



PFCU

PROPELLER FAN CONDENSING UNIT 2-12 TON CAPACITY

The Air Cooled Condenser Unit (PFCU) shall consist of Casing, Condenser Coil, and Direct-drive Propeller Fan(s) driven by individual Fan Motor(s), Fan Guard and Mounting Legs. All fan motors shall be factory wired to a common electrical control box. The Air Cooled Condenser shall be arranged for Horizontal Air Flow. The Condenser will have Single Circuiting

CONDENSER COIL: The condenser coil shall have aluminum fins bonded to copper tubes and shall have full collars that completely cover the copper tubes. The coil shall also be designed for counter flow application for high heat transfer efficiency. Headers and connections shall be copper and shall be factory split to provide an independent condenser circuit for each compressor. The coil shall be pressure tested, sealed and pressurized for shipment.

FAN: The direct drive fan blades shall be aluminum, and shall be protected by a heavy gauge, steel wire, zinc plated, epoxy coated fan guard. Each fan section shall be separated by full width baffles to prevent bypass air.

MOTOR: The condenser motors shall have permanently lubricated sealed ball bearings, with inherent overload protection. Motors shall be mounted inside the condenser casing for weather protection.

CONTROLS: The remote air cooled condenser shall be supplied with a factory mounted weather-proof control box, incorporating all the fan actuators, terminal boards and Ambient T-stat(s) required to provide head pressure regulation.

SCROLL COMPRESSOR: The unit shall utilize hermetically sealed high efficiency compressor. It shall employ an internal device to prevent reverse rotation upon shut down. In addition, the compressor shall be able to restart after a 5 second time delay without the aid of start assist device. The compressor internally shall have pressure relief valve, current overload and thermal protection. Factory mount and piped rotolock valves and factory installed and wired crankcase heater shall be provided.

REFRIGERANT SYSTEM: Each refrigerant circuit shall be provided with:

- Filter Dryer
- Sight glass
- Manually Reset High Pressure Switch
- Auto Reset Low Pressure Switch,
- Schrader fittings for charging.
- Suction Accumulator
- Liquid Receiver
- Solenoid Valve
- Suction Accumulator

PUMP-DOWN: Unit shall be equipped with pump-down cycle which shall pump refrigerant to the condenser section when compressor is in the off-mode.

HOT GAS BYPASS: Hot gas bypass valve is provided on each refrigerant circuit. Unit are provided with factory piped Hot Gas Solenoid Valve (Air cooled units only) and Externally Equalized, direct acting Discharge Bypass Valve to provide capacity control and maintain the evaporator coil temperature under low load conditions. Used when a constant compressor function is desirable, allowing for compressor cycling and temperature fluctuations to minimize

LOW AMBIENT-FAN SPEED CONTROL: The Propeller Fan Condensing Unit shall be provided with a VARI-SPEED PACKAGE FOR LOW AMBIENT DOWN TO -20°F: Consisting of factory installed solid state pressure control. The capillary sensor senses the head pressure of operating compressor and control the variable speed fan to properly maintain the head pressure. A single phase variable speed motor shall be factory installed on the condenser fan. The speed controller modulates air delivery in direct response to head pressure and maintain minimum head pressure required.

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