

# KPHE41 WATER-TO-AIR PANEL-MOUNTED HEAT EXCHANGERS



KPHE41

## STANDARD FEATURES

- Baked Powder Finish
- Precision Ball-bearing Motors
- Closed-Loop Cooling
- Heavy-duty Steel Enclosure
- NEMA 12 Rating Maintained (UL50)
- Six foot [1.8m] (minimum)
- SJT 3-wire Cord
- UL/CUL Listed

## ACCESSORIES AND OPTIONS\*

- Automatic Water Flow Regulating Valve
- Cooling Effect Detector
- Excess Heat Detector
- Height Extension
- High Water Level Detector
- Internal Corrosion Protection
- Low Airflow Detector
- Other voltages and frequencies
- Special materials or finishes
- Special motors, line cords or connectors
- Stainless or Aluminum Cabinet

\*See opposite side for more information.

## APPROXIMATE WEIGHT

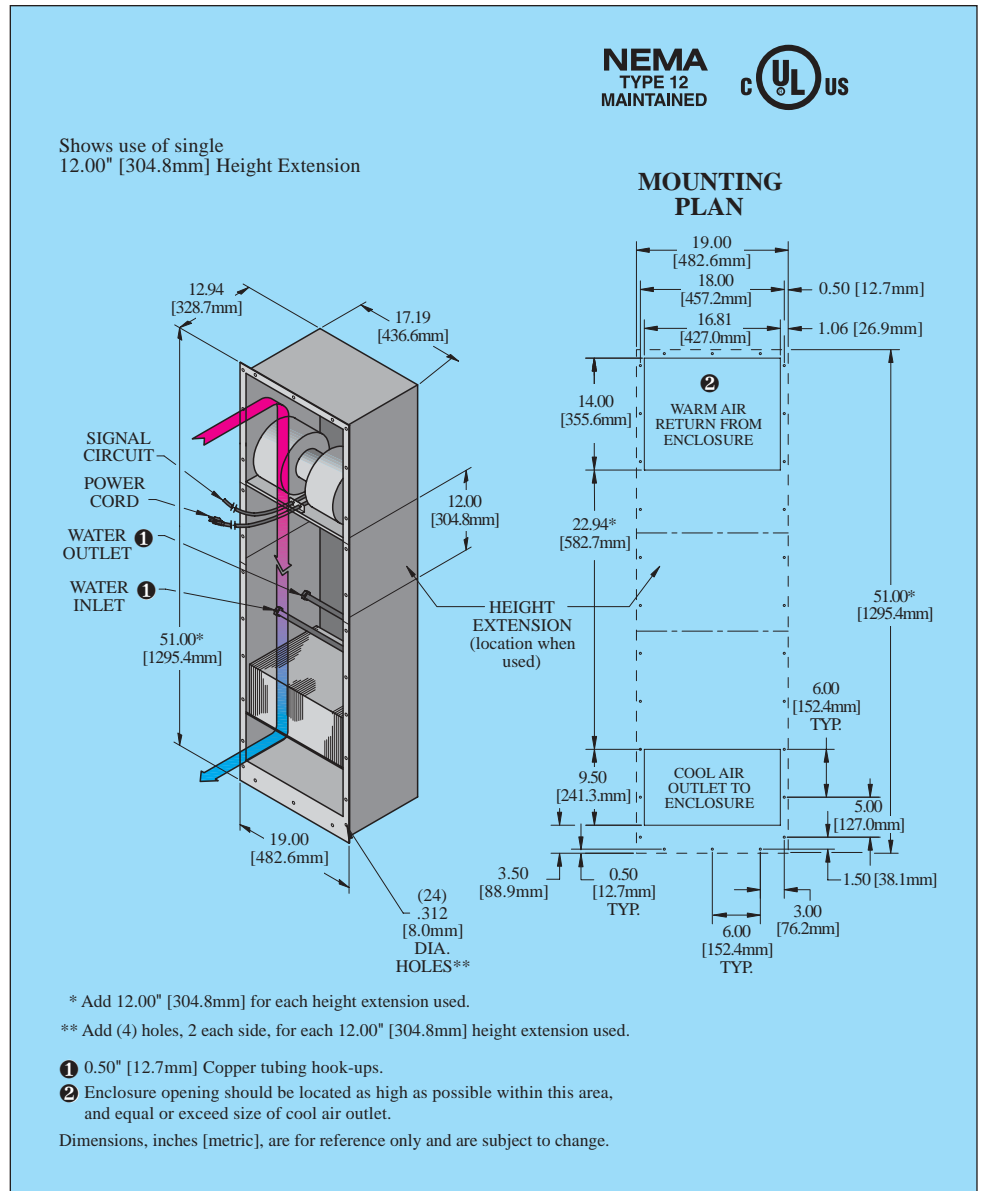
105 lbs. [47.7 kg]

## HOW TO ORDER

Specify model number. NOTE: Accessories and Options may affect model number.

For assistance in model selection, refer to the Heat Exchangers 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



## TECHNICAL DATA\*\*

Model	UL/CUL Listed or Recognized	Volts	Power		Maximum Inlet Water Temperature		Performance Watts °F/°C			
			Amps	Watts	°F	°C	Air In		Air Out	
							1GPM	2GPM	1GPM	2GPM
KPHE41	Listed	115	2.1	240	85	29	96/154	118/189	204/326	336/538
K2PHE41	Listed	230	1.1	240	85	29	96/154	118/189	204/326	336/538

\*\*115V, 60 Hz. operation.

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

## DESCRIPTION

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KOOLTRONIC *Water-to-Air Heat Exchangers* provide uniform cooling in a closed-loop system where a reliable source of clean, cool water is available. The *KPHE Series* is designed primarily for use in harsh environments with cooling requirements in excess of the capabilities of *Air-to-Air Heat Exchangers*. They are particularly useful in highly contaminated environments that would require very frequent cleaning or changing of ambient air filters, or require frequent cleaning of the Heat Exchanger core. KOOLTRONIC *Water-to-Air Heat Exchangers* can furnish greater cooling capacities than air-to-air models, depending on water temperature and rate of flow. **Ambient air is sealed out; heat transfer surfaces remain clean.**

The higher cooling ability of the *KPHE Series* depends on the temperature of the cooling water. Thus, if the water is cold enough, the temperature of the air delivered to the electronics cabinet can actually be lower than that provided by air conditioners, at less cost.

*KPHE Series Heat Exchangers* are available in three types and capacities. A complete range of accessories and options is available for all units, adding to their versatility.

Outdoor operations require weather protection and external protective features.

**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. No ambient air can invade the cool, dehumidified sensitive component compartment.

**PRECISION 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]. Consult KOOLTRONIC for motors designed to meet military or other extreme environmental specifications.

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

**RUGGED CONSTRUCTION:** Precision-engineered heavy gauge steel construction of all cabinets and blowers insures Heat Exchangers 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.

**POWER CORD:** All 115 and 230VAC models are supplied with six-foot SJT-type three-wire cord with plug. BLDC units have three-wire cords without plugs for direct wiring to power source. Special lengths and/or plugs are available.

**GASKETING:** All units are fully gasketed for tight, leakproof installation, in compliance with the NEMA 12 Enclosure Rating.

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

**UL/CUL LISTED:** All *KPHE41* models are *UL/CUL Listed*.

## 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 "A" to Part No. (5052 Unpainted)

**AUTOMATIC WATER FLOW REGULATING VALVE:** As supply water temperature and/or heat variances occur, this valve senses the return air temperature and modulates the water flow to provide cooling at the adjustable pre-set level.

Append "W" to Part No.

**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 "B" to Part No.

**EXCESS HEAT DETECTOR PACKAGE:** Senses a rise in return air temperature if cooling water becomes too warm, water flow is too low or if blower malfunctions. When set point is exceeded, the signal circuit activates a user-supplied warning device. The thermostat is factory-set to activate at 90°F, but may be adjusted by the user. The low voltage power for the signal circuit is supplied by the user.

Excess Heat Detector and HighWater Level Detector Packages share common components and are usually or-dered together. If only Excess Heat Detector is needed, the CoolingEffect Detector is a more economical choice

Append "D" to Part No.

**HIGH WATER LEVEL DETECTOR PACKAGE:** Closes water-supply valve to prevent flooding if excess water accumulates in the drain pan. Signal circuit activates a user-supplied warning device. The low voltage power for the signal circuit is supplied by the user.

Append "C" 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.

**OTHER VOLTAGES AND FREQUENCIES\*\***

**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)

### **CUSTOMER-INSTALLED OPTIONS:**

**HEIGHT EXTENSION:** Available in 12-inch and 24-inch sizes. Each section increases the distance between the cool air outlet and warm air return, without changing unit width or depth. Use of more than 48 inches of extension sections is not recommended. Consult KOOLTRONIC for installation location.

For 12" Extension, append letter "Y" to Part No.

For 24" Extension, append letter "Z" to Part No.

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