

# HORIZONTAL WATER-COOLED RACK-MOUNTED AIR CONDITIONERS



KA4C4W

## STANDARD FEATURES

- Baked Powder Finish
- Ball-bearing Motors
- CFC-Free or Low-ODP Refrigerant
- Closed-Loop Cooling
- EMI/RFI Suppressor
- Heavy-duty Steel Enclosure
- Low Temperature Control Thermostat
- Six Foot [1.8m] (minimum) SJT 3-wire Cord

## ACCESSORIES AND OPTIONS\*

- Cooling Effect Detector
- Enclosure Heater
- Internal corrosion protection
- Low Airflow Detector
- Low Ambient Kit
- Short Cycle Protector
- Side Mounting Rails
- Special materials or finishes
- Special motors, line cords or connectors
- Stainless or Aluminum Cabinet
- Switchable 230V, 50/60 Hz

\*See opposite side for more information.

## APPROXIMATE WEIGHT

95 lbs. [43.2 kg]

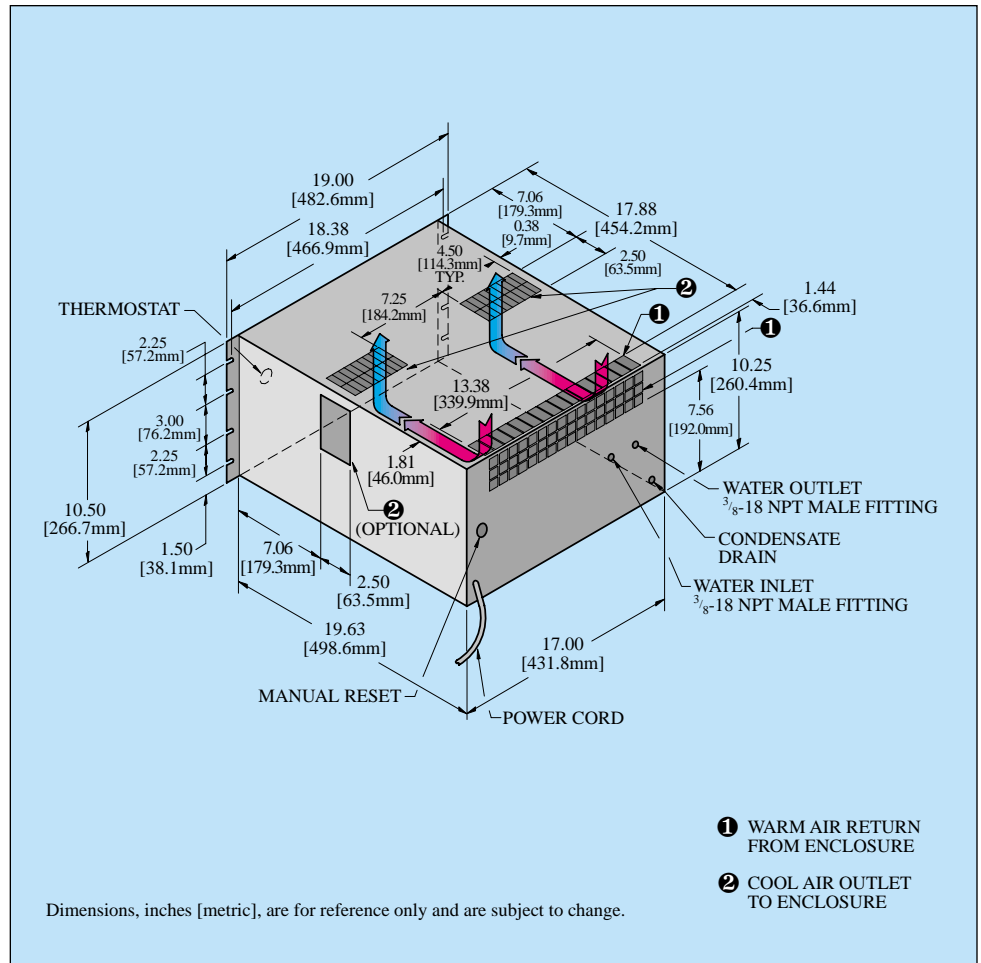
## HOW TO ORDER

Specify model number. NOTE: Accessories and Options may affect model number, contact KOOLTRONIC for information.

For assistance in model selection, refer to the *Air Conditioner Sizing and Selection Guide*, contact KOOLTRONIC, or use one of our design aid software programs, available FREE.

CALL 1-800-321-KOOL (5665)  
or FAX 609-466-1114

**POPULAR MODELS ARE  
STOCKED AND READY TO SHIP**



## TECHNICAL DATA

Model	Refrigerant	BTU/H Rating	Water Flow @ 85°F (33°C) Max. (GPM) <sup>▼</sup>	Volts	Hz	Running Amps**
KA4C2W	R134a	2000	1.0	115/100	60/50	9.8
KA4C2W56	R134a	2000	1.0	115	50/60*	9.8
K2A4C2W	R134a	2000	1.0	230/200	60/50	5.0
K2A4C2W5	R134a	2000	1.0	230	50	5.0
KA4C3W	R134a	3000	1.0	115/100	60/50	9.9
KA4C3W56	R134a	3000	1.0	115	50/60*	9.9
K2A4C3W	R134a	3000	1.0	230/200	60/50	5.0
K2A4C3W5	R134a	3000	1.0	230	50	5.0
KA4C4W	R134a	4000	1.0	115/100	60/50	10.0
KA4C4W56	R134a	4000	1.0	115	50/60*	10.0
K2A4C4W	R134a	4000	1.0	230/200	60/50	5.0
K2A4C4W5	R134a	4000	1.0	230	50	5.0
KA3C5W	R22	5000	1.5	115/100	60/50	9.3
KA3C5W56	R22	5000	1.5	115	50/60*	9.3
K2A3C5W	R22	5000	1.5	230/200	60/50	5.8
K2A3C5W5	R22	5000	1.5	230	50	5.8
KA3C6W	R22	6000	1.5	115/100	60/50	9.5
KA3C6W56	R22	6000	1.5	115	50/60*	9.5
K2A3C6W	R22	6000	1.5	230/200	60/50	6.0
K2A3C6W5	R22	6000	1.5	230	50	6.0

▼ Rated for full capacity load at 85°F (33°C) water. Usage will vary at lower load or cooler water conditions.

\* Switchable. Switch is internally-mounted for security.

\*\* Rating shown is for operation at maximum ambient temperature.

◇ 115V, 60 Hz and 230V, 60 Hz models also operate at 100V, 50 Hz or 200V, 50 Hz respectively. No transformer is required.

## ***DESCRIPTION***

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Cool circulating water has greater heat-removal capacity than warm ambient air.

KOOLTRONIC *Water-Cooled Air Conditioners* are recommended for applications with extreme ambient temperatures and/or severely contaminated environments, if a reliable supply of cool, clean water is available.

**Since ambient air is sealed out of the Air Conditioner as well as the enclosure, no contaminants can enter and there are no filters to clean.**

These units contain a regulating valve that automatically adjusts the condenser waterflow rate for water temperature and/or cooling load changes. When the Air Conditioner is shut off, the valve closes, cutting off the water supply to the unit.

The built-in Excess Pressure Control, should the water supply become inadequate for any reason, senses the increased compressor discharge pressure and turns off the unit. For added protection, the switch must be reset manually after the waterflow problem has been corrected.

*Water-Cooled Rack-Mounted Air Conditioners* are particularly suited for applications where internal horizontal mounting is preferred over external panel. Water-cooled units normally are placed below the electronic or electrical components to be cooled.

KOOLTRONIC *Rack-Mounted Air Conditioners* all include EIA-notched flanges. If preferred, side rails can be supplied.

Outdoor or corrosive environments require weather protection and/or special internal and external protective features. Also see *Integrity NEMA 4/4X* and *Intrepid Outdoor Series*.

**KOOLTRONIC also designs and manufactures a variety of Air Conditioners to meet *unique* specifications. We invite your inquiries about our modification and custom-design capabilities.**

## ***STANDARD FEATURES***

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**CLOSED-LOOP COOLING:** The enclosure interior airflow system is isolated from the ambient airflow system. Ambient air can not invade the cool, dehumidified sensitive component compartment.

**BALL-BEARING MOTORS:** All blower motors are UL/CSA Recognized and include automatic-reset thermal overload protection and double-sealed or double-shielded precision ball bearings. Special permanent lubricants perform over a broad temperature range: -20°F [-28.9°C] to 250°F [121.1°C].

**BLOWERS:** All centrifugal blowers are Kooltronic-designed and built, to provide optimum airflow and pressure for each Air Conditioner design.

**RUGGED CONSTRUCTION:** Precision-engineered heavy gauge steel construction of all cabinets and blowers insures Air Conditioners will stand up under tough applications.

**BAKED POWDER FINISH:** Durable, baked-on gray powder finish is standard. Other finishes are available.

**POWER:** Available in 115 VAC, 60 Hz or 50/60 switchable and 230 VAC, 50 Hz or 60 Hz.

**CONDENSATE REMOVAL:** Condensate drain fitting and hose are included.

**REFRIGERANTS:** CFC-free R134a Refrigerant is used in all Air Conditioners for which compatible compressors are available. All others contain low Ozone Depleting Potential (ODP) R22 Refrigerant and are being converted to R134a as compatible compressors become available. The model number reflects the refrigerant. A 4 between the A and C signifies R134a; a 3 signifies R22. Consult KOOLTRONIC for status at time of requirement.

**LOW TEMPERATURE CONTROL:** Thermostatic Low Temperature Control prevents over-cooling and provides energy-efficient operation.

**EMI/RFI SUPPRESSOR:** EMI/RFI Suppressor minimizes transient line spikes during on/off cycling.

**FIELD-REVERSIBLE CONDENSER OUTLET BLOWER:** Provides choice of horizontal or vertical air discharge.

**POWER CORD:** All models have six foot [1.8m] SJT-type 3-wire power cords with appropriate plugs.

**INSULATION:** All cold components, lines and the evaporator compartment are insulated with high-performance insulation for maximum efficiency.

**QUALITY ASSURANCE:** Refrigeration system components are kept sealed until charged with refrigerant; all brazed joints are thoroughly leak-tested; each unit is functionally tested before shipment.

**INSTALLATION:** Detailed Installation and Operator's Manual, with drawings, mounting plan and spare parts list is included with each unit.

## ***ACCESSORIES AND OPTIONS\*\****

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### **FACTORY-INSTALLED OPTIONS:**

**ALUMINUM CABINET:** Where light weight and/or compatibility with appearance of Aluminum Enclosures are required. Unpainted Type 5052 is standard. Other types and ultra-violet-resistant baked powder finish are available.

Append letter "A" to Part No. (5052 Unpainted)

**COOLING EFFECT DETECTOR:** A thermostat is mounted inside the cabinet and attached to a sensor in the warm air return. When the air temperature increases to the set point, a signal is sent to a terminal block. User-installed wiring from the terminal block to local and/or remote warning devices (*light, bell, siren, etc.*) can be for normally open or closed operation.

Append letter "B" to Part No.

**ENCLOSURE HEATER:** 120V or 240V fin strip heater, installed singly or ganged, used to maintain desired internal enclosure temperature, under cold operating conditions.

Single Heater, append letter "F" to Part No.

Double Heater, append letter "G" to Part No.

**\*\*Contact KOOLTRONIC for information.**

## **ACCESSORIES AND OPTIONS\*\* (continued)**

**INTERNAL CORROSION PROTECTION:** For corrosive or other hostile environments, special coating material is applied to copper lines, coils and other parts subject to damage. Also see **Stainless Steel Cabinet** or **Integrity NEMA 4/4X Air Conditioners**.

Append letter "H" to Part No.

**LOW AIRFLOW DETECTOR:** Similar to the Airflow Switch shown in the Blower Accessories Section, the switch is installed in a suitable location in the Air Conditioner to detect loss of airflow, and sends a signal to a terminal block, through which user-installed wiring and warning devices are activated.

Append letter "M" to Part No.

**LOW AMBIENT KIT:** Maintains sufficient operating pressures when ambient temperatures drop below 50°F [10°C]. Includes a compressor heater and pressure actuated condenser blower cycling control.

Append letter "N" to Part No.

**SHORT CYCLE PROTECTOR:** Protects the compressor from possible damage due to harmful short cycling, by initiating an "off" period before resumption of normal operation. Generally air conditioners require several minutes off for compressor protection after power interruptions of any type. These power interruptions can include power failures, opening of interlocked access doors, and cases where a thermostat activates the compressor in less than a few minutes. This option is particularly recommended for applications where frequent, brief power failures occur, interlocked cabinet doors are utilized, or where the cabinet internal loads fluctuate across a wide range.

Append letter "Y" to Part No.

**SIDE MOUNTING RAILS\*\***

**SPECIAL MATERIALS OR FINISHES\*\***

**SPECIAL MOTORS, LINE CORDS OR CONNECTORS\*\***

**STAINLESS STEEL CABINET:** For applications in corrosive or other hostile environments such as those requiring Internal Corrosion Resistant Coatings, especially where chemical/moisture combinations are present.

Append letter "V" to Part No. (304-2B Unpainted).

**\*\*Contact KOOLTRONIC for information.**