

Indoor packaged unit

MCW 5 - 39 kW



Compact single circuit units

MCW heat pumps are designed for residential and light-duty commercial environments, and in some cases for industrial applications, process industries and geothermal energy. The entire range is built with a structure and base made of galvanised sheet panelling in epoxy-polyester paint finish, RAL7035, and there is the possibility of choosing an efficient sound absorbing material which, together with the adoption of scroll type compressors, ensure that the units are exceptionally silent and compact.

With an attractive design, a small footprint, the possibility to fit the units with a hydraulic kit complete with circulation pump, expansion tank and buffer tank, means that the machines can even be installed in environments not involved in residential applications.

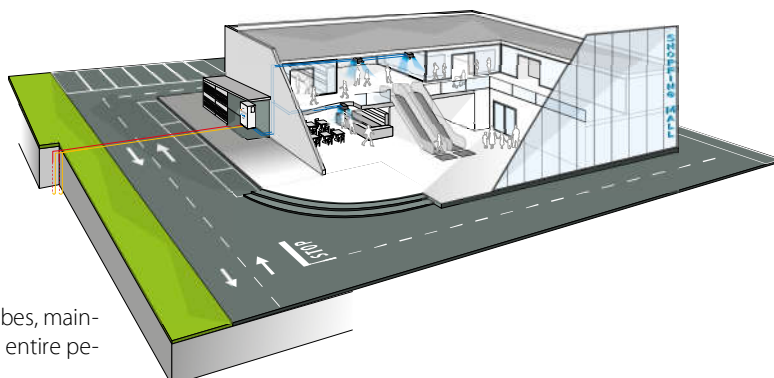
The design philosophy has favoured the development of units having a reduced height with water connections placed on the upper part, which reduce installation time and costs and the need for technical space.

The MCW series offers a wide range of configurations in terms of accessories available and consists of a large number of sizes, including several single-phase models, each available as a low noise version, in order to fully respond to all system requirements. Only top quality products are used for the cooling, hydraulic and electric systems guaranteeing high technical level of the MCW heat pumps in terms of efficiency, reliability and reduced noise levels.



PLUS

- » Easy installation and compact dimensions
- » Scroll compressor
- » Built-in hydronic units
- » Wide range of available accessories



The possibility to dissipate into the aquifer or soil using probes, maintains the original performance of the MCW unit during the entire period of use.

MAIN COMPONENTS

Structure

The structure is in galvanised steel sheet, which is resistant to corrosive agents. Closed equipment compartments are accessible on three sides thanks to easily removable panels with internal sound-proofing insulation.

Compressor

Hermetic scroll compressor powered by a single or three-phase asynchronous motor. It is fixed to the base with rubber vibration dampers.

Heat exchangers

Brazed-welded plate condenser and evaporator in AISI 316 austenitic stainless steel, specifically developed to maximise heat exchange coefficients between water and refrigerant.



Microprocessor control

The microprocessor control has complete management of the MCW units and, because it is highly customisable, it allows to adapt and improve its functioning in every application.

Hydraulic kit

It consists of a centrifugal circulating pump powered by an asynchronous electric motor capable of providing a suitable available head under operating conditions. Also included are an expansion tank and an automatic filling tap.

CONFIGURATOR

The models are completely configurable by selecting the version and the options. To the right is shown an example of configuration.

Version	Field	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MCW039HS		1	0	C	2	0	0	0	0	M	0	G	0	0	0	0

To verify the compatibility of the options, use the selection software or the price list.

AVAILABLE VERSIONS

Reversible heat pump versions

MCW..HS

MCW..HL

Standard execution

Low noise execution

CONFIGURATION OPTIONS

1 Refrigerant - Power supply

- 0 R407C - 230 V - 1 - 50 Hz
- 1 R407C - 400 V - 3 N - 50 Hz
- 2 R407C - 400 V - 3 - 50 Hz

2 Onboard controller and expansion valve

- 0 Basic + mechanical expansion valve

3 Source water flow modulation

- 0 Absent
- C Water flow adjustment valve onboard

4 Water pump and tank

- 0 Absent
- 1 LP pump + expansion vessel
- 2 LP pump + expansion vessel + water tank

5 Remote control / Serial communication

- 0 Absent
- 2 RS485 serial board (Carel / Modbus protocol)

6 Refrigerant pipework accessories

- 0 Absent
- M Refrigerant pressure gauges

7 Compressors options

- 0 Absent

8 Plate water condenser

- 0 Oversized water plate condenser for cooling tower/dry cooler

9 Remote control

- 0 Absent
- M Remote simplified user panel for standard controller
- S Remote simplified user panel

10 Packing

- 0 Standard
- 1 Wooden cage
- 2 Wooden crate

11 Anti vibration shock mounts

- 0 Absent
- G Rubber anti vibration shock mounts

12 Accessories

- 0 Absent

13 Dry cooler

- 0 Absent

14 Dry cooler

- 0 Absent

15 Execution

- 0 Standard

Water chillers and heat pumps MCW

MCW H RATED TECHNICAL DATA

MCW H			005M	007M	010	010M	012	015	018
Power supply		V-ph-Hz	230 - 1 - 50	230 - 1 - 50	400 - 3N - 50	230 - 1 - 50	400 - 3N - 50	400 - 3N - 50	400 - 3N - 50
Cooling capacity	(1)(E)	kW	5,20	6,40	9,10	9,10	11,0	13,7	16,1
Total power input	(1)(E)	kW	1,50	2,10	2,70	2,80	3,30	4,00	4,70
EER	(1)(E)		3,36	3,03	3,33	3,27	3,32	3,44	3,45
SEER	(2)(E)		2,91	2,72	3,07	3,02	3,10	3,25	3,30
Water flow user side	(1)	l/h	896	1100	1577	1567	1901	2355	2779
Water pressure drop user side	(1)(E)	kPa	24	26	23	23	26	23	25
Water flow source side	(1)	l/h	1146	1439	2025	2021	2442	3008	3544
Water pressure drop source side	(1)(E)	kPa	30	43	29	29	42	28	42
Available pressure head user side - LP pumps	(1)	kPa	92	85	78	79	148	148	140
Heating capacity	(3)(E)	kW	5,40	6,90	9,50	9,70	11,7	14,2	17,3
Total power input	(3)(E)	kW	1,70	2,30	3,00	3,10	3,60	4,40	5,10
COP	(3)(E)		3,11	3,02	3,16	3,17	3,25	3,27	3,41
SCOP	(2)(E)		4,01	3,95	4,24	4,23	4,22	4,22	4,35
Heating energy efficiency class	(4)(E)		A++						
Water flow user side	(3)	l/h	939	1201	1645	1687	2024	2467	2996
Water pressure drop user side	(3)(E)	kPa	21	31	20	21	30	20	31
Water flow source side	(3)	l/h	1092	1380	1918	1970	2392	2916	3606
Water pressure drop source side	(3)(E)	kPa	35	39	33	34	39	34	40
Available pressure head user side - LP pumps	(3)	kPa	82	75	67	67	130	124	132
Maximum current absorption		A	12,0	15,0	7,00	23,0	10,0	13,0	14,0
Start up current		A	47	61	46	100	50	66	74
Compressors / circuits			1 / 1						
Expansion vessel volume		dm ³	1	1	1	1	5	5	5
Buffer tank volume		dm ³	47	47	47	47	92	92	92
Sound power level	(5)(E)	dB(A)	55	55	59	59	61	61	61
Sound power level, low-noise version	(5)(E)	dB(A)	53	53	57	57	59	59	59
Transport weight unit with pump and tank		kg	141	144	147	147	173	175	182
Operating weight unit with pump and full tank		kg	176	178	181	181	235	270	289

(1) Water temperature - user side 12°C / 7°C, water temperature - dissipation side 30°C / 35°C (EN14511:2022)

(2) η efficiency values for heating and cooling are respectively calculated by the following formulas: $[\eta = SCOP / 2,5 - F(1) - F(2)]$ e $[\eta = SEER / 2,5 - F(1) - F(2)]$. For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2022 regulation.

(3) Water temperature - user side 40°C / 45°C, water temperature - source side 10°C / 7°C (EN14511:2022)

(4) Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]

(5) Sound power level measured according to ISO 9614

(E) EUROVENT certified data

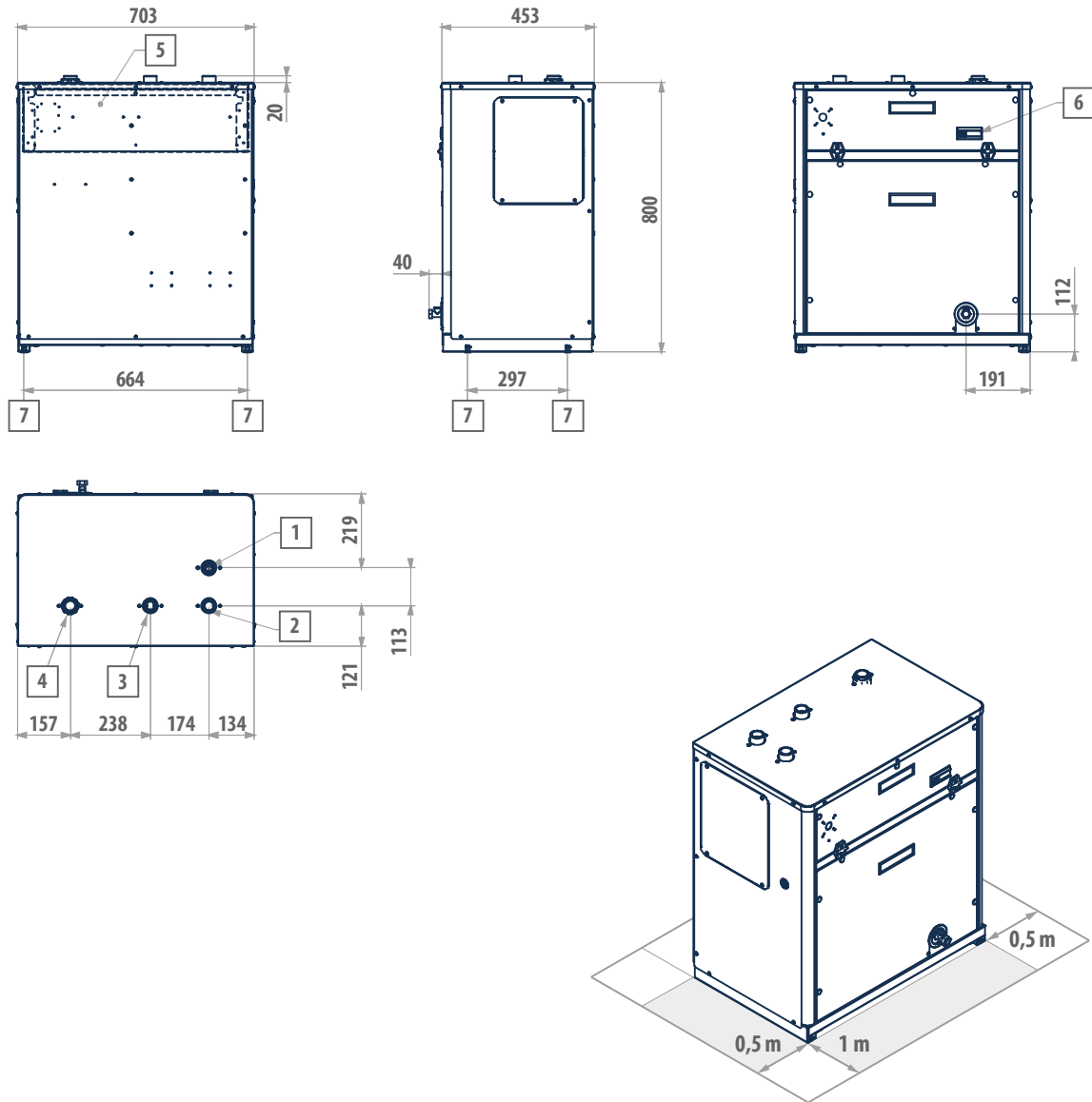
MCW H RATED TECHNICAL DATA

MCW H			020	022	027	031	039
Power supply		V-ph-Hz	400 - 3N - 50				
Cooling capacity	(1)(E)	kW	18,9	19,9	24,4	28,3	34,9
Total power input	(1)(E)	kW	5,20	5,90	7,40	8,70	10,7
EER	(1)(E)		3,63	3,39	3,30	3,25	3,25
SEER	(2)(E)		3,50	3,29	3,22	3,20	3,22
Water flow user side	(1)	l/h	3252	3418	4207	4867	6014
Water pressure drop user side	(1)(E)	kPa	23	24	21	24	23
Water flow source side	(1)	l/h	4105	4376	5426	6290	7773
Water pressure drop source side	(1)(E)	kPa	35	42	35	49	49
Available pressure head user side - LP pumps	(1)	kPa	122	158	151	139	149
Heating capacity	(3)(E)	kW	19,3	21,1	26,0	30,3	37,5
Total power input	(3)(E)	kW	5,60	6,30	8,10	9,40	11,4
COP	(3)(E)		3,44	3,33	3,22	3,23	3,28
SCOP	(2)(E)		4,67	4,44	4,27	4,90	4,79
Heating energy efficiency class	(4)(E)		A+++	A++	A++	A+++	A+++
Water flow user side	(3)	l/h	3343	3654	4504	5249	6506
Water pressure drop user side	(3)(E)	kPa	24	30	25	35	36
Water flow source side	(3)	l/h	4028	4350	5283	6174	7697
Water pressure drop source side	(3)(E)	kPa	34	37	32	37	36
Available pressure head user side - LP pumps	(3)	kPa	115	127	113	89	132
Maximum current absorption		A	16,0	17,0	20,0	29,0	32,0
Start up current		A	101	98	130	130	135
Compressors / circuits			1 / 1				
Expansion vessel volume		dm ³	5	5	5	5	5
Buffer tank volume		dm ³	92	92	92	92	92
Sound power level	(5)(E)	dB(A)	61	62	62	65	65
Sound power level, low-noise version	(5)(E)	dB(A)	60	60	60	63	63
Transport weight unit with pump and tank		kg	225	259	271	286	297
Operating weight unit with pump and full tank		kg	292	295	307	322	348

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DIMENSIONAL DRAWINGS

MCW 005 - 010

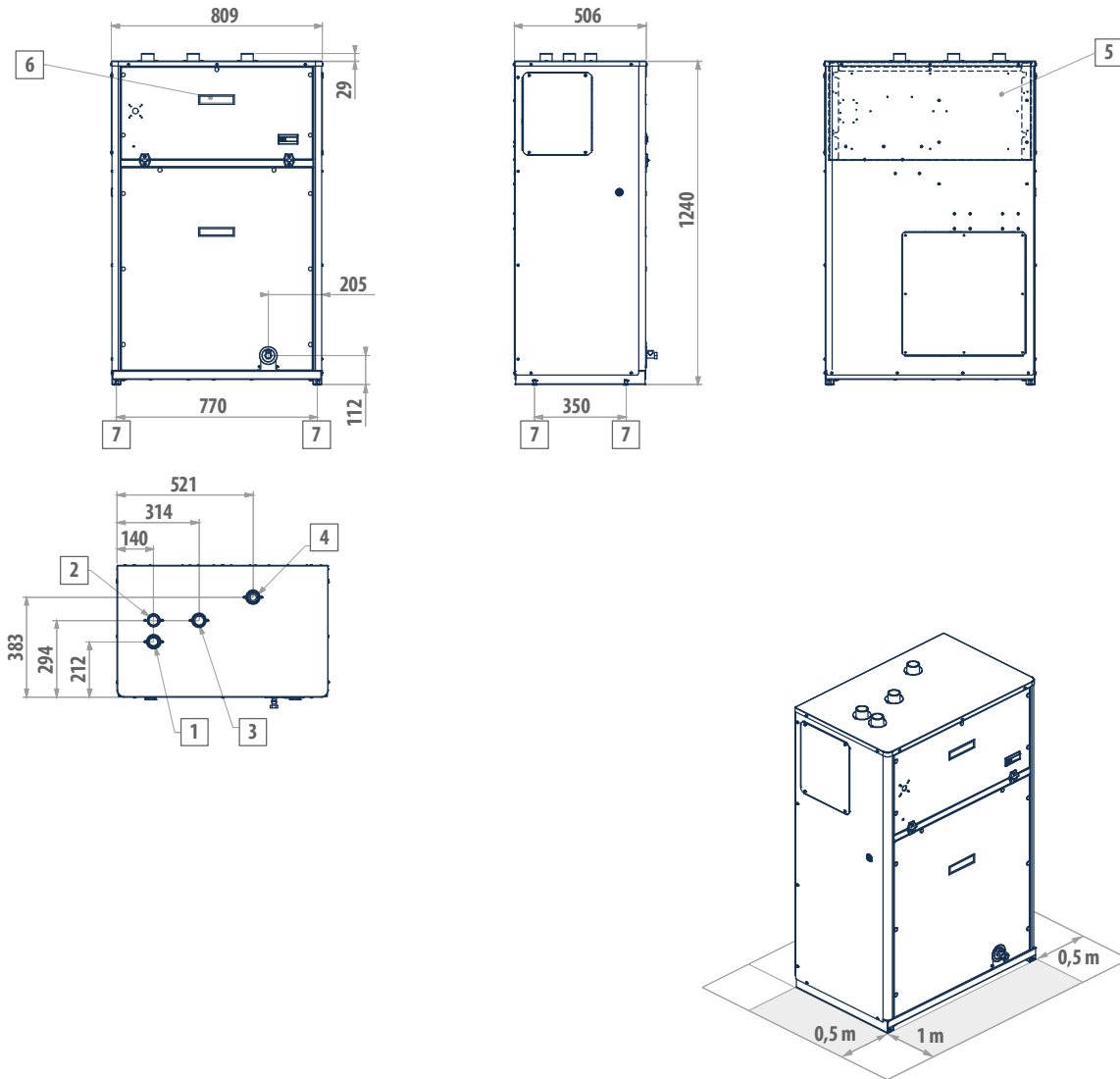


LEGEND

- | | |
|---|------------------------------------|
| 1 | Condenser water inlet (1 ¼" gas) |
| 2 | Condenser water outlet (1 ¼" gas) |
| 3 | Evaporator water inlet (1 ¼" gas) |
| 4 | Evaporator water outlet (1 ¼" gas) |
| 5 | Electric control board |
| 6 | Microprocessor control |
| 7 | Vibration dampers |

DIMENSIONAL DRAWINGS

MCW 012 - 039



LEGEND

1	Condenser water inlet (1 ¼" gas)
2	Condenser water outlet (1 ¼" gas)
3	Evaporator water inlet (1 ¼" gas)
4	Evaporator water outlet (1 ¼" gas)
5	Electric control board
6	Microprocessor control
7	Vibration dampers