



COMPU-AIRE INC.

Specialized Environmental Air Conditioning Systems

Compu-Kool

Split Floor Mount Systems

2-8 Ton



R-410A



All computers are highly sensitive to their environment. To function efficiently, they require specific temperature, humidity, and filtration conditions. Failure to meet these specified conditions can result in distorted or lost data and even complete shutdown of computer services.

Compu-Aire understands the special environmental control needs of both main-frame and mini-computer rooms.

Today, Compu-Aire has successfully installed units at defense, government, industrial, and commercial facilities. Compu-Aire's modern manufacturing facilities and experienced technicians are capable of original design and production to fit the needs of the customer, however technically complex.

Compu-Aire's unique air conditioners not only keep pace with rapidly changing computer technology, but offer the highest degree of reliability in component and system operation, for continued service 24 hours a day, 7 days a week.

Compu-Aire offers total environmental air protection for any sizeable computer investment.



CK A 2 1 2 C +

Compu-Kool

Nominal Tonnage

- 2 - 2 Ton
- 3 - 3 Ton
- 4 - 4 Ton
- 5 - 5 Ton
- 6 - 6 Ton
- 8 - 8 Ton

Voltage

- 2 - 208/230
- 3 - 380
- 4 - 460
- 5 - 575

Phase

- 1- 1 phase
- 3 - 3 phase

Type

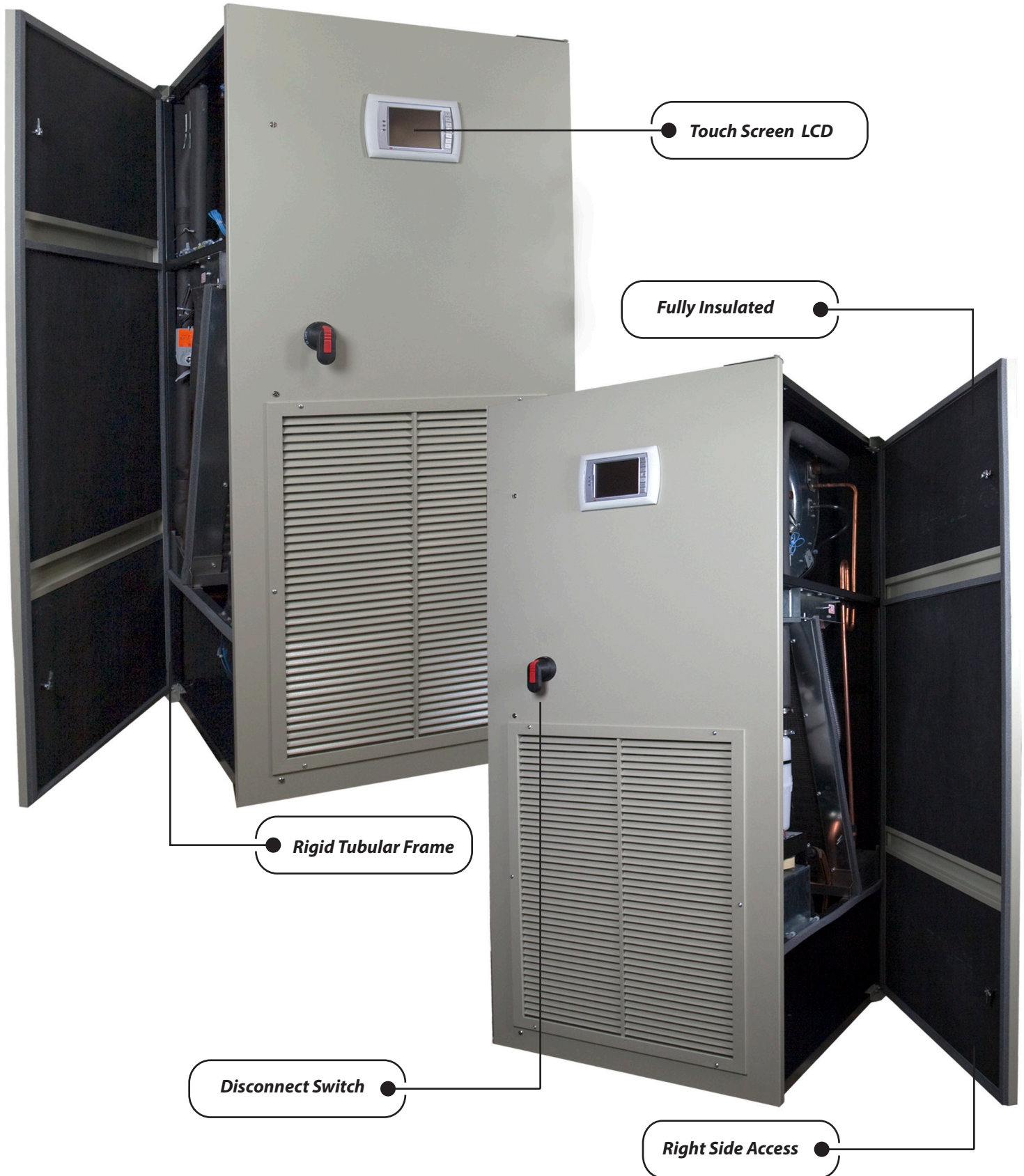
- Air Cooled - A
- Chilled Water - C
- Water Cooled - W
- Glycol Cooled - G
- Evaporator Section Only - W

Chilled Water Plus (Combo System)

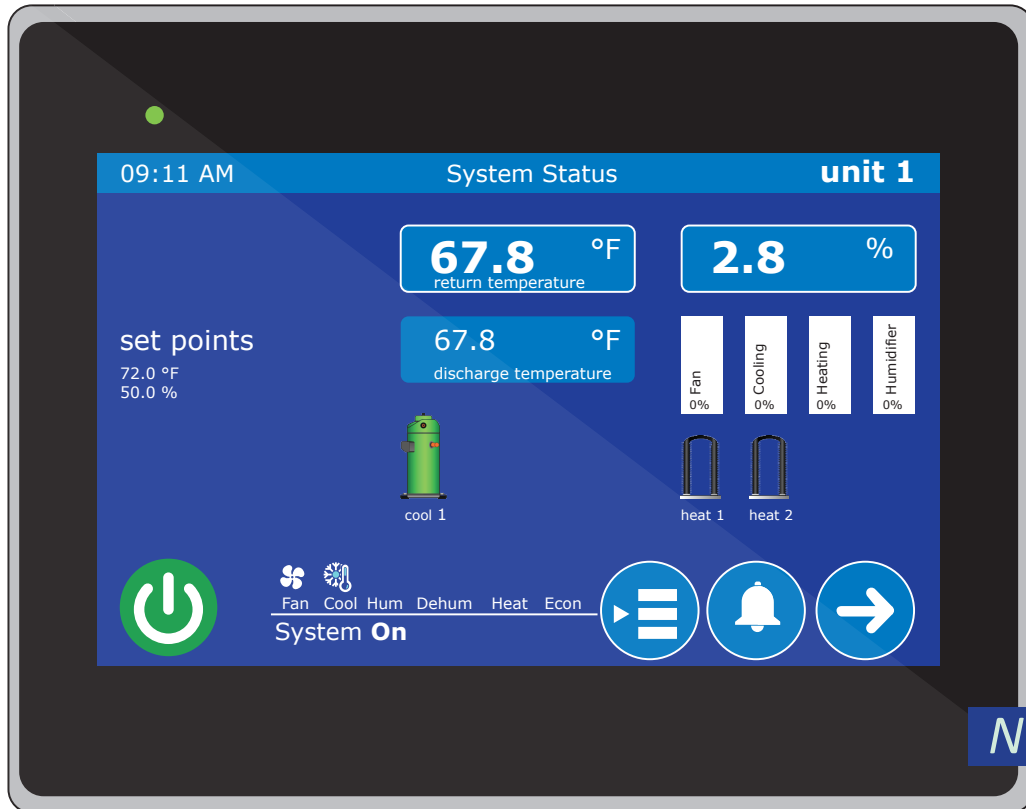
COMPU-KOOL

Split Floor Mount Systems

Easy front, left or right side maintenance access.



Solid. Bold. Precise.



PGD TOUCH + SMART MICROPROCESSOR

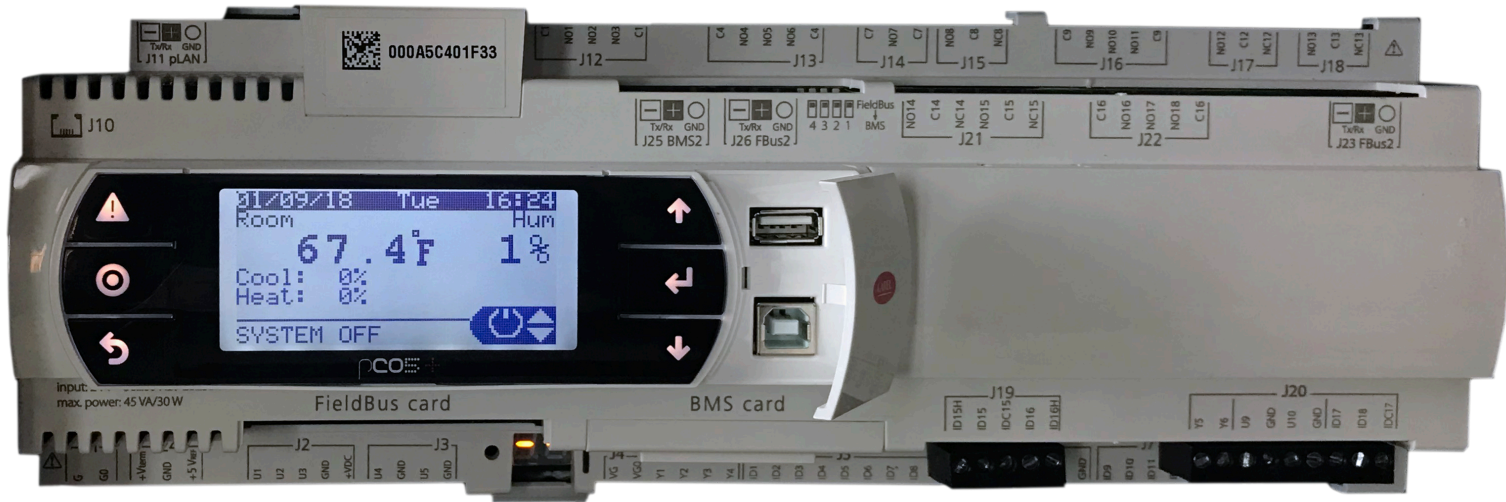
System 2500 SERIES

is programmable controller based on a double microprocessor, designed for precise “Smart” control of an air conditioning system.

The System 2500 is made up of a microprocessor based MAIN BOARD equipped with a set of terminals used to interface the microcontroller board to the controlled devices such as compressors, fans, heaters, humidifiers, and valves.

The program is retained in a flash based memory and configuration parameters are permanently stored (even in the case of a power failure) in a non-volatile memory.

INTELLIGENT MICROPROCESSOR



Automatic functions

- Compressor Short Cycle Control
- System Auto Restart
- Sequential Load Activation
- Common Alarm Relay
- Manual Diagnostics
- Auto redundancy failover to standby units
- Optional selectable alarm relay

Programmable functions

- Temperature Setpoint
- Humidity Setpoint
- Temperature Alarm Points
- Humidity Alarm Points
- Unit Stage Time Delay
- Inter-stage Time Delay
- Audio Alarm (internal LCD)
- Restart Mode
- Fire-stat Tripped

Multilevel User

System 2500 offers a new level of access, each category is protected from unauthorized access



USB

- Software update
- Store Diagrams
- Store O&M



1

Standard User

- System On/Off
- View temperature
- View alarms
- View trendings
- View status
- Setpoints adjustments

2

Technician

- Maintenance
- System set up
- Network set up
- Sensor calibration

3

Admin

- Factory Settings only

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 of-line, 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.

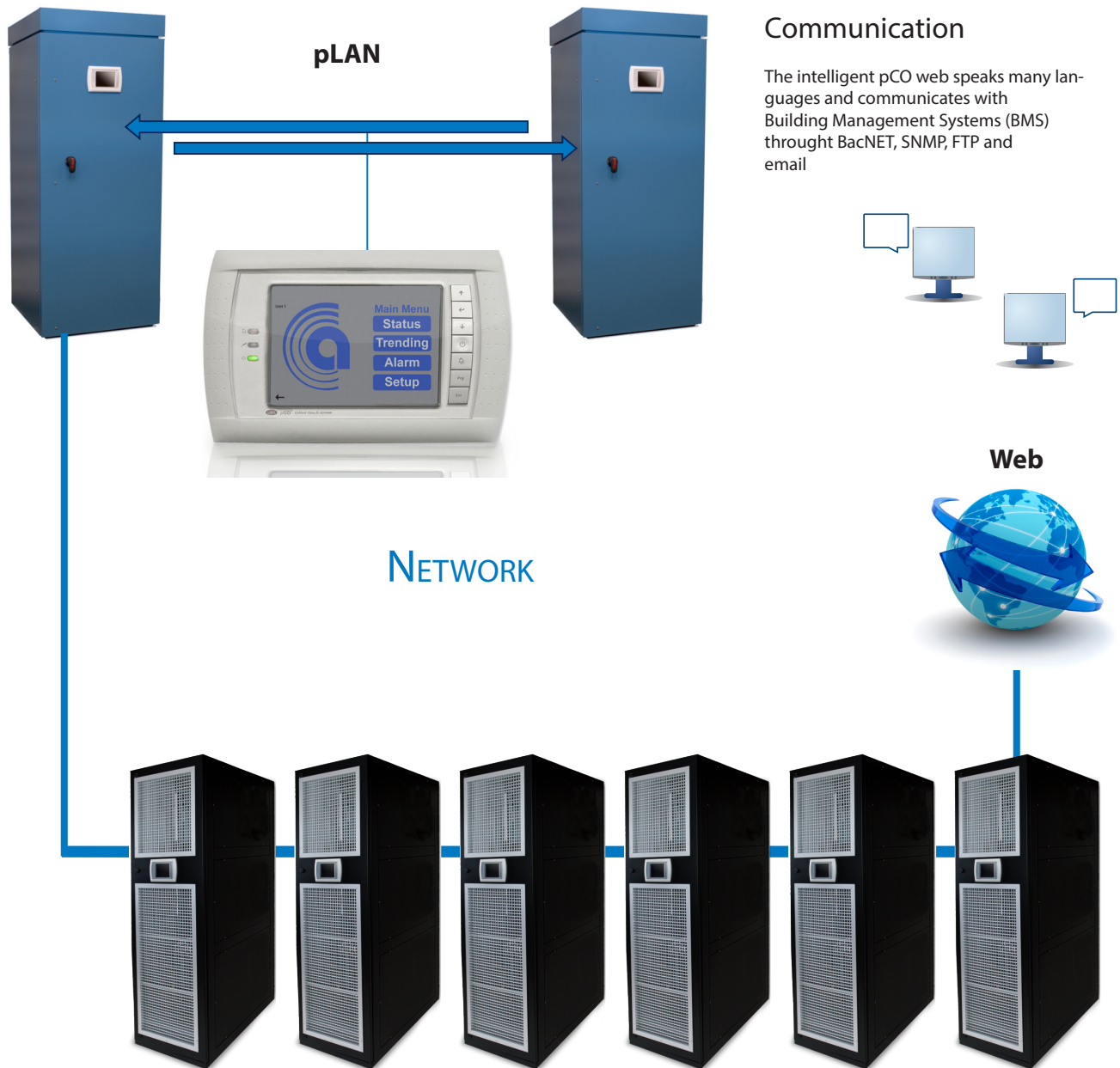
pLAN Stand Alone Network

Programmable Local Area Network

Local and remote monitoring can be achieved with our advanced microcontroller. Based systems are used to provide standalone supervision and control over a pLAN network giving the flexibility of a BMS system at the fraction of the cost.

The p-LAN communication option allows two or more systems to talk to each other, p-LAN can be programmed for system rotation and for system failure over redundancy.

- Supports up to 16 units
- Lead/lag with multiple active & standby
- Unit rotation and auto changeover
- Alarm switchover to standby
- Assisted cooling
- Assisted heating
- Assisted humidification
- Dehumidification



UPFLOW SYSTEM WITH OPTIONAL PLENUM

The Compu-Kool compact and versatile designed can be configured as an Up-flow.

The unit is available for installations where raised computer floors are not required and/or not available. The unit can be provided with a duct flange for ducted supply air distribution.

Designed for in-the-space applications, where utilizing ductwork is practical. Return air entering through front grille and filters, conditioned air leaving through duct connection at top of unit or through the optional Plenum. Other configurations available.



All computers are highly sensitive to their environment. To function efficiently, they require specific temperature, humidity, and filtration conditions. Failure to meet these specified conditions can result in distorted or lost data and even complete shutdown of computer services.

Compu-Aire understands the special environmental control needs of computer, electronic and telecommunications rooms. Fully Insulated Cabinet the Compu-Aire Compu-Kool III cabinet is constructed of 14 gauge heliarc welded tubular steel for strength and protection.

Front access is made easy for servicing via well insulated access panels. A 1" thick, 1.5lb density insulation is utilized.

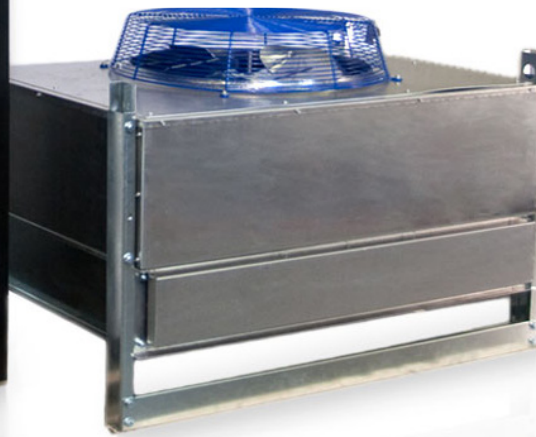
The cabinet has decorative front and side panels, which can be color-coordinated with the décor of the computer room.

Compu-Aire is concerned about energy conservation, which is why the Compu-Aire Compu-Kool III standard reheat is provided in two stages. Each element is finned tubular type, with a low watt density design for extended life.

Each Compu-Aire Compu-Kool III is provided with a pre-piped and pre-wired electronic electrode self-generating steam type humidifier. Completely maintenance free, the humidifier is equipped with a disposable cylinder. The vapor produced is piped directly into the supply air for efficient moisture introduction.

Easy Access To Filters the Compu-Aire Compu-Kool III has standard 2" thick pleated media high efficiency MERV 8 filters which are serviceable from the front of the unit for upflow units and from the top for downflow units.

Compu-Kool III Split System features a pre-charged evaporator coil and expansion valve in the computer room unit, with the scroll compressor, and the condensing equipment located in 4 different types of condensing units Air Cooled Condenser (ACC), Propeller fan type condensing unit (PFCU), Air Cooled Condensing Unit (ACCU), Centrifugal fan type condensing unit (CFCU), Water cooled condensing unit (WCCU) and WCCU/DFC water cooled condensing unit with remote dry fluid cooler and pump that can easily adapt to the customer needs.



The Compu-Kool Coil is provided with high efficiency fins and a larger coil face area. The coil has been designed to provide the maximum sensible heat ratio required by computer rooms and, at the same time, minimizing energy used in air circulation. The coil is split into two stages.

VERSATIL PRECISION COOLING IN A COMPACT DESIGN

Intelligent, Adaptive and Programmable

The large color touch digital display allows you to control the Compu-Kool systems on site or remotely and is BMS friendly.

The flow of refrigerant is controlled by an externally equalized valve. The stainless steel condensate drain pan is provided under the coil with two drains.

Each Compu-Aire Compu-Kool III is equipped with high efficiency scroll compressors.

Each compressor is provided with built-in thermal overload protection, built-in pressure relief valve and built-in current overload Refrigerant Circuits a refrigerant circuit is provided with externally equalized expansion valve, sight glass with moisture indicator, filter drier, pump down cycle (air cooled units), schrader fittings, high pressure switch, low pressure switch.

Refrigeration System

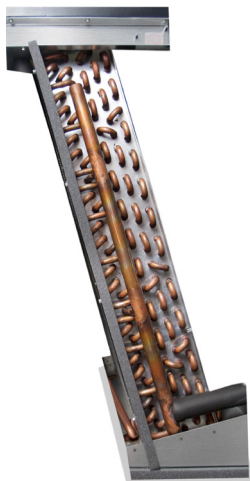
Split System

This system features a precharged evaporator coil and expansion valve in the computer room unit, with the hermetic compressor, and the condensing equipment located in 4 different types of condensing units:

- Air Cooled Condenser (ACC)
- Air Cooled Condenser Unit (ACCU)
- Propeller fan type condensing unit (PFCU)
- Centrifugal fan type condensing unit (CFCU)
- Water cooled condensing unit (WCCU)
- WCCU/DFC water cooled condensing unit with remote dry fluid cooler and pump

Coil

The cooling coil is provided with high efficiency fins and a larger coil face area. The coil has been designed to provide the maximum sensible heat ratio required by computer rooms and, at the same time, minimizing energy used in air circulation. The coil is split into two stages. The flow of refrigerant is controlled by an externally equalized valve.



Condensate Drain Pan

The stainless steel condensate drain pan is provided under the coil with two drains.

Compressor

Each Compu-Aire Compu-Kool III is equipped with high efficiency scroll compressors. Each compressor is provided with:

- Built-in thermal overload protection
- Built-in pressure relief valve
- Built-in current overload



Refrigerant Circuits

A refrigerant circuit is provided with:

- Externally equalized expansion valve
- Sight glass with moisture indicator
- Filter drier
- Pump down cycle (air cooled units)
- Schrader fittings
- High pressure switch
- Low pressure switch



Fully Insulated Cabinet

The Compu-Aire Compu-Kool III cabinet is constructed of 14 gauge heliarc welded tubular steel for strength and protection. Front access is made easy for servicing via well insulated access panels. A 1" thick, 1.5lb density insulation is utilized. The cabinet has decorative front and side panels, which can be color-coordinated with the décor of the computer room.



Maintenance Free Humidifier

Each Compu-Aire Compu-Kool III is provided with a pre-piped and pre-wired electronic electrode self generating steam type humidifier. Completely maintenance free, the humidifier is equipped with a disposable cylinder. The vapor produced is piped directly into the supply air for efficient moisture introduction.



Dehumidification Cycle

High humidity can cause moisture to accumulate on paper media, resulting in handling problems. When the Compu-Aire Compu-Kool III is switched to the dehumidification mode, the reheat feature provided has sufficient capacity to maintain computer room dry bulb conditions.



Easy Access To Filters

The Compu-Aire Compu-Kool III has standard 2" MERV 8 thick pleated media high efficiency filters which are serviceable from the front of the unit for upflow units and from the top for downflow units.

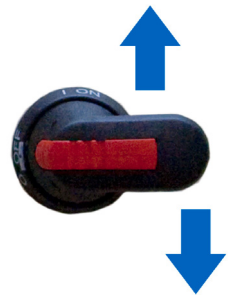
high voltage control panel

Each Compu-Aire Compu-Kool III is equipped with a high voltage panel containing the following components:

- Disconnect switch
- Contactors
- Relays
- Fuse blocks
- Fuses
- Transformer
- Branch circuit protection for all components
- Terminal blocks

Non-Locking Type Disconnect Switch:

(optional) Mounted on the high voltage section of the electrical panel, access to the high voltage panel is permitted after the switch is in the ON or OFF position.



Low Noise Level Fan

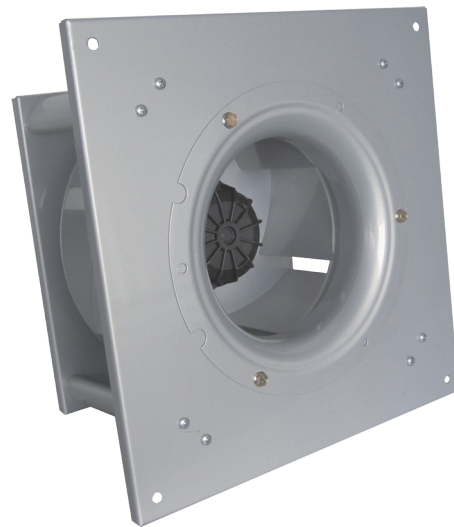
The fan section features:

- Permanently lubricated ball bearings
- Variable pitch drive set
- Draw through air-flow for even air distribution

Low Ambient Control

Low ambient control system features a variable speed motor specially designed to be used in conjunction with a solid state speed controller. The speed controller senses the head pressure of the compressor and varies the speed of the fan to maintain constant condensing temperature. This low ambient control allows system operation in temperatures as low as -20°F ambient temperature.

- ✓ GREEN TECHNOLOGY
- ✓ MINIMAL MAINTENANCE
- ✓ REDUCES ENERGY COST
- ✓ DURABLE EQUIPMENT



PLUG FAN WITH EC MOTOR TECHNOLOGY & COMMUNICATIONS

Intelligent, Adaptive and Programmable

The large color touch digital display allows you to control the Compu-Kool systems on site or remotely and is BMS friendly.

Standard Features For Water Cooled And Glycol Cooled Units

Condensers

The water cooled and glycol cooled condensers are of the heavy duty, tube-in-tube coaxial counter flow type. Condensers are constructed of a combination of an outer tube with a longitudinally finned inner tube for efficient heat transfer.

Regulating Valves

Head pressure operated water regulating valves accurately control the condensing temperature for varying solution temperatures.

Optional Features For All Systems

1. Floorstand

The floor stand is constructed of heliarc welded angle steel with or without vibration isolation pads. They can also be provided with turning vane assembly.

2. Filters

Optional upgraded filters for various requirements are available in lieu of the standard 2" 30% efficient filters. These optional filters are 2" to 4" thick deep pleated filters, 30% to 60% efficient ASHRAE standard 52-76.

3. Locking Type Molded Case Disconnect Switch

Mounted on the high voltage section of the electrical panel, access to the high voltage panel is permitted after the switch is in the OFF position.

4. Condensate Pump

The condensate pump is provided for field installations. A separate power source is required.

Smoke Detector

The smoke detector activates an alarm upon sensing smoke in the room and shuts down the system. It is located in the return air stream.

Water Sensors/Condensate Probes

The probes sense moisture under the floor. Upon sensing moisture, an alarm is activated and will de-energize the system.

Reheat Options

The reheat coils are copper tube and aluminum fins of sufficient capacity to maintain dry bulb conditions during the de-humidification cycle.

Steam Reheat

The coil is factory piped with a 2-way on/off control valve. The strainer and trap are provided for field installation outside of the unit.

Hot Water Reheat

It is factory piped with a 2-way on/off control valve.

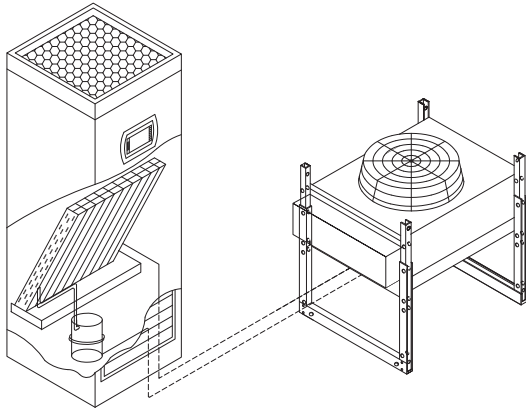
Hot Gas Reheat

Factory piped, the hot gas reheat has a 3-way solenoid valve and refrigerant check valve. The hot gas reheat coils are sized to provide reheat capacity equal to the standard electric reheat capacity.

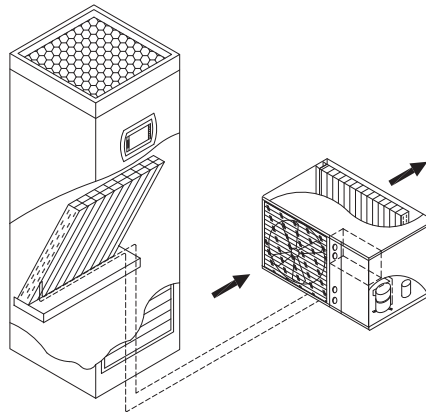
Extra Electric Reheat

Additional electric reheat can be added to units provided with any other optional reheat source.

COMPU-KOOL CAN BE ADAPT TO MEET YOUR SPECIFIC APPLICATION NEEDS.

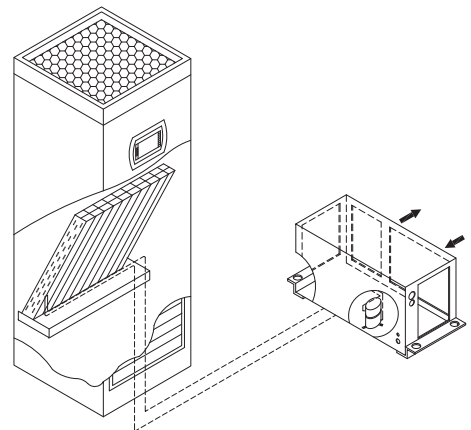


Split Air Cooled Evaporator System with Remote Air Cooled Condenser
CKA with ACC



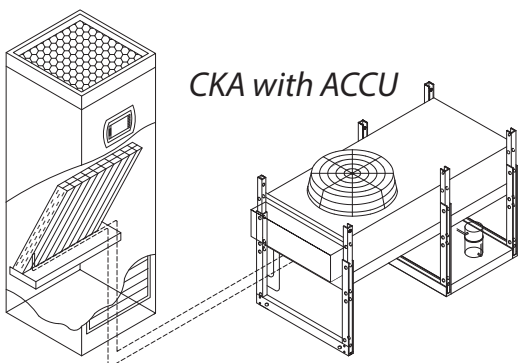
Split Air Cooled Evaporator System with Air Cooled Propeller Condenser Unit

CKA with PFCU

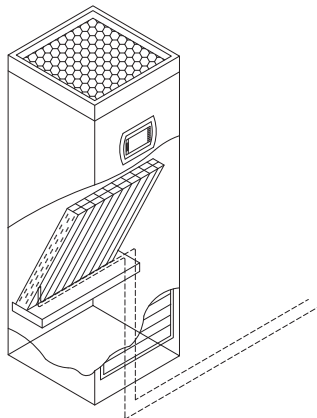


Split Air Cooled Evaporator System with Air Cooled Condensing Unit

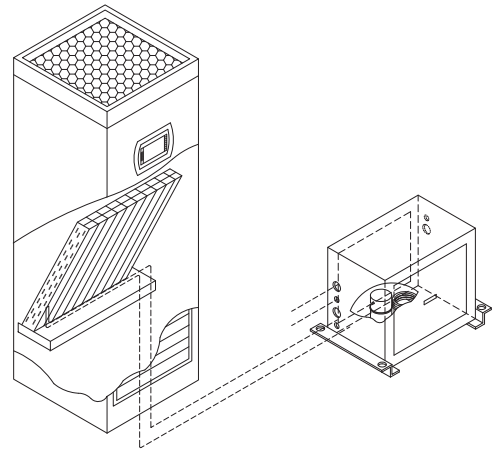
CKA with CFCU



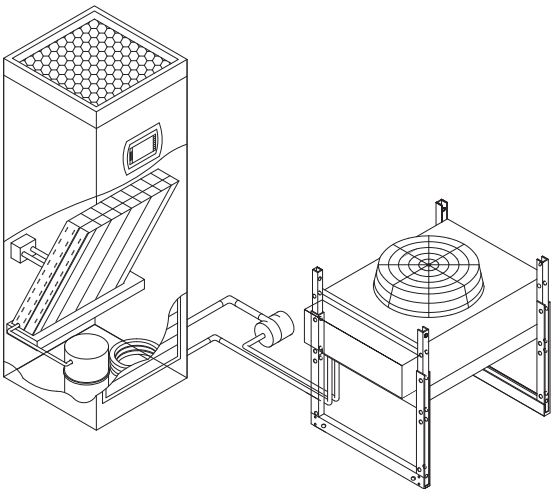
Split Air Cooled Evaporator System with Remote Air Cooled Condensing Unit



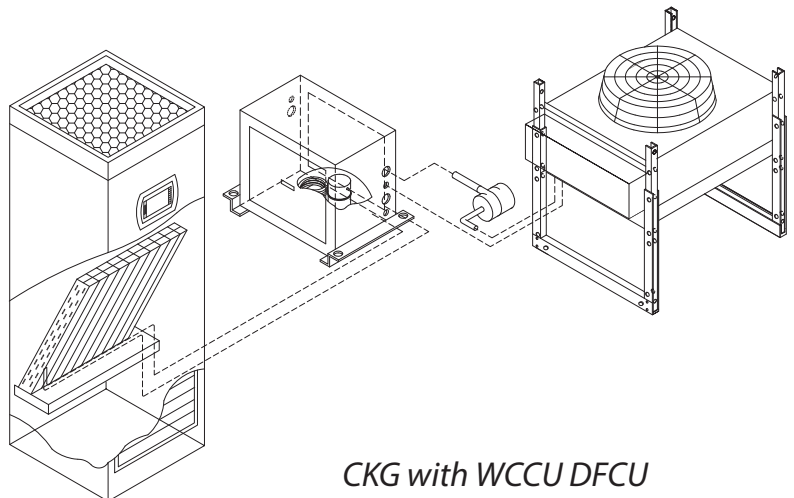
**Chilled Water Cooled
Evaporator System
CKC**



**Split Air Cooled Evaporator System with
Water Cooled Condensing Unit
CKA with WCCU**



**Split Glycol Cooled Evaporator System with
Dry Cooled Fluid
CKG with DFCU**



**CKG with WCCU DFCU
Split Glycol Cooled Evaporator System with Water Cooled
Condensing Unit, Dry Fluid Cooler and Pump**

SPLIT AIR COOLED SYSTEM (CKA) WITH AIR COOLED CONDENSER

NOMINAL TONS

	2	3	4	5	6
Model	CKA-02	CKA-03	CKA-04	CKA-05	CKA-06
CAPACITY DATA (High efficiency R-410A scroll compressor)					
80F DB/67F WB (26.7C DB/19.4C WB) 50% RH Entering Air					
Total-BTU/HR(KW)	33,900 (9.9)	44,300 (13.0)	56,200 (16.5)	65,100 (19.1)	77,100 (22.6)
Sensible-BTU/HR(KW)	23,700 (6.9)	41,200 (12.1)	51,400 (15.1)	59,700 (17.5)	73,200 (21.4)
75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH Entering Air					
Total-BTU/HR(KW)	26,500 (7.8)	41,700 (12.2)	52,200 (15.3)	61,300 (18.0)	69,500 (20.4)
Sensible-BTU/HR(KW)	21,400 (6.3)	38,400 (11.3)	48,100 (14.1)	55,100 (16.1)	65,100 (19.1)
75F DB/61.1F WB (23.9C DB/16.2C WB) 45% RH Entering Air					
Total-BTU/HR(KW)	24,400 (7.2)	43,200 (12.7)	53,600 (15.7)	63,400 (18.6)	73,000 (21.4)
Sensible-BTU/HR(KW)	22,000 (6.4)	38,500 (11.3)	48,200 (14.1)	57,600 (16.9)	66,200 (19.4)
72F DB/58.6F WB (22.2C DB/14.8C WB) 45% RH Entering Air					
Total-BTU/HR(KW)	20,300 (5.6)	37,900 (11.1)	47,200 (13.8)	57,500 (16.8)	62,200 (18.2)
Sensible-BTU/HR(KW)	20,300 (5.6)	34,500 (10.1)	42,500 (12.5)	52,200 (15.3)	55,900 (16.4)
85F DB/65F WB (29C DB/18C WB) 33% RH Entering Air					
Total-BTU/HR(KW)	34,200 (10.0)	45,700 (13.4)	58,700 (17.2)	68,200 (20.0)	81,100 (23.8)
Sensible-BTU/HR(KW)	24,900 (7.3)	44,500 (13.0)	57,800 (16.9)	67,900 (19.8)	80,200 (23.5)
80F DB/63F WB (27C DB/17.2C WB) 38% RH Entering Air					
Total-BTU/HR(KW)	27,400 (8.0)	42,400 (12.4)	51,300 (15.0)	63,400 (18.6)	74,400 (21.8)
Sensible-BTU/HR(KW)	27,000 (7.9)	41,700 (12.2)	50,500 (14.8)	61,700 (18.1)	72,800 (21.3)
Fan Data - Based ON 0.5 inches of external static pressure					
CFM (Ls)	1,000 (472)	1,800 (850)	2,450 (1,104)	2,850 (1,322)	3,050 (1,439)
Fan Motor HP (KW)	.75 (.56)	0.75 (.56)	1.5 (1.12)	2 (1.49)	2 (1.49)
No. of Fans	1	1	1	1	1
Evaporator Coil Data - High efficiency, copper tube/aluminum fin					
Face Area Ft2 (m2)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)
Rows	2	2	2	3	3
Reheat - Electric (Includes motor heat)					
Kw	6	6	12	12	12
BTU/Hr (includes motot heat)	22,510	22,510	56,200	56,200	56,200
Stages	1	1	2	2	2
Humidifier - Electronic steam generator					
kW	3.4	3.4	3.4	3.4	3.4
Capacity-Lb/Hr (kg/hr)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)
Filters - MERV8 efficient ASHRAE standard 52-76					
Downflow 14x25x2	2	2	2	2	2
Upflow 16x25X2	2	2	2	2	2
Effective Area-2" Ft2 (M2)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)
Effective Area-4" Ft2 (M2)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)
Piping Data - All connections are copper O.D					
Liquid Line " (cm)	1/2" (1.27)	1/2" (1.27)	5/8" (1.59)	5/8" (1.59)	5/8" (1.59)
Hot Gas Line " (cm)	5/8" (1.59)	5/8" (1.59)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)
Condensate Line " (cm)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)
Humidifier Supply " (cm)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)
Unit Weight Lb (Kg)	450 (250)	550 (250)	600 (272)	650 (295)	650 (295)

AIR COOLED CONDENSER DATA

Model	ACC-2	ACC-5	ACC-5	ACC-6	ACC-7
Based on 95°F (35°C) ambient					
CFM (L/s)	2,500 (1,180)	5,200 (2,454)	5,200 (2,454)	5,100 (2,407)	5,000 (2,360)
Motor-(Qty) HP (kw)	.17 (.13)	.75 (.56)	0.75 (.56)	0.75 (.56)	.75 (.56)
Liquid Line " (cm)	1/2" (1.27)	1/2" (1.27)	1/2" (1.27)	7/8" (2.22)	7/8" (2.22)
Hot Gas Line " (cm)	5/8" (1.59)	1 1/8" (2.86)	1 1/8" (2.86)	1 1/8" (2.86)	1 1/8" (2.86)
ACC WEIGHT - Lb (Kg)		220	220	245	270

NOMINAL TONS**8**

Model

CKA-08

CAPACITY DATA (High efficiency R-407C scroll compressor)

75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH Entering Air

Total-BTU/HR(KW) 114,900

Sensible-BTU/HR(KW) 91,200

Fan Data - Based ON 0.5 inches of external static pressure

CFM (Ls) 4,700

Fan Motor HP (KW) 2 (1.49)

No. of Fans 1

Evaporator Coil Data - High efficiency, copper tube/aluminum fin

Face Area Ft2 (m2) 15.3

Rows 3

Reheat - Electric (Includes motor heat)

Kw 15

BTU/Hr (includes motot heat) 56,300

Stages 2

Humidifier - Electronic steam generator

kW 6.8

Capacity-Lb/Hr (kg/hr) 17.5

Filters - MERV8 efficient ASHRAE standard 52-76

Downflow 14x25x2 2

Upflow 16x25X2 2

Effective Area-2" Ft2 (M2) 44.6

Effective Area-4" Ft2 (M2) 42.2

Piping Data - All connections are copper O.D

Liquid Line 5/8"

Hot Gas Line 7/8"

Condensate Line 3/4"

Humidifier Supply 1/4"

Unit Weight Lb 650

AIR COOLED CONDENSER DATA

Model

ACC-11

Based on 95°F (35°C) ambient

CFM (L/s) 10,400

Motor-(Qty) HP (kW) 4/5

Liquid Line (2 required) 1/2"

Hot Gas Line (2 required) 1 1/8"

ACC WEIGHT - Lbs. 600

SELF CONTAINED WATER COOLED SYSTEM (CKW)

NOMINAL TONS	2	3	4	5	6
Model	CKW-02	CKW-03	CKW-04	CKW-05	CKW-06
CAPACITY DATA (High efficiency R-410A scroll compressor)					
80F DB/67F WB (26.7C DB/19.4C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	35,700 (10.5)	46,600 (13.7)	59,100 (17.3)	77,400 (22.7)	81,000 (23.7)
Sensible-BTU/HR(KW)	24,900 (7.3)	43,600 (12.8)	54,100 (15.9)	73,100 (21.4)	77,000 (22.6)
75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	27,900 (8.2)	43,900 (12.9)	54,900 (16.1)	76,300 (22.4)	73,200 (21.5)
Sensible-BTU/HR(KW)	22,500 (6.6)	40,400 (11.8)	50,600 (14.9)	59,900 (17.6)	68,500 (20.1)
75F DB/61.1F WB (23.9C DB/16.2C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	25,700 (7.5)	39,700 (11.6)	56,400 (16.5)	71,200 (20.9)	76,800 (22.5)
Sensible-BTU/HR(KW)	23,200 (6.8)	38,500 (11.3)	50,700 (14.9)	65,700 (19.3)	69,700 (20.4)
72F DB/58.6F WB (22.2C DB/14.8C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	21,400 (6.3)	39,900 (11.7)	50,200 (17.6)	59,600 (17.5)	65,500 (19.2)
Sensible-BTU/HR(KW)	21,400 (6.3)	37,300 (10.9)	44,700 (13.1)	58,800 (17.2)	61,500 (18.0)
85F DB/65F WB (29C DB/18C WB) 33% RH ENTERING AIR					
Total-BTU/HR(KW)	36,000 (10.6)	46,900 (13.8)	61,700 (18.1)	82,600 (24.2)	85,400 (25.5)
Sensible-BTU/HR(KW)	26,200 (7.7)	45,700 (13.4)	60,800 (17.8)	80,200 (23.5)	84,400 (24.7)
80F DB/63F WB (27C DB/17.2C WB) 38% RH ENTERING AIR					
Total-BTU/HR(KW)	28800 (8.4)	44,900 (13.2)	54,000 (15.8)	77,400 (22.7)	78,300 (23.0)
Sensible-BTU/HR(KW)	28400 (8.4)	42,600 (12.5)	53,200 (15.6)	72,700 (21.3)	76,600 (22.5)
Fan Data - Based ON 0.5 inches of external static pressure					
CFM (Ls)	1,000 (472)	1,800 (850)	2,450 (1,104)	2,850 (1,322)	3,050 (1,439)
FAN MOTOR HP (KW)	.75 (.56)	0.75 (.56)	1.5 (1.12)	2 (1.49)	2 (1.49)
No. of Fans	1	1	1	1	1
Evaporator Coil Data - High efficiency, copper tube/aluminum fin					
Face Area Ft2 (m2)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)
Rows	2	2	2	3	3
Reheat - Electric (Includes motor heat)					
Kw	6	6	12	12	12
BTU/Hr (includes motot heat)	22,510	22,510	56,200	56,200	56,200
Stages	1	1	2	2	2
Humidifier - Electronic Steam Generator					
kW	3.4	3.4	3.4	3.4	3.4
Capacity-Lb/Hr (kg/hr)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)
Filters - MERV-8 efficient ASHRAE standard 52-76					
Downflow 14x25x2	2	2	2	2	2
Upflow 16x25X2	2	2	2	2	2
Effective Area-2" Ft2 (M2)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)
Effective Area-4" Ft2 (M2)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)
Piping Data - All connections are copper O.D					
Water Inlet /Outlet " (cm)	3/4" (1.91)	3/4" (1.91)	1 1/8" (2.86)	1 1/8" (2.86)	1 1/8" (2.86)
Condensate Line " (cm)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)
Humidifier Supply " (cm)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)
Unit Weight Lb (Kg)	480 (218)	610 (277)	625 (284)	675 (284)	750 (340)

SELF CONTAINED AIR COOLED SYSTEM (CKE) WITH AIR COOLED CONDENSING UNIT

NOMINAL TONS	2	3	4	5	6
MODEL	CKE-02	CKE-03	CKE-04	CKE-05	CKE-06
CAPACITY DATA (High efficiency R-410A system)					
80F DB/67F WB (26.7C DB/19.4C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	33,900 (9.9)	44,300 (13.0)	56,200 (16.5)	65,100 (19.1)	77,100 (22.6)
Sensible-BTU/HR(KW)	23,700 (6.9)	41,200 (12.1)	51,400 (15.1)	59,700 (17.5)	73,200 (21.4)
75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	26'500 (7.8)	41,700 (12.2)	52,200 (15.3)	61,300 (18.0)	69,500 (20.4)
Sensible-BTU/HR(KW)	21,400 (6.3)	38,400 (11.3)	48,100 (14.1)	55,100 (16.1)	65,100 (19.1)
75F DB/61.1F WB (23.9C DB/16.2C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	24,400 (7.2)	43,200 (12.7)	53,600 (15.7)	63,400 (18.6)	73,000 (21.4)
Sensible-BTU/HR(KW)	22,000 (6.4)	38,500 (11.3)	48,200 (14.1)	57,600 (16.9)	66,200 (19.4)
72F DB/58.6F WB (22.2C DB/14.8C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	20,300 (5.6)	37,900 (11.1)	47,200 (13.8)	57,500 (16.8)	62,200 (18.2)
Sensible-BTU/HR(KW)	20,300 (5.6)	34,500 (10.1)	42,500 (12.5)	52,200 (15.3)	55,900 (16.4)
85F DB/65F WB (29C DB/18C WB) 33% RH ENTERING AIR					
Total-BTU/HR(KW)	34,200 (10.0)	45,700 (13.4)	58,700 (17.2)	68,200 (20.0)	81,100 (23.8)
Sensible-BTU/HR(KW)	24,900 (7.3)	44,500 (13.0)	57,800 (16.9)	67,900 (19.8)	80,200 (23.5)
80F DB/63F WB (27C DB/17.2C WB) 38% RH ENTERING AIR					
Total-BTU/HR(KW)	27,400 (8.0)	42,400 (12.4)	51,300 (15.0)	63,400 (18.6)	74,400 (21.8)
Sensible-BTU/HR(KW)	27,000 (7.9)	41,700 (12.2)	50,500 (14.8)	61,700 (18.1)	72,800 (21.3)
FAN DATA - Based ON 0.5 inches of external static pressure					
CFM (Ls)	1,000 (472)	1,800 (850)	2,450 (1,104)	2,850 (1,322)	3,050 (1,439)
FAN MOTOR HP (KW)	.75 (.56)	0.75 (.56)	1.5 (1.12)	2 (1.49)	2 (1.49)
No. of Fans	1	1	1	1	1
Evaporator Coil Data - High efficiency, copper tube/aluminum fin					
Face Area Ft2 (m2)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)
Rows	2	2	2	3	3
Reheat - Electric (Includes motor heat)					
Kw	6	6	12	12	12
BTU/Hr (includes motot heat)	22,510	22,510	56,200	56,200	56,200
Stages	1	1	2	2	2
Humidifier - Electronic steam generator					
kW	3.4	3.4	3.4	3.4	3.4
Capacity-Lb/Hr (kg/hr)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)
Filters - MERV-8 efficient ASHRAE standard 52-76					
Downflow 14x25x2	2	2	2	2	2
Upflow 16x25X2	2	2	2	2	2
Effective Area-2" Ft2 (M2)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)
Effective Area-4" Ft2 (M2)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)
Piping Data - All connections are copper O.D					
Liquid Line " (cm)	1/2" (1.27)	1/2" (1.27)	5/8" (1.59)	5/8" (1.59)	5/8" (1.59)
Suction Line " (cm)	3/4" (1.91)	3/4" (1.91)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)
Condensate Line " (cm)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)
Humidifier Supply " (cm)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)
Unit Weight Lb (Kg)	490 (222)	505 (229)	510 (231)	520 (236)	

Air Cooled Condensing Unit Data - Based on 95°F (35C) ambient

Model	PFCU-2	PFCU-3	PFCU-4	PFCU-5	PFCU-6
CFM (L/s)	1,600 (755)	2,400 (1,132)	3,200 (1,510)	4,000 (1,888)	
Motor- HP (kw)	0.33 (.25)	0.33 (.25)	0.75 (.56)	0.75 (.56)	.75 (.56)
Liquid Line " (cm)	1/2" (1.27)	1/2" (1.27)	5/8" (1.59)	5/8" (1.59)	5/8" (1.59)
Suction Line " (cm)	3/4" (1.91)	3/4" (1.91)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)
PFCU WEIGHT - Lb (Kg)	310 (140)	325 (148)	335 (152)	340 (155)	

SELF CONTAINED WATER COOLED SYSTEM (CKC)

NOMINAL TONS/GPM	2/6.0	3/10.0	4/14.0	5/18.0	6/22.0
Model	CKC-02	CKC-03	CKC-04	CKC-05	CKC-06
CAPACITY DATA (Based on 45F EWT)					
80F DB/67F WB (26.7C DB/19.4C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	34,200 (10.0)	49,700 (14.6)	76,100 (22.3)	88,000 (25.8)	109,100 (32.0)
Sensible-BTU/HR(KW)	23,300 (6.8)	35,700 (10.5)	54,800 (16.1)	62,900 (18.4)	75,200 (22.0)
75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	26,500 (7.7)	38,700 (11.4)	59,700 (17.5)	68,500 (20.1)	84,900 (24.9)
Sensible-BTU/HR(KW)	20,900 (6.1)	32,300 (9.5)	49,600 (14.5)	56,700 (16.6)	67,500 (19.8)
75F DB/61.1F WB (23.9C DB/16.2C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	24,600 (7.0)	36,500 (10.7)	56,400 (16.5)	64,500 (18.9)	79,200 (23.2)
Sensible-BTU/HR(KW)	21,800 (6.4)	33,900 (9.9)	52,100 (15.3)	59,400 (17.4)	70,200 (20.6)
72F DB/58.6F WB (22.2C DB/14.8C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	21,200 (6.2)	31,800 (9.3)	49,100 (14.4)	56,000 (16.4)	68,000 (19.9)
Sensible-BTU/HR(KW)	20,200 (5.9)	30,200 (8.8)	48,900 (14.3)	55,800 (16.4)	65,400 (19.2)
85F DB/65F WB (29C DB/18C WB) 33% RH ENTERING AIR					
Total-BTU/HR(KW)	32,400 (9.5)	48,000 (14.1)	74,400 (21.8)	84,900 (24.9)	103,800 (30.4)
Sensible-BTU/HR(KW)	29,400 (8.6)	46,200 (13.5)	71,100 (20.8)	81,200 (23.8)	95,300 (27.9)
80F DB/63F WB (27C DB/17.2C WB) 38% RH ENTERING AIR					
Total-BTU/HR(KW)	28,400 (8.3)	42,100 (12.3)	65,300 (19.8)	74,400 (21.8)	91,200 (26.7)
Sensible-BTU/HR(KW)	25,600 (7.5)	40,100 (11.8)	61,800 (18.1)	70,500 (20.7)	83,000 (24.3)
FAN DATA - Based ON 0.5 inches of external static pressure					
CFM (Ls)	1,000 (472)	1,800 (850)	2,450 (1,104)	2,850 (1,322)	3,050 (1,439)
FAN MOTOR HP (KW)	.75 (.56)	0.75 (.56)	1.5 (1.12)	2 (1.49)	2 (1.49)
No. of Fans	1	1	1	1	1
EVAPORATOR COIL DATA - High efficiency, copper tube/aluminum fin					
Face Area Ft ² (m ²)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)
Rows	2	2	3	3	4
Reheat - Electric (Includes motor heat)					
Kw	6	6	12	12	12
BTU/Hr (includes motot heat)	22,510	22,510	56,200	56,200	56,200
Stages	1	1	2	2	2
Humidifier - Electronic steam generator					
kW	3.4	3.4	3.4	3.4	3.4
Capacity-Lb/Hr (kg/hr)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)
Filters - MERV-8 efficient ASHRAE standard 52-76					
Downflow 14x25x2	2	2	2	2	2
Upflow 16x25X2	2	2	2	2	2
Effective Area-2" Ft ² (M ²)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)	20.2 (1.88)
Effective Area-4" Ft ² (M ²)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)	31.2 (2.90)
Piping Data - All connections are copper O.D					
Water Inlet /Outlet " (cm)	3/4" (1.91)	3/4" (1.91)	1 1/8" (2.86)	1 1/8" (2.86)	1 1/8" (2.86)
Condensate Line " (cm)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)
Humidifier Supply " (cm)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)
Unit Weight Lb (Kg)	475 (216)	490 (223)	525 (239)	550 (250)	600 (272)

SELF CONTAINED WATER COOLED SYSTEM (CKC)

Model **CKC-08**

CAPACITY DATA (Based on 45F EWT)

80°F DB/67°F WB (26.7C DB/19.4C WB) 50% RH ENTERING AIR

Total-BTU/HR(KW)	126,303
Sensible-BTU/HR(KW)	90,800

75°F DB/62.5°F WB (23.9C DB/16.9C WB) 50% RH ENTERING AIR

Total-BTU/HR(KW)	84,262
Sensible-BTU/HR(KW)	73,713

72°F DB/60°F WB (22.2C DB/14.8C WB) 45% RH ENTERING AIR

Total-BTU/HR(KW)	60,996
Sensible-BTU/HR(KW)	60,996

70°F DB/58.6°F WB (29C DB/18C WB) 33% RH ENTERING AIR

Total-BTU/HR(KW)	60,996
Sensible-BTU/HR(KW)	60,996

FAN DATA - Based ON 0.5 inches of external static pressure

CFM (Ls)	4,200
FAN MOTOR HP (KW)	.75
No. of Fans	1

EVAPORATOR COIL DATA - High efficiency, copper tube/aluminum fin

Face Area Ft2 (m2)	8.12
Rows	6

CHILLED WATER DATA - @42°F Entering Water Temperature 58°F Leaving Water Temperature

Fluid Concentration	100% Water
GPM	10.2
Pressure Drop	0.3"

Reheat - Electric (Includes motor heat)

Kw	12
BTU/Hr (includes motor heat)	43,300
Stages	2

Humidifier - Electronic steam generator

kW	3.4
Capacity-Lb/Hr (kg/hr)	10

Filters - MERV-8 efficient ASHRAE standard 52-76

Downflow 20x25x2	2
Upflow 16x25x2	2
Effective Area-2" Ft2 (M2)	20.2

Piping Data - All connections are copper O.D

Water Inlet /Outlet	1 1/8"
Condensate Line	3/4"
Humidifier Supply	1/4"
Unit Weight Lb (Kg)	625

SELF CONTAINED GLYCOL COOLED SYSTEM (CKG) WITH DRY FLUID COOLER

NOMINAL TONS	2	3	4	5	6
MODEL	CKG-02	CKG-03	CKG-04	CKG-05	CKG-06
CAPACITY DATA (High efficiency R-410A scroll compressor)					
80F DB/67F WB (26.7C DB/19.4C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	32,100 (9.4)	41,400 (12.1)	52,600 (15.4)	68,900 (20.2)	72,100 (21.1)
Sensible-BTU/HR(KW)	22,700 (6.7)	38,800 (11.4)	48,200 (14.1)	65,100 (19.1)	68,500 (20.1)
75F DB/62.5F WB (23.9C DB/16.9C WB) 50% RH ENTERING AIR					
Total-BTU/HR(KW)	25,400 (7.4)	39,100 (11.5)	48,700 (14.3)	67,900 (19.9)	69,100 (20.2)
Sensible-BTU/HR(KW)	20,400 (6.0)	35,900 (10.5)	45,000 (13.2)	53,300 (15.6)	61,000 (17.9)
75F DB/61.1F WB (23.9C DB/16.2C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	23,400 (6.9)	35,300 (10.4)	50,200 (14.7)	63,400 (18.6)	68,400 (20.1)
Sensible-BTU/HR(KW)	21,100 (6.2)	34,300 (10.1)	45,100 (13.2)	58,800 (17.2)	62,000 (18.2)
72F DB/58.6F WB (22.2C DB/14.8C WB) 45% RH ENTERING AIR					
Total-BTU/HR(KW)	19,500 (5.7)	35,500 (10.4)	44,500 (13.0)	53,000 (15.5)	58,300 (17.1)
Sensible-BTU/HR(KW)	19,500 (5.7)	33,200 (9.7)	39,800 (11.7)	51,600 (15.1)	54,700 (16.0)
85F DB/65F WB (29C DB/18C WB) 33% RH ENTERING AIR					
Total-BTU/HR(KW)	32,800 (9.6)	41,700 (12.2)	54,900 (16.1)	73,500 (21.5)	76,000 (22.3)
Sensible-BTU/HR(KW)	23,800 (7.0)	40,700 (11.9)	54,100 (15.9)	71,400 (20.9)	75,100 (22.0)
80F DB/63F WB (27C DB/17.2C WB) 38% RH ENTERING AIR					
Total-BTU/HR(KW)	26,200 (7.7)	39,900 (11.7)	48,100 (14.1)	68,900 (20.2)	69,700 (20.4)
Sensible-BTU/HR(KW)	25,800 (7.6)	27,900 (8.2)	47,300 (13.9)	64,700 (19.0)	68,200 (20.0)
FAN DATA - Based ON 0.5 inches of external static pressure					
CFM (Ls)	1,000 (472)	1,800 (850)	2,450 (1,104)	2,850 (1,322)	3,050 (1,439)
FAN MOTOR HP (KW)	.75 (.56)	0.75 (.56)	1.5 (1.12)	2 (1.49)	2 (1.49)
No. of Fans	1	1	1	1	1
EVAPORATOR COIL DATA - High efficiency, copper tube/aluminum fin					
Face Area Ft ² (m ²)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)	6.94 (.65)
Rows	2	2	2	3	3
WATER DATA - 125 PSIG working pressure					
GPM (L/s)	8.0 (.51)	12.0 (.77)	15.0 (.96)	18.5 (1.19)	30.0 (1.9)
Pressure Drop FT (kPa)	20.3 (58.6)	28.5 (82.3)	32.3 (93.3)	35.2 (101.7)	
REHEAT - Electric (Includes motor heat)					
Kw	6	6	12	12	12
BTU/Hr (includes motot heat)	22,510	22,510	56,200	56,200	56,200
Stages	1	1	2	2	2
HUMIDIFIER - Electronic steam generator					
kW	3.4	3.4	3.4	3.4	3.4
Capacity-Lb/Hr (kg/hr)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)	10 (4.5)
PIPING DATA - All connections are copper O.D					
Water Inlet /Outlet " (cm)	3/4" (1.91)	3/4" (1.91)	1 1/8"	1 1/8" (2.86)	
Condensate Line " (cm)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)	3/4" (1.91)
Humidifier Supply " (cm)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)	1/4" (.64)
Unit Weight Lb (Kg)	580	610 (227)	625 (284)	675 (306)	725 (329)

AIR COOLED DRY FLUID COOLER DATA - Based on 95F (35C) ambient

Model	DFC-3	DFC-6	DFC-8	DFC-11	DFC-13
CFM (L/s)	2,400 (1,128)	5,100 (2,397)	4,900 (2,303)	10,400 (4,888)	10,200 (4,814)
Motor- HP (kw)	0.6	0.75 (.56)	0.75 (.56)	0.75 (.56)	0.75 (.56)
QTY.	1	1	1	2	2
PIPING CONNECTION DATA-All sizes ar in copper O.D.					
Inlet/Outlet Connections " (cm)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)	7/8" (2.22)
DFC weight LB (kg)	145 (66)	245 (111)	295 (134)	340 (154)	355 (161)
PUMP DATA - Available head FT. 90 (260 kpa) Base mounted					
GPM (L/s)	8.0 (.51)	12.0 (.77)	15.0 (.96)	18.5 (1.19)	30.0 (1.9)



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