

M thermal Arctic Split Series

208/230V, 1Ph, 60Hz
Model: MHA-V16WD2MN8-B2 / HB-A160CMDM30GN8-B2

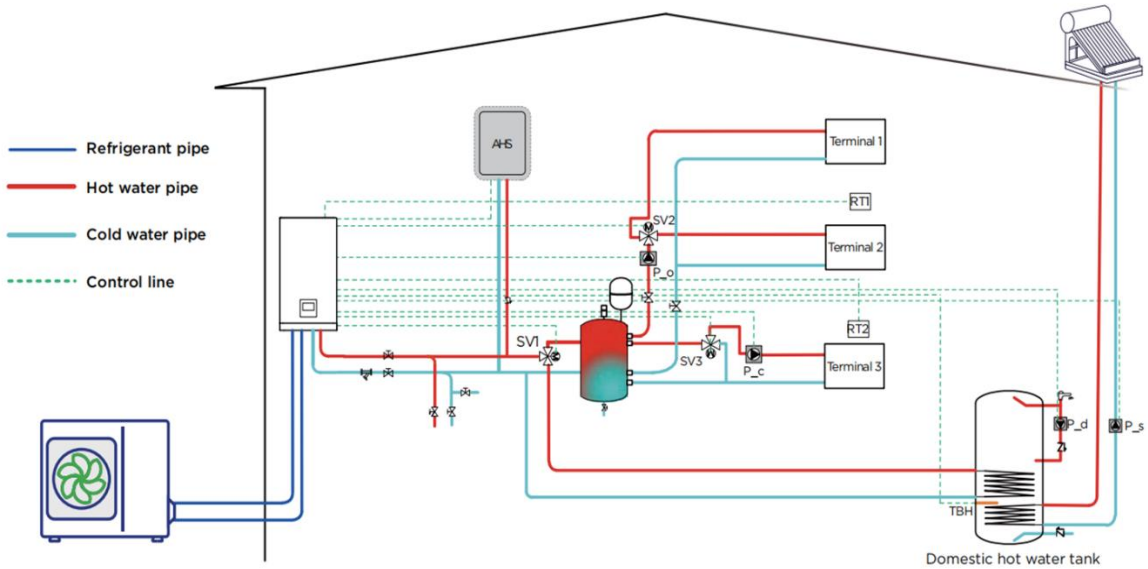
Selection Rating Application Name: ACCL_MH
Selection Rating Application Version: V1.1

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Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.

System Schematic:



TBH: Tank boost heater

AHS: Auxiliary heat source

SV1: Three-way valve 1(Switching water circuit between space cooling/heating and domestic hot water)

SV2: Three-way valve 2(Switching Zone 1 water circuit between space cooling and heating)

SV3: Three-way valve 3(Regulating Zone 2 water temperature)

P_o: Outside circulation pump

P_d: DHW pump

P_c: Zone 2 circulation pump

P_s: Solar pump

RT: Thermostat

Feature:

- R32 environmentally friendly refrigerant (GWP675)
- All DC Inverter System with high energy efficiency
- Extremely silent and equipped with a multi-mode silent mode
- Multi-function wired controller and APP control, Modbus protocol and network flexibility
- One stop solution for space cooling/heating and DHW
- Easy maintenance with Rotatable electronic control box and Flow-Ease water pipe
- Water temperature automatically set with climate curve function
- Two Zones flexible temperature control
- Adaptable terminal board with 24v control signal

Unit Performance and Data:

Outdoor Unit Model			MHA-V16WD2MN8-B2
Power supply		V/Ph/Hz	208/230,1,60
Min. Circuit Amps (MCA)		A	34
Max. Fuse Amps. (MFA)		A	50
Heating (A44.6W95) / (A7W35)	Capacity	Btu/h (kW)	54589 (16)
	Rated input	kW	3.56
	COP	W/W	4.5
Heating (A35.6W95) / (A2W35)	Capacity	Btu/h (kW)	44353 (13)
	Rated input	kW	3.71
	COP	W/W	3.5
Heating (A19.4W95) / (A-7W35)	Capacity	Btu/h (kW)	45377 (13.3)
	Rated input	kW	4.93
	COP	W/W	2.7
Heating (A5W110) / (A-15W43.3)	Capacity	Btu/h (kW)	33780 (9.9)
	Rated input	kW	4.8
	COP	W/W	2.06
Cooling (A95W44.6) / (A35W7)	Capacity	Btu/h (kW)	47765 (14)
	Rated input	kW	5.71
	EER	Btu/(W*h)	8.37
	COP	W/W	2.45
Cooling (A95W64.4) / (A35W18)	Capacity	Btu/h (kW)	48448 (14.2)
	Rated input	kW	3.93
	EER	Btu/(W*h)	12.33
	COP	W/W	3.61
Cooling (IPLV.IP)		Btu/(W*h)	18.41
		W/W	5.4
Rated water flow		gpm (m^3/h)	12.11 (2.75)
Compressor	Type		Twin rotary DC inverter
Outdoor fan	Motor type		Brushless DC motor
	Number of fans		1
Air side heat exchanger	Type		Finned tube
Refrigerant(R32)	Factory charge	lb (kg)	4.04 (1.835)
Throttle type			Electronic expansion valve
Piping connections	Type		Flare
	Liquid Dia. (OD)	in(mm)	3/8 (9.53)
	Gas Dia. (OD)	in(mm)	5/8 (15.88)
	Min. pipe length	ft (m)	6.5 (2)
	Max. pipe length	ft (m)	98 (30)
Installation height difference	Outdoor unit above	ft (m)	65.5 (20)
	Outdoor unit below	ft (m)	65.5 (20)
Sound pressure level (39.7 in/1m)[1]		dB(A)	57
ODU Net dimensions (W×H×D)		in (mm)	44×34-1/16×20-9/16 (1118×865×523)
ODU Net		lb (kg)	213.85 (97)
Operating temperature range	Cooling	°F (°C)	23 to 110 (-5 to 43)
	Heating	°F (°C)	-13 to 95 (-25 to 35)
	DHW	°F (°C)	-13 to 110 (-25 to 43)

Notes:

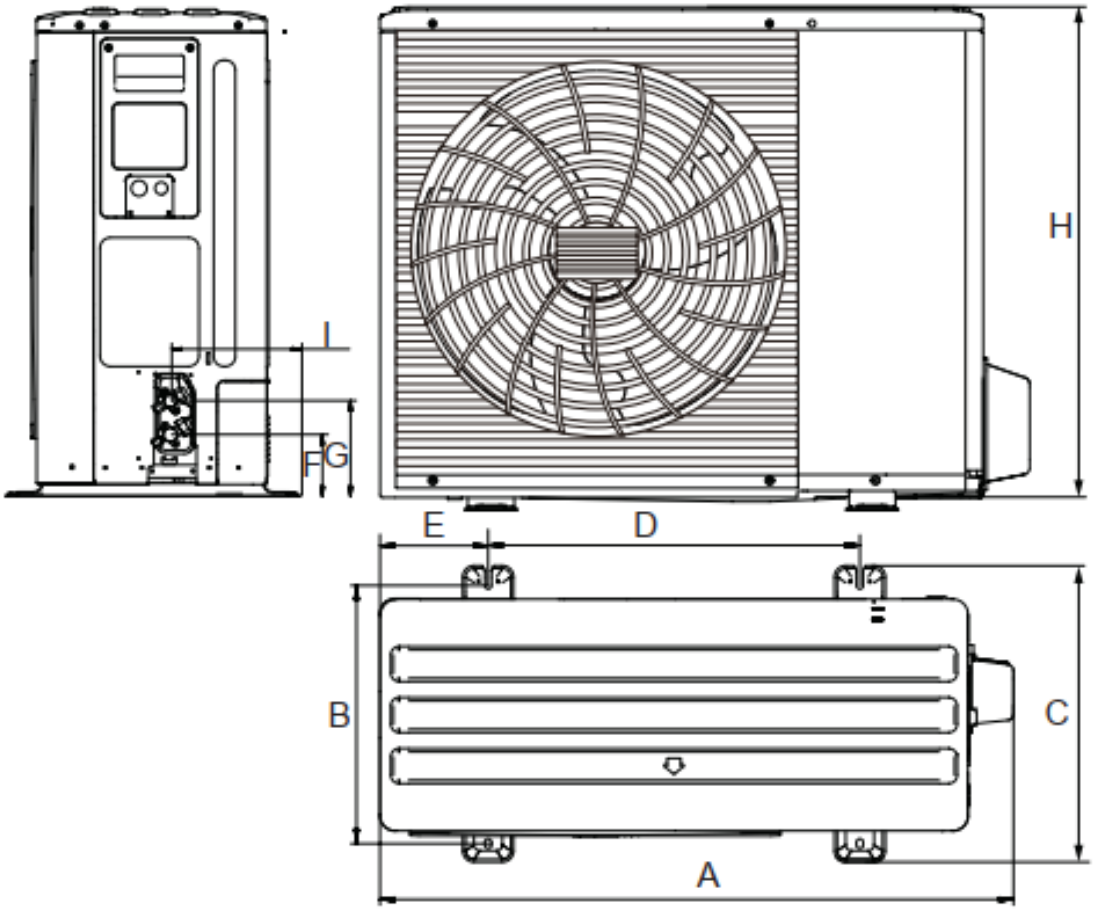
1. Sound pressure level is the maximum value tested under the two conditions of Heating: A44.6W95(A7W35) and Cooling: A95W64.4(A35W18).
2. Some specifications may change, for reference only.

Unit Performance and Data:

Indoor Unit Model				HB-A160CMDM30GN8-B2
Function				Heating and cooling
Power supply			V/Ph/Hz	208/230,1,60
Min. Circuit Amps (MCA)			A	19
Max. Fuse Amps. (MFA)			A	25
Setting water temperature range	Cooling		°F (°C)	41~77 (5~25)
	Heating		°F (°C)	77~149 (25~65)
	DHW[1]		°F (°C)	68~140 (20~60)
Power supply			V/Ph/Hz	208/230,1,60
Backup E-heater (Optional)	Standard mounted		kW	3
	Capacity steps			1
	Power supply		V/Ph/Hz	208/230,1,60
Sound pressure level (39.37 inch)[2]			dB (A)	35
Dimension (W×H×D)			in (mm)	16-9/16×31-1/8×10-5/8 (420×790×270)
Net Weight			lb (kg)	88.18 (40)
Water circuit	Piping connections		in (mm)	NPT 1" (NPT 25.4)
	Safety valve set pressure		psi (bar)	43.51 (3)
	Drainage pipe connection		in (mm)	1 (25.4)
	Expansion tank	Volume	gallon (L)	1.32 (5)
		Max. water pressure	psi (bar)	43.51 (3)
		Pre-pressure	psi (bar)	21.8 (1.5)
	Water side exchanger		Type	Plate type
	Water pump head		ft (m)	29.5 (9)
	Water flow range		gpm (m^3/h)	3.08~13.21 (0.7~3)
	Internal water volume		gallon (L)	0.66~1.93 (2.5~7.3)
Refrigerant circuit	Liquid Dia. (OD)		in (mm)	3/8 (9.53)
	Gas Dia. (OD)		in (mm)	5/8 (15.88)

Notes:
1. Maximum domestic hot water temperature 140 °F(60°C) is only available with TBH support.
2. Sound pressure level is the maximum value tested under the two conditions of Heating: A44.6W95(A7W35) and Cooling: A95W64.4(A35W18).
3. Some specifications may change, for reference only.

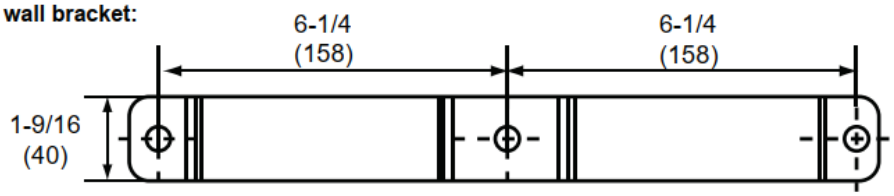
Outdoor Unit Dimensions:



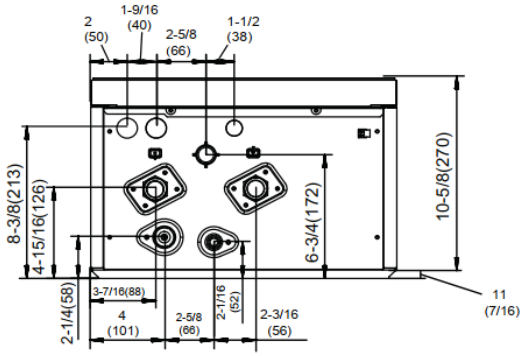
Model	unit	A	B	C	D	E	F	G	H	I
16kW	in	44	17-15/16	20-9/16	15-13/16	7-1/2	4-5/16	6-11/16	34-1/16	9-1/16
	mm	1118	456	523	402	191	110	170	865	230

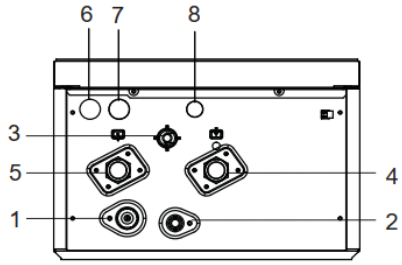
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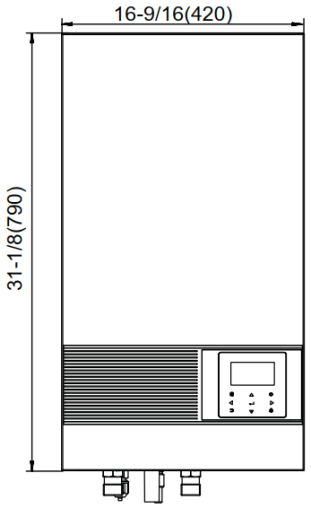
Dimensions of the wall bracket:

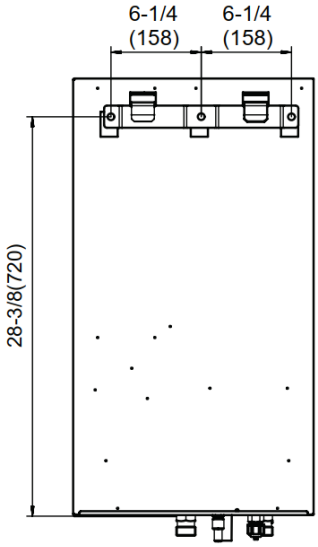


Dimensions of the unit:









unit: in(mm)

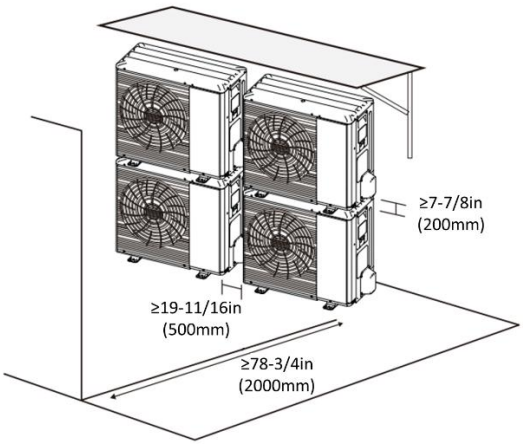
NO.	
1	Refrigerant gas pipe size 5/8"(15.88mm), connection size 7/8"(22.22mm)-14UNF
2	Refrigerant liquid pipe size 3/8"(9.53mm), connection size 5/8"(15.88mm)-18UNF
3	Drain Ø25
4	Water Inlet 1"(25.4mm) NPT
5	Water Outlet 1"(25.4mm) NPT
6	Wiring hole Ø28.3
7	Wiring hole Ø28.3
8	Wiring hole Ø22.5

Outdoor Unit Installation Space Requirements:

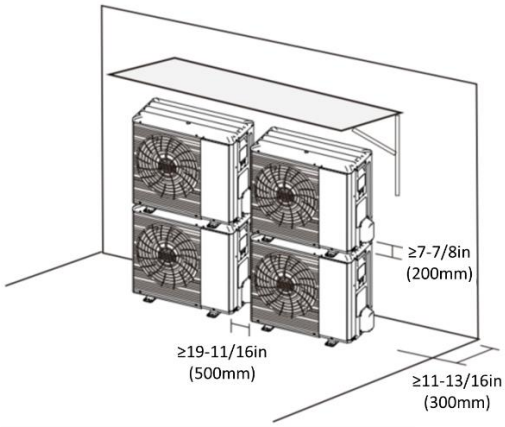
- It's necessary to install the water outlet connection pipe assembly if the unit is mounted on the top of each other, preventing condensate flow to the heat exchanger.

1. In case of stacked installation:

(1) In case obstacles exist in front of the outlet side.

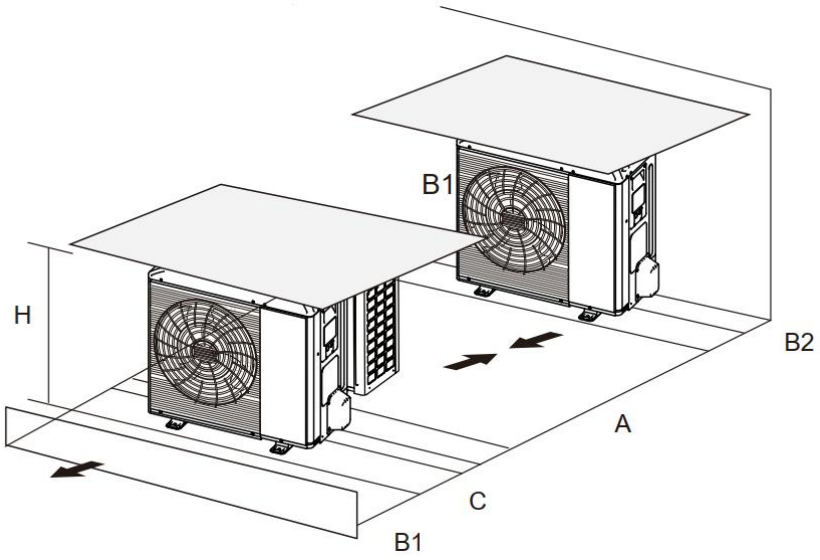


(2) In case obstacles exist in front of the air inlet.



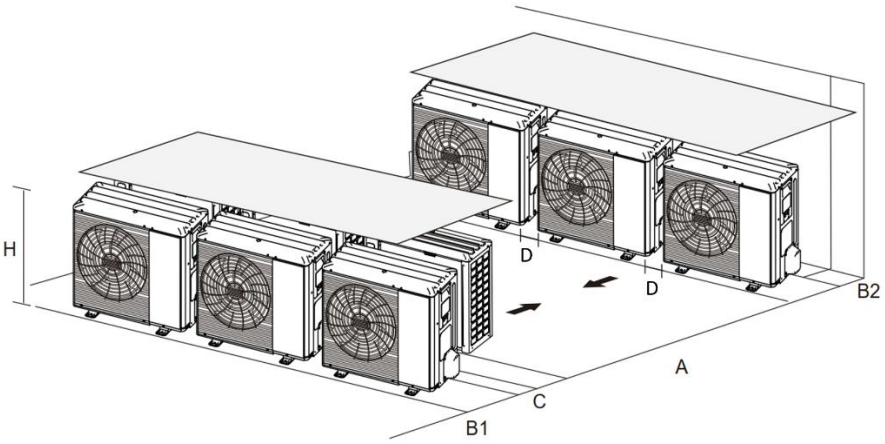
2. In case of multiple-row installation

(1) In case of installing one unit per row.



Model	unit	A	B1	B2	C
16kW	in	≥118-1/8	≥78-3/4	≥5-15/16	≥23-5/8
	mm	≥3000	≥2000	≥150	≥600

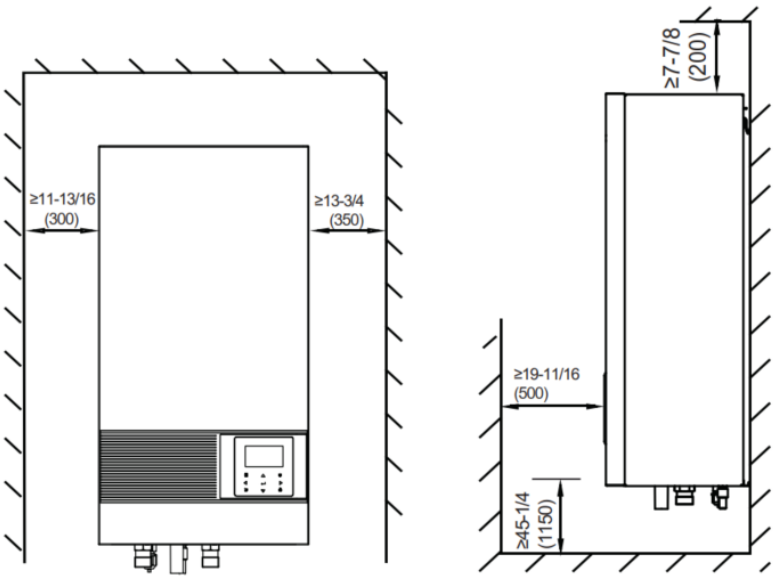
(2) In case of installing multiple units in lateral connection per row.



Model	unit	A	B1	B2	C	D
16kW	in	≥118-1/8	≥78-3/4	≥5-15/16	≥23-5/8	≥19-11/16
	mm	≥3000	≥2000	≥150	≥600	≥500

Indoor Unit Installation Space Requirements:

- The indoor unit is packed in a box.
- At delivery, the unit must be checked and any damage must be reported immediately to the carrier claims agent.
- Check if all indoor unit accessories are enclosed.
- Bring the unit as close as possible to the final installation position in its original package in order to prevent damage during transport.
- The indoor unit weight is approximately 88.18lb(40kg) and should be lifted by two persons.



unit:in(mm)