

Technical specifications

Model	HMS140-S	
General Conditions		
Power source	400V 3NAC 50Hz / 230V 1AC 50 Hz	
Max. operating current (A)	25 (400V) / 45 (230V)	
Recommended fuse (A)	25 (400V) / 50 (230V)	
Wire size (Power source)	5 x 4.0mm ² (400V) / 3 x 10mm ² (230V)	
Wire size (Power source and communication cable to outdoor unit)	Power source 3 x 4 mm ² Communication 2 x 1mm ²	
Power source deviation (%)	-15 – +10	
Power factor	0.99	
Pipe size refrigerant (ref) Gas	OD15.88 (5/8")	
Pipe size refrigerant (ref) Liquid	OD9.52 (3/8")	
Flare connection	OD9.52 (13.2mm); OD15.88 (19.7mm)	
Indoor unit (split type, hydro-unit)		
Immersion heater	Max. 9 kW (4,5kW for single-phase 230V)	
	Additional resistant to the condensing water Synthetic rubber isolation Heater placed at a slight angle	
Capacity steps heater	3 (3,6,9kW) for three-phase 400V 3 (1.5, 3, 4.5kW) for single-phase 230V	
Pump model	Wilo-Para G 25/75	
Pump capacity, max. head	76 kPa (external)	
Pump capacity, max. flow	4 m ³ /h	
Pump power	5 – 75W	
Pump efficiency, max.	EEI≤0.21	
Heat exchanger	ACH-30EQ-120H-F	
Number of plates	120	
Heat exchanger size	2.2m ²	
Channel volume	Hot side - 1.7 dm ³	Cold Side - 1.7 dm ³
Pressure transmitter	0 – 4.6 MPa, deviation ±3%	
Water strainer system	0.6 mm ²	
Filter drier refrigeration system	Bi-flow 083	
Emergency thermostat	5 – 65 °C	
Thermal cut-off	98 (-8) °C	
Motor valve on hydraulic circuit	1 x 3-way, ball type	
Actuator	230V 50Hz	
Safety relief valve system	0.3 MPa	
Manometer gauge	0 – 0.4 MPa	
Expansion vessel	12L	
Expansion vessel, Factory precharge:	0.75+/-20%bar	
IP Grade	IP21	

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Model		HMS140-S
Cabinet	Top/side/ front bottom	EN10130 DC01
	Back	DX51D+Z275
Material	Top/side/ front bottom	Steel 0.7mm
	Back	Galvanized steel 275g/m ²
Color (powder coated 1 layer)	Top/side/ front bottom	RAL9016, white
	Back	Untreated
Isolation heat exchanger		Synthetic rubber (+110 / -50°C)
Design pressure refrigerant system		4.5 MPa
Water quality sanitary hot water		<EU directive nr 98/83/EF
Operating ambient temperature: indoor unit		+5 – +35°C, max. RH 95%
Connection water system		Compression fitting 28mm
Connection sanitary hot water		Compression fitting 28mm
Sound power level L _{WA} indoors		35dB
Type of refrigerant (outdoor unit)		R410A
Minimal system temperature in cooling mode		7°C
Design pressure on product (heating system)		0.3 MPa
Height, (adjustment)		850 mm
Width		515 mm
Depth		350 mm
Weight net/gross		58 kg / 63 kg
Weight packaging: Wood		1.3 kg
Weight packaging: cardboard		1.9 kg
Weight packaging: Plastics		1.3 kg
Packaging volume /dimensions		0.15 m ³ (850 x 515 x 350 mm)
Part number BIAWAR		067772
Part number MHIAE		MCD001A023
Enclosed		
		1 x Safety kit with safety valve, manometer and automatic air vent; insulated
		1 x Strap for single-phase connection
		1 x Outdoor sensor
		1 x Indoor sensor
		1 x Valve filter 1"
		3 x Current sensor
		3 x Temperature sensor L=1450
		1 x Hanger

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Miscellaneous	
Ambient area of operation (outdoor unit)	- 20°C – +43°C
Internet connection function	(straight, cat.5e UTP) RJ45 plug
Language	English (en), Swedish (sv), German (de), French (fr), Spanish (es), Finnish (fi), Lithuanian (lt), Czech (cz), Polish (pl), Dutch (nl), Danish (da), Estonian (et), Latvian (lv), Russian (ru), Italian (it), Slovenian (sl), Greek (gr), Romanian (ro), Portuguese (pt)

Technical specifications

Model		FDCW140VNX-A	
Power source		1 phase 230V 50Hz	
Heating nominal capacity	condition 1	kW	16.0 (5.8 – 16.0)
	condition 2	kW	16.0 (4.2 – 16.0)
Heating power consumption	condition 1	kW	4.83
	condition 2	kW	3.81
COP	condition 1		3.31
	condition 2		4.2
Cooling nominal capacity	condition 1	kW	11.8 (3.1 – 11.8)
	condition 2	kW	16.5 (5.2 – 16.5)
Cooling power consumption	condition 1	kW	4.45
	condition 2	kW	4.36
EER	condition 1		2.65
	condition 2		3.78
Operation range (Outdoor temperature)		Heating	-20 – 43
		Cooling	15 – 43
Operation range (Water temperature)		Heating	25 – 58 (65 with immersion heater)
		Cooling	7 – 25
System water flow		L /s	0.19 – 0.79
Min. system water flow at 100% circulation pump speed		L /s	0.40
Max. current		A	25
Recommended fuse rating		A	30
Starting current		A	5
Deviation, incoming supply			-15 – +10%
Max. refrigerant pipe length		m	30
Max. height difference between IU and OU		m	7
Height		mm	1300
Width		mm	970
Depth		mm	370 (+80 with foot rail)
Weight		kg	105
Color			Stucco White
Sound Power level *1		dB(A)	71
Sound Power level (silent mode)		dB(A)	68
Sound Pressure level *2		dB(A)	54
Sound Pressure level (silent mode)		dB(A)	51
Air flow		m ³ /min	100
Type of compressor			RMT5134MDE2
Refrigerant oil		liter	0.9 M-MA68
Heat exchanger			M fin & inner grooved tubing
Refrigerant control			EEV
Defrost control			Reversing cycle
Fan			Proeller fan x 2
Fan motor		W	86 x 2
Shock & vibration absorber			Rubber sleeve (for compressor)
Electric heater (crankcase / base)		W	20 / 120
Safety equipment			Internal thermostat for fan motor
Power and signal line from indoor unit			3 cores 5.5mm ² + 2 cores 1.5mm ²
Refrigerant			R410A
Refrigerant volume (pipe length without additional charge)		kg (m)	4.0 (15)
Dimensions, refrigerant pipe		mm (inch)	Gas pipe: OD 15.88 (5/8") Liquid pipe: OD 9.52 (3/8")
Refrigerant pipe connections			Flare

Test conditions

		Water temperature	Outdoor air temperature
Heating	condition 1	45°C out / 40°Cin	7°CDB / 6°CWB
	condition 2	35°Cout / 30°Cin	
Cooling	condition 1	7°Cout / 12°Cin	35°CDB
	condition 2	18°Cout / 23°Cin	

*1: Test condition for sound power level

Temperature condition: Heating condition 2

*2: Test condition for sound pressure level

FDCW60VNX-A

Calculated from sound power level

FDCW71,100,140,VNX-A

Temperature condition: Heating condition 2

Mike position 1m away in front of outdoor unit at the height of 1m

Installation requirements

Indoor unit	HMA60-W HMS60-W HSB60-W	HMA100-W HMS100-W HSB100-W	HMA100-W HMS100-W HSB100-W	HMS140-S HSB140
Outdoor unit	FDCW60VNX-A	FDCW71VNX-A	FDCW100VNX-A	FDCW140VNX-A
Max. pressure, climate system	0.3MPa (3.0bar)			
Max. temperature, climate system	65°C			
Max. temperature in indoor unit	65°C			
Max. temperature from external heat source	65°C			
Max. supply temperature with compressor	58°C			
Min. supply temperature cooling	7°C			
Max. supply temperature cooling	25°C			
Min. volume, climate system without underfloor cooling application	50L	80L	80L	150L
Min. volume, climate system with underfloor cooling application	50L	80L	100L	150L
Max. flow, climate system	0.29L/s	0.38L/s	0.57L/s	0.79L/s
Min. flow, climate system	0.12L/s	0.19L/s	0.29L/s	0.39L/s
Nominal system flow heating ($\Delta T=5K$)	0.29L/s (6kW,7/45°C)	0.38L/s (8kW,7/45°C)	0.43L/s(9kW,7/45°C)	0.79L/s(16.5kW,7/45°C)
Nominal system flow cooling ($\Delta T=5K$)	0.28L/s(5.8kW,35/7°C)	0.34L/s(7.1kW,35/7°C)	0.38L/s(8kW,35/7°C)	0.56L/s(11.8kW,35/7°C)

External circulation pump must be used when the pressure drop in the system is greater than the available external pressure. In such case, a bypass line with non-return valve must be installed.

Use an overflow valve if system flow cannot be guaranteed.