



Ceiling Mount systems
Self Contained & Split
2-12 Tons

Precision cooling & humidity control for small to medium areas.

Maxi-Kool



MKA-2 1 2 (E)

Maxi-Kool

Type

Air Cooled - **A**
Chilled Water Cooled - **C**
Glycol Cooled - **G**
Water Cooled - **W**
Split Evap Section - **(E)**

Nominal Tonnage

1.5–2 Ton

E - Evap. Section

C - Condenser Section

EM - Energy Miser

C+ - Chilled Water Combination

Voltage

2 - 208

3 - 380

4 - 460

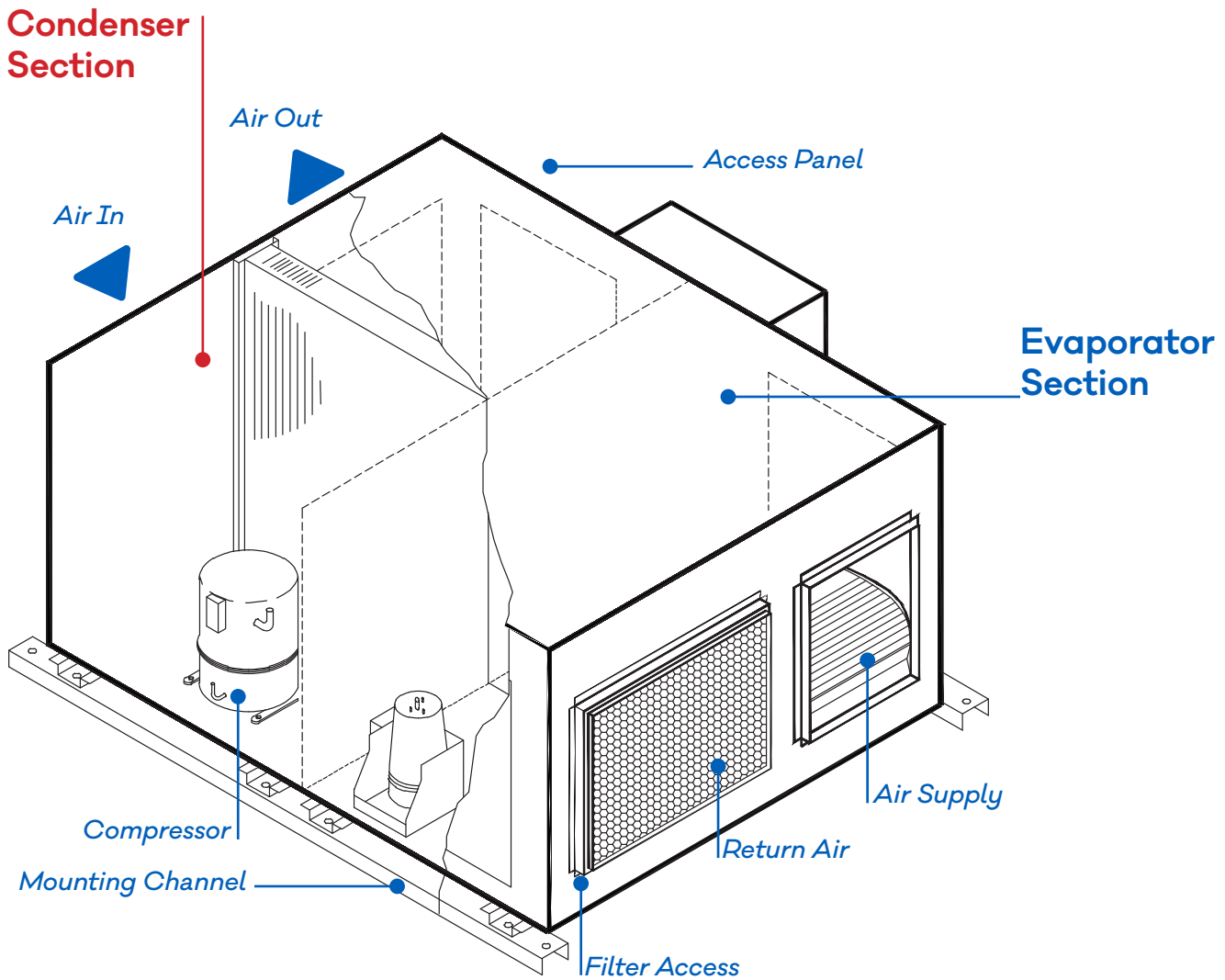
7 - 277

Phase

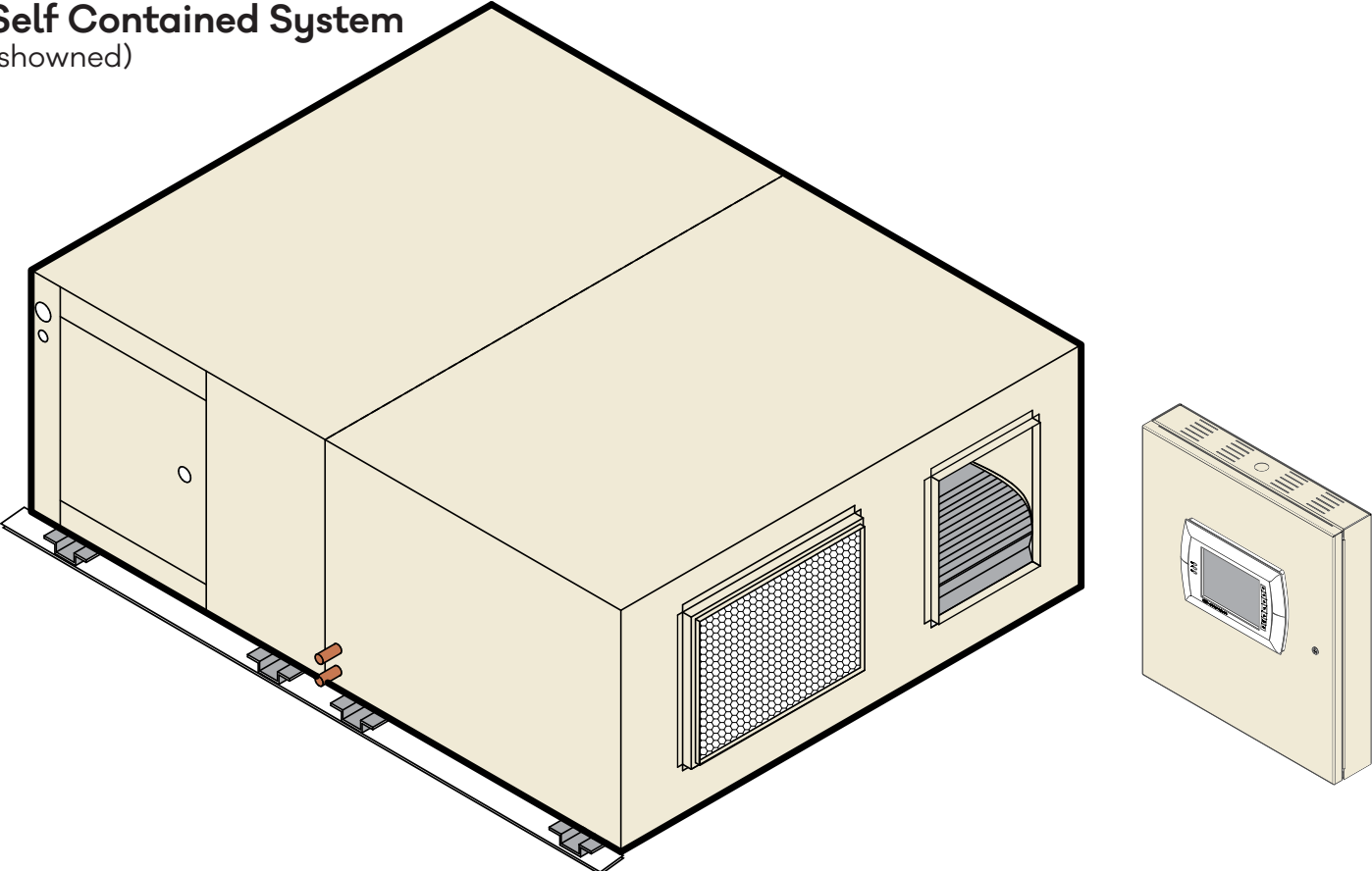
1- 1 phase

3 - 3 phase

galvanized steel. The access panels are removable for ease of servicing. The evaporator section is insulated with 1" 1.5 lb density insulation. The base of the cabinet forms an emergency condensate pan. The



Maxi-Kool
Self Contained System
(showned)





Compu-Aire Inc. understands the special environmental control (temperature, humidity, air filtration) needs for both main frame and main computer rooms, and is able to offer the Compu-Aire Maxi-Kool unit. ETL listed, the Compu-Aire Inc. Maxi-Kool is installed in the ceiling or roof and is available in over 5 capacities and cooling methods.

The Compu-Aire Inc. Maxi-Kool offers a space saving compact design with many flexible configuration options. This allows the system to be tailored to the needs of the user's application. Users prefer the Compu-Aire Maxi-Kool for its ability to draw through design for the maximum heat transfer efficiency.

The Compu-Aire Inc. Maxi-Kool's unique ceiling and roof mounted feature not only keeps pace with rapidly changing computer technology, but also offers the highest degree of reliability in component and system operation.

Standard Features

The Compu-Aire Maxi-Kool is a self-contained unit with a ceiling/roof mounted closed loop system. It is available in an air, water, glycol, or chilled water configuration.

A high efficiency coil provides maximum air drawthrough to meet space capacity. A thermally insulated galvanized steel pan is provided for the evaporator coil to prevent any water from reaching the floor. Fully insulated cabinet. Side access is made easy for servicing via a well insulated access panel. Single point electrical connection.

System 2000 Microprocessor

Controls-Dual display, digitally operated, remote controller for precise temperature and humidity control-16 character LCD display with six push button switches-Displays current room temperature, unit status, and alarm messages-5 year battery backup for volatile memory

Belt Drive Fan

Belt drive fan assembly-belt driven motors for field adjustment to match external static pressure requirement-The blowers are DWDI, centrifugal with forward curved blades and both are dynamically and statically balanced

Scroll Compressor

High efficiency scroll compressor with built in thermal overload protection, pressure relief valve, and current overload protection

Refrigerant Circuits Thermal expansion valve-
Filter drier Sight glass High and low pressure switch Schrader fittings

Electric Reheat

The electric heating coil is a low watt density stainless steel fin tubular construction

Steam Humidifier

Disposable Cylinder Humidifier Prewired, pre-piped, and maintenance free, this is a steam generating humidifier. The humidifier is equipped with disposable cylinder.

Water Regulating Valve

(Water/Glycol Cooled Units Only) 2way, 150 psig head pressure actuated valve

WCCU

Water Cooled Condenser (Water Cooled Units Only) Heavy duty, counter flow coaxial condensers Chilled Water Valve (Chilled Water Units Only) 2way, 2 positions chilled water valve

OPTIONAL FEATURES

Split System

This option facilitates split system installations. The air cooled condensing section, including the compressor, can be separate from the evaporator air handling section and factory supplied with stub connections. It is factory pressure tested, sealed, and shipped with a holding charge.

Weatherizing For Outdoor

Installation This can be applied to complete standard package unit, or to the condenser section only. Hood and bird screen is installed on the condenser supply and discharge.

Condensate Pump

Plenum rated condensate pump is provided for field installation. A separate power is required. Low Ambient Control (Air Cooled Units Only)

Low Ambient Control

To -30°F Flooded type low ambient control with head pressure valve, insulated, and heated liquid receiver.

Low Ambient Control To 0°F

(Air Cooled Units Only)

Pneumatic Type-Damper good down to 0°F. Damper on condensing side of the unit. Energy Miser Unit The Compu-Aire

Energy Miser system

is integrated with glycol cooled Compu-Aire Maxi-Kool. At an entering glycol temperature of 45°F and below, the Compu-Aire Energy Miser system can provide total system capacity, thereby resulting in a substantial reduction in operating costs.

Single Phase

The system can be provided for a single phase power supply, 208 or 230 voltage where available, and for units up to and including 5 tons.

Hot Gas Bypass

The hot gas bypass valve is factory installed in the compressor discharge for precise capacity control in the cooling mode and for protection against coil freeze up during partial or low load conditions. For air cooled split systems, a hot gas bypass line needs to be field installed between the evaporator and condenser section.

Special Water Valve

For MKW/MKG Systems The following alternate water valves are available: 3 way head pressure regulating valve rated at 150 psig 2 way head pressure regulating valve rated at 300 psig 3 way head pressure regulating valve rated at 300 psig

Alternate Reheat

Steam reheat –the coil is factory piped with a 2 way on/off control valve-Hot water reheat –the coil is factory piped with a 2 way on/off control valve-Hot gas reheat –the coil is factory piped with a 3 way solenoid valve and refrigerant check valve

Alternate Humidifier

The steam humidifier provides a dry steam, double jacketed type, piped with a solenoid valve. The steam trap and Y-strainer are factory provided and are to be field installed outside of the unit.

Disconnect Switch

Fused Disconnect Switch

A fused disconnect switch can be supplied with the indoor unit for field installation. The fuses are to be field supplied and installed.

Rain Tight Disconnect

A rain tight, fused disconnect switch can be supplied with the outdoor unit for field installation. The fuses are to be field supplied and installed.

HACR Circuit Breaker

A HACR approved circuit breaker can be supplied (factory installed) with the unit.

Remote Air Cooled Condenser

The remote air cooled condenser is a low profile design constructed of copper tube and high efficiency aluminum fin coil. A factory wired control panel is provided for field installation in weather proof housing on the condenser.

Dry Fluid Cooler And Pump Package

A DFC matching the water cooled condenser capacity, at design elevation, glycol solution percentage and ambient temperature, can be provided for remote installation and field piped for the water/glycol solution, and interconnected to the indoor air conditioner.

A close coupled centrifugal pump and motor for circulating glycol solution can be provided for field mounting, with a pump motor weather shield.

Extended Warranty

Up to Four Year Compressor Warranty

There is an initial 1 year warranty and an additional 4 year warranty can be purchased.

Special Industrial Applications

The Compu-Aire Maxi-Kool can be provided with a variety of special application options such as

- Stainless steel cabinet for corrosion resistance
- Double wall construction for noise reduction
- Epoxy/phenolic coated/copper coils for corrosion resistance
- Internally isolated blowers for vibration reduction
- TEFC motors
- High efficiency motors

Advanced Technology

Controls System 2200

The remote wall mounted, microprocessor based, solid state controls has 4 rows, 40 characters, is back lit, and supertwist liquid crystal display (LCD). The information is displayed and presented in a format that is easily viewed and understood.

Standard Features

- Standalone panel
- Smooth keyboard type switches with tactile feedback
- 2 analog inputs
- Non volatile memory
- Data of unit and room conditions
- System trending
- Forward and backward menu access
- Programmable automatic restart

Protective And Safety Features

Multi-level password access

- Watch dog timer
- Alarm displayed in order of occurrence
- Start time delay
- Compressor short cycle control
- remote dial up and communications
- RS-422/485 network capabilities
- Auto changeover and/or auto rotation for operational redundancy or allow switching of units to maximize component life
- 7 day time clock
- P-lan network capability
- Effective zone control
- Full graphic display
- EMS/BMS capabilities
- Foreign language capability

MECHANICAL SPECS

General

The Compu-Aire Maxi-Kool Inc. is an air conditioner that is:

- air cooled self-contained
- split system air cooled
- water cooled
- glycol cooled
- chilled water

All units are factory assembled, internally wired, piped, factory tested, and fully charged with R-407C. The split air cooled systems are run tested, and sealed with a holding charge for shipment. All units have a horizontal supply and return air, and horizontal condenser air intake and discharge. DX systems include evaporator, condenser, compressor, reheat, humidifier, belt driven blowers, and motors with variable pitch drives. The chilled water system includes chilled water coil control valve, reheat, humidifier, belt driven blower, and motor with variable pitch drive. The unit is furnished with a remote control panel (MCP System 2000).

Air cooled units operating range is from 95°F to 50°F ambient as standard from the factory with no additional accessories. The cooling performance is rated in accordance with A.R.I. Standard #410. The internal wiring for the unit is numbered for simplified identification. All units are ETL listed and labeled.

Cabinet

The cabinet is constructed of heavy gauge galvanized steel. The access panels are removable for ease of servicing. The evaporator section is insulated with 1" 1.5 lb density insulation. The base of the cabinet forms an emergency condensate pan. The galvanized steel condensate pan is coated with mastic epoxy coating, EC1000, and is provided with a moisture sensor for connection to the alarm for remote monitoring. The base of the unit has channel supports that have built-in lifting and suspension holes.

Evaporator Fan

The evaporator fan is a DWDI centrifugal type. Each fan assembly is dynamically and statically balanced and utilizes a heavy duty steel shaft with permanently lubricated bearings, and is rated in accordance with AMCA Standard #210.

The fan motor is an open drip proof and is mounted on an adjustable base with 1750 RPM and is protected by an internal overload production.

Electrical Circuit

All electrical components are factory mounted in a control panel box within the unit, and are easily accessible via a removable panel on the unit. The terminal points are provided for remote shut down.

Each electrical component, such as the fan motor, compressor, reheat, and humidifier, are individually protected with branch circuit fuses in each leg.

Remote Microprocessor

Control Panel System 2200
(For Field Installation)

The control system is microprocessor based. The system has a dual display, digitally operated controller and has the capability of controlling the air conditioning system so that both the room temperature and humidity are maintained within the selected dead bands and set points.

Filters

The filters are 2" thick and disposable. They are 30% efficient based on ASHRAE Standard 52-76.

Air Cooled Condensing Section

The air cooled condenser has aluminum fin coils that are bonded to the copper tubes and have full collars that completely cover the copper tubes. The coil has a counter flow design for maximum heat transfer efficiency. The head pressure headers and connections are copper. The fan cycling control is provided for mild ambient down to 50°F. The condenser fan is a DWDI centrifugal type. Each fan assembly is dynamically and statically balanced and utilizes a heavy duty stainless steel shaft with permanently lubricated bearings.

The fan motor has an open drip proof, 1750 RPM, and is protected by internal overload protection.

Coil

The coil is constructed of copper tubes and high efficiency aluminum fins. The evaporator coil is provided with an epoxy coated, galvanized steel condensate pan that is directly connected to the drain, and rated in accordance with A.R.I. Standard #410.

Compressor

The compressor is a hermetically sealed, high efficiency scroll type. The compressor has an internal overcurrent and over temperature protection.

Refrigerant Circuit

The refrigerant circuit is provided with an externally equalized expansion valve, filter drier, sight glass, manual reset high pressure cutout, auto reset low pressure cutout, and Schrader fittings. The pump down solenoid valve and liquid receiver are factory installed in air cooled split systems, when ordered split from the factory.

Reheat

The reheat has sufficient capacity to maintain room dry bulb temperatures during the dehumidification cycle. The reheat coil has a low watt density, is a stainless steel fin tubular type, and is equipped with an automatic reset high limit thermal protection that is backed up by a fusible link thermal cutout. The reheat is electrically interlocked to prevent operation when the fan is not running. The reheat is factory installed

downstream of the cooling coil.

Humidifier

The humidifier is an electronic, disposable cylinder type that is furnished with a disposable canister, auto flush cycle, solenoid type fill valve, pressure regulating orifice, and an auto adaptive control circuit.

Water/Glycol Cooled System

A coaxial tube in tube water/glycol cooled condenser that is factory installed in the air conditioner will have a counter flow design for maximum heat transfer efficiency. The water/glycol path is made of copper. The capacity control is accomplished with a 2way head pressure regulating valve of 150 psig water operating pressure.

Chilled Water Unit

The chilled water unit has a factory piped 2 way, 2 position chilled water control valve in the unit.

Interact and monitor remotely

Compu-Aire Inc. offers HVAC communication industry standard protocols that can adapt to you application needs.

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.



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

Compu-Aire Inc. 2200+ Series controlles



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.



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