



**COMPU-AIRE INC.**

*Specialized Environmental Air Conditioning Systems*



**AYAN IV™**

In Row Cooling System

# AYAN IV

## In Row Cooling System 5 Ton Capacity

The Compu-Aire Inc. Ayan IV In Row Unit is the latest addition to the Compu-Kool line. This new unit is designed to create an efficient and modern cooling system, without sacrificing space and specifications. This unit has been designed to be green friendly, by using a high efficiency scroll compressor with EC fans, making it the latest innovation for the customer's specific cooling needs.

This unit has been designed to provide cooling in a horizontal direction, creating a new way to position the unit. The individual unit can be positioned between the racks, creating a more even dissipation of extreme heat from the servers.

We have compiled data from various case studies of data centers that enabled us to design an efficient and modern cooling system.

### KEY CONSIDERATIONS

- Elimination of hot spots
- Ensure stable inlet temperatures at servers
- Eliminate air short cycling
- Higher heat ratio

### WHY AYAN IV?

- Reliability
- Performance
- Advanced temperature control
- Remote monitoring

### FLEXIBILITY

By creating a unit with horizontal cooling, this prevents the mixing of hot and cold air, creating a more efficient cooling unit.

This allows the unit to run to its best capabilities, allowing for improved air conduction, since the cold air is transported through the side outlets, and throughout the entire facility.

### FEATURES

- Scroll compressor
- Crankcase heater
- High pressure switch
- Manually reset
- Low pressure switch
- Condenser coil
- Sight glass
- Filter/dryer



### IDEALLY SUITED FOR

- Data centers
- Telecommunications facilities
- Industrial process control centers
- And many sensitive electronic applications

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# Features

## CABINET

All exterior panels are constructed of reinforced furniture grade steel and shall be insulated with 1", 1.5 lbs. density insulation.

The decorative panels are also painted. Front access is made easy for servicing via well insulated access panels.

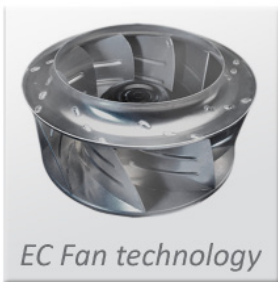
The cabinet has decorative front and side panels, which can be color coordinated with the décor of the computer room data center.

## 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 data centers and, at the same time, minimizing energy used in air circulation. The flow of refrigerant is controlled by an externally equalized valve.

## FULLY INSULATED CABINET

The Compu-Aire Ayan IV cabinet is constructed of 14 gauge heliarc welded tubular steel for strength and protection. A 1" thick, 1.5lb density insulation is utilized.



## EC FAN TECHNOLOGY

The evaporator sections are configured for draw-thru air pattern to provide uniform Air Flow over the coil face area. Each fan is a cassette type complete with a variable speed high efficiency EC motor directly driven by the

controller with 0-10 VDC output for precise air flow volume control. Plug fans do not require belt replacement or service and are rated for 40,000 hours of operation under full load conditions. The cassette type design provides the user a simple replacement, allowing for minimum down time during service.

## FILTERS

A filter rack is an integral part of the unit, and is located within the cabinet. The filters are serviceable from the top and front. The filters are 30% efficiency based on ASHRAE standard 52-76.

## LOW AMBIENT OPERATION

### FAN CONTROL

Fan control will automatically be cycling fans in sequence to maintain operable head pressure, as ambient temperatures lower.

## TOUCH SCREEN GRAPHICAL DISPLAY

The System 2200 Plus Advanced Microprocessor is the latest state of the art user interface, featuring a 5.7" touch screen display with 1/4 VGA resolution, and a 32-bit microprocessor that allows the management of complex graphic images up to 320x240 pixels in size and, with up to 256 colors, various animated icons, non-proportional fonts in Unicode format, trend graphs of alarms, temperature, humidity, pressure values, and air speed.



## STANDARD FEATURES

- Stand alone panel
- Graphical color touch screen display
- Smooth keypad type with tactile feedback
- 10 analog inputs & 18 digital outputs
- 4 modulating analog outputs
- N.C & N.O relay for common or selectable alarm output
- Adjustable alarm delay
- 7-day time clock with night setback schedule
- Nonvolatile storage memory for setup information
- DIN rail compatible for easy installation
- Auto restart on power lost
- Anti-compressor short cycling logic
- Alarm and trend logs with time stamp

## OPTIONAL FEATURES

- Remote start/stop
- P-LAN network lead/lag, redundancy and auto changeover
- Customized user monitoring sensor
- Pressure transducers
- Leak detection & pump fail alarms
- Smoke alarm

## Technical Data

Model	CKA-5 IR (Air Cooled)
Energy Efficiency Ration	
Capacity Data	
<b>80° DB, 67° WB (26.7°C CB, 16.9°C WB) 50% RH Entering Air</b>	
Total BTU/HR (kw)	70,200 (20.53)
Sensible BTU/HR (kw)	54,790 (16.02)
<b>75° DB, 62.5° WB (23.9°C CB, 16.9°C WB) 50% RH Entering Air</b>	
Total BTU/HR (kw)	56,006 (16.41)
Sensible BTU/HR (kw)	49,396 (14.48)
<b>72° DB, 60° WB (22.2°C CB, 15.5°C WB) 50% RH Entering Air</b>	
Total BTU/HR (kw)	51,949 (15.23)
Sensible BTU/HR (kw)	47,949 (13.97)
<b>72° DB, 58.6° WB (22.2°C CB, 14.8.9°C WB) 50% RH Entering Air</b>	
Total BTU/HR (kw)	52,060 (15.26)
Sensible BTU/HR (kw)	51,378 (15.06)
<b>Fan Data</b>	
Fan Motor HP (kw)	1.3
CFM(L/s)	2,400 (1133)
ESP. In. WC(Pa)	0.3 (75)
<b>Coil Data- High Efficiency Copper Tubing Aluminum Fins</b>	
Face Area Ft2(m2)	6 (0.56)
Rows	4
<b>Compressor Data-Heat Pump Duty Scroll R-407C</b>	
Size	5
EER	14
<b>Humidifier Data-Self Generating Steam Type With Disposable Cylinder</b>	
kW	3.4
LBS/HR (kg/hr)	10.0 (4.5)
<b>Filter Data-30% Efficiency Based on ASHRAE 52-76</b>	
20 x 25x 2	2
Effective Area Ft2 (m2)	20.2 (1.88)
<b>Piping Connection Data-All Sizes in Copper OD</b>	
Liquid Line	5/8"
Hot Gas Line	7/8"
Humidifier Water Supply	1/4
Condensate Drain	3/4
<b>Unit Size</b>	
Height	78.75"
Width	23.75"
Depth	42.50"
Unit Weight LBS (kg)	650 (295)

Air Cool data shown, other cooling options available.

Adaptable  
Dependable  
Reliable



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