



HIGH DENSITY PRECISION COOLING

Floor Mount Systems

DX / Glycol / Chilled Water

6-12 Tons

System 2100

Kompact

CAA - 8 3 4 - K

System 2100 K

Type

Air Cooled - **A**
Chilled Water Cooled - **C**
Glycol Cooled - **G**
Water Cooled - **W**

Nominal Tonnage

8 – 15 Ton

Kompact

Voltage

2 - 208
3 - 380
4 - 460
5 - 575

Phase

1- 1 phase
3 - 3 phase

HIGH DENSITY COOLING
Small Foot Print

System 2100

Kompact



Heat



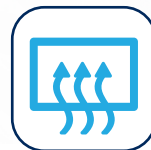
Humidifier



Touch Screen



R-410A



Air Flow



Efficient



Efficient

Cabinet & Frame

System 2100 frame is constructed of heavy gauge 1.5 square inch heliarc-welded tubular steel for strength and protection. Exterior cabinet front and side access panels are constructed of heavy gauge cold-rolled steel. Access is made easy for servicing, as the cabinet is fitted with captive 1/4" fasteners which allow controlled access for service and are positioned to enhance cabinet appearance. Access panels are well-insulated with NFPA 90A rated 1" thick 1.5 lbs. density fiberglass insulation. The cabinet has decorative front and side panels which can be color coordinated with the decor of the computer room. Standard colors available for the System 2100 are Black, Sky Blue or Cloud White.



"A" Frame Coil

System 2100 has two DX cooling circuits provided with high efficiency fins and a larger coil face area. The "A" frame coil is designed to provide the maximum sensible heat ratio as required by the systems application. The larger coil face area and optimized circuit arrangement for both compressor systems not only minimizes the energy consumption but also provides precise control of temperature and humidity. Air bypass is provided to prevent saturated air from being introduced into the controlled space. Air is drawn through both circuits of the coil at low velocity providing effective surface exposure with minimum turbulence.

Every unit is equipped with two drain pans. The primary stainless steel drain pan is provided under each coil. A secondary drain pan is provided at the base of the unit. This provides double protection against any water reaching the sub floor and affecting the computer cables. Each drain pan is piped with a condensate drain outlet.



Air Bypass

The units are equipped with a built-in air bypass (adjustable) to control the maximum relative humidity and limit the temperature variation of the discharge air. Discharge air will not exceed 80% R.H. under all normal computer room operating conditions.

High Efficiency Scroll Compressor

Each System 2100 is equipped with a high efficiency Scroll Compressor. The scroll compressors high volumetric efficiency and a constant volume ratio give the scroll compressor an excellent EER rating. Scroll compressor can also accommodate liquid slugging, both oil and refrigerant without causing compressor damage. Scroll compressors contain fewer parts resulting in greater reliability. Sound attenuation is also much easier since the dominant sound characteristics are in the higher octave band and the unit enclosure usually is adequate. Vibration in the system is greatly reduced by elimination of the reciprocating masses found in the semi-hermetic compressor.



Each compressor is provided with:

- Built-in thermal overload protection
- Crankcase heaters
- Rotolock valves
- Internal vibration isolation
- Charging and service schraeder ports
- Internal discharge gas vibration eliminator
- External vibration mounting isolation

Dehumidification Cycle

When a System 2100 unit is switched to the dehumidification mode, a call for cooling is energized via the advanced micro-processor and moisture is condensed on the cooling coil. The condensate is then discharged through the primary condensate drain. The reheat provided shall offset sensible cooling during dehumidification and has sufficient capacity to maintain computer room dry bulb conditions.

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Electric Reheat

System 2100 standard reheat is provided in multi-stage two, three or four stages. The low-watt density, electrically enclosed elements are surrounded by fin tubular construction elements, thus extending the life of the elements, reducing sheath temperatures and eliminating ionization. Reheat operation is protected by dual temperature limit controls. In the dehumidification mode the system selected has ample reheat capacity to maintain dry-bulb conditions. (See technical data for reheat information on system selected)



Steam Generating Modulating Humidifier Canister Type

System 2100 Kompact is provided with a pre-piped and pre-wired electronic, electrode self-generating steam type humidifier. The humidifier shall have an adjustable humidity output setting of the full rated humidifier capacity.

The pure steam method eliminates air contaminating mineral deposits and excessive humidity inherent with evaporative or infra-red humidifiers.

The steam generator requires no scheduled maintenance and is completely maintenance free. The humidifier has a modulating output control to match its output with humidity requirement signal. Humidifier shall come standard with an automatic flush cycle that senses the current consumption of the humidifier. The humidifier is equipped with disposable cylinder and an indicator that signals when the canister is to be changed, which insures a reliable and trouble free operation. The humidifier is complete with supply and drain valves, electronic controls and steam distributor.

Vapor produced is piped directly into the bypass air for efficient moisture introduction into the air stream.

High Voltage Control Panel

System 2100 is equipped with a high voltage panel which is easily accessible from the front of the unit and can be accessed for full service without disrupting the air flow. All wiring conforms to National Electrical Code (NEC) and UL 1995 requirements. Electrical components utilized in the control panel are UL Listed and Recognized. Each AC power circuit is individually branch circuit protected on all phases. Each component (humidifier, compressors, motor, electric reheat stage) (if applicable) is provided with a factory mounted and wired definite purpose contactor. The control wiring is 24 VAC low voltage. The control panel has the following components:

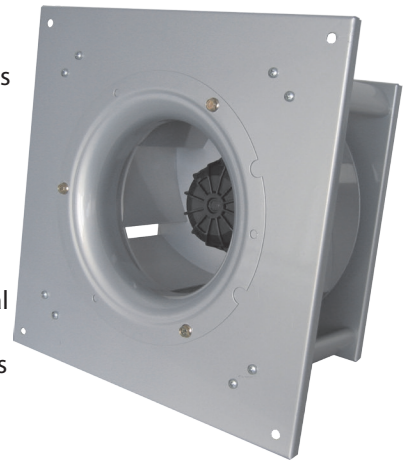
- Disconnect Switch or Power block (if required)
- Relays
- Fuse blocks
- Fuses
- Control transformers
- Microprocessor controller
- Terminal blocks

System 2100 requires a single point main power supply connection.

EC Motor Plug Fan

Electronic commuted motors (EC motors) are DC motors with shunt characteristics. Contrary to the conventional DC motors with mechanical commutation, no wear and tear elements such as collectors and carbon brushes are required.

They are substituted by maintenance-free electronic circuitry in the EC controller. EC motors are characterized by their high efficiency and optimal open-/closed-loop control. An electronic reversal of the motors direction of rotation is possible.

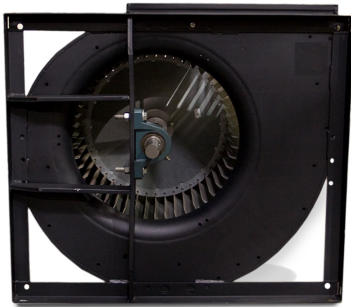
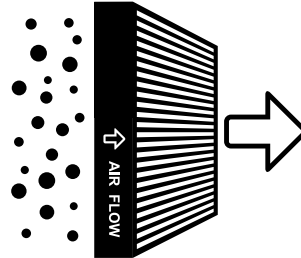


Air Flow Switch

System 2100 is equipped with airflow switches that continuously monitor the supply airflow and turn the unit off with alarm in case of loss of airflow. The unit also monitors pressure drop across the air filters and provide dirty filter alarm (indication only). Field calibration is required for dirty filter alarm.

Filter Section

System 2100 has standard 2 inch deep, 30% (MERV-8) pleated media high efficiency filters, (based on ASHRAE Std. 52-76). The Filter section is serviceable from the top or either side on down-flow units and from the front or right-hand side on up-flow units.

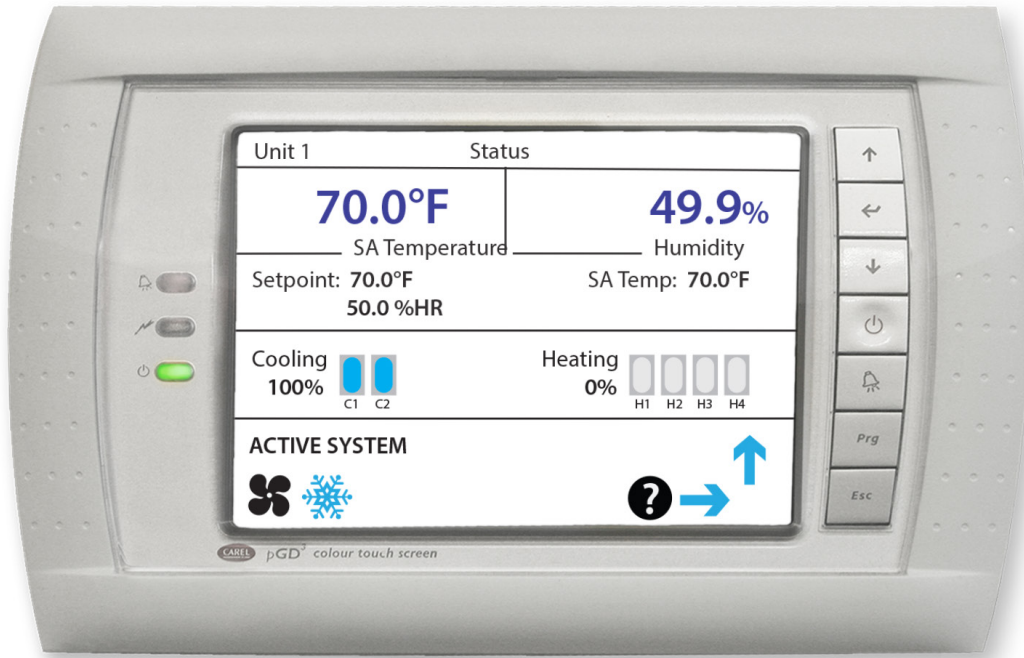


optional **DWDI BLOWERS**

Belt driven and centrifugal type with forward curved blades, both dynamically and statically balanced.

2200+ SERIES CONTROL

Graphical Touch Screen Display



Keeping the control in your hands

Compu-Aire Inc. has always focused special attention on simplicity of use, while at the same time fully exploiting the potential for flexibility and power offered by microprocessor technology.

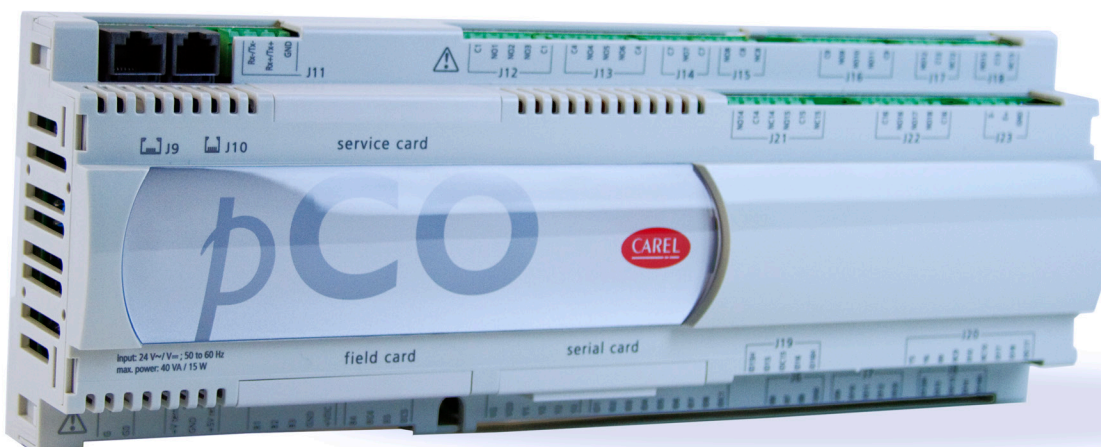
Compu-Aire Inc. offers a diverse range of programmable controls, with state of the art user interfaces, including touch screen displays.

Compu-Aire Inc. 2200+ Series control provides a versatile approach to monitor the precise cooling and heating needs of your critical applications. With the latest technology available to the customer, we are able to provide reliable and flexible features to allow the customer to manage even the most intricate application.

Compu-Aire Inc. user friendly controllers support a variety of communications and protocols, including BacNet, LonWORKS, FTP, HTML, and Modbus.

The 2200+ Microprocessor allows user review and program- ming of temperature and humidity set points, setup selec- tions and alarm parameters.

A password is required to make system changes and the system is provided with internal-diagnostics. The microprocessor controller runs the diagnostics and the analysis is displayed on the graphical interface including all component failure alarms.



Inputs for temperature, humidity and time delay are displayed on the LCD. The Microprocessor provides monitoring of room conditions, operational status, component run times, date and time, and 2 analog inputs from field sensors provided by others.

BMS INTERFACE

Interact and monitor remotely with the pCO web card.

Compu-Aire Inc. advanced microprocessing control system provides access to our equipment through building management system (BMS) supporting industrial standard protocols including Modbus, BACnet, and LonWorks. This ensures easy access to the remote management of the unit via modem and internet.

Available Communications Options

Interfacing with the emerging protocols in the HVAC sector and based on industry standards supporting the following networks:

- BACnet Over Ethernet
- BACnet Over TCP/IP
- BACnet MSTP
- SNMP v1, v2, v3 networks with trap
- Modbus
- RS-485
- LonWorks

BMS Communication protocols

Stand Alone Supervision Over pCO web



BMS Interface:

Our controllers are capable to receive necessary sensor inputs from BMS and utilize it to control the equipment. The controls can monitor the BMS status and if BMS became offline, controller can seamlessly switchover to local sensors and set points to maintain your data center cooling demand.

pLAN Stand alone network

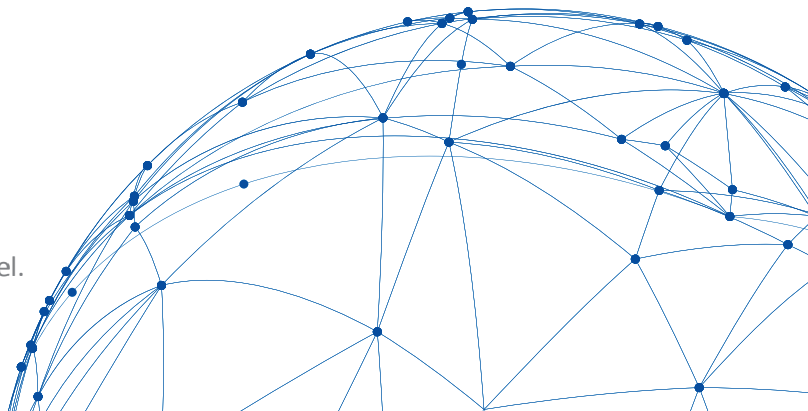
Stand alone supervision over web browser

pCO Web card interface provides:

- Unit status with virtual information
- Room temperature/humidity
- Current set points for temp/humidity
- Mode of operation
- Current status for vital components such as compressors humidifiers, fan and reheat
- current active alarms
- Setpoint control for alarms

The pCO web card configuration interface provides limited access to control room temp/humidity a log with the ability to reset alarms

NOTE: Critical alarms will require manual reset at the unit level.

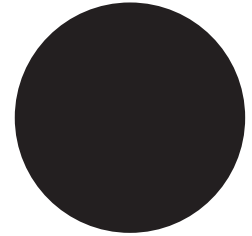


Standard Color Selections

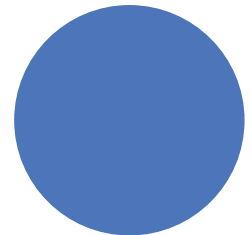


8, 10 & 12

Capacities



Black



Sky Blue



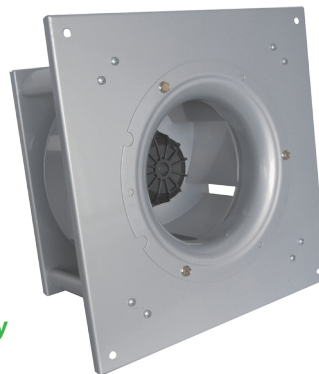
Off White

DOWNFLOW AIR FLOW

Engineered for a raised floor spaces, return air entering through filters at top, and conditioned air leaving through bottom.

Upflow air configuration option available

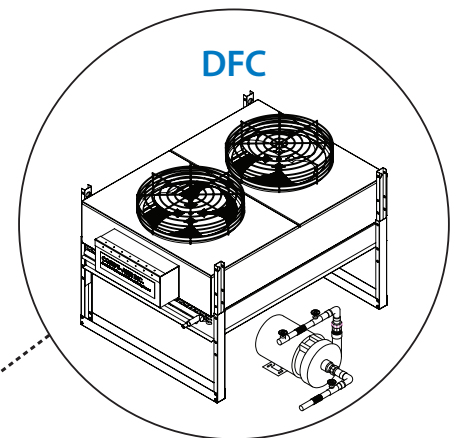
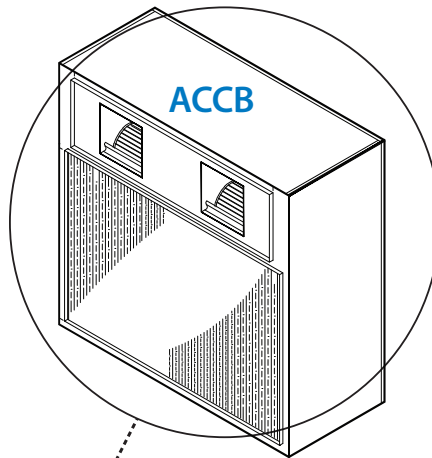
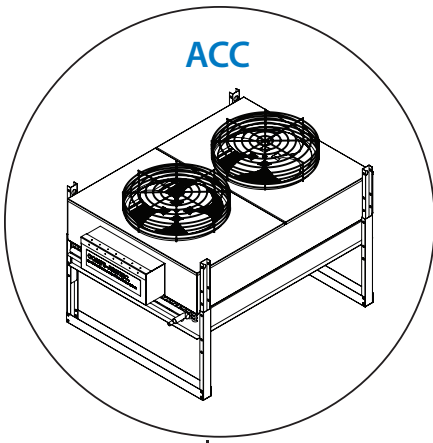
 **Green Technology • Minimal Maintenance • Low Energy**



PLUG FAN WITH EC MOTOR TECHNOLOGY

Standard Backward inclined direct drive Plug Fans with EC Motor, single inlet, single width, centrifugal wheel with an electronic commutated external rotor motor, shall have static and dynamic balance of the complete assembly.

Heat Exchange Systems



The condenser systems are fabricated from galvanized steel sheets divided in individual fan sections by full width baffles. Each fan section shall be separated by full width baffles to prevent bypass air. Structural support members, including coil support frame, motor and drive support, are galvanized steel for strength and corrosion resistance.

**Protective Coating
Options Available:**
*Phenolic Coating
Electro Fin
Blygold
Weatherized Cabinet
Stainless Steel*



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