

Technical specifications

Hydro box

Model	HMS60-W	HMS100-W
General conditions		
Power source	400V 3NAC 50Hz / 230V 1AC 50 Hz	
Max. operating current (A)	20 (400V) / 29 (230V)	20 (400V) / 36 (230V)
Recommended fuse (A)	25 (400V) / 32 (230V)	25 (400V) / 40 (230V)
Wire size (Power source)	5 x 2.5mm² (400V) / 3 x 10mm² (230V)	
Wire size (Power source and communication cable to outdoor unit)	Min. 5 x 2.5 mm² (PE, L, N, signal, signal)	
Power source deviation (%)	-15 – +10	
Power factor	0.99	
Pipe size refrigerant (ref) Gas	OD12.7 (1/2")	OD15.88 (5/8")
Pipe size refrigerant (ref) Liquid	OD6.35 (1/4")	OD9.52 (3/8")
Flare connection	OD6.35 (9.1mm); OD9.52 (13.2mm); OD12.7 (16.6mm); OD15.88 (19.7mm)	
Indoor unit (split type, hydro-unit)		
Immersion heater	Max. 9 kW (6kW for single-phase 230V)	
Capacity steps heater	3 (3,6,9kW) for three-phase 400V 3 (1.5, 3, 6kW) for single-phase 230V	
Pump model	Variable	
Pump control	Wilo-Para G 15/75	
Pump capacity, max. head	76 kPa (external)	
Pump capacity, max. flow	4 m³/h	
Pump power	5 – 75W	
Pump efficiency, max.	EEI≤0.21	
Heat exchanger	ACH18-52H-F	ACH-30EQ-80H-F
Heat exchanger size	–0.9 m²	–1.8 m²
Pressure transmitter	0 – 4.6 MPa, deviation ±3%	
Water strainer system	0.6 mm²	
Filter drier refrigeration system	Bi-flow 083	
Emergency thermostat	5 – 65 °C	
Thermal cut-off	92 (-6) °C or 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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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 22mm	
Connection sanitary hot water		Compression fitting 22mm	
Sound power level L _{WA} indoors		35dB	
Type of refrigerant (outdoor unit)		R32 or 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		50 kg / 56 kg	56 kg / 62 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 350mm)	
Part number MHIAE		MCD001A019	MCD001A020
Enclosed			
		Flare Nut, reducing, 1/4" tube x 3/8" flare	
		1 x Safety kit with safety valve, manometer and automatic air vent; insulated	
		1 x Strap for single-phase connection	
		1 x Outdoor sensor	
		2 x Indoor sensor	
		3 x Current sensor	
		1 x Valve filter 3/4"	
		1 x 22 x 1" Connector (nipple)	
		3 x Temperature sensor L=1450	
		1 x Hanger	

Technical specifications

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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

Tank unit

Model	PT300	PT500	PT300-V2
Volume total	279 L	476 L	285 L
Volume coil	9.4 L	13 L	16 L
Area coil	1.6m ²	2.13m ²	2.7m ²
Material coil	Steel - S235 ϕ 33.7 × 2.6 mm		
Material tank	Steel – S275g=3.0 mm		
Cabinet	Side / Top / – plate (PS)		
Material	Side – plate polystyrene g=1 mm Top – plate polystyrene g=2 mm		
Color (powder coated 1 layer)	Side – White Top – RAL7001		Covers – White RAL 9016 Top – RAL7001
Isolation tank	EPS200 (30kg/m ³) + Nonwoven PET (1kg/m ²)		
Stand by heat loss	90W (PN-EN 12897:2016; (EU) No 812/2013)	98W (PN-EN 12897:2016; (EU) No 812/2013)	96W (PN-EN 12897:2016; (EU) No 812/2013)
Design pressure tank	1.0 MPa (10 bar)		
Design pressure coil	1.6 MPa (16 bar)		
Power coil 70/10/45°C (2.5m ³ /h)	26 kW	34 kW	53.9kW
Efficiency coil 70/10/45°C	640 L/h	855 L/h	1288 L/h
Water quality sanitary hot water	≤EU directive nr.98/83/EF		
Water quality, system	≤EU directive nr.98/83/EF		
Max. operating temperature tank	85°C		
Min. operating temperature tank	5°C		
Max. operating temperature coil	110°C		
Connection water system	G1" external thread		
Connection sanitary hot water	G1" external thread		
Inner surface corrosion protection	Enamel - DIN 4753-3:2013 - Part 3		
Corrosion protection	Mg-anode		
Height (adjustment)	1634 mm (20 _{+15/-0})	1835 mm (20 _{+15/-0})	1705mm (20 _{+15/-0})
Min. required ceiling height	2000 mm		
Width	ϕ 673 mm	ϕ 832 mm	ϕ 675mm
Depth	743 mm	897 mm	785mm
Weight net product	115 kg	156 kg	138kg
Weight incl. pallet incl. packing	140 kg	196 kg	164kg
Weight packaging: Wood	29 kg	39 kg	25.4kg
Weight packaging: EPS	0.5 kg		
Weight packaging: Plastics	0.1 kg		
Packaging volume /dim	1.1 m ³ / 1840x790 x750 (mm)	1.75 m ³ / 2040x950 x910 (mm)	1.12 m ³ / 1910x790 x750 (mm)
Part number	MCD001A009	MCD001A010	MCD001A025

Technical specifications

Model			FDCW100VNX-A
Power source			1 phase 230V 50Hz
Heating nominal capacity	condition 1	kW	9.0 (3.5 – 11.0)
	condition 2	kW	9.2 (3.5 – 10.0)
Heating power consumption	condition 1	kW	2.62
	condition 2	kW	2.15
COP	condition 1		3.44
	condition 2		4.28
Cooling nominal capacity	condition 1	kW	8.0 (3.0 – 9.0)
	condition 2	kW	11.0 (3.3 – 12.0)
Cooling power consumption	condition 1	kW	2.85
	condition 2	kW	3.04
EER	condition 1		2.81
	condition 2		3.62
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	0.12 – 0.57
Min. system water flow at 100% circulation pump speed		L /s	0.24
Max. current		A	23
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	845
Width		mm	970
Depth		mm	370 (+80 with foot rail)
Weight		kg	81
Color			Stucco White
Sound Power level *1		dB(A)	64.5
Sound Power level (silent mode)		dB(A)	62
Sound Pressure level *2		dB(A)	50
Sound Pressure level (silent mode)		dB(A)	47
Air flow		m ³ /min	73
Type of compressor			RMT5126MDE2
Refrigerant oil		liter	0.9 M-MA68
Heat exchanger			straight fin & inner grooved tubing
Refrigerant control			EEV
Defrost control			Reversing cycle
Fan			Propeller fan x 1
Fan motor		W	86 x 1
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)	2.9 (15) (At service code P : 3.08 (18))
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 (△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 (△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.