

**MHA-V12W/D2RN1 / MHA-V14W/D2RN1 / MHA-V16W/D2RN1**

 Table 2-1.3: MHA- V12(14, 16)W/D2RN1 specifications<sup>1</sup>

kW			12	14	16
Model name			MHA-V12W/D2RN1	MHA-V14W/D2RN1	MHA-V16W/D2RN1
Compatible hydronic box			SMK-160/CSD45GN1-B		
Power supply		V/Ph/Hz	380-415/3/50		
Heating <sup>2</sup>	Capacity	kW	12.00	14.00	15.50
	Rated input	kW	2.66	3.26	3.79
	COP		4.51	4.29	4.09
Heating <sup>3</sup>	Capacity	kW	11.97	13.93	15.48
	Rated input	kW	3.50	4.21	4.87
	COP		3.42	3.31	3.18
Cooling <sup>4</sup>	Capacity	kW	12.00	13.50	14.50
	Rated input	kW	2.80	3.45	3.94
	EER		4.29	3.91	3.68
Cooling <sup>5</sup>	Capacity	kW	11.70	12.53	12.91
	Rated input	kW	4.65	5.21	5.52
	EER		2.52	2.40	2.34
Seasonal space heating energy efficiency class <sup>6</sup>	LWT at 35°C		A++	A++	A++
	LWT at 55°C		A++	A++	A++
SCOP <sup>6</sup>	LWT at 35°C		4.58	4.62	4.37
	LWT at 55°C		3.23	3.31	3.29
SEER <sup>6</sup>	LWT at 18°C		4.41	4.30	4.01
MOP		A	18	18	18
MCA		A	15	15	16
Compressor	Type		Twin rotary DC inverter		
	Poles		6	6	6
	Speed range	rps	12-120	12-120	12-120
	Capacity at 60rps	kW	12.96	12.96	12.96
	Input at 60rps	kW	3.51	3.51	3.51
	Max. heating	Hz	92	92	92
	Max. cooling	Hz	78	78	78
Outdoor fan	Motor type		Brushless DC motor		
	Number of fans		2	2	2
	Air flow	m <sup>3</sup> /h	6250	6250	6250
Air side heat exchanger	Type		Finned tube		
	Number of rows		2	2	2
	Number of circuits		9	9	9
Refrigerant	Type		R410A		
	Factory charge	kg	4.2	4.2	4.2
Throttle type			Electronic expansion valve		

**Abbreviations:**

MOP: Maximum overcurrent protection  
 MCA: Minimum circuit amps  
 OU: Outdoor unit  
 DHW: Domestic hot water  
 EWT: Entering water temperature  
 LWT: Leaving water temperature

**Notes:**

1. Relevant EU standards and legislation: EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.
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 35°C DB; EWT 23°C, LWT 18°C.
5. Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C.
6. Seasonal space heating energy efficiency class tested in average climate conditions.
7. Sound power level tested in average climate conditions, outdoor air temperature 7°C DB, 6°C DB; EWT 47°C, LWT 55°C.

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# M-Thermal Split



Table 2-1.3: MHA- V12(14, 16)W/D2RN1 specifications<sup>1</sup> (continued)

kW			12	14	16
Model name			MHA-V12W/D2RN1	MHA-V14W/D2RN1	MHA-V16W/D2RN1
Piping connections	Type		Flare	Flare	Flare
	Liquid Dia.(OD)	mm	Φ9.5	Φ9.5	Φ9.5
	Gas Dia.(OD)	mm	Φ15.9	Φ15.9	Φ15.9
	Min. pipe length	m	2	2	2
	Max. pipe length	m	50	50	50
Installation height difference	OU above	m	30	30	30
	OU below	m	25	25	25
Sound power level <sup>7</sup>		dB(A)	70	72	72
Net dimensions (W×H×D)		mm	900×1327×400	900×1327×400	900×1327×400
Packed dimensions (W×H×D)		mm	1030×1457×435	1030×1457×435	1030×1457×435
Net/Gross weight		kg	115/126	115/126	115/126
Operating temperature range	Cooling	°C	-5 to 46		
	Heating	°C	-20 to 35		
	DHW	°C	-20 to 43		

**Abbreviations:**

MOP: Maximum overcurrent protection  
MCA: Minimum circuit amps  
OU: Outdoor unit  
DHW: Domestic hot water  
EWT: Entering water temperature  
LWT: Leaving water temperature

**Notes:**

1. Relevant EU standards and legislation: EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.
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 35°C DB; EWT 23°C, LWT 18°C.
5. Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C.
6. Seasonal space heating energy efficiency class tested in average climate conditions.
7. Sound power level tested in average climate conditions, outdoor air temperature 7°C DB, 6°C DB; EWT 47°C, LWT 55°C.

**1.1 Hydronic Box**

Table 2-1.4: SMK- 80(160)/ C(S)D30(45)GN1-B specifications

kW				8	16	16
Model name				SMK-80/CD30GN1-B	SMK-160/CD30GN1-B	SMK-160/CSD45GN1-B
Compatible OU model name MHA-				V4(6, 8)W/D2N1	V10(12, 14, 16)W/D2N1	V12(14, 16)W/D2RN1
Function				Heating and cooling		
LWT range	Space heating	Low	°C	25 to 55, default 35		
		High	°C	35 to 60, default 45		
	Space cooling	Low	°C	7 to 25, default 7		
		High	°C	18 to 25, default 18		
	DHW			°C	40 to 60, default 45	
Power supply			V/Ph /Hz	220-240/1/50	220-240/1/50	380-415/3/50
MOP			A	19	19	13.0
MCA			A	17	17	10.0
Sound power level <sup>1</sup>			dB(A)	42	45	45
Dimension (W×H×D)			mm	400×865×427	400×865×427	400×865×427
Packing (W×H×D)			mm	495×1040×495	495×1040×495	495×1040×495
Net/gross weight			kg	43/51	54/62	54/62
Water circuit	Piping connections		inch	Φ 25 Female BSP	Φ 25 Female BSP	Φ 25 Female BSP
	Safety valve set pressure		MPa	0.3	0.3	0.3
	Total water volume		L	4.7	5.0	5.0
	Drainage pipe connection		mm	Φ16	Φ16	Φ16
	Expansion tank	Volume	L	3.0	3.0	3.0
		Max. water pressure	MPa	0.8	0.8	0.8
		Pre-pressure	MPa	0.15	0.15	0.15
	Water side exchanger	Type		Plate type		
		Volume	L	0.7	1.0	1.0
Water pump head		m	6.0	7.5	7.5	
Refrigerant circuit	Liquid Dia. (OD)		mm	Φ9.5	Φ9.5	Φ9.5
	Gas Dia. (OD)		mm	Φ15.9	Φ15.9	Φ15.9
Backup electric heater	Capacity mounted		kW	3.0	3.0	4.5
	Capacity steps			2	2	2
	MOP		A	17	17	12.0
	MCA		A	15	15	9.0
	Power supply		V/Ph /Hz	220-240/1/50	220-240/1/50	380-415/3/50

**Abbreviations:**

MOP: Maximum overcurrent protection

MCA: Minimum circuit amps

OU: Outdoor unit

DHW: Domestic hot water

EWT: Entering water temperature

LWT: Leaving water temperature

**Notes:**

1. Sound power level tested in average climate conditions, outdoor air temperature 7°C DB, 6°C DB; EWT 47°C, LWT 55°C.