

## SPECIFICATION SHEET

### RESIDENTIAL SPACE HEATING USING DOMESTIC HOT WATER

#### DESCRIPTION

The AQUECOIL Hydronic Heating Unit works in conjunction with your preferred brand of Air Handler and a hot water source to provide residential space heating by extracting BTU's from the hot water and using the Air Conditioning Air Handler to distribute the heated air throughout the conditioned space. The AQUECOIL is designed to fit over the Air Handler's discharge or return in either horizontal or vertical applications. The AQUECOIL eliminates the need for a furnace or heat pump to provide space heating. Not only does the AQUECOIL offer a low cost alternative to conventional space heating equipment but, when used in conjunction with a gas-fired water heater or boiler, it provides substantial heating capacity at an attractively low fuel cost.

#### FEATURED HIGHLIGHTS

- Designed to fit with York and Luxaire Air Handlers
- Heavy duty cabinet made with rust-proof aluminum
- Baked enamel finish, colored to blend in
- Fully insulated with high "R" rigid foam
- Uses any hot water source with sufficient BTUH
- Heat output easily adjusted to match system requirements
- Optional return-side configuration
- Optional fused and grounded 230-volt pump circuit for easy direct connection to air handler
- Optional water lubricated, low wattage circulation pump requires no maintenance
- Optional valve kit with hand valves, bleed ports and check valves
- ARL Listed Appliance, with UL approved components



\*\* Shown with optional Valve Kit \*\*

#### APPLICATION

The AQUECOIL Hydronic Heating Unit is mounted to the discharge or return end of the system air handler, which may be oriented in either horizontal, upflow, or downflow configuration. Power for the optional circulator pump is derived by connection to the air handler. Specific wiring requirements will change with different models of air handlers; depending on whether the particular model includes strip heat and whether it is sequenced.

The AQUECOIL circulator pump, or boiler zone valve and pump, will start on a call for heat from the thermostat. Hot water is drawn from the domestic water heater or boiler and supplied to the AQUECOIL. Once the coil is heated and the blower delay is satisfied, the Air Handler will distribute the heated air to the conditioned space. When the thermostat is satisfied, both the AQUECOIL circulator, or boiler zone valve and pump, and the Air Handler blower will shut down.

# SPECIFICATIONS AND INFORMATION

These Specifications are Subject to Change without Notice

Model HHU

YA Series

## CIRCULATOR PUMP

AQUECOIL Hydronic Heating Units may contain a low wattage, wet rotor, in-line, single stage circulator. All standard pump models use Grundfos UPS15-42B multispeed circulators. The water cooled pumps are rated at 95 watts, 230 volts, and 0.4 amps. They are designed for working pressures up to 145 psi and fluid temperatures up to 220°F. The pump volute is bronze and the bearings are ceramic.

## HEAT EXCHANGER

AQUECOIL Hydronic Heating Units contain a high performance, 2 row fin/tube water-to-air heat exchanger. Lanced aluminum fins provide sufficient heat exchange fin surface to avoid using a 3 row coil, with its inherently higher static pressure drop. All water bearing surfaces are copper.

## CONTROLS

AQUECOIL Hydronic Heating Units are designed to utilize the Air Handler controls, including the system thermostat. Interconnection with the Air Handler's operating controls may

vary, depending on the model and back-up heat configuration. Consult the wiring diagram in the Installation Instructions for specific interconnection details. Air Handlers without strip heat connections will require a 24V heating fan relay.

## MOUNTING/LOCATION

AQUECOIL Units are designed to mount over the discharge (return with -R option) of your preferred Air Handler. Since the AQUECOIL interconnects the Air Handler and the Hot Water Source, some consideration must be given to the distance between these system components. Models YA-1 and YA-2 can accommodate approximately 200 equivalent feet of 3/4" water pipe round trip. To get the full effect from model YA-3, the pipe loop cannot exceed 25 equivalent feet of 3/4" water pipe at 9 gpm with the optional circulator. Longer runs will require larger pipe size in the plumbing loop; or a reduction in flow rate thereby causing a reduction in heat output.

NOTE: Many installations may require swing check valves to prevent cooling season thermosyphoning.

## NOMINAL PRODUCT PERFORMANCE

HHU MODEL	Air Flow (scfm)	Static ("wg) Base / -R	Water Flow (gpm)	Pump Head (ft)	140°F E.W.T.			180°F E.W.T.		
					Temp. Fall Water (°F)	Temp. Rise Air (°F)	Heat BTUH	Temp. Fall Water (°F)	Temp. Rise Air (°F)	Heat BTUH
YA1	600	.11 / .10	4	2.3	13	40	26,000	21	64	41,500
	800	.17 / .15	4	2.3	15	35	30,000	25	55	47,500
YA2	1000	.15 / .13	4	3.1	19	35	38,000	31	56	60,500
	1400	.25 / .22	6	6.4	16	32	48,000	26	50	76,000
YA3	1200	.14 / .12	9	6.2	11	39	50,500	18	62	80,000
	1600	.22 / .19	9	6.2	13	34	58,000	21	53	92,500
	2000	.32 / .28	9	6.2	15	30	64,500	23	47	102,500

\*\* Chart shows sample data points, not requirements \*\*

\*\* 70°F Entering Air is used for all calculations \*\*

## PRODUCT SELECTION GUIDE

### BY AIR HANDLER MODEL

Model	AHP	SHP	AVY / AVL	SVY / SVL
YA1	18B, 24B, 30B	N/A	24B	N/A
YA2	36C, 42C	N/A	36C	N/A
YA3	48D, 60D	48D, 60D	48D, 60D	48D, 60D

### AIR HANDLER PERFORMANCE

(CFM 0.5"wg static, 230V, Vertical)

York Model (ex.: AHP***H21)	General Capacity	AHP / SHP (Low / Med / High)	AVY / SVY / AVL / SVL (Variable Range)
18B	1-1/2T	289 / 572 / 925	N/A
24B	2T	420 / 610 / 856	389 - 933
30B	2-1/2T	731 / 748 / 1004	N/A
36C	3T	760 / 935 / 1386	520 - 1202
42C	3-1/2T	760 / 935 / 1386	N/A
48D	4T	819 / 1021 / 1269	673 - 1942
60D	5T	1070 / 1523 / 1991	522 - 2134

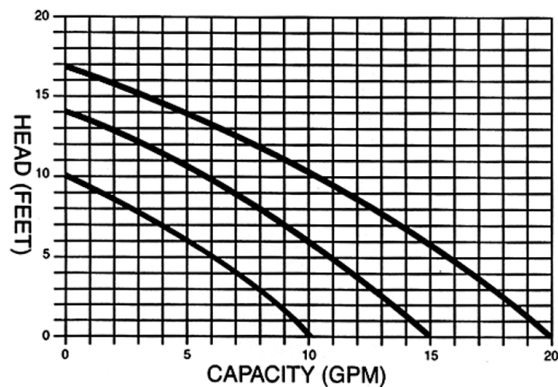
### BY AQUECOIL UNIT DIMENSIONS

Model	Unit Dimensions	Discharge Opening
YA1	17 1/2" X 21 1/2" X 8"	14 5/8" X 10 3/8"
YA2	21" X 21 1/2" X 8"	18 1/8" X 10 3/8"
YA3	24.5" X 24" * X 8"	21 5/8" X 12 3/8"

\*Subtract 2 1/2" for Kickplate

### Circulator Performance

GRUNDFOS Pumps Corporation  
UPS 15-42 B7 230V 60Hz



### OPTIONAL CONFIGURATIONS

-W/P	With Standard Pump
-W/HHP	With High Head Pump
-W/V	With Standard Valve Kit
-R	Configured for Return Side Mounting (Open Top, No Baffle, Lower Static)

**WARRANTY:** All AQUECOIL Hydronic Heating Units offer a limited 3 year parts warranty.

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