Engineering Submittal - AHU & AHU HC Series Air Handlers

Job Name _____

Address _____

_____

Designer / Engineer _____

Wholesaler _____

Contractor _____

Model / Quantity

☐ AHU 800 _____ ☐ AHU 1200 LV ____

☐ AHU 1200 _____ ☐ AHU 1600 _____

☐ AHU 2000 LV ____

☐ AHU 1200 HC ____ ☐ AHU 2000 HC ____

Date _____

AHU Features

- Six position mounting
- Electrical connections on both sides

AHU HC Features

- Designed for cooling applications: slanted coil safely removes condensation
- Coil slope increases surface area for maximized heat transfer

Common Features

- Extremely quiet operation
- Galvalume cabinet, for a pre-finished, clean design
- Wifi programmable controller
- High efficiency ECM motor with variable speed centrifugal fans
- Supply air opening compatible with standard cased and uncased AC and heat pump coils
- High efficiency fin tube coil
- Certified lead-free heating coil
- Can manage external pump
- Compatible with conventional thermostats
- Return air openings on left, right, and bottom

IBCconnect app

- Connect your smartphone to the AHU controller for advanced settings and diagnostics on the IBCconnect app, available on iOS and Android.

Warranties

- 5 year limited warranty on the heating coil
- 5 year limited warranty on component parts

AHU 800 Dimensions

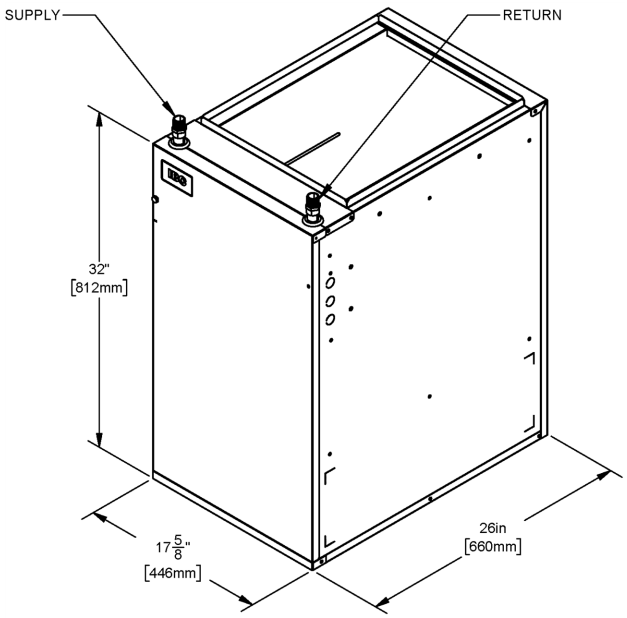


Figure 1 *AHU 800 Front / right view*

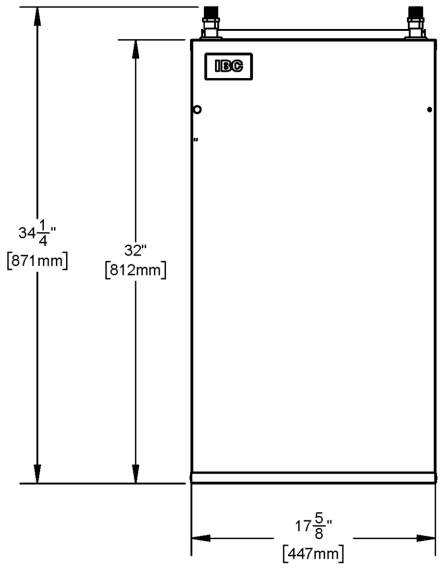
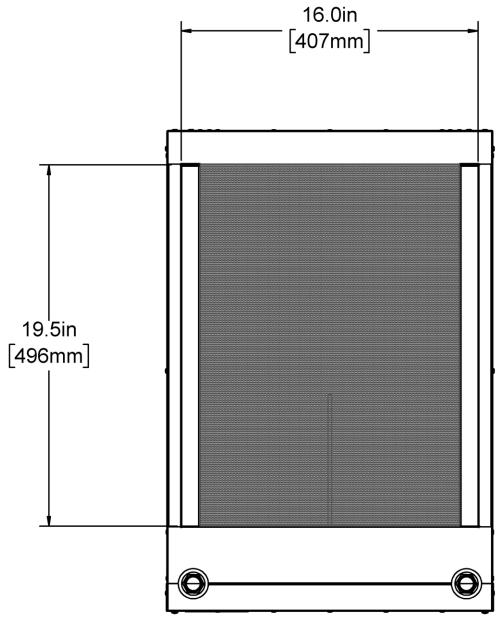


Figure 2 *AHU 800 Frontal view*



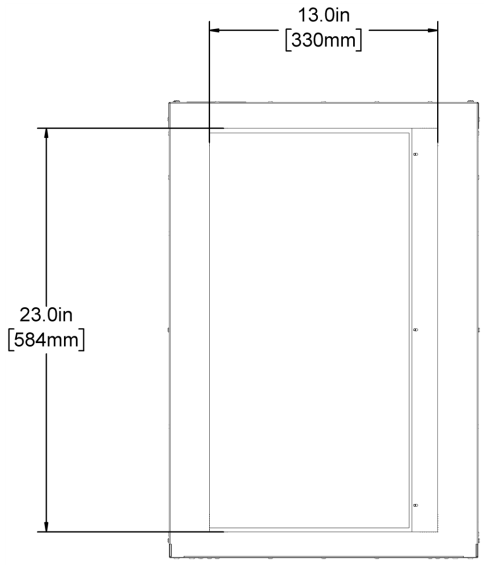


Figure 3 *AHU 800 Top supply air opening*

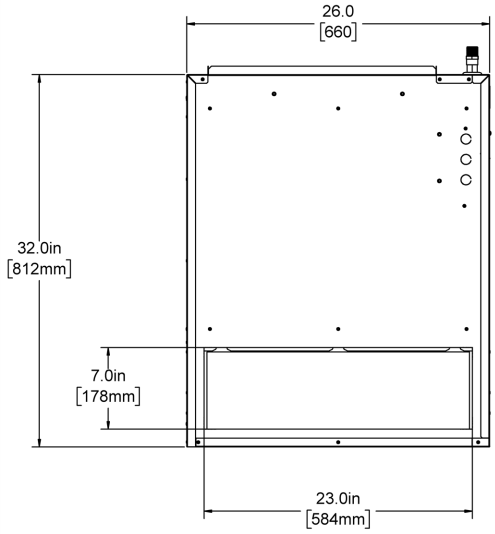


Figure 4 *AHU 800 Bottom return air opening*

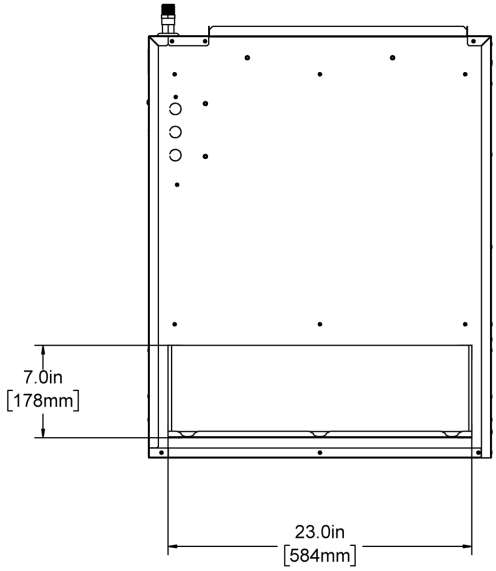
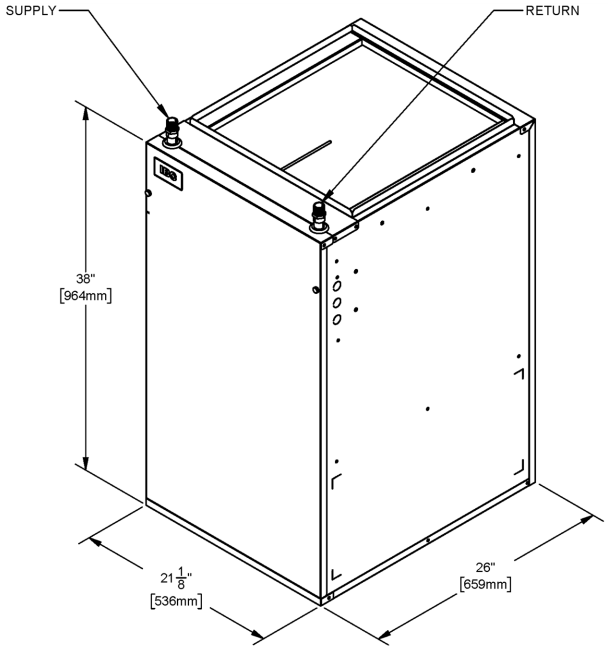


Figure 5 *AHU 800 Left side return air opening*

Figure 6 *AHU 800 Right side return air opening*

AHU 1200 LV and AHU 1200 Dimensions



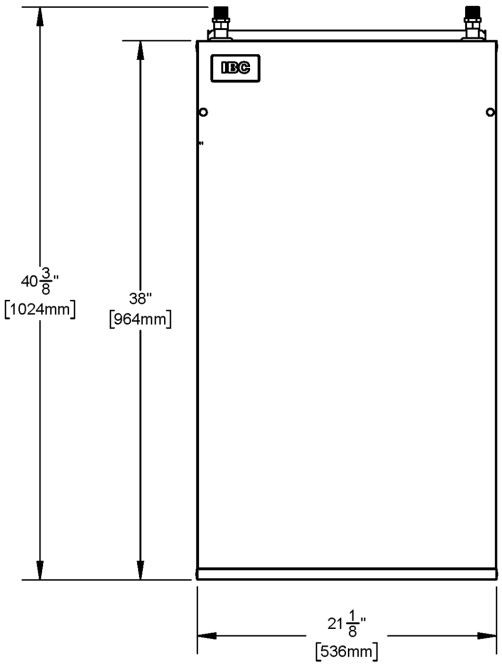


Figure 7 *AHU 1200 / 1200 LV Front / left view*

Figure 8 *AHU 1200 / 1200 LV Frontal view*

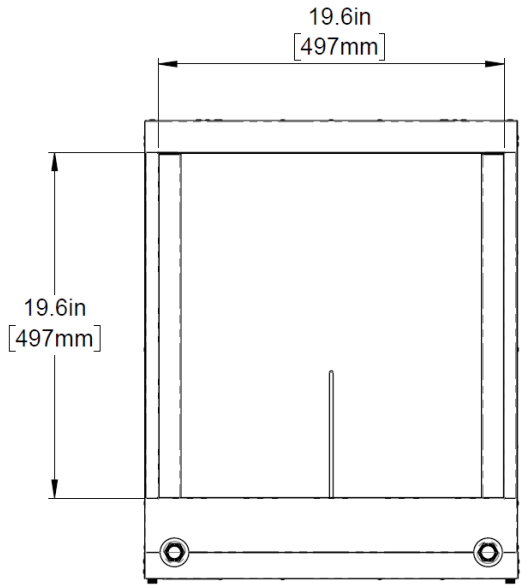


Figure 9 *AHU 1200 / 1200 LV Top view*

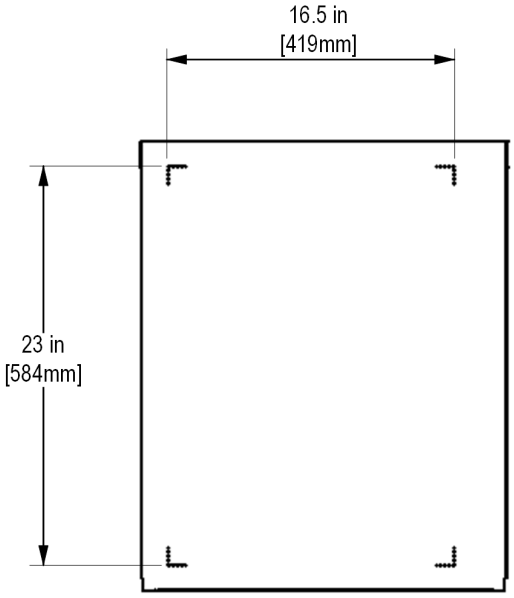


Figure 10 *AHU 1200 / 1200 LV Bottom view*

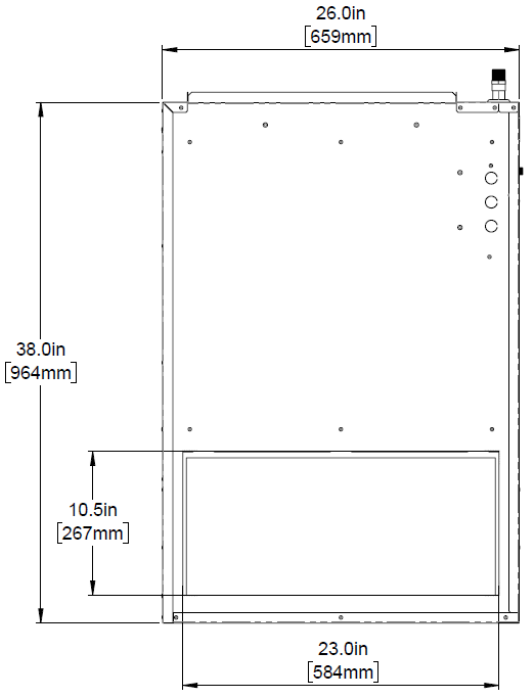


Figure 11 *AHU 1200 / 1200 LV Left side return air opening*

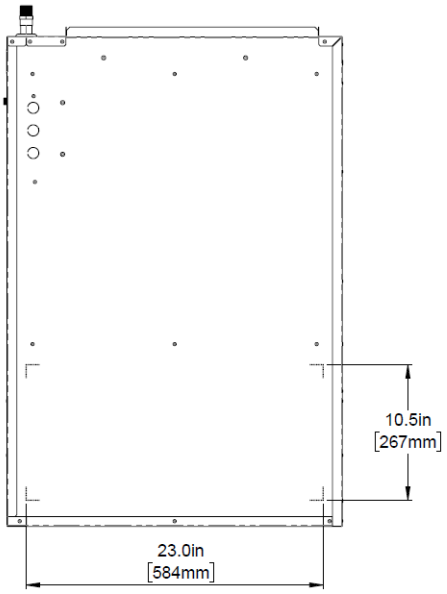


Figure 12 *AHU 1200 / 1200 LV Right side return air opening*

AHU 1600 and AHU 2000 LV Dimensions

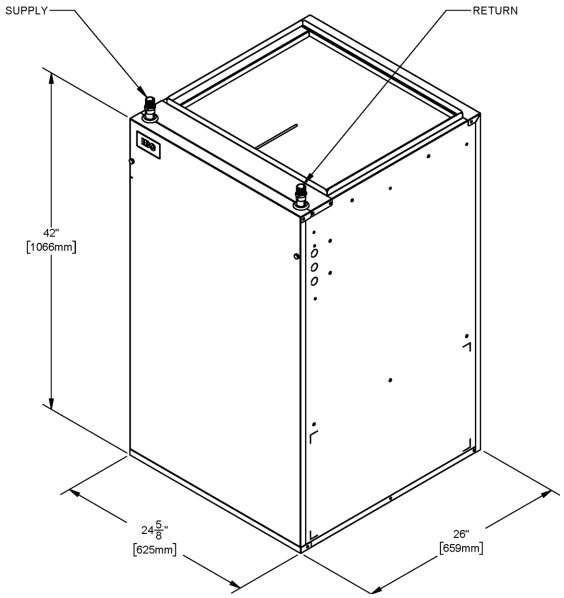


Figure 13 *AHU 1600 / 2000 LV Front / left view*

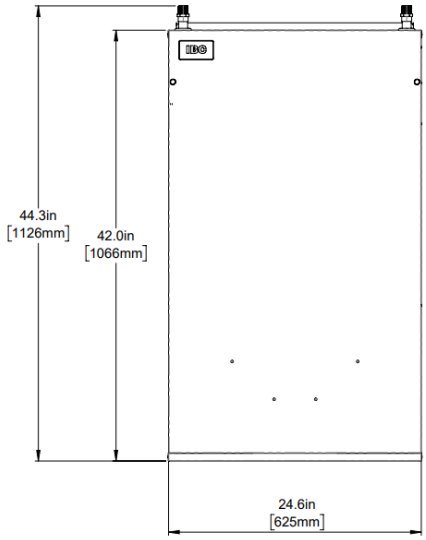


Figure 14 *AHU 1600 / 2000 LV Frontal view*

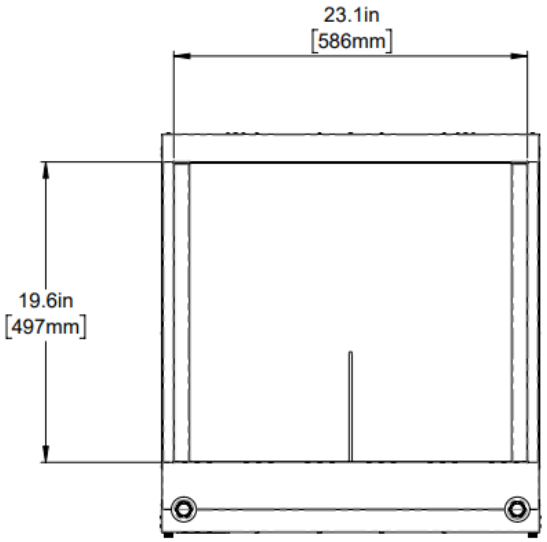


Figure 15 *AHU 1600 / 2000 LV Top view*

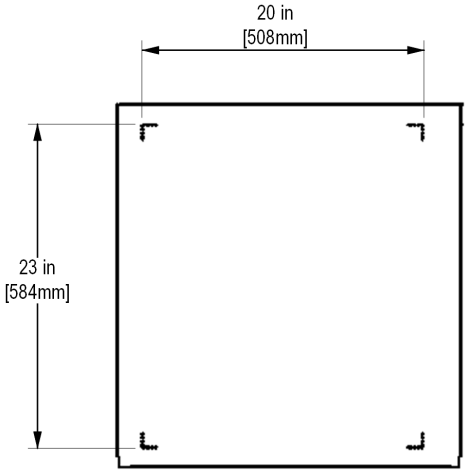


Figure 16 *AHU 1600 / 2000 LV Bottom view*

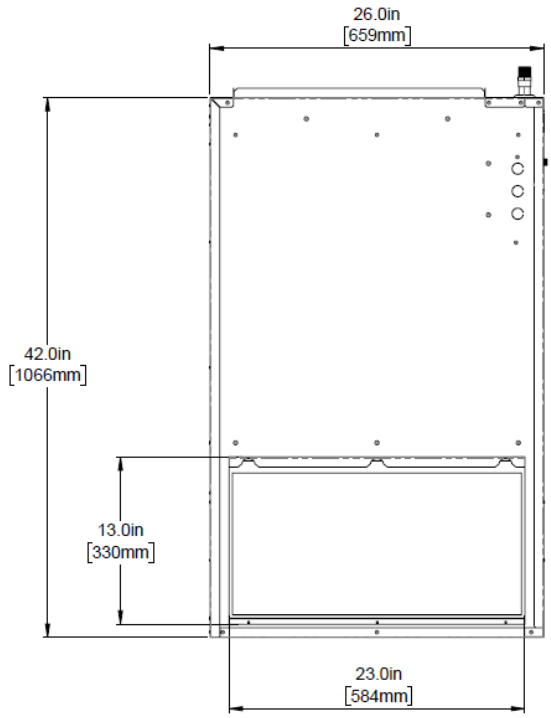


Figure 17 *AHU 1600 / 2000 LV Left side return air opening*

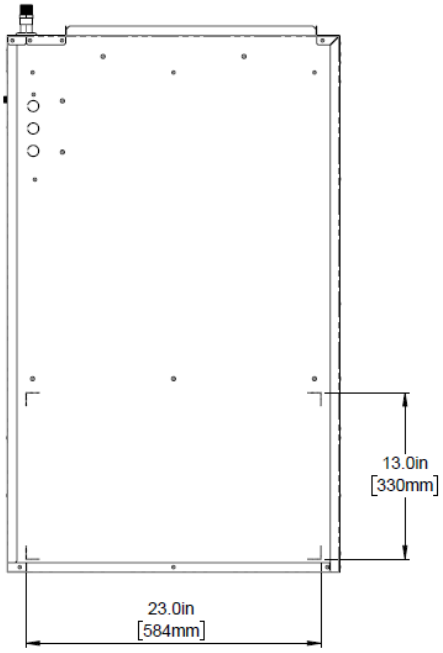


Figure 18 *AHU 1600 / 2000 LV Right side return air opening*

AHU 1200 HC Dimensions

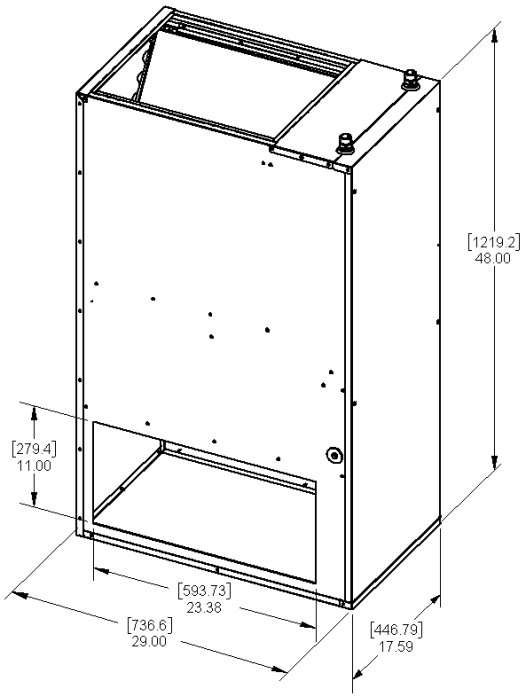


Figure 19 *AHU 1200 HC Front / left view*

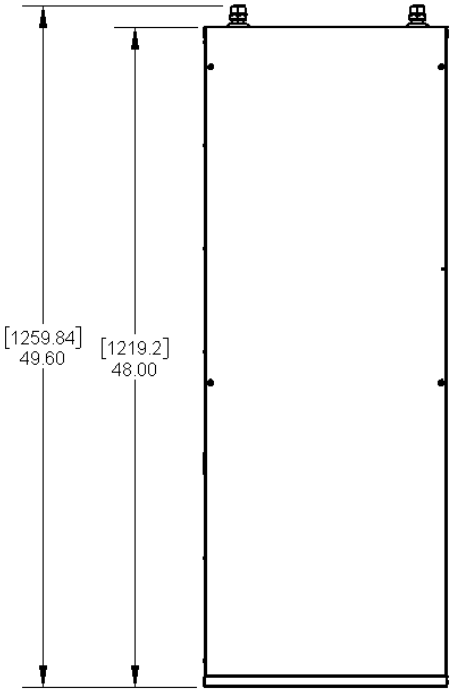


Figure 20 *AHU 1200 HC Frontal view*

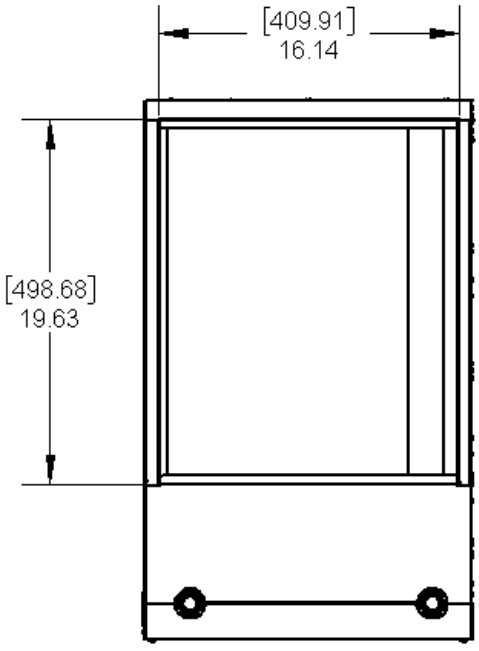


Figure 21 *AHU 1200 HC Top view*

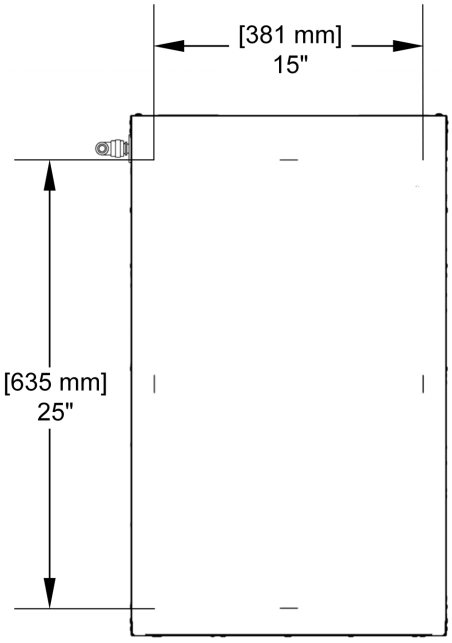


Figure 22 *AHU 1200 HC Bottom view*

AHU 2000 HC Dimensions

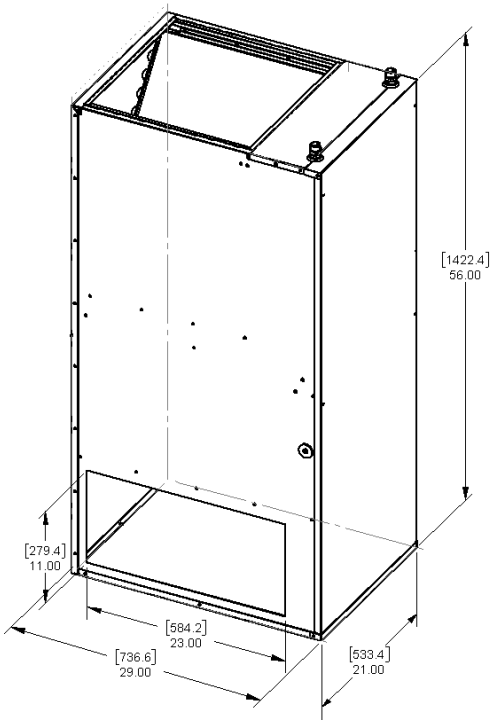


Figure 23 *AHU 2000 HC Front / left view*

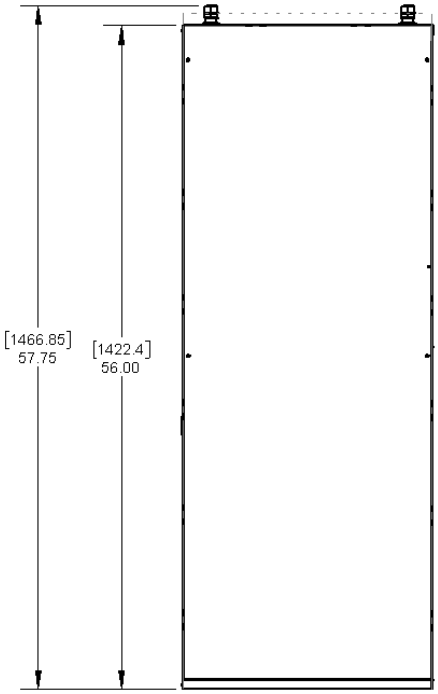


Figure 24 *AHU 2000 HC Frontal view*

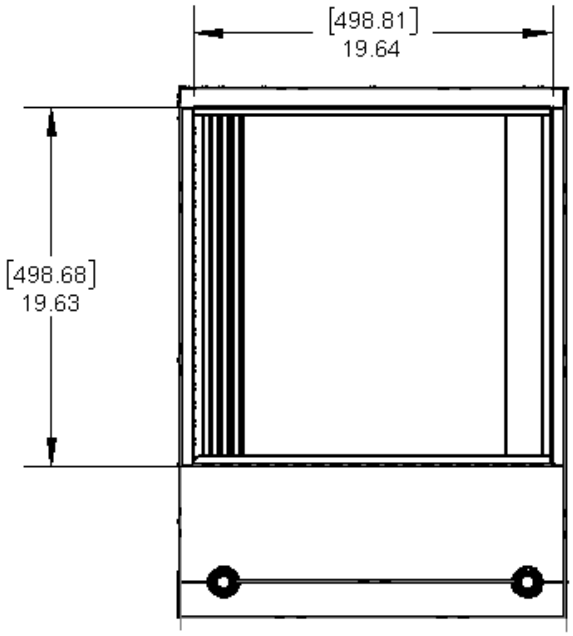


Figure 25 *AHU 2000 HC Top view*

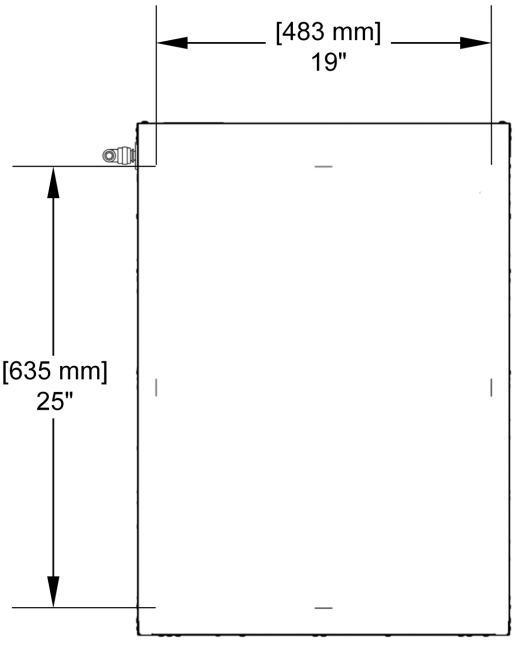


Figure 26 *AHU 2000 HC Bottom view*

Product Specifications - AHU

Specification		AHU 800	AHU 1200 LV*	AHU 1200	AHU 1600	AHU 2000 LV*
Max. water temperature		195°F / 90°C	195°F / 90°C	195°F / 90°C	195°F / 90°C	195°F / 90°C
Coil performance at 180°F, 5 GPM		65,800 Btu/h	67,500 Btu/h	67,500 Btu/h	71,300 Btu/h	81,000 Btu/h
Water pipe connections (inches)		¾" MPT	¾" MPT	¾" MPT	¾" MPT	¾" MPT
External static pressure	*default* Low	0.50"w.c.	0.50"w.c.	0.50"w.c.	0.50"w.c.	0.50"w.c.
	Medium	1.0"w.c.	-	1.0"w.c.	1.0"w.c.	-
	High	1.5"w.c.	-	1.5"w.c.	1.5"w.c.	-
Max. operating water pressure		150 psi	150 psi	150 psi	150 psi	150 psi
Width		17.5"	21"	21"	24.6"	24.6"
Depth		26"	26"	26"	26"	26"
Height		32"	38"	38"	42"	42"
Supply air opening width		16"	19.6"	19.6"	23"	23"
Supply air opening depth		19.6"	19.6"	19.6"	19.6"	19.6"
Side return air opening height		7"	10.5"	10.5"	13"	13"
Side return air opening width		23"	23"	23"	23"	23"
Bottom return air opening width		13"	10.5"	10.5"	14"	14"
Bottom return air opening depth		23"	23"	23"	23"	23"
Max. internal current power rating 120 Volts		2.4 A	2.8 A	3.2 A	3.3 A	3.3 A
External pump supply 120V		4 A	4 A	4 A	4 A	4 A
Voltage		120 V	120 V	120 V	120 V	120 V
Max. return air temperature		122°F / 50°C	122°F / 50°C	122°F / 50°C	122°F / 50°C	122°F / 50°C
Boxed weight		98lbs / 45kgs	111lbs / 50kgs	111lbs / 50kgs	130lbs / 59kgs	130lbs / 59kgs

* Low velocity only

Tableau 1 *AHU Hydronic Air Handler Specifications*

Product Specifications - AHU HC

Specification		AHU 1200 HC	AHU 2000 HC
Airflow Capacity @ 0.5" static pressure		1200 CFM	2000 CFM
Heating output at 180°F @ 5GPM [82°C @ 19 LPM]		77,600 Btu/hr	102,300 Btu/hr
Heating output at 120°F @ 5GPM [49°C @ 19 LPM]		34,400 Btu/hr	45,500 Btu/hr
Cooling output at 45°F @ 5GPM [7°C @ 19 LPM]		26,500 Btu/hr	36,200 Btu/hr
Max. water flow		8 GPM / 30 LPM	10 GPM / 38 LPM
Head loss on coil (@ max flow)		7.7 ft	10.8 ft
Max. water temperature		180°F / 82.2°C	180°F / 82.2°C
Min. water temperature		41°F / 5°C	41°F / 5°C
Max. return air temperature		122°F / 50°C	122°F / 50°C
Min. return air temperature (with glycol)		-13°F / -25°C	-13°F / -25°C
Water pipe connections		¾" MPT	¾" MPT
Total external static pressure	*default* Low	0.50" W.C.	0.50" W.C.
	Medium	1.0" W.C.	1.0" W.C.
	High	1.5" W.C.	-
Min. operating water pressure		8 psi / 55 kPa	8 psi / 55 kPa
Max. operating water pressure		150 psi / 1 MPa	150 psi / 1 MPa
Width		18" / 45.7 cm	21" / 53.3 cm
Depth		29" / 73.7 cm	29" / 73.7 cm
Height		48" / 121.9 cm	56" / 142.2 cm
Supply air opening width		16⅛" / 41.0 cm	19⅝" / 49.9 cm
Supply air opening depth		19⅝" / 49.9 cm	19⅝" / 49.9 cm
Side return air opening height		11" / 27.9 cm	11" / 27.9 cm
Side return air opening width		23⅜" / 59.4 cm	23" / 58.4 cm
External pump supply (120 Volts)		4.4 A	4.4 A
Recommended circuit breaker rating		15 A	15 A
Voltage		120 V	120 V
Boxed weight		145 lbs / 66 kgs	175 lbs / 79 kgs
Max. altitude (above sea level)		12,000 ft / 3660 m ASL	12,000 ft / 3660 m ASL
Certification for low lead NSF 372		Yes	Yes

Tableau 2 *AHU HC Hydronic Air Handler Specifications*

Coil Head Losses

Air Handler Coil Head Loss - AHU 800			
Flow rate (gpm)	3	4	5
Fluid pressure drop (ft)	1.6	2.7	3.5

Table 3 *Air handler coil head loss at 180°F (82°C) - AHU 800*

Air Handler Coil Head Loss - AHU 1200 LV and AHU 1200			
Flow rate (gpm)	3	4	5
Fluid pressure drop (ft)	2.7	4.6	6.3

Table 4 *Air handler coil head loss at 180°F (82°C) - AHU 1200 & AHU 1200 LV*

Air Handler Coil Head Loss - AHU 1600 and AHU 2000 LV			
Flow rate (gpm)	3	4	5
Fluid pressure drop (ft)	2.2	3.4	5.1

Table 5 *Air handler coil head loss at 180°F (82°C) - AHU 1600 & AHU 2000 LV*

AHU 1200 HC Coil Head Loss						
Flow rate	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM	8 GPM
Pressure drop	1.2 ft.	2.1 ft.	3.2 ft.	4.5 ft.	6.0 ft.	7.7 ft.

Table 6 *Air handler coil head loss at 180°F (82°C) - AHU 1200 HC*

AHU 2000 HC Coil Head Loss								
Flow rate	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM	8 GPM	9 GPM	10 GPM
Pressure drop	1.0 ft.	1.8 ft.	2.8 ft.	4.0 ft.	5.4 ft.	7.0 ft.	8.8 ft.	10.8 ft.

Table 7 *Air handler coil head loss at 180°F (82°C) - AHU 2000 HC*

Heating Capacity

AHU 800 - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 800 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
185°F (85°C)	62.2 MBH	64.1 MBH	68.9 MBH	70.1 MBH	71.0 MBH
180°F (82°C)	59.4 MBH	61.3 MBH	65.8 MBH	67.0 MBH	67.9 MBH
170°F (77°C)	53.9 MBH	55.7 MBH	59.5 MBH	60.8 MBH	61.7 MBH
160°F (71°C)	48.4 MBH	50.1 MBH	53.3 MBH	54.6 MBH	55.5 MBH
150°F (66°C)	42.8 MBH	44.4 MBH	47.0 MBH	48.4 MBH	49.2 MBH
140°F (60°C)	37.3 MBH	38.8 MBH	40.7 MBH	42.3 MBH	43.0 MBH
130°F (54°C)	31.8 MBH	33.2 MBH	34.5 MBH	36.1 MBH	36.8 MBH
120°F (49°C)	26.2 MBH	27.5 MBH	28.2 MBH	29.9 MBH	30.5 MBH
110°F (43°C)	20.7 MBH	21.9 MBH	21.9 MBH	23.7 MBH	24.3 MBH

AHU 1200 & AHU 1200 LV - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 1200 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
185°F (85°C)	63.7 MBH	67.7 MBH	70.6 MBH	71.7 MBH	73.0 MBH
180°F (82°C)	60.9 MBH	64.7 MBH	67.5 MBH	68.6 MBH	69.8 MBH
170°F (77°C)	55.3 MBH	58.8 MBH	61.4 MBH	62.4 MBH	63.5 MBH
160°F (71°C)	49.7 MBH	52.9 MBH	55.2 MBH	56.2 MBH	57.2 MBH
150°F (66°C)	44.4 MBH	46.9 MBH	49.1 MBH	50.0 MBH	50.8 MBH
140°F (60°C)	38.4 MBH	41.0 MBH	42.9 MBH	43.8 MBH	44.5 MBH
130°F (54°C)	32.8 MBH	35.0 MBH	36.8 MBH	37.6 MBH	38.2 MBH
120°F (49°C)	27.2 MBH	29.1 MBH	30.6 MBH	31.4 MBH	31.8 MBH
110°F (43°C)	21.6 MBH	23.2 MBH	24.5 MBH	25.2 MBH	25.5 MBH

AHU 1600 - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 1600 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
185°F (85°C)	65.4 MBH	69.5 MBH	74.6 MBH	76.8 MBH	77.7 MBH
180°F (82°C)	62.6 MBH	66.5 MBH	71.3 MBH	73.4 MBH	74.4 MBH
170°F (77°C)	57.0 MBH	60.5 MBH	64.8 MBH	66.7 MBH	67.7 MBH
160°F (71°C)	51.4 MBH	54.6 MBH	58.4 MBH	60.1 MBH	61.0 MBH
150°F (66°C)	45.8 MBH	48.6 MBH	51.9 MBH	53.4 MBH	54.2 MBH
140°F (60°C)	40.1 MBH	42.6 MBH	45.4 MBH	46.7 MBH	47.5 MBH
130°F (54°C)	34.5 MBH	36.6 MBH	38.9 MBH	40.0 MBH	40.8 MBH

AHU 1600 - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 1600 CFM					
Entering Water Temperature	**3 GPM**	**4 GPM**	**5 GPM**	**6 GPM**	**7 GPM**
120°F (49°C)	28.9 MBH	30.6 MBH	32.4 MBH	33.3 MBH	34.1 MBH
110°F (43°C)	23.3 MBH	24.7 MBH	25.9 MBH	26.6 MBH	27.4 MBH

AHU 2000 LV - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 2000 CFM					
Entering Water Temperature	**3 GPM**	**4 GPM**	**5 GPM**	**6 GPM**	**7 GPM**
185°F (85°C)	74.1 MBH	80.1 MBH	84.7 MBH	87.4 MBH	89.2 MBH
180°F (82°C)	71.0 MBH	76.6 MBH	81.0 MBH	83.6 MBH	85.3 MBH
170°F (77°C)	64.7 MBH	69.8 MBH	73.7 MBH	76.1 MBH	77.6 MBH
160°F (71°C)	58.5 MBH	63.0 MBH	66.3 MBH	68.6 MBH	69.9 MBH
150°F (66°C)	52.2 MBH	56.2 MBH	58.9 MBH	61.0 MBH	62.2 MBH
140°F (60°C)	45.9 MBH	49.4 MBH	51.6 MBH	53.5 MBH	54.4 MBH
130°F (54°C)	39.6 MBH	42.6 MBH	44.2 MBH	45.9 MBH	46.7 MBH
120°F (49°C)	33.4 MBH	35.8 MBH	36.8 MBH	38.4 MBH	39.0 MBH
110°F (43°C)	27.1 MBH	29.0 MBH	29.5 MBH	30.8 MBH	31.3 MBH

AHU 1200 HC - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 1200 CFM					
Entering Water Temperature	**3 GPM**	**4 GPM**	**5 GPM**	**6 GPM**	**7 GPM**
180°F (82°C)	67.3 MBH	75.4 MBH	77.7 MBH	82.1 MBH	84.7 MBH
170°F (77°C)	60.6 MBH	67.5 MBH	70.3 MBH	74.7 MBH	77.2 MBH
160°F (71°C)	53.9 MBH	60.3 MBH	63.3 MBH	68.2 MBH	69.3 MBH
150°F (66°C)	47.7 MBH	53.3 MBH	55.8 MBH	60.3 MBH	61.2 MBH
140°F (60°C)	41.0 MBH	46.9 MBH	49.5 MBH	53.0 MBH	53.3 MBH
130°F (54°C)	35.2 MBH	40.8 MBH	42.0 MBH	45.4 MBH	45.5 MBH
120°F (49°C)	28.9 MBH	33.9 MBH	34.4 MBH	36.4 MBH	37.8 MBH
110°F (43°C)	22.8 MBH	28.0 MBH	28.2 MBH	30.1 MBH	30.8 MBH

Table 8 *AHU 1200 HC Heating Capacity rating at 1200 scfm (standard cubic feet / minute)*

AHU 2000 HC - Heating Capacity (Entering Dry Bulb Temperature 70°F) @ 2000 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
180°F (82°C)	85.5 MBH	95.5 MBH	102.3 MBH	106.7 MBH	110.8 MBH
170°F (77°C)	77.3 MBH	86.9 MBH	94.6 MBH	97.1 MBH	101.5 MBH
160°F (71°C)	66.8 MBH	79.2 MBH	83.5 MBH	87.4 MBH	90.2 MBH
150°F (66°C)	60.5 MBH	70.6 MBH	74.8 MBH	76.6 MBH	80.2 MBH
140°F (60°C)	52.8 MBH	60.9 MBH	64.5 MBH	67.2 MBH	70.0 MBH
130°F (54°C)	43.2 MBH	52.0 MBH	57.1 MBH	57.9 MBH	58.7 MBH
120°F (49°C)	37.2 MBH	43.6 MBH	45.5 MBH	47.1 MBH	48.7 MBH
110°F (43°C)	29.0 MBH	33.5 MBH	36.6 MBH	36.6 MBH	38.2 MBH

Table 9 *Heating Capacity rating at 2000 scfm (standard cubic feet / minute)*

Cooling Capacity

AHU 1200 HC - Cooling Capacity (Entering Dry Bulb Temperature 80°F) @ 1200 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
45°F (7°C)	21.5 MBH	25.0 MBH	25.9 MBH	26.9 MBH	29.0 MBH
50°F (10°C)	17.5 MBH	19.5 MBH	20.7 MBH	22.5 MBH	23.2 MBH
55°F (13°C)	14.9 MBH	16.8 MBH	18.7 MBH	19.3 MBH	20.1 MBH

Table 10 *AHU 1200 HC Cooling Capacity rating at 1200 scfm (standard cubic feet / minute)*

AHU 2000 HC - Cooling Capacity (Entering Dry Bulb Temperature 75°F) @ 2000 CFM					
Entering Water Temperature	3 GPM	4 GPM	5 GPM	6 GPM	7 GPM
45°F (7°C)	29.5 MBH	32.1 MBH	34.4 MBH	34.7 MBH	35.8 MBH
50°F (10°C)	25.4 MBH	27.5 MBH	29.4 MBH	30.8 MBH	30.9 MBH
55°F (13°C)	22.7 MBH	24.1 MBH	25.4 MBH	26.9 MBH	26.9 MBH

Table 11 *AHU 2000 HC Cooling Capacity rating at 2000 scfm (standard cubic feet / minute)*

Cabinet Clearance

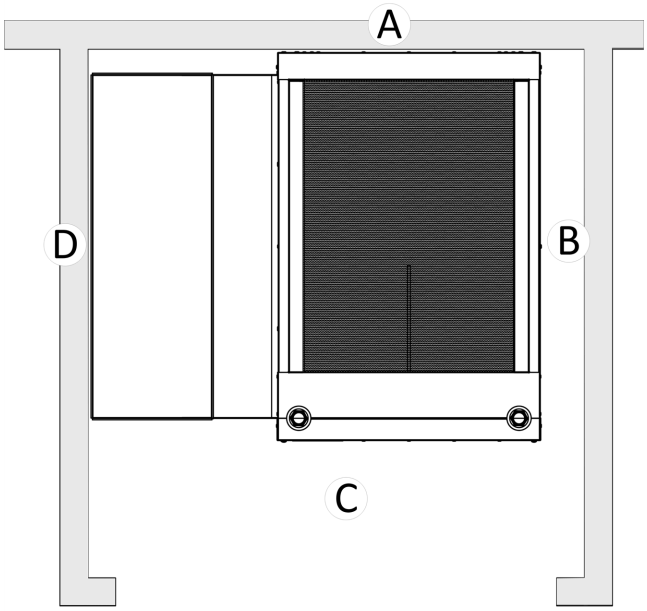


Figure 27 *View from top of air handling appliance and duct in a closet*

	Orientation	Clearance to Combustible	Clearance for servicing
A	Back	0 inches / cm	0 inches / cm
B	Right Side	0 inches / cm	min. 3 inches / 8 cm
C	Front	1 inch / 2.5 cm	24 inches / 61 cm
D	Left Side	0 inches / cm	min. 3 inches / 8 cm
	Top	0 inches / cm	6 inches / 15 cm
	Bottom	0 inches / cm	0 inches / cm (if no connection)

Table 12 *Recommended minimum clearance for combustibles and servicing*

Boiler Pipe Sizing Guide - Copper

Copper Pipe Sizing	BTU / HR Capacity @ 20°F (11°C) ΔT
½"	16,000 BTU
¾"	36,000 BTU
1"	72,000 BTU
1¼"	110,000 BTU