



## M thermal Arctic Split Series

**208/230V, 1Ph, 60Hz**

**Model: MHA-V16WD2MN8-B2 / HB-A160CMDM30GN8-B2**

**North American HVAC Products Ltd.**

**HA-SA202404V1**

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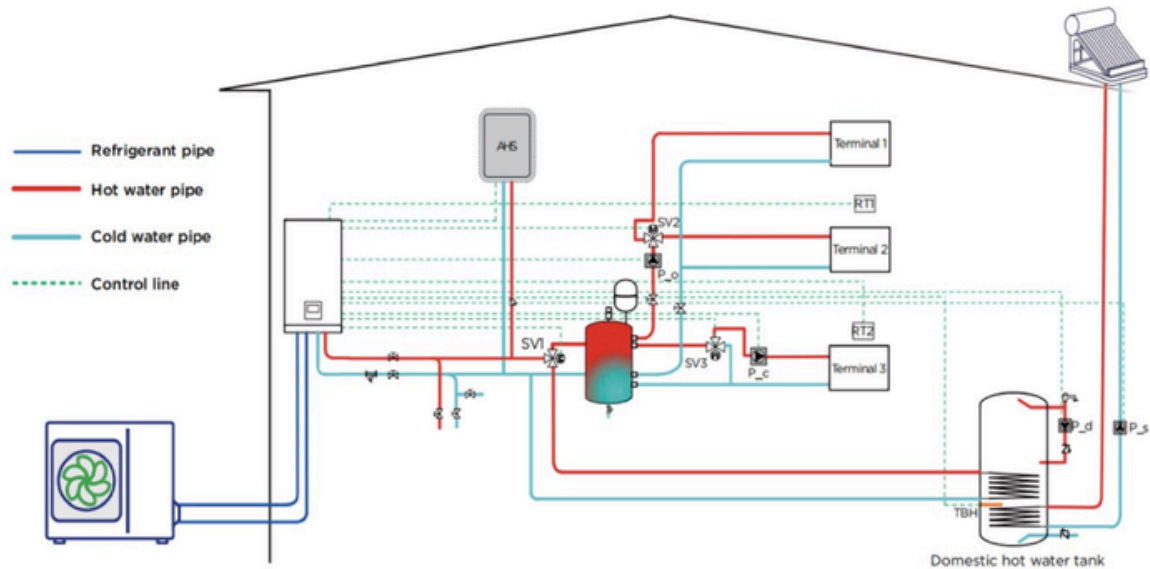


Midea reserves the right to change the specifications of the product, and to withdraw or replace products without prior notification or public announcement.  
Midea is constantly developing and improving its products.

## Submittal Data Sheet

M thermal Arctic split Series  
Outdoor Unit Capacity: 16kW  
Indoor Unit Capacity: 16kW

## 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

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## Unit Performance and Data:

Outdoor Unit Model			MHA-V16WD2MN8-B2
Power supply		V/Ph/Hz	208/230,1,60
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 <sup>3</sup> /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 <sup>3</sup> )		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.

## Submittal Data Sheet

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 Outdoor Unit Capacity: 16kW  
 Indoor Unit Capacity: 16kW

## Unit Performance and Data:

Indoor Unit Model			HB-A160CMDM30GN8-B2	
Function			Heating and cooling	
Setting water	Cooling		°F (°C)	41~77 (5~25)
	Heating		°F (°C)	77~149 (25~65)
	DHW <sup>1</sup>		°F (°C)	68~140 (20~60)
Power supply			V/Ph/Hz	208/230,1,60
Backup E-heater	Standard mounted		kW	3
	Capacity steps			1
	Power supply	3kW	V/Ph/Hz	208/230,1,60
Sound pressure level (39.37 inch) <sup>2</sup>			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	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 <sup>3</sup> /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)

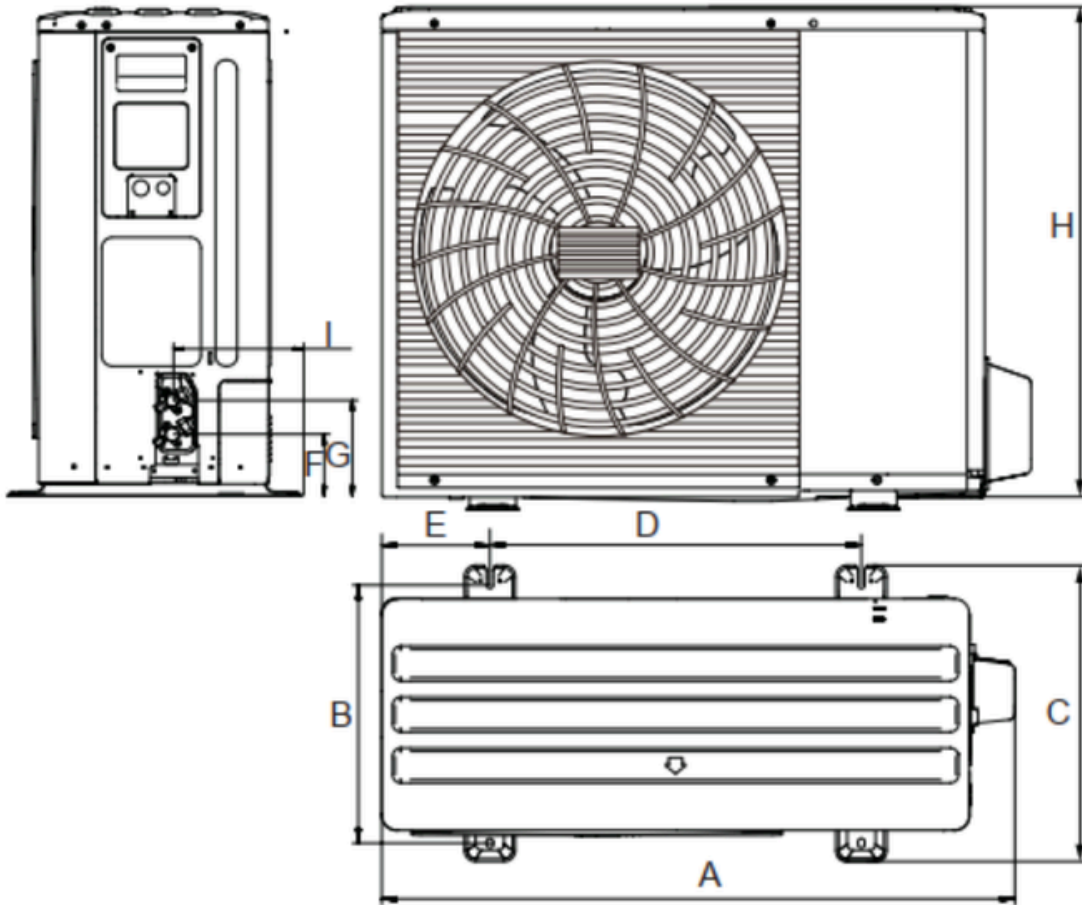
### Notes:

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.

### Submittal Data Sheet

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Outdoor Unit Capacity: 16kW  
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## Outdoor Unit Dimensions:



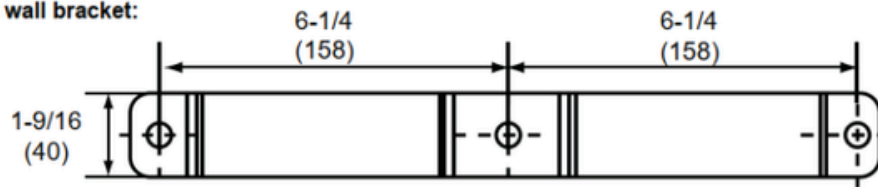
Model	unit	A	B	C	D	E	F	G	H	I
16kW	in	44	17-15/16	20-9/16	15-13/16	7-1/2	4-5/16	6-11/16	34-1/16	9-1/16
	mm	1118	456	523	402	191	110	170	865	230

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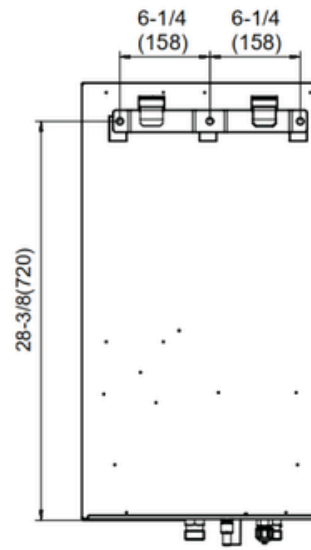
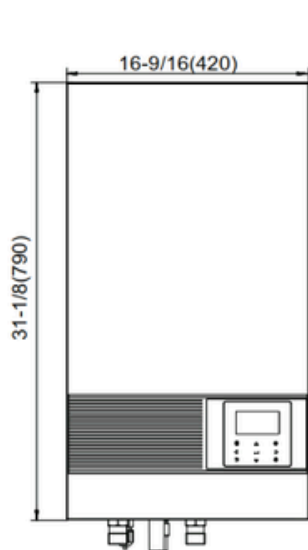
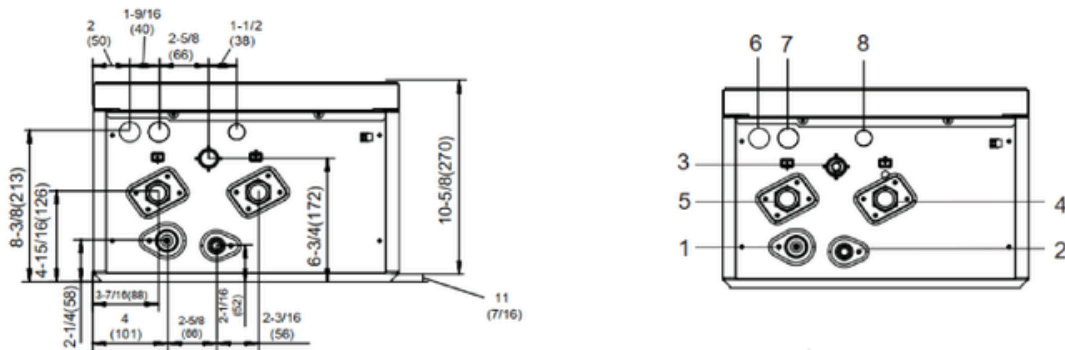
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## Indoor Unit Dimensions:

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

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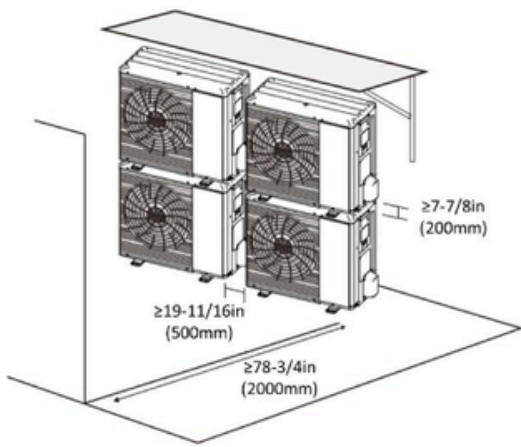
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# Outdoor Unit Installation Space Requirements:

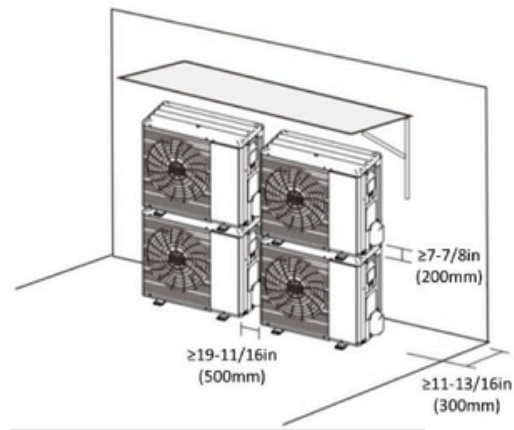
- It's necessary to install the water outlet connection pipe assembly if the unit is mounted on the top of each other, preventing condensate flow to the heat exchanger.

## 1. In case of stacked installation:

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

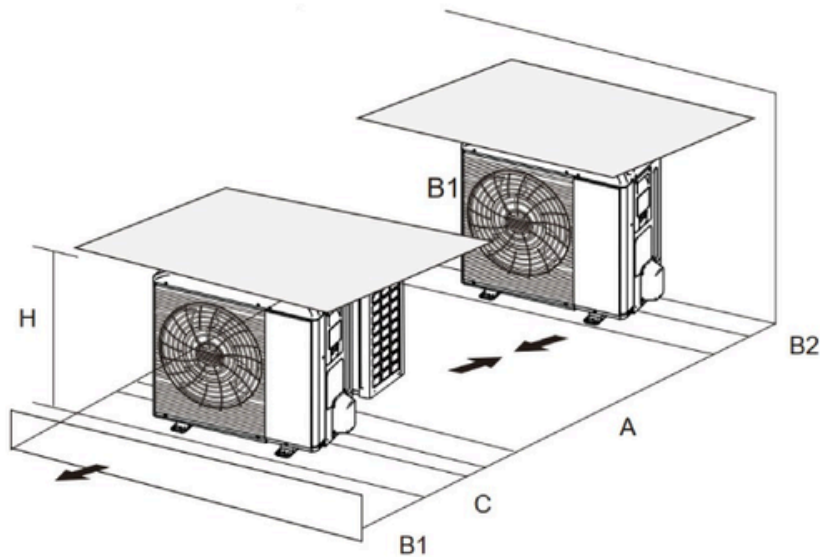


(2) In case obstacles exist in front of the air inlet.



## 2. In case of multiple-row installation

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

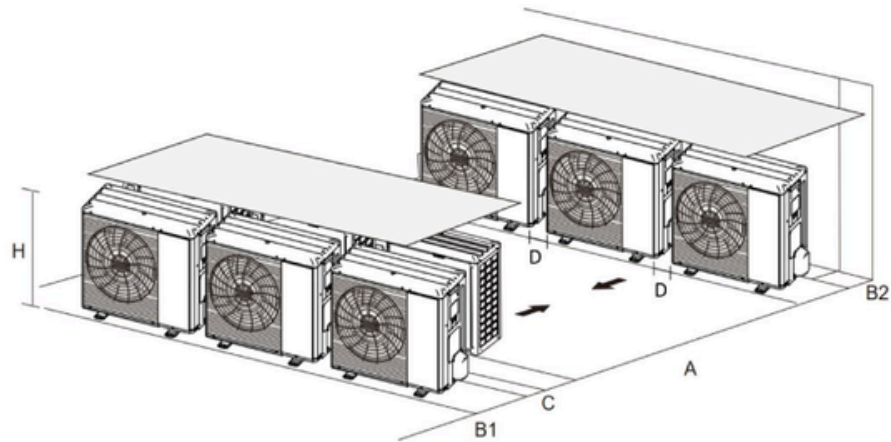


Model	unit	A	B1	B2	C
16kW	in	≥118-1/8	≥78-3/4	≥5-15/16	≥23-5/8
	mm	≥3000	≥2000	≥150	≥600

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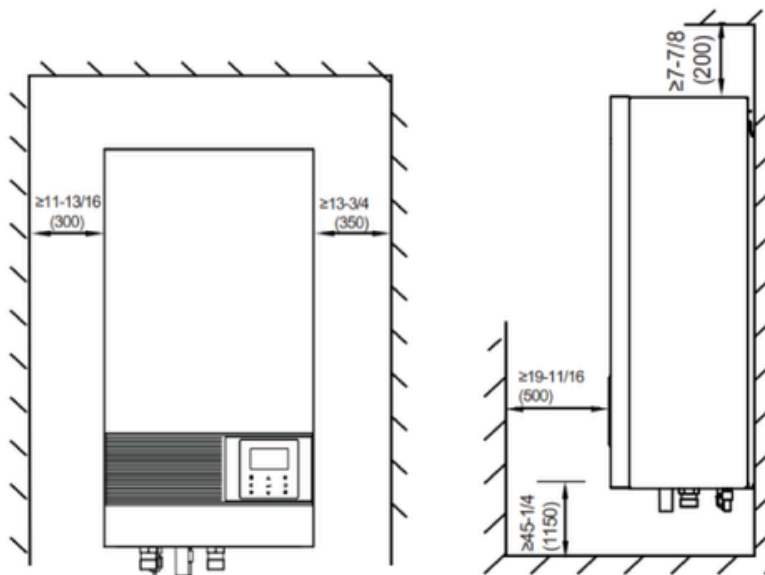
(2) In case of installing multiple units in lateral connection per row.



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

## Indoor Unit Installation Space Requirements:

- The indoor unit is packed in a box.
- The indoor unit weight is approximately 88.18lb(40kg) and should be lifted by two persons.



unit:in(mm)