

## Outdoor monobloc unit

### MPE 4 - 76 kW



#### PLUS

- ✓ Completely configurable range
- ✓ Dual-compressor version that guarantees high efficiency at partial loads
- ✓ Production of chilled water up to an air temperature of 51 °C
- ✓ Built-in hydronic unit
- ✓ Access to the tax incentives provided for energy retrofitting

Efficiency under all operating conditions

MPE water chillers and heat pumps are designed for outdoor installation in both residential and industrial applications. The range uses R410A refrigerant, which assures high levels of performance with relatively low energy consumption and features 25 models in the chiller and heat pump version, with cooling capacities ranging from 4 to 76 kW and heating capacities from 5 to 85 kW. The finned block heat exchangers have been optimised for R410A and use 8 mm copper pipes, which permit a better heat exchange and quiet operation of the fans. Their generous sizing guarantees the production of chilled water even with outdoor air temperatures as high as 51°C.

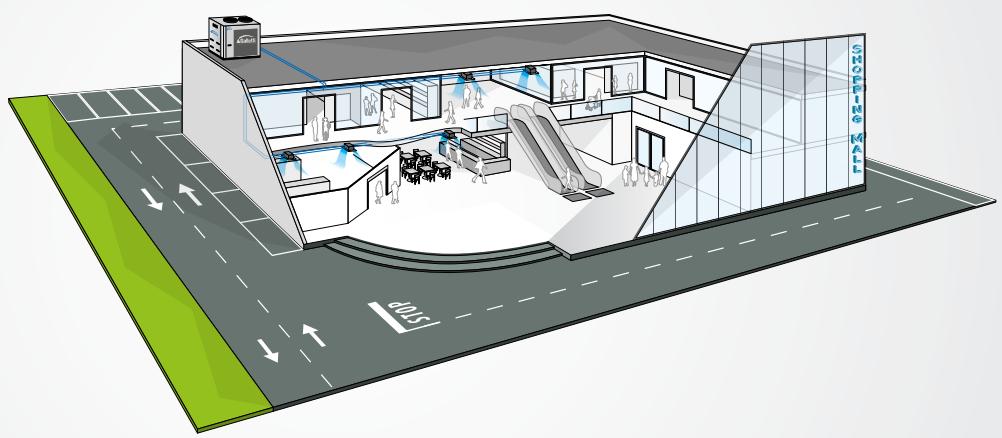
In the MPET models, with a double compressor on the same cooling circuit, the working temperature range is extended further and efficiency at partial loads increases. In demanding working conditions the microprocessor controller activates the capacity control mode, doubling the condensing surface available to the single compressor.

The self-adaptive logic allows the setpoint to be adjusted automatically according to the outdoor temperature in order to reduce consumption and broaden the working temperature range.

The unit can also function in systems with a low water content, even without the use of a water buffer tank, thanks to the automatic adjustment which limits the number of compressor starts and thus extends the life of the compressors themselves.

The exclusive Smart Defrost System (optional feature available with the advanced controller) can correctly identify an impairment of performance in the outdoor exchanger due to the formation of ice and minimise the process time in relation to normal operation of the unit.

MPE heat pumps and water chillers are designed for heating or cooling the water to be used in air-conditioning systems for residential or commercial use.





## MAIN COMPONENTS

### Structure

Painted galvanised sheet steel structure (RAL9002) for an attractive look and effective resistance to corrosive agents. Fastening devices are made of non-oxidizable carbon steel that has undergone surface-passivating treatments.

### Customised hydraulic kit

The structure can accommodate hydronic kits with pump, expansion tank, and buffer tank. High head pump made entirely of stainless steel, already configured for use with mixtures of water and ethylene glycol up to 35% and provided with internal thermal protection.

### Fan drive assembly

Electric fan with external rotor motor directly keyed to the axial fan, with internal thermal protection on the windings.

### Finned block heat exchanger

Made of 8mm diameter copper pipes and aluminium fins. The heat exchangers' particular design makes it possible to speed up to the maximum the defrost phases in the versions with heat pump with obvious benefits to seasonal efficiency while operating in heating mode.

### Electronic microprocessor controller

The electronic controller enables the complete control of the MPE unit. It can be easily accessed through a polycarbonate flap with IP65 protection rating. It implements the compressor regulation logic and allows the complete management of the unit's other parts, the reversal of the cooling cycle, and the alarms.



## CONFIGURATION

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

### AVAILABLE VERSIONS

#### Cooling only versions

<b>MPE..C0AA</b>	Unit with 400V - 3N - 50 Hz power supply
<b>MPE..CMAA</b>	Unit with 230V - 1 - 50 Hz power supply
<b>MPE..C2AA</b>	Unit with circuit breakers and 400V - 3N - 50 Hz power supply
<b>MPE..C4AA</b>	Unit with circuit breakers and 230V - 1 - 50 Hz power supply

Version	Optional ▶	1	2	3	4	5	6	7	8	9	10	11	12	13
MPE008C0AA		A	1	S	0	E	0	3	M	2	0	G	2	1

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

### CONFIGURATION OPTIONS

#### 1 - EXPANSION VALVE

- 0 Traditional
- A Electronic 230V
- B FLOOR PACK \*

#### 2 - PUMP AND ACCESSORIES

- 0 Absent
- 1 Pump + expansion tank + filling tap
- 2 Dual pump + expansion tank + filling tap

#### 3 - INERTIAL BUFFER TANK

- 0 Absent
- S Present

#### 4 - PARTIAL HEAT RECOVERY

- 0 Absent
- D Desuperheater with pump contact

#### 5 - AIR FLOW MODULATION

- 0 Absent
- C Condensation control with fans adjusted by potentiometer
- E Condensation control, "EC brushless" electronically controlled fans

#### 6 - ANTIFREEZE KIT

- 0 Absent
- E For units with evaporator only
- P For units with evaporator, pump and expansion tank
- S For units with evaporator, pump, expansion tank and tank

#### 7 - SOUND INSULATION

- 0 Absent
- 1 Compressor compartment soundproofing
- 2 Compressor silencing housings
- 3 Opt 1 + Opt 2

#### 8 - COOLING ACCESSORIES

- 0 None
- M Refrigerant pressure gauges

#### 9 - REMOTE CONTROL

- 0 Absent
- 2 Output RS485 (Modbus or Carel protocol)
- S Simplified remote control
- M BASE microprocessor remote control (Modbus disabling)
- X ADVANCED microprocessor remote control
- L LON FT10 serial card

#### 10 - SPECIAL HEAT EXCHANGERS

- 0 Standard
- R Copper / copper
- C Cataphoresis
- B Fins pre-coated with epoxy paint

#### 11 - HEAT EXCHANGER PROTECTIVE GRILLE

- 0 Absent
- G Present

#### 12 - COMPRESSOR OPTIONS

- 0 Absent
- 1 Power factor correction capacitors
- 2 Soft starter
- 3 Power factor correction capacitors + soft starter
- 4 Low air/water temperature (crankcase heating element)

#### 13 - CONTROL MICROPROCESSOR

- 1 BASE control microprocessor
- 2 ADVANCED control microprocessor
- 3 ADVANCED control microprocessor + GSM kit
- 4 ADVANCED control microprocessor + clock card

\* Includes electronic valve and condensation control

## ACCESSORIES

- Base rubber vibration dumper
- Kit of spring vibration dampers
- Inertial tank module for under-base installation
- Tank module connection kit

- Simplified remote control
- MYCHILLER BASE (RS485 is a mandatory accessory)
- MYCHILLER PLUS (RS485 is a mandatory accessory)

## Rated technical data

MPE-C		4 M	5 M	7 M	8M	8	10
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	400-3N-50	400-3N-50
Cooling capacity (1) (E)	kW	4,10	5,09	6,64	8,30	8,43	9,17
Power input (1) (E)	kW	1,35	1,71	2,28	3,38	3,11	3,31
EER (1) (E)		3,03	2,98	2,92	2,45	2,71	2,77
ESEER (E)		3,54	3,39	3,32	2,98	3,36	3,38
Eurovent efficiency class		B	B	B	E	C	C
Water flow (1)	l/h	706	876	1145	1429	1452	1590
Water pressure drop (1) (E)	kPa	<5	<5	6	6	6	34
Available pressure head - standard pump (1)	kPa	77	74	70	67	67	115
Maximum current absorption	A	9	11	15	24	9	12
Startup current	A	38	44	63	98	49	49
Startup current with softstarter kit	A	26	30	44	68	34	33
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	1	1	1	1	1	5
Buffer tank volume	dm <sup>3</sup>	20	20	20	20	20	30
Sound power level (2) (E)	dB(A)	66	66	67	67	67	69
Transport weight unit with pump and tank	kg	114	118	123	127	127	211
Operating weight unit with pump and full tank	kg	123	127	132	136	136	227

MPE-C		10M	013	015	018	020	024
Power supply	V-ph-Hz	230-1-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50
Cooling capacity (1) (E)	kW	9,16	12,7	14,8	17,0	19,4	23,6
Power input (1) (E)	kW	3,31	4,32	5,29	6,52	7,31	8,31
EER (1) (E)		2,76	2,95	2,81	2,61	2,66	2,84
ESEER (E)		3,38	3,69	3,53	3,30	3,21	3,42
Eurovent efficiency class		C	B	C	D	D	C
Water flow (1)	l/h	1588	2217	2571	2952	3373	4090
Water pressure drop (1) (E)	kPa	34	61	38	51	51	49
Available pressure head - standard pump (1)	kPa	115	81	102	130	123	113
Maximum current absorption	A	24	15	18	22	24	26
Startup current	A	98	64	67	76	105	159
Startup current with softstarter kit	A	68	44	46	51	72	110
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	5	5	5	5	5	5
Buffer tank volume	dm <sup>3</sup>	30	30	30	50	50	50
Sound power level (2) (E)	dB(A)	69	69	69	71	71	72
Transport weight unit with pump and tank	kg	211	216	219	265	281	297
Operating weight unit with pump and full tank	kg	227	232	236	301	317	333

(1) Water temperature 12/7 °C, outdoor air temperature 35 °C (UNI EN 14511:2011)

(2) Sound power level measured according to UNI EN ISO 9614

(E) EUROVENT certified data



## Rated technical data

<b>MPE-C</b>		<b>027</b>	<b>028</b>	<b>032</b>	<b>035</b>	<b>040</b>	<b>054</b>	<b>066</b>
Power supply	V-ph-Hz	400-3N-50						
Cooling capacity (1) (E)	kW	26,4	27,9	31,3	34,7	39,4	51,0	65,6
Power input (1) (E)	kW	9,52	8,87	10,3	11,7	13,0	18,2	24,6
EER (1) (E)		2,77	3,14	3,03	2,96	3,02	2,81	2,66
ESEER (E)		3,36	3,77	3,63	3,61	3,68	3,60	3,30
Eurovent efficiency class		C	A	B	B	B	C	D
Water flow (1)	l/h	4565	4823	5415	6008	6816	8829	11342
Water pressure drop (1) (E)	kPa	34	40	51	40	43	55	59
Available pressure head - standard pump (1)	kPa	123	141	123	128	117	107	92
Maximum current absorption	A	32	33	34	39	40	40	41
Startup current	A	133	134	167	162	164	163	165
Startup current with softstarter kit	A	91	91	114	111	112	110	112
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	5	8	8	8	8	8	8
Buffer tank volume	dm <sup>3</sup>	50	125	125	125	125	125	125
Sound power level (2) (E)	dB(A)	72	73	73	73	75	78	78
Transport weight unit with pump and tank	kg	313	427	456	487	516	521	558
Operating weight unit with pump and full tank	kg	350	534	563	595	624	630	665

<b>MPE-C</b>		<b>T30</b>	<b>T34</b>	<b>T40</b>	<b>T45</b>	<b>T54</b>	<b>T61</b>	<b>T69</b>	<b>T76</b>
Power supply	V-ph-Hz	400-3N-50							
Cooling capacity (1) (E)	kW	29,8	33,9	39,3	44,2	54,2	61,4	69,3	75,6
Power input (1) (E)	kW	10,6	12,8	13,9	16,8	18,7	21,7	24,1	28,0
EER (1) (E)		2,82	2,64	2,82	2,64	2,90	2,83	2,88	2,70
ESEER (E)		4,17	4,11	4,15	4,04	4,03	4,01	4,18	4,16
Eurovent efficiency class		C	D	C	D	B	C	C	C
Water flow (1)	l/h	5156	5854	6799	7648	9378	10629	11989	13075
Water pressure drop (1) (E)	kPa	30	38	45	57	53	66	52	60
Available pressure head - standard pump (1)	kPa	148	133	116	94	136	119	127	115
Maximum current absorption	A	37	43	47	63	48	53	57	69
Startup current	A	86	96	127	150	177	187	202	229
Startup current with softstarter kit	A	64	71	93	110	130	138	149	169
No. of compressors / circuits		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Expansion vessel	dm <sup>3</sup>	8	8	8	8	8	8	8	8
Buffer tank volume	dm <sup>3</sup>	125	125	125	125	125	125	125	125
Sound power level (2) (E)	dB(A)	72	72	72	72	81	81	81	81
Transport weight unit with pump and tank	kg	448	484	521	555	643	665	685	786
Operating weight unit with pump and full tank	kg	555	591	629	663	751	773	793	894

(1) Water temperature 12/7 °C, outdoor air temperature 35 °C (UNI EN 14511:2011)

(2) Sound power level measured according to UNI EN ISO 9614

(E) EUROVENT certified data

## Rated technical data

MPE-H		004 M	005 M	007 M	008 M	008	010 M
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	400-3N-50	230-1-50
Cooling capacity (1) (E)	kW	4,02	4,99	6,51	8,13	8,26	8,98
Power input (1) (E)	kW	1,35	1,71	2,28	3,38	3,11	3,31
EER (1) (E)		2,97	2,92	2,86	2,41	2,65	2,71
ESEER (E)		3,47	3,32	3,26	2,92	3,29	3,31
Eurovent efficiency class		B	B	C	E	D	C
Water flow (1)	l/h	692	859	1122	1400	1423	1557
Water pressure drop (1) (E)	kPa	<5	<5	6	6	6	33
Available pressure head - standard pump (1)	kPa	77	74	70	67	67	115
Heating capacity (2) (E)	kW	4,73	5,88	7,79	10,3	9,93	11,0
Power input (2) (E)	kW	1,47	1,83	2,44	3,66	3,26	3,73
COP (2) (E)		3,22	3,22	3,19	2,82	3,05	2,94
Eurovent efficiency class		A	A	B	C	B	C
Water flow (2)	l/h	820	1020	1348	1788	1720	1884
Water pressure drop (2) (E)	kPa	<5	<5	8	8	8	46
Available pressure head - standard pump (2)	kPa	75	73	66	63	63	104
Maximum current absorption	A	9	11	15	24	9	24
Startup current	A	38	44	63	98	49	98
Startup current with softstarter kit	A	26	30	44	68	34	68
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	1	1	1	1	1	5
Buffer tank volume	dm <sup>3</sup>	20	20	20	20	20	30
Sound power level (3) (E)	dB(A)	66	66	67	67	67	69
Transport weight unit with pump and tank	kg	117	121	126	130	130	215
Operating weight unit with pump and full tank	kg	126	130	135	139	139	232

MPE-H		010	013	015	018	020	024
Power supply	V-ph-Hz	400-3N-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50
Cooling capacity (1) (E)	kW	8,99	12,5	14,5	16,7	19,1	23,1
Power input (1) (E)	kW	3,31	4,31	5,28	6,51	7,30	8,31
EER (1) (E)		2,72	2,90	2,75	2,56	2,61	2,78
ESEER (E)		3,31	3,62	3,46	3,23	3,15	3,35
Eurovent efficiency class		C	B	C	D	D	C
Water flow (1)	l/h	1559	2172	2520	2894	3306	4008
Water pressure drop (1) (E)	kPa	33	59	36	49	49	47
Available pressure head - standard pump (1)	kPa	115	81	102	130	123	113
Heating capacity (2) (E)	kW	11,0	15,4	17,8	20,3	23,1	27,4
Power input (2) (E)	kW	3,73	4,92	5,66	6,87	7,42	8,38
COP (2) (E)		2,94	3,12	3,14	2,96	3,12	3,28
Eurovent efficiency class		C	B	B	C	B	A
Water flow (2)	l/h	1884	2628	3053	3493	3976	4721
Water pressure drop (2) (E)	kPa	46	85	52	71	70	63
Available pressure head - standard pump (2)	kPa	104	59	87	107	101	93
Maximum current absorption	A	12	15	18	22	24	26
Startup current	A	49	64	67	76	105	159
Startup current with softstarter kit	A	33	44	46	51	72	110
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	5	5	5	5	5	5
Buffer tank volume	dm <sup>3</sup>	30	30	30	50	50	50
Sound power level (3) (E)	dB(A)	69	69	69	71	71	72
Transport weight unit with pump and tank	kg	215	220	224	270	286	302
Operating weight unit with pump and full tank	kg	232	237	241	306	322	338

(1) Water temperature 12/7 °C, outdoor air temperature 35 °C (UNI EN 14511:2011)

(2) Water temperature 40/45 °C, outdoor air temperature 7 °C D.B./ 6 °C W.B. (UNI EN 14511:2011)

(3) Sound power level measured according to UNI EN ISO 9614

(E) EUROVENT certified data



## Rated technical data

<b>MPE-H</b>		<b>027</b>	<b>028</b>	<b>032</b>	<b>035</b>	<b>040</b>	<b>054</b>	<b>066</b>
Power supply	V-ph-Hz	400-3N-50						
Cooling capacity (1) (E)	kW	25,9	27,3	30,6	34,0	38,6	51,6	62,3
Power input (1) (E)	kW	9,51	8,86	10,3	11,7	13,0	18,2	24,6
EER (1) (E)		2,72	3,08	2,97	2,90	2,97	2,84	2,54
ESEER (E)		3,29	3,70	3,56	3,54	3,61	3,50	3,20
Eurovent efficiency class		C	B	B	B	B	C	D
Water flow (1)	l/h	4474	4727	5307	5888	6681	8932	10776
Water pressure drop (1) (E)	kPa	32	39	49	39	42	56	54
Available pressure head - standard pump (1)	kPa	123	141	123	128	117	107	92
Heating capacity (2) (E)	kW	30,1	31,5	35,9	39,5	45,2	61,4	75,8
Power input (2) (E)	kW	9,11	9,38	10,8	11,9	13,5	18,9	23,8
COP (2) (E)		3,30	3,36	3,34	3,33	3,36	3,25	3,19
Eurovent efficiency class		A	A	A	A	A	A	B
Water flow (2)	l/h	5187	5431	6173	6813	7800	10575	13063
Water pressure drop (2) (E)	kPa	43	50	64	51	54	82	81
Available pressure head - standard pump (2)	kPa	106	127	109	114	99	76	52
Maximum current absorption	A	32	33	34	39	40	40	41
Startup current	A	133	134	167	162	164	163	165
Startup current with softstarter kit	A	91	91	114	111	112	110	112
No. of compressors / circuits		1/1	1/1	1/1	1/1	1/1	1/1	1/1
Expansion vessel	dm <sup>3</sup>	5	8	8	8	8	8	8
Buffer tank volume	dm <sup>3</sup>	50	125	125	125	125	125	125
Sound power level (3) (E)	dB(A)	72	73	73	73	75	78	78
Transport weight unit with pump and tank	kg	318	433	462	493	522	530	570
Operating weight unit with pump and full tank	kg	355	540	569	601	630	640	680

<b>MPE-H</b>		<b>T30</b>	<b>T34</b>	<b>T40</b>	<b>T45</b>	<b>T54</b>	<b>T61</b>	<b>T69</b>	<b>T76</b>
Power supply	V-ph-Hz	400-3N-50	400-3N-50	400-3-50	400-3-50	400-3N-50	400-3N-50	400-3N-50	400-3N-50
Cooling capacity (1) (E)	kW	29,3	33,2	38,5	43,3	53,1	60,2	68,1	74,1
Power input (1) (E)	kW	10,6	12,8	13,9	16,7	18,7	21,7	24,0	28,0
EER (1) (E)		2,76	2,59	2,77	2,59	2,84	2,78	2,83	2,65
ESEER (E)		4,09	4,03	4,06	3,96	4,03	4,01	4,18	4,16
Eurovent efficiency class		C	D	C	D	C	C	C	D
Water flow (1)	l/h	5053	5737	6663	7495	9189	10423	11766	12818
Water pressure drop (1) (E)	kPa	29	37	44	55	51	64	50	58
Available pressure head - standard pump (1)	kPa	148	133	116	94	136	119	127	115
Heating capacity (2) (E)	kW	34,6	39,5	46,7	53,2	60,4	68,1	77	85,4
Power input (2) (E)	kW	11,1	13,1	14,3	16,7	19,0	22,1	23,9	27,4
COP (2) (E)		3,12	3,02	3,25	3,18	3,19	3,08	3,22	3,11
Eurovent efficiency class		B	B	A	B	B	B	A	B
Water flow (2)	l/h	5976	6818	8042	9155	10412	11733	13292	14730
Water pressure drop (2) (E)	kPa	39	52	58	74	58	74	56	69
Available pressure head - standard pump (2)	kPa	131	113	95	65	126	100	110	87
Maximum current absorption	A	37	43	47	63	48	53	57	69
Startup current	A	86	96	127	150	177	187	202	229
Startup current with softstarter kit	A	64	71	93	110	130	138	149	169
No. of compressors / circuits		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Expansion vessel	dm <sup>3</sup>	8	8	8	8	8	8	8	8
Buffer tank volume	dm <sup>3</sup>	125	125	125	125	125	125	125	125
Sound power level (3) (E)	dB(A)	72	72	72	72	81	81	81	81
Transport weight unit with pump and tank	kg	455	491	528	562	653	674	695	796
Operating weight unit with pump and full tank	kg	562	598	636	670	761	782	803	904

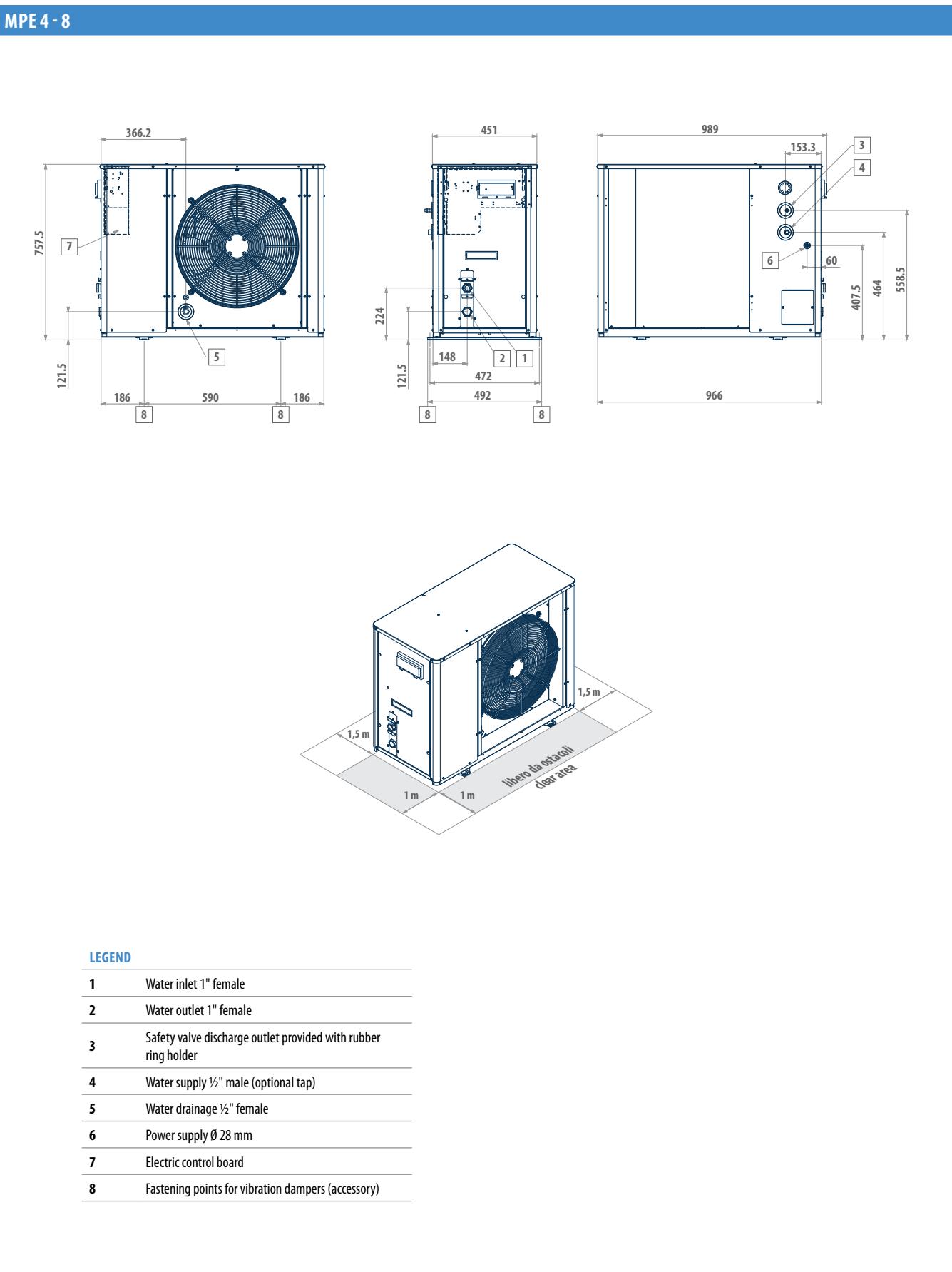
(1) Water temperature 12/7 °C, outdoor air temperature 35 °C (UNI EN 14511:2011)

(2) Water temperature 40/45 °C, outdoor air temperature 7 °C D.B. / 6 °C W.B. (UNI EN 14511:2011)

(3) Sound power level measured according to UNI EN ISO 9614

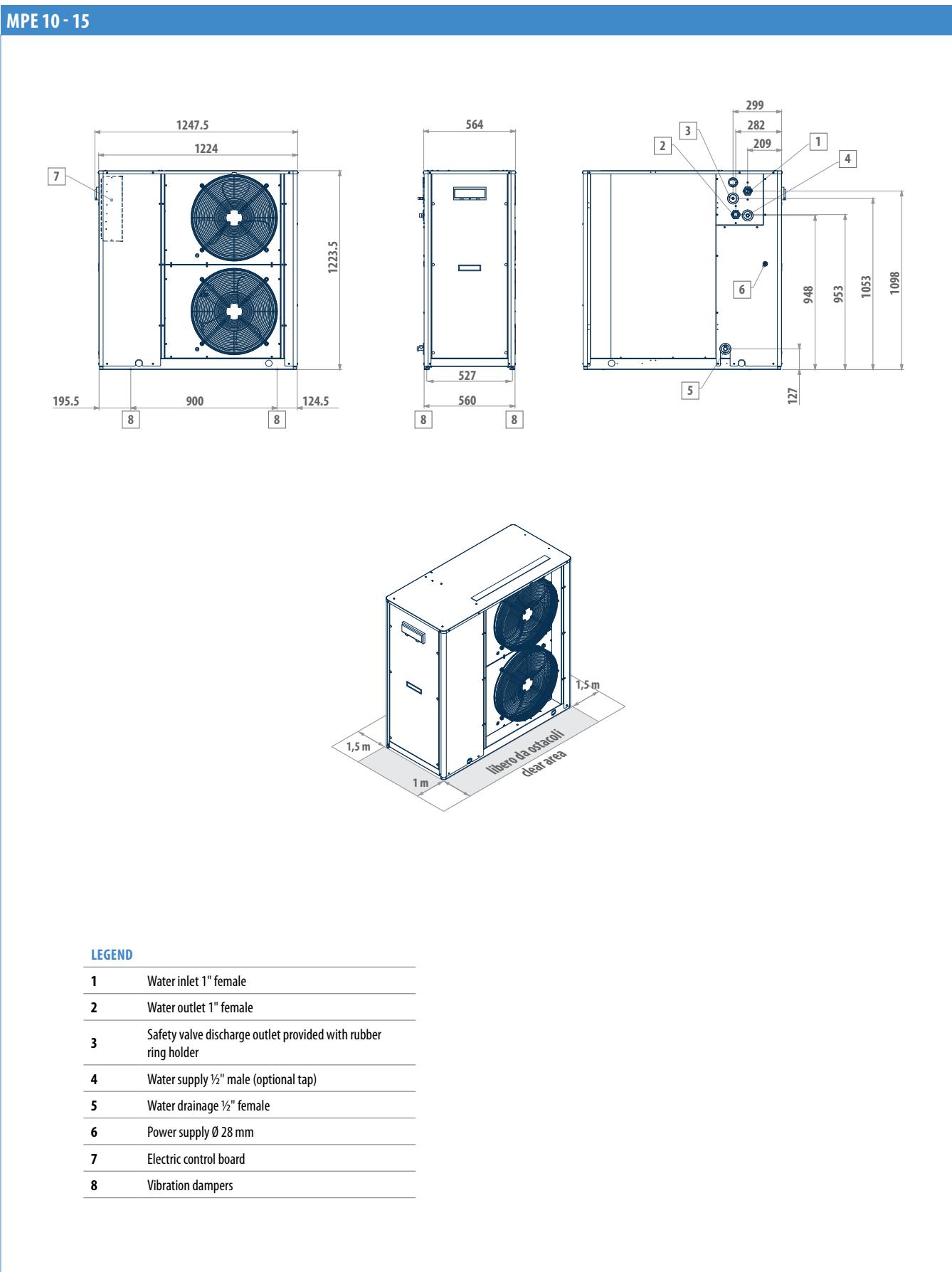
(E) EUROVENT certified data

## Dimensional drawings

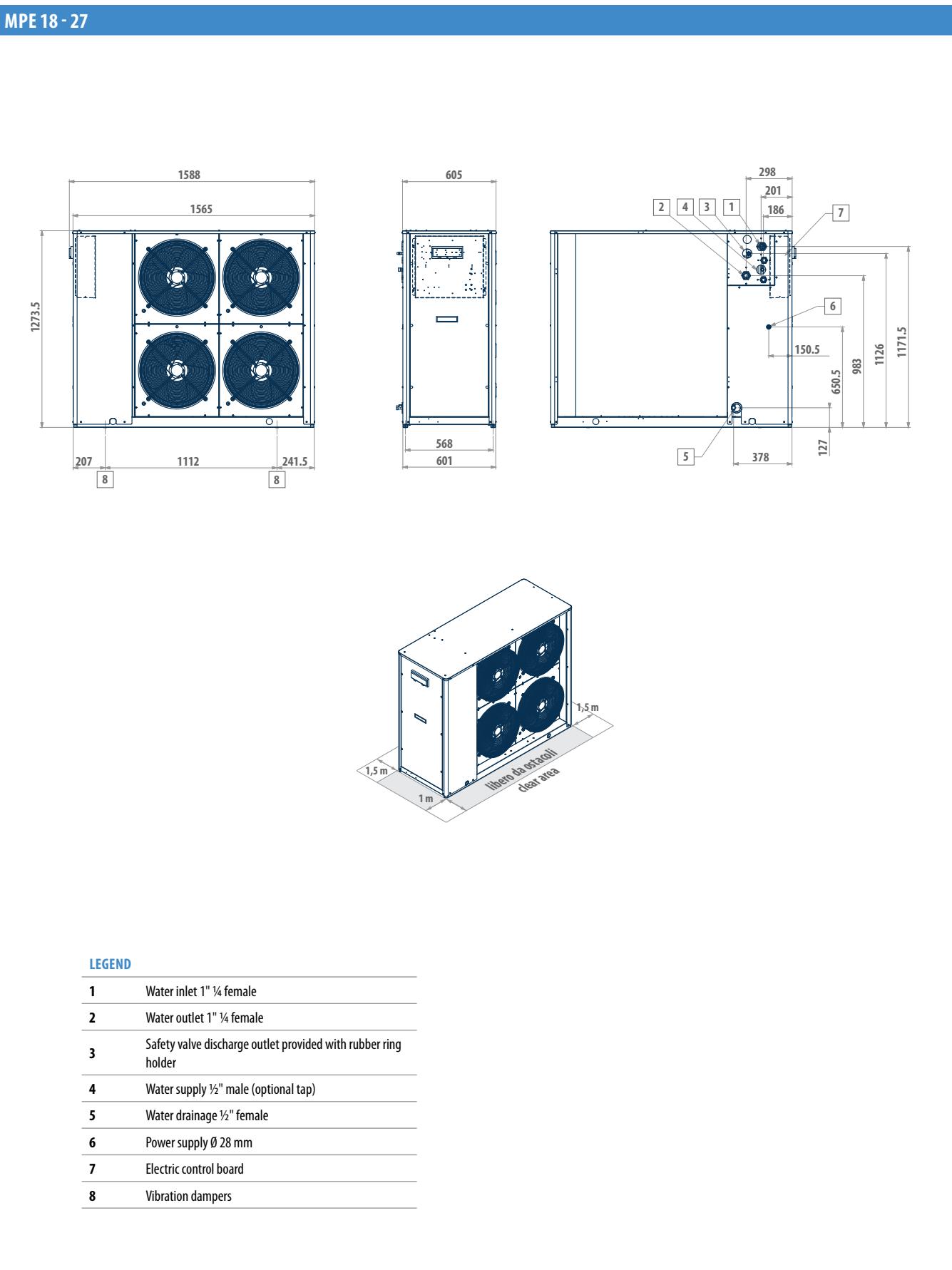




## Dimensional drawings



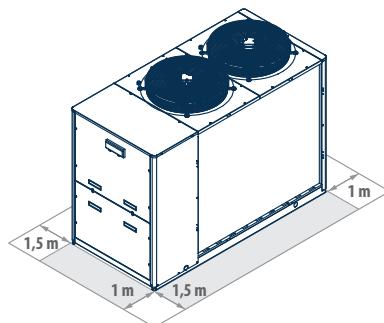
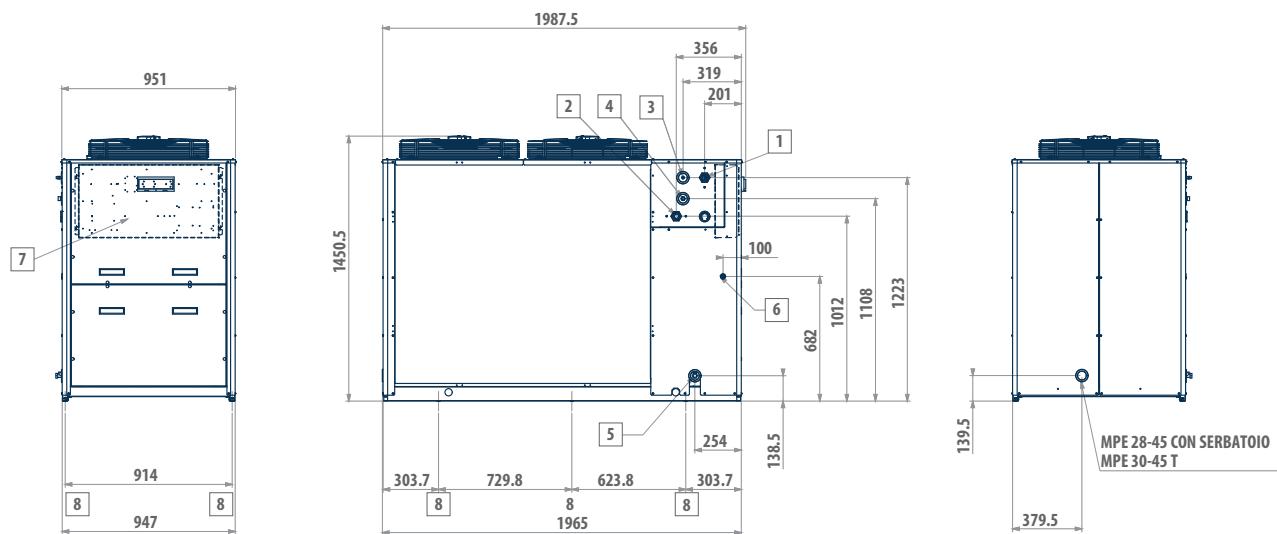
## Dimensional drawings





## Dimensional drawings

**MPE 28 ÷ 40 - MPE T30 ÷ T45**

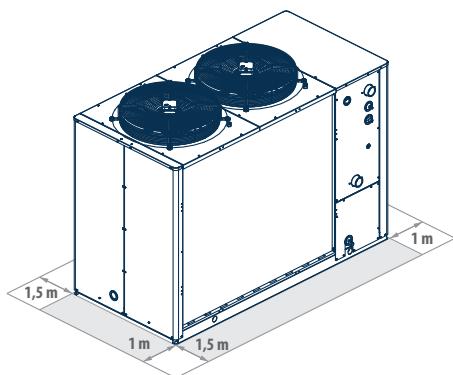
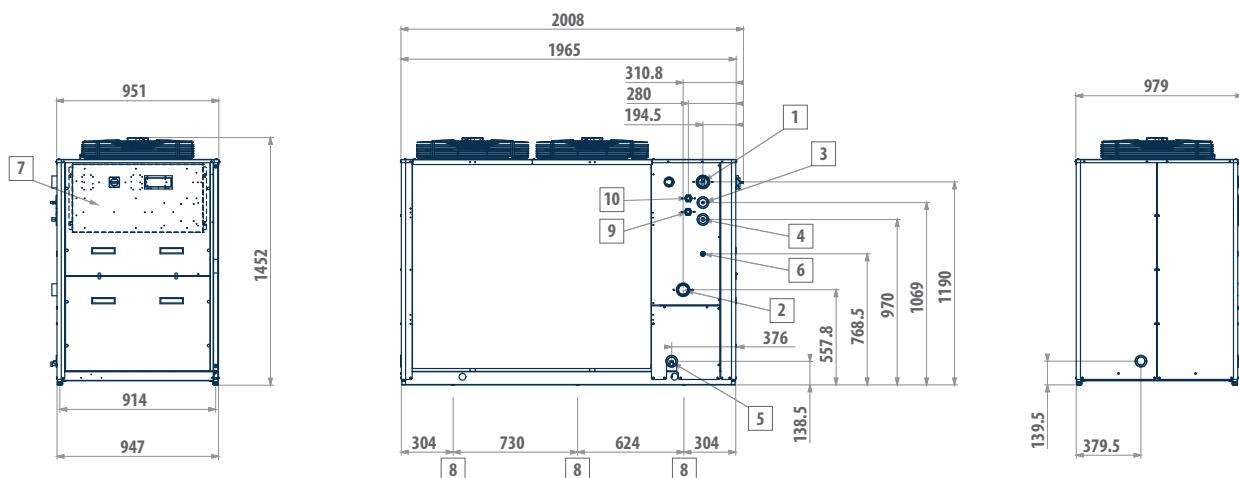


### LEGEND

- 1** Water inlet 1" 1/4 female
- 2** Water outlet 1" 1/4 female
- 3** Safety valve discharge outlet provided with rubber ring holder
- 4** Water supply 1/2" male (optional tap)
- 5** Water drainage 1/2" female
- 6** Power supply Ø 37 mm
- 7** Electric control board
- 8** Vibration dampers

## Dimensional drawings

MPE 54 ÷ 66



### LEGEND

- |    |  |
|----|--|
| 1  | Water inlet 2" female  |
| 2  | Water outlet 2" female   |
| 3  | Safety valve discharge outlet provided with rubber ring holder |
| 4  | Water supply ½" male   |
| 5  | Water drainage ½" female                                       |
| 6  | Power supply   |
| 7  | Electric control board   |
| 8  | Fastening points for vibration dampers (accessory)             |
| 9  | Desuperheater water inlet 1"female                             |
| 10 | Desuperheater water outlet 1"female                            |



## Dimensional drawings

**MPE T54 ÷ T76**
