C*H & C*V

Water-Cooled Self-Contained Units

Johnson Controls

High performance designs accommodate the increased installation requirements of today's market.

The C-Series, Water-Cooled Self-Contained Air-Conditioning packages from Johnson Controls offer a complete line of unit options for indoor installation in high- and low-rise commercial building applications. Each one features high efficiency, quality engineering and dependable operation.

Johnson Controls compact, low-profile indoor design protects against potential vandalism, weathering and eliminates the need for any unsightly exterior equipment. Floor-by-floor installation provides independent zone and temperature control, eliminating many of the complications encountered with rooftop equipment. Renovation and restoration projects are simplified where roof load, cooling tower, and construction restrictions can present installation problems.

C-SERIES FEATURES

- Ideal for tenant change/renovation
- Protected from extreme weather conditions and vandalism
- Convenient access to all parts and service needs
- Allows independent metering/temperature control
- Compact, free-standing or ceiling suspended design for increased rentable space
- Static capability to suit various installation requirements using centrifugal blowers and adjustable pulleys

STANDARD FEATURES

Construction

- All cabinets are completely constructed of heavy gauge galvanized steel
- Horizontal models feature a "straight-through" airflow configuration
- All C-Series units are completely factory wired and piped
- Separate evaporator and condensing modules allow for easy separation if required
- Convenient indoor access to all parts and service needs
- All packaged units may be field split and installed as separate modules to suit on-site requirements
- All models are shipped as factory-charged unitized packages
- All 20 and 25 ton models are shipped as separate modules to accommodate easy field rigging
- Vertical packages are designed for free-stand mounting on the floor or on a field fabricated structural steel stand
- Vertical 8 and 10 ton models are shipped standard with vertical evaporator fan discharge
- Units are insulated with 1/2" thick, 2 lb. density acoustic fiberglass insulation
- Units provided with service panels equipped with lifting handles for ease of removal and handling
- Duct flanges for return air intake and evaporator discharge are provided with the unit for field installation
- Duct flange for evaporator return is incorporated into the filter frame
- Steel channel mount for hanger rods or floor mounting

Tonnage Capacities
Available in 5, 8 and 10 ton sizes in horizontal style units

Available in 5-25 ton sizes in vertical style units

Compressors

- All models utilize scroll type hermetic compressors
- Compressors are mounted on rubber isolators to minimize vibration transmission
- Internal overload protection provided
- External high pressure and low pressure cutout switches are included in each compressor control circuit

Evaporator and Condenser Coils

- Evaporator coils are constructed of internally enhanced copper tubes mechanically bonded to rippled aluminum plate fins
- The evaporator coils are employed in a draw-through configuration and feature interlaced circuitry
- Large evaporator coil face area minimizes potential water blow-off
- Standard condenser coils feature a copper inner tube surrounded by a steel outer tube, and carry a 400 psig working pressure rating

Fan Assembly

- Forward curved, double inlet and double width centrifugal blowers are used for evaporator air movement
- Belt driven blower wheels are fabricated of galvanized steel, and employ solid steel shafts supported in permanently lubricated ball bearings
- Dynamically balanced, belt driven, galvanized blower wheels with variable-pitch motor sheaves allow for easy field adjustment

Refrigerant Circuits

- The 5 ton units have a single refrigeration circuit
- The 8-20 ton units feature two independent refrigeration circuits
- The 25 ton unit features three independent refrigeration circuits, with fully interwoven evaporator coil circuitry
- Each refrigeration circuit includes an adjustable thermal expansion valve (with external equalizer), liquid line filter drier, sight glass/moisture indicator, and shut-off valves, with service gauge ports
- Dual circuit models feature internally manifolded condensers

Electrical Components

- All units are ETL listed
- All units are completely factory wired with all necessary relays and controls
- A 24-volt control circuit, with oversized transformer, is provided for field connection
- Manual reset protection is provided on evaporator blower motors
- Manual reset high/low pressure cutout provided on each compressor control circuit

Filters

- All models shipped with 2-inch thick medium-efficiency throwaway filters
- Filters are accessible from either side of the unit
- Filter rack is external to cabinet (shipped loose)

Controls

- Units are designed to operate with conventional thermostat control interface

OPTIONAL FEATURES

Construction

- Corrosion resistant coatings available on evaporator coils
- Stainless steel drain pan for both evaporator and water side economizer coil
- Discharge plenums available to mount on top of evaporator section for field installation
- Double-deflection grilles available to allow air discharge in multiple directions for field installation
- Return air grille available on 5-15 ton models only
- Cupronickel condenser water coil

Evaporator Fan Assembly

- Increased horsepower motors and drive components are available for those applications where external static pressure requirements exceed the capability of the standard motor

Heating

- Available with hydronic heating in either hot water or steam coils for field installation to be mounted on return side of cooling coil

Compressor

- Adjustable hot gas bypass regulator for lead compressor

Controls

- Hot water and steam coil valve options – field Installed
- Field installed, water side economizer available with preassembled external piping sections
- Hot gas bypass regulator on lead compressor circuit
- Condenser pressure control
- Condensate overflow switch

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