

1 Specifications

1.1 Outdoor Unit

Model name			MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2
Compatible hydronic box			HB-A60/CGN8-B		HB-A100/CGN8-B	
Power supply		V/Ph/Hz	220-240/1/50			
Heating(A7W35)	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	5.00
Heating(A7W45)	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	3.80
Heating(A7W55)	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	3.10
Heating(A-7W35)	Capacity	kW	4.8	6.1	7.1	8.25
	Rated input	kW	1.52	2	2.18	2.62
	COP		3.15	3.05	3.25	3.15
Heating(A-7W55)	Capacity	kW	4	5.15	6.15	6.85
	Rated input	kW	2.05	2.58	3	3.43
	COP		1.95	2	2.05	2
Cooling(A35W18)	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	4.80
Cooling(A35W7)	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	3.30
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	Warmer climate	35°C	6.46	6.57	6.99	7.09
		55°C	4.15	4.21	4.51	4.62
	Average climate	35°C	A+++	A+++	A+++	A+++
			4.85	4.95	5.22	5.20
		55°C	A++	A++	A++	A++
			3.31	3.52	3.37	3.47
	Colder climate	35°C	4.06	4.21	4.33	4.32
		55°C	2.63	2.85	2.88	2.99
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
Rated water flow		m³/h	0.73	1.07	1.43	1.72
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
ODU Net dimensions (W×H×D)		mm	1008×712×426	1008×712×426	1118×865×523	1118×865×523
ODU Packed dimensions (W×H×D)		mm	1065×810×485	1065×810×485	1190×970×560	1190×970×560
ODU Net/Gross weight		kg	58/63.5	58/63.5	75/89	75/89
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. Test standard: EN12102-1
3. Sound pressure level is the maximum value tested under the two conditions of Heating: A7W35 and Cooling: A35W18.

M thermal Arctic Split



Model name			MHA-V12W/D2N8-B 2	MHA-V14W/D2N8-B 2	MHA-V16W/D2N8-B 2
Compatible hydronic box			HB-A160/CGN8-B		
Power supply		V/Ph/Hz	220-240/1/50		
Heating(A7W35)	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(A7W45)	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(A7W55)	Capacity	kW	12.0	13.8	16.0
	Rated input	kW	3.87	4.60	5.52
	COP		3.10	3.00	2.90
Heating(A-7W35)	Capacity	kW	10	12	13.3
	Rated input	kW	3.33	4.29	4.93
	COP		3	2.8	2.7
Heating(A-7W55)	Capacity	kW	10	11	12.5
	Rated input	kW	4.88	5.37	6.19
	COP		2.05	2.05	2.02
Cooling(A35W18)	Capacity	kW	12.00	13.50	14.2
	Rated input	kW	3.00	3.74	3.94
	EER		4.00	3.61	3.61
Cooling(A35W7)	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	Warmer climate	35°C	6.48	6.58	6.29
		55°C	4.43	4.49	4.48
	Average climate	35°C	A+++	A+++	A+++
			4.81	4.72	4.62
	Colder climate	55°C	A++	A++	A++
			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
Rated water flow		m³/h	2.08	2.49	2.75
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	2/30
Installation height difference	Outdoor unit above	m	20	20	20
	Outdoor unit below	m	20	20	20
Sound power level ⁸		dB	64	65	68
Sound pressure level ⁹		dB	50	51	54
ODU Net dimensions (W×H×D)		mm	1118×865×523	1118×865×523	1118×865×523

ODU Packed dimensions (W×H×D)		mm	1190×970×560	1190×970×560	1190×970×560
ODU Net/Gross weight		kg	97/110.5	97/110.5	97/110.5
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. Test standard: EN12102-1
3. Sound pressure level is the maximum value tested under the two conditions of Heating: A7W35 and Cooling: A35W18.

M thermal Arctic Split



Model name			MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
Compatible hydronic box			HB-A160/CGN8-B		
Power supply		V/Ph/H	380-415/3/50		
Heating(A7W35)	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(A7W45)	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(A7W55)	Capacity	kW	12.0	13.8	16.0
	Rated input	kW	3.87	4.60	5.52
	COP		3.10	3.00	2.90
Heating(A-7W35)	Capacity	kW	10	12	13.3
	Rated input	kW	3.33	4.29	4.93
	COP		3	2.8	2.7
Heating(A-7W55)	Capacity	kW	10	11	12.5
	Rated input	kW	4.88	5.37	6.19
	COP		2.05	2.05	2.02
Cooling(A35W18)	Capacity	kW	12.00	13.50	14.2
	Rated input	kW	3.00	3.74	3.94
	EER		4.00	3.61	3.61
Cooling(A35W7)	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	LWT at 35°C		A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++
SCOP	Warmer climate	35°C	6.47	6.57	6.28
		55°C	4.42	4.49	4.47
	Average climate	35°C	A+++	A+++	A+++
			4.81	4.72	4.62
		55°C	A++	A++	A++
	Colder climate		3.45	3.47	3.41
		35°C	4.08	4.07	4.02
		55°C	3.02	3.05	3.12
SEER	LWT at 7°C		4.86	4.83	4.67
	LWT at 18°C		7.04	6.85	6.71
Rated water flow		m³/h	2.08	2.49	2.75
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		20	20	20
Sound power level ²		dB	64	65	68
Sound pressure level(1m) ³		dB	50	51	55
ODU Net dimensions (W×H×D)		mm	1118×865×523	1118×865×523	1118×865×523
ODU Packed dimensions (W×H×D)		mm	1190×970×560	1190×970×560	1190×970×560
ODU Net/Gross weight		kg	112/125.5	112/125.5	112/125.5

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. Test standard: EN12102-1
3. Sound pressure level is the maximum value tested under the two conditions of Heating: A7W35 and Cooling: A35W18.

1.2 Hydronic Box

Model name			HB-A60/CGN8-B	HB-A100/CGN8-B	HB-A160/CGN8-B
Compatible Outdoor unit model			MHA-V4(6)W/D2N8-B2	MHA-V8(10)W/D2N8-B2	MHA-V12(14,16)W/D2(R)N8-B2
Function			Heating and cooling		
Setting water temperature range	Cooling	°C	5~25		
	Heating	°C	25~65		
	DHW ³	°C	20~60		
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"
	Safety valve set pressure		MPa	0.3	0.3
	Drainage pipe connection		mm	Φ25	Φ25
	Expansion tank	Volume	L	8.0	8.0
		Max. water pressure	MPa	0.3	0.3
		Pre-pressure	MPa	0.1	0.1
	Water side	Type	Plate type	Plate type	Plate type
	Water pump head		m	9	9
	Water flow range		m ³ /h	0.4~1.25	0.4~2.10
Refrigerant circuit	Internal water volume		L	2.2-5.0	2.2-5.0
	Liquid Dia. (OD)		mm	Φ6.35	Φ9.52
	Gas Dia. (OD)		mm	Φ15.9	Φ15.9

Note:

1. Test standard: EN12102-1

2. Sound pressure level is the maximum value tested under the two conditions of Heating: A7W35 and Cooling: A35W18 for different combination between outdoor unit and hydronic box.

3. Maximum domestic hot water temperature 60°C is only available with TBH support.