

1 Specifications

1.1 Outdoor Unit

Table 2-1.1: MHA-V4(6, 8, 10)W/D2N8-B specifications¹

Model name MHA-			V4W/D2N8-B	V6W/D2N8-B	V8W/D2N8-B	V10W/D2N8-B
Compatible hydronic box HB-			A60/CGN8-B		A100/CGN8-B	
Power supply		V/Ph/Hz	220-240/1/50			
Heating ²	Capacity	kW	4.25	6.20	8.30	10.0
	Rated input	kW	0.82	1.24	1.60	2.00
	COP			5.20	5.00	5.20
Heating ³	Capacity	kW	4.35	6.35	8.20	10.0
	Rated input	kW	1.14	1.69	2.08	2.63
	COP			3.80	3.75	3.95
Heating ⁴	Capacity	kW	4.40	6.00	7.50	9.50
	Rated input	kW	1.49	2.00	2.36	3.06
	COP			2.95	3.00	3.18
Cooling ⁵	Capacity	kW	4.50	6.55	8.40	10.00
	Rated input	kW	0.81	1.34	1.66	2.08
	EER			5.55	4.90	5.05
Cooling ⁶	Capacity	kW	4.70	7.00	7.40	8.20
	Rated input	kW	1.36	2.33	2.19	2.48
	EER			3.45	3.00	3.38
Seasonal space heating energy efficiency class ⁷	LWT at 35°C		A+++	A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++	A++
SCOP ⁷	LWT at 35°C		4.85	4.95	5.21	5.19
	LWT at 55°C		3.31	3.52	3.36	3.49
SEER	LWT at 7°C		4.99	5.34	5.83	5.98
	LWT at 18°C		7.77	8.21	8.95	8.78
MOP(Maximum overcurrent protection)		A	18	18	19	19
MCA(Minimum circuit amps)		A	12	14	16	17
Compressor	Type		Twin rotary DC inverter		Twin rotary DC inverter	
Outdoor fan	Motor type		Brushless DC motor		Brushless DC motor	
	Number of fans		1	1	1	1
Air side heat exchanger	Type		Finned tube		Finned tube	
Refrigerant(R32)	Factory charge	kg	1.50	1.50	1.65	1.65
Throttle type			Electronic expansion valve		Electronic expansion valve	
Piping connections	Type		Flare	Flare	Flare	Flare
	Liquid Dia.(OD)	mm	Φ6.35	Φ6.35	Φ9.52	Φ9.52
	Gas Dia.(OD)	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
	Min. pipe length	m	2	2	2	2
	Max. pipe length	m	30	30	30	30
Installation height difference	Outdoor unit above	m	20	20	20	20
	Outdoor unit below	m	20	20	20	20
Sound power level ⁸		dB	56	58	59	60
Sound pressure level ⁹		dB	44	45	46	49
Net dimensions (W×H×D)		mm	1008×712×426	1008×712×426	1118×865×523	1118×865×523
Packed dimensions (W×H×D)		mm	1065×800×485	1065×800×485	1180×890×560	1180×890×560
Net/Gross weight		kg	58/64	58/64	77/88	77/88
Operating temperature range	Cooling	°C	-5 to 43			
	Heating	°C	-25 to 35			
	DHW	°C	-25 to 43			

Table 2-1.1: MHA-V12(14, 16)W/D2N8-B specifications¹

Model name MHA-			V12W/D2N8-B	V14W/D2N8-B	V16W/D2N8-B
Compatible hydronic box HB-			A160/CGN8-B		
Power supply		V/Ph/Hz	220-240/1/50		
Heating ²	Capacity	kW	12.1	14.5	16.0
	Rated input	kW	2.44	3.09	3.56
	COP			4.95	4.70
Heating ³	Capacity	kW	12.3	14.2	16.0
	Rated input	kW	3.24	3.89	4.44
	COP			3.80	3.65
Heating ⁴	Capacity	kW	12.0	13.8	16.0
	Rated input	kW	3.87	4.60	5.52
	COP			3.10	3.00
Cooling ⁵	Capacity	kW	12.00	13.50	14.90
	Rated input	kW	3.00	3.75	4.38
	EER			4.00	3.60
Cooling ⁶	Capacity	kW	11.6	12.7	14.0
	Rated input	kW	4.22	4.98	5.71
	EER			2.75	2.55
Seasonal space heating energy efficiency class ⁷	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++
SCOP ⁷	LWT at 35°C		4.81	4.72	4.62
	LWT at 55°C		3.45	3.47	3.41
SEER	LWT at 7°C		4.89	4.86	4.69
	LWT at 18°C		7.1	6.9	6.75
MOP(Maximum overcurrent protection)		A	30	30	30
MCA(Minimum circuit amps)		A	25	26	27
Compressor	Type		Twin rotary DC inverter		
Outdoor fan	Motor type		Brushless DC motor		
	Number of fans		1	1	1
Air side heat exchanger	Type		Finned tube		
Refrigerant(R32)	Factory charge	kg	1.84	1.84	1.84
Throttle type			Electronic expansion valve		
Piping connections	Type		Flare	Flare	Flare
	Liquid Dia.(OD)	mm	Φ9.52	Φ9.52	Φ9.52
	Gas Dia.(OD)	mm	Φ15.9	Φ15.9	Φ15.9
	Min. / Max. pipe length		m	2/30	2/30
Installation height difference	Outdoor unit above		m	20	20
	Outdoor unit below		m	20	20
Sound power level ⁸		dB	64	65	68
Sound pressure level ⁹		dB	50	51	55
Net dimensions (W×H×D)		mm	1118×865×523	1118×865×523	1118×865×523
Packed dimensions (W×H×D)		mm	1180×890×560	1180×890×560	1180×890×560
Net/Gross weight		kg	96/110	96/110	96/110
Operating temperature range	Cooling		°C	-5 to 43	
	Heating		°C	-25 to 35	
	DHW		°C	-25 to 43	

M thermal Split



Table 2-1.1: MHA-V12(14, 16)W/D2RN8-B specifications¹

Model name MHA-			V12W/D2RN8-B	V14W/D2RN8-B	V16W/D2RN8-B	
Compatible hydronic box HB-			A160/CGN8-B			
Power supply		V/Ph/H	380-415/3/50			
Heating ²	Capacity	kW	12.1	14.5	16.0	
	Rated input	kW	2.44	3.09	3.56	
	COP			4.95	4.70	4.50
Heating ³	Capacity	kW	12.3	14.2	16.0	
	Rated input	kW	3.24	3.89	4.44	
	COP			3.80	3.65	3.60
Heating ⁴	Capacity	kW	12.0	13.8	16.0	
	Rated input	kW	3.87	4.60	5.52	
	COP			3.10	3.00	2.90
Cooling ⁵	Capacity	kW	12.00	13.50	14.90	
	Rated input	kW	3.00	3.75	4.38	
	EER			4.00	3.60	3.40
Cooling ⁶	Capacity	kW	11.6	12.7	14.0	
	Rated input	kW	4.22	4.98	5.71	
	EER			2.75	2.55	2.45
Seasonal space heating energy efficiency class ⁷	LWT at 35°C		A+++	A+++	A+++	
	LWT at 55°C		A++	A++	A++	
SCOP ⁷	LWT at 35°C		4.81	4.72	4.62	
	LWT at 55°C		3.45	3.47	3.41	
SEER	LWT at 7°C		4.86	4.83	4.67	
	LWT at 18°C		7.04	6.85	6.71	
MOP(Maximum overcurrent protection)		A	14	14	14	
MCA(Minimum circuit amps)		A	10	11	12	
Compressor	Type		Twin rotary DC inverter			
Outdoor fan	Motor type		Brushless DC motor			
	Number of fans		1	1	1	
Air side heat exchanger	Type		Finned tube			
Refrigerant(R32)	Factory charge	kg	1.84	1.84	1.84	
Throttle type		Electronic expansion valve				
Piping connections	Type		Flare	Flare	Flare	
	Liquid/ Gas Dia.(OD)		mm	Φ9.52/15.9	Φ9.52/15.9	Φ9.52/15.9
	Min. /Max. pipe length		m	2/30	2/30	2/30
Installation height difference	Outdoor unit above/below	m	20	20	20	
Sound power level ⁸		dB	64	65	68	
Sound pressure level(1m) ⁹		dB	50	51	55	
Net dimensions (W×H×D)		mm	1118×865×523	1118×865×523	1118×865×523	
Packed dimensions (W×H×D)		mm	1180×890×560	1180×890×560	1180×890×560	
Net/Gross weight		kg	112/125	112/125	112/125	
Operating temperature range	Cooling	°C	-5 to 43			
	Heating	°C	-25 to 35			
	DHW	°C	-25 to 43			

Note: 1. Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014.

2. Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.

3. Outdoor air temperature 7°C DB, 85% R.H.; EWT 40°C, LWT 45°C.

4. Outdoor air temperature 7°C DB, 85% R.H.; EWT 47°C, LWT 55°C.

5. Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C.

6. Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C.

7. Seasonal space heating energy efficiency class tested in average climate conditions.

8. Test standard: EN12102-1

9. Sound pressure level is the maximum value tested under the two conditions of Notes2 and Notes5. For 16kW model, the value is calculated and it is for reference only

1.2 Hydronic Box
Table 2-1.2: HB-A60(100,160)/CGN8-B specifications

Model name HB-			A60/CGN8-B	A100/CGN8-B	A160/CGN8-B	
Compatible Outdoor unit model MHA-			V4(6)W/D2N8-B	V8(10)W/D2N8-B	V12(14,16)W/D2(R)N8-B	
Function			Heating and cooling			
Setting water temperature range	Cooling	°C	5~25			
	Heating	°C	25~65			
	DHW (tank)	°C	30~60			
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	
Sound power level ¹		dB	38	42	43	
Sound pressure level(1m) ²		dB	28	30	32	
Dimension (W×H×D)		mm	420×790×270	420×790×270	420×790×270	
Packing (W×H×D)		mm	525×1050×360	525×1050×360	525×1050×360	
Net/gross weight		kg	37/43	37/43	39/45	
Water circuit	Piping connections		inch	R1"	R1"	R1"
	Safety valve set pressure		MPa	0.3	0.3	0.3
	Drainage pipe connection		mm	Φ25	Φ25	Φ25
	Expansion tank	Volume	L	8.0	8.0	8.0
		Max. water pressure	MPa	0.3	0.3	0.3
		Pre-pressure	MPa	0.1	0.1	0.1
	Water side	Type		Plate type	Plate type	Plate type
Water pump head		m	9	9	9	
Refrigerant circuit	Liquid Dia. (OD)		mm	Φ6.35	Φ9.52	Φ9.52
	Gas Dia. (OD)		mm	Φ15.9	Φ15.9	Φ15.9

Note: 1. Test standard: EN12102-1

2. Sound pressure level is the maximum value tested under the two conditions of Note3 and Note4 for different combination between outdoor unit and hydronic box. For HB-A160/CGN8-B combined with 16kW models, the value is calculated and it is for reference only.

3. Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
4. Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C.