
- VARIABLE CAPACITY evaporators
- USER DEFINED HUMDITY EVAPORATORS
- Unit-Mounted, Non-Fused Disconnect Switch in case of emergency.

### **Nomenclature**



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