

The Water Source Heat Pump product represented on this document will conform to the drawings and specifications set out below, in accordance with the express, written Limited Warranty. Purchaser's acceptance of this drawing certifies that the conforming equipment meets the order specifications. No changes may be made to this document without the prior, express, written authorization of the manufacturer.

Group: **WSHP**

Type: **Vertical Size 042**

Date: **April 2012**

Daikin McQuay Enfinity™ Vertical Water Source Heat Pump Models VFC/VFW – Unit Size 042

Electric Heat (Optional) – An optional integral electric heat coil provides supplemental or emergency heat when conditions require.

Electronically Commutated Motor (ECM-Optional) - ECM motor provides quiet, efficient operation while maintaining constant CFM over its static operating range. Factory programmed for 3-speeds.

MicroTech III Unit Controller – Designed for flexibility, the main control board is used in standalone applications. An optional I/O expansion module can be used to control electric heat and multiple fan speeds. A separate LonWorks® or BACnet® communication module can be easily snapped onto the board to accommodate the building automation system of your choice.

LED Annunciator – External LED status lights display fault conditions to provide easy troubleshooting and diagnosis.

Compact Cabinet – The standard unit is constructed of unpainted G-60 galvanized steel, with the smallest possible footprint. Optional painted cabinet is ideal for aesthetic requirements of residential applications.

Desuperheater (Optional) – Saves energy by producing domestic hot water using a small heat exchanger and water pump located in the compressor compartment. Superheated refrigerant gas from the compressor, which would otherwise be wasted, is used to heat water. This reduces the amount of additional energy required to heat water and it may eliminate the requirement for separate water heating equipment.

Hot Gas Reheat Coil (Optional) – This optional coil provides superior humidity control by using expelled heat from the refrigeration cycle and redirecting it through an isolated circuit in the evaporator section. For every 10°F of temperature rise across the hot gas reheat coil there is approximately a 20% drop in the discharge air relative humidity (%Rh). A wall-mounted humidistat is used in conjunction with the unit to measure and adjust the humidity in the space.

Filter & Filter Rack – Units come standard with a 1" (25.4 mm) thick throwaway filter mounted in a 4-sided combination filter rack and return air duct collar. This eliminates the added labor and cost to field-mount brackets. Filters can be easily removed from any side. A 2" filter rack is available as a factory-installed selectable option to accept higher efficiency filters.

Removable Access Panels – Two front panels provide easy access to the blower motor and unit controls. Two rear panels provide easy access to the fan housing and compressor section.

Piping Connections – Water connections are FPT water fittings, flush with the outside of the cabinet for easy one-wrench tightening. A large condensate connection provides proper condensate removal.

Coaxial Heat Exchanger – Designed for maximum heat transfer at normal and low water flow rates with minimum pressure drop. The inside tube is deeply fluted to enhance heat transfer and minimize fouling. A cupro-nickel heat exchanger is available as a selectable option.

2-Way Motorized Isolation Valve (Optional) – Control valve can be factory installed or field-installed to handle variable speed pumping requirements. Both standard and high cut-off pressure valves are available as a selectable option.

Unit Location

It is important to leave enough space for service personnel to perform maintenance or repair. The location of the vertical unit should allow for easy removal of the filter and access panels. A minimum 18" (46 cm) clearance should be allowed on each side of the unit for service and maintenance access. Always be sure to leave at least one side of the filter rack unobstructed so that the service personnel will be able to slide the filter out.

To improve noise attenuation a 1/2-inch thick field provided full vibration pad should be installed below the vertical unit. This vibration pad should be equal to the overall foot-print size of the unit to provide sound dampening of the unit during operation.

Options (Factory Installed)

Indoor Air Quality (IAQ)

- Non-Fibrous Insulation - Closed-cell type (Rubatex)

Controls

- MicroTech™ III Unit Controller - Standalone operation
 MicroTech III - LONWORKS® Communication Module
 MicroTech III - BACnet® Communication Module

Coaxial Coil

- Cupro-Nickel

Warranty

- Ext. 4-Yr. Parts (Compressor Only)
 Ext. 4-Yr. Parts (Refrigerant Circuit)

Physical Data

Unit Size		042
Fan Wheel - D x W (In.)		11 x 10½
Fan Motor Horsepower		1/2
Coil Face Area (Sq. Ft.)		6.30
Coil Rows		3
Refrigerant Charge (Oz.)	Standard Unit	68
	Desuperheater	70
	Hot Gas Reheat	77.5
Filter, (Qty.) Size (In.)		(1) 30W x 24H x 1D
Water Connections, Female NPT (In.)		3/4
Condensate Connections, Female NPT (In.)		3/4
1, 2 Weight, Operating (Lbs.) / Hot Gas Reheat		318 / 356
1, 2 Weight, Shipping (Lbs.) / Hot Gas Reheat		340 / 378

Notes:

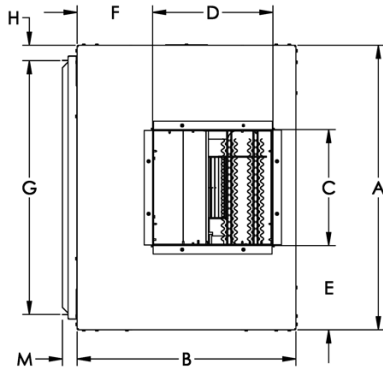
¹ Add 8 lbs. to weights shown for units configured with electric heat.

² Add 15 lbs. to weights shown for units with desuperheater.

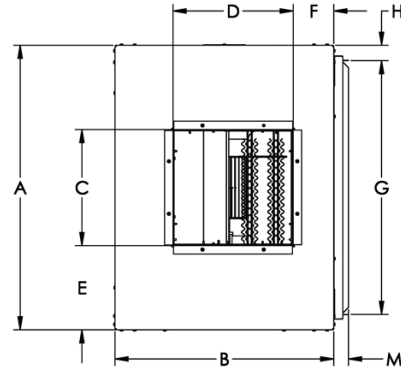
Left Hand and Right Hand Return

Left and Right Hand Return determined by facing the water connection side of the unit.

Top View – Left Hand

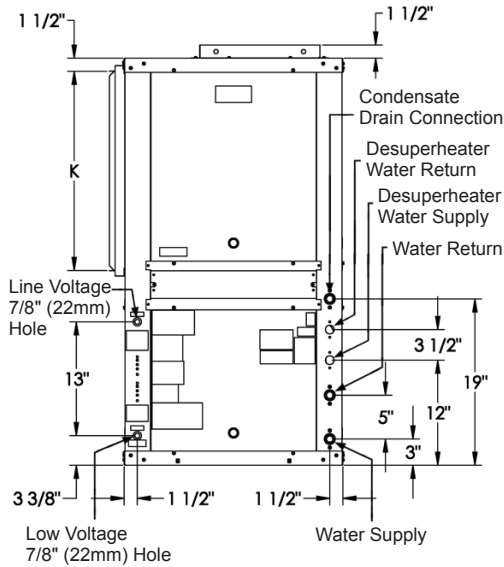


Top View – Right Hand

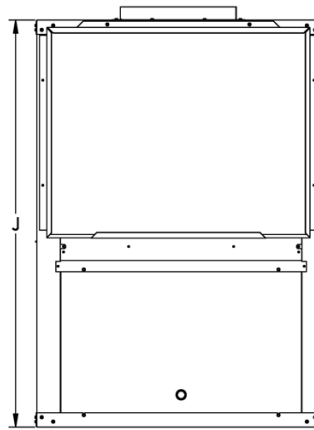


Overall Unit Dimensions =
32½"D x 25"W x 46½"H

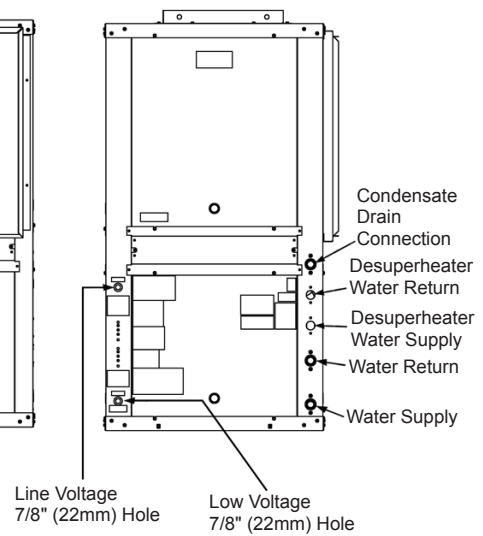
Left Hand Return



Filter (Side) View



Right Hand Return



Dimensions

Unit Size	A	B	C	D	E	F (Left Hand)	F (Right Hand)	G	H	J	K	M
042	32½" (826mm)	25" (635mm)	13¼" (337mm)	13¼" (349mm)	9⅝" (245mm)	9⅝" (245mm)	5⅝" (143mm)	29" (737mm)	1¼" (45mm)	46½" (1181mm)	22¾" (578mm)	1⅞" (43mm) 2⅞" (68mm)

Note: Dimensions are approximate. "M" dimension includes duct flange.

Filter Dimensions

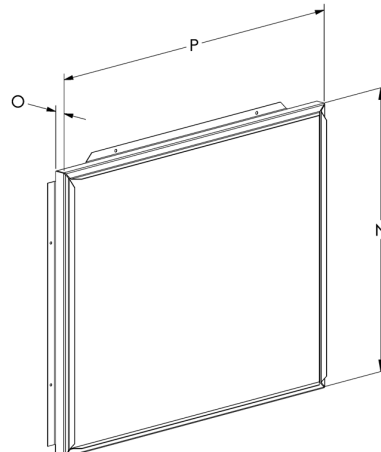
Standard 1"

Unit Size	O	P	N	Quantity
042	1" (25mm)	30" (762mm)	24" (610mm)	1

Optional 2"

Unit Size	O	P	N	Quantity
042	2" (51mm)	30" (762mm)	24" (610mm)	1

Note: Nominal filter thickness is 3/4" (±1/16") or 1¼" (±1/16")



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