

# HPE R290 06÷16T INVERTER

High temperature heat pumps for heating, cooling and domestic hot water production



## Technical and construction characteristics

HPE R290 06÷16T is a range of heat pumps made up of 5 power sizes and 7 models, equipped with a latest generation inverter compressor capable of satisfying the requests for cooling and heating power and DHW production in the most efficient way. residential or light commercial buildings. Thanks to the use of R290, HPE R290 heat pumps guarantee high performance with wide working ranges.

The high seasonal efficiencies and the very low GWP make it the ideal product for achieving thermo-hygrometric well-being while fully respecting the environment.

All models, which access the tax relief offered by current legislation, exploit some of the most innovative technologies in the field of air conditioning: the units are in fact full inverters and the extensive use of permanent magnet electric motors driven by current inverters also continues in the accessory components such as fans and hydraulic circulator, allowing the absorbed electrical power to be drastically reduced. The hermetically sealed electrical panel also guarantees greater reliability and safety.

Thanks to the advanced management strategies implemented, the control electronics integrates the operation of the key components of the units, optimizing the interaction between the main parts: compressor, fan and hydraulic circulator.

R290 (propane) is a natural refrigerant.

Its very low GWP value, equal to 3, makes it the optimal solution to help reduce the environmental impact of greenhouse gases and therefore global warming.

Furthermore, due to its technical characteristics, it allows the working range of heat pumps to be expanded, allowing their use even in extreme and very harsh conditions, guaranteeing the production of high temperature water.

We manage to guarantee an outlet water temperature of 50°C even with external temperatures of -25°C, reaching a maximum of 75°C starting from -10°C.

PLUS

- Twin-rotary compressor driven by EC electric motor
- EC hydraulic pump
- EC axial fan
- Advanced plant regulation and management strategies
- Natural refrigerant with very low GWP



Model	Cooling power kW	Heating power kW	Code	€
HPE R290 06 INVERTER	6,80	6,40	37980086	7.460,00
HPE R290 08 INVERTER	7,50	8,20	37980087	7.990,00
HPE R290 10 INVERTER	8,90	10,0	37980088	8.270,00
HPE R290 12M INVERTER	11,5	12,0	37980089	10.390,00
HPE R290 12T INVERTER	11,5	12,0	37980090	10.870,00
HPE R290 16M INVERTER	14,0	15,0	37980091	11.100,00
HPE R290 16T INVERTER	14,0	15,0	37980092	11.560,00

# HPE R290 06÷16T INVERTER

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## Accessories HPE R290 06÷16T INVERTER

Code

€



Puffer POWER UNIT Compact inertial technical water storage provided standard with drain cock, jolly valve and valve of safety

<b>POWER UNIT 80 LT - H 160</b>	<b>76011500</b>	<b>1.580,00</b>
<b>POWER UNIT 105 LT - H 210</b>	<b>76012500</b>	<b>1.680,00</b>
<b>POWER UNIT 130 LT - H 250</b>	<b>76011501</b>	<b>1.740,00</b>
<b>POWER UNIT 165 LT - H 160 D.</b>	<b>76011505</b>	<b>1.890,00</b>
<b>POWER UNIT 220 LT - H 210 D.</b>	<b>76012502</b>	<b>1.990,00</b>
<b>POWER UNIT 315 LT - H 170</b>	<b>76012503</b>	<b>2.100,00</b>

Model	U.M.	80 LT	105 LT	130 LT	165 LT D.	220 LT D.	315 LT
Total width	mm	340,5	340,5	340,5	594,6	594,6	803,4
Total depth	mm	340,5	340,5	340,5	340,5	340,5	461,1
Total height	mm	1656,2	2156,2	2524,3	1656,2	2156,2	1690,0
HP attacks		1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2
Secondary circuit connections		1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2	1" 1/4 x 2
Electric resistance connections		1" 1/2 x 2	1" 1/2 x 2	1" 1/2 x 2	1" 1/2 x 2	1" 1/2 x 2	1" 1/2 x 2
Jolly valve connection		3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Safety valve connections		1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2
Drainage tap connections		1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2	1/2" x 2
Probe holder well		1/2" x 3	1/2" x 3	1/2" x 3	1/2" x 3	1/2" x 3	1/2" x 3
Volume	l	79,2	105,0	132,0	166,5	224,4	314,2
Empty weight	kg	57,4	74,7	86,9	102,0	121,0	230,0



WP1 V storage tank Glass-porcelain boiler with oversized exchanger for heat pump

<b>WP1 V 200 l</b>	<b>37304007</b>	<b>1.630,00</b>
<b>WP1 V 300 l</b>	<b>37304000</b>	<b>2.250,00</b>
<b>WP1 V 400 l</b>	<b>37304001</b>	<b>2.830,00</b>
<b>WP1 V 500 l</b>	<b>37304002</b>	<b>3.100,00</b>
<b>WP1 V 600 l</b>	<b>37304003</b>	<b>3.550,00</b>
<b>WP1 V 800 l</b>	<b>37304004</b>	<b>4.300,00</b>
<b>WP1 V 1000 l</b>	<b>37304005</b>	<b>4.490,00</b>
<b>WP1 V 1500 l</b>	<b>37304006</b>	<b>7.640,00</b>

Model	U.M.	200	300	400	500	600	800	1000	1500
External diameter*	mm	550	600	750	750	750	1050	1050	1260
Total height	mm	1320	1610	1410	1660	1910	1750	2110	2115
HP exchanger	m <sup>2</sup>	2,1	3,5	4,5	5,7	5,7	6,0	6,0	7,50
Recirculation connections		1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"	1"
HP entrance		1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4
HP exit		1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4
Empty weight	kg	78	110	133	159	167	215	251	383

\*All insulation is removable except for the 200 to 600 liter models



WP2 V storage tank Enameled glass boiler with increased exchanger for heat pump and solar thermal exchanger

<b>WP2 V 300 l</b>	<b>37304298</b>	<b>2.660,00</b>
<b>WP2 V 400 l</b>	<b>37304299</b>	<b>2.880,00</b>
<b>WP2 V 500 l</b>	<b>37304300</b>	<b>3.480,00</b>
<b>WP2 V 600 l</b>	<b>37304301</b>	<b>4.310,00</b>
<b>WP2 V 800 l</b>	<b>37304302</b>	<b>4.720,00</b>
<b>WP2 V 1000 l</b>	<b>37304303</b>	<b>5.490,00</b>
<b>WP2 V 1500 l</b>	<b>37304304</b>	<b>8.570,00</b>

Model	U.M.	300	400	500	600	800	1000	1500
External diameter*	mm	500	650	650	650	790	790	1000
Total height	mm	1610	1410	1660	1910	1750	2110	2115
Lower exchanger Sun	m <sup>2</sup>	1,0	1,2	1,5	2,0	2,0	3,3	3,6
Upper HP exchanger	m <sup>2</sup>	2,4	3,0	4,2	5,0	5,2	6,0	7,5
Recircul. connections		1/2"	1/2"	1/2"	1/2"	1"	1"	1"
HP entrance		1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4
HP exit		1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4
Empty weight	Kg	108	128	159	188	234	285	417

\*All insulation is removable except for the 300 to 600 liter models

# HPE R290 06÷16T INVERTER

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## Accessories HPE R290 06÷16T INVERTER

Code

€



Wired wall remote control with temperature sensor, weekly programming, management of operating parameters, error code display, smart grid function and integrated wi-fi module for control and monitoring manageable via application

**included**



3-way valve for DHW

**37980095**

**538,00**



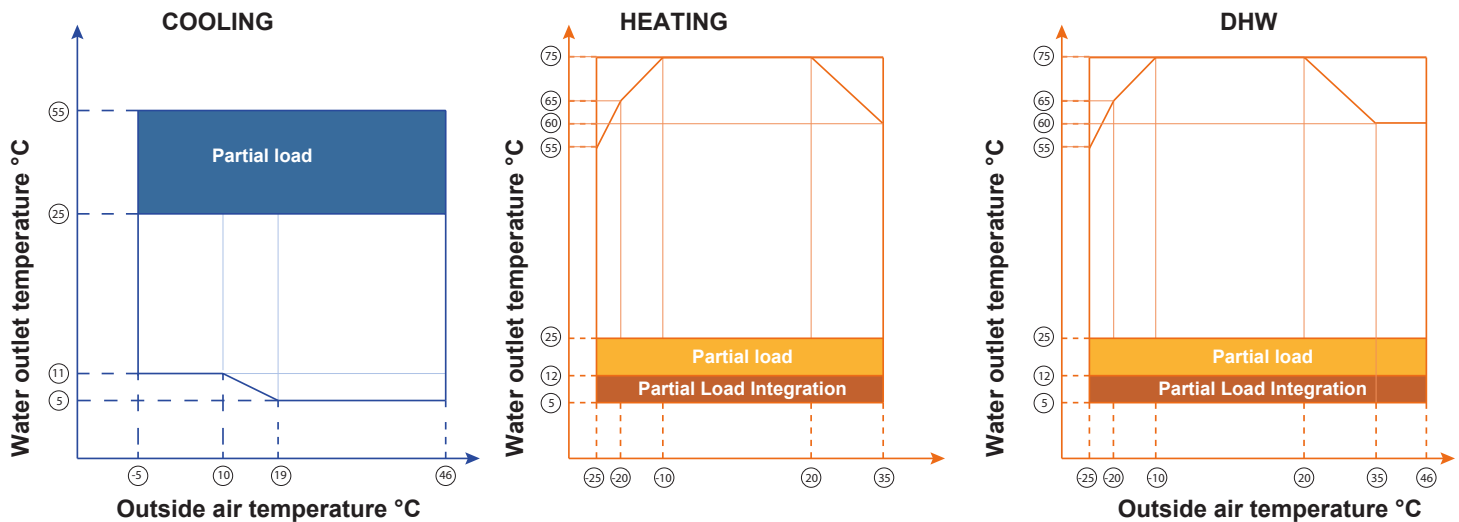
3-way valve actuator

**37980094**

**464,00**

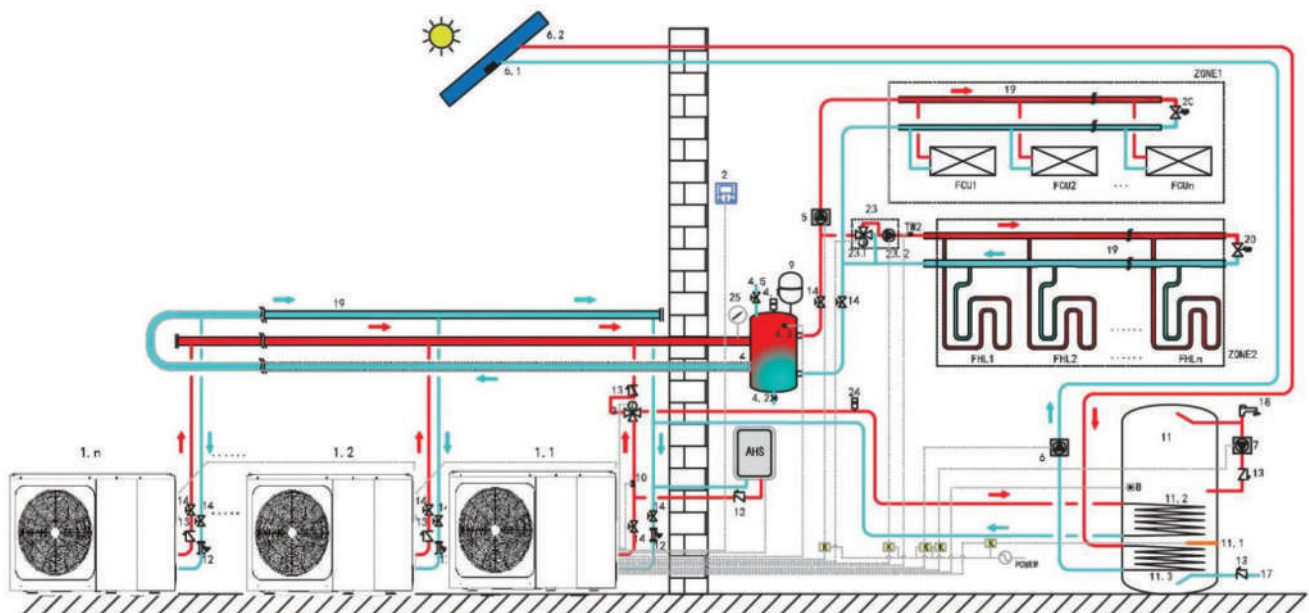
## Extended working range for each application

The HPE R290 06÷16T INVERTER heat pumps have been designed to guarantee maximum flexibility in every application. Thanks to the extended working range, which ensures operation even in particularly harsh climates and allows the production of hot water up to a maximum of 75°C, and to the advanced regulation logics offered by the new electronic control, they are able to guarantee both winter heating and summer air conditioning, and the production of thermal energy to be used for the production of domestic hot water. Thanks to the use of propane, HPE R290 06÷16T INVERTER is able to guarantee hot water at 55°C with an external temperature of -25°C, up to a maximum of 75°C with a minimum external temperature of -10°C.



## Application example HPE R290 06÷16T INVERTER

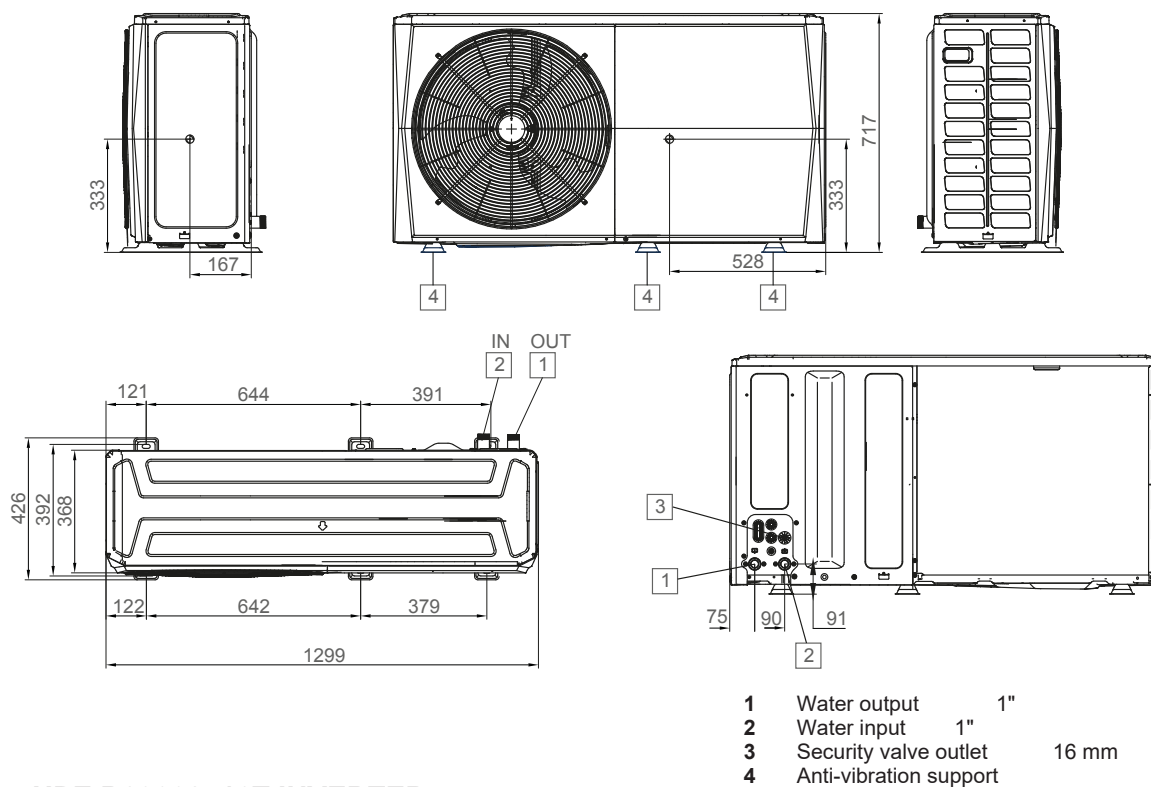
With HPE R290 06÷16T INVERTER it will be possible to connect up to 6 machines in cascade, and manage up to two different zones. At the same time it is possible to manage an external three-way valve to manage the production of domestic hot water.



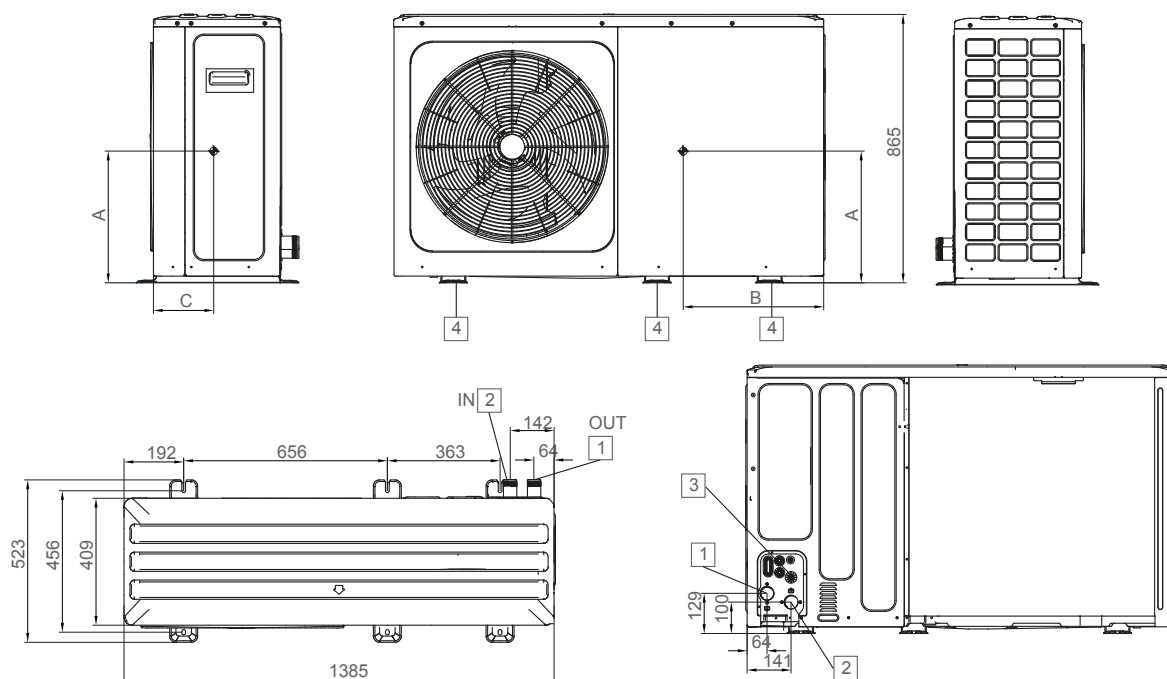
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## Dimensions HPE R290 06 INVERTER



## Dimensions HPE R29008÷16T INVERTER



Model	A	B	C
	mm	mm	mm
HPE R290 08 INVERTER	360	550	234
HPE R290 10 INVERTER	360	550	234
HPE R290 12M INVERTER	415	715	200
HPE R290 12T INVERTER	415	715	200
HPE R290 16M INVERTER	415	715	200
HPE R290 16T INVERTER	415	715	200

# HPE R290 06÷16T INVERTER

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## Technical data table HPE R290 06÷16T INVERTER

DESCRIPTION	U.M.	06	08	10	12M	16M	12T	16T
Cooling power <sup>(1)</sup>	kW	6,80	7,50	8,90	11,50	14,00	11,50	14,00
Total absorbed power <sup>(1)</sup>	kW	2,19	2,17	2,74	3,77	5,09	3,77	5,09
EER <sup>(1)</sup>		3,10	3,45	3,25	3,05	2,75	3,05	2,75
SEER <sup>(2)</sup>		5,32	5,86	5,55	5,19	5,12	5,19	5,12
$\eta_{sc}$ <sup>(2)</sup>		210	231	219	204	202	204	202
Water flow <sup>(1)</sup>	l/h	1170	1290	1531	1978	2408	1978	2408
Low head pump useful head OR <sup>(1)</sup>	kPa	84	82	77	64	49	64	49
Heating power <sup>(3)</sup>	kW	6,40	8,20	10,0	12,0	15,0	12,0	15,0
Total absorbed power <sup>(3)</sup>	kW	1,68	2,13	2,74	3,24	4,48	3,24	4,48
COP <sup>(3)</sup>		3,80	3,85	3,65	3,70	3,35	3,70	3,35
SCOP <sup>(4)</sup>		4,89	5,19	5,07	4,67	4,59	4,67	4,59
$\eta_{sh}$ <sup>(4)</sup>		193	204	200	184	181	184	181
Heating energy efficiency class <sup>(5)</sup>		A+++	A+++	A+++	A+++	A+++	A+++	A+++
SCOP <sup>(6)</sup>		3,82	3,82	3,82	3,62	3,57	3,62	3,57
$\eta_{sh}$ <sup>(6)</sup>		150	150	150	142	140	142	140
Heating energy efficiency class <sup>(7)</sup>		A++	A++	A++	A++	A++	A++	A++
Water flow <sup>(3)</sup>	l/h	1101	1410	1720	2064	2580	2064	2580
Low head pump useful head OR <sup>(3)</sup>	kPa	85	80	70	61	44	61	44
Cooling power <sup>(8)</sup>	kW	6,50	8,30	10,0	12,0	16,0	12,0	16,0
Total absorbed power <sup>(8)</sup>	kW	1,27	1,61	2,11	2,67	4,10	2,67	4,10
EER <sup>(8)</sup>		5,10	5,15	4,75	4,50	3,90	4,50	3,90
Heating power <sup>(9)</sup>	kW	6,20	8,40	10,0	12,0	15,0	12,0	15,0
Total absorbed power <sup>(9)</sup>	kW	1,27	1,68	2,13	2,50	3,41	2,50	3,41
COP <sup>(9)</sup>		4,90	5,00	4,69	4,80	4,40	4,80	4,40
Electrical supply		230V/1/50Hz					400V/3+N/50Hz	
Current absorbed max	A	15,0	19,0	19,0	11,0	11,0	31,0	31,0
Expansion vessel capacity	dm <sup>3</sup>	8	8	8	8	8	8	8
Sound power level <sup>(10)</sup>	dB(A)	58	60	61	65	69	65	69
Machine operating weight with pump	kg	90	117	117	135	135	137	137

(1) External air temperature 35 °C, water temperature 12 °C / 7 °C (EN14511:2022)

(2) The efficiency values  $\eta$  in heating and cooling are calculated respectively with the following formulas:  $[\eta = SCOP / 2.5 - F(1) - F(2)]$  and  $[\eta = SEER / 2.5 - F(1) - F(2)]$ .

(3) Outdoor air temperature 7 °C dry bulb / 6 °C wet bulb, water temperature 40 °C / 45 °C (EN14511:2022)

(4) The efficiency values  $\eta$  in heating and cooling are calculated respectively with the following formulas:  $[\eta = SCOP / 2.5 - F(1) - F(2)]$  and  $[\eta = SEER / 2.5 - F(1) - F(2)]$ .

Low temperature conditions.

(5) Seasonal energy efficiency class of LOW TEMPERATURE space heating in AVERAGE climate conditions [REGULATION (EU) No. 811/2013]

(6) The efficiency values  $\eta$  in heating and cooling are calculated respectively with the following formulas:  $[\eta = SCOP / 2.5 - F(1) - F(2)]$  and  $[\eta = SEER / 2.5 - F(1) - F(2)]$ .

Medium temperature conditions.

(7) Seasonal space heating energy efficiency class at MEDIUM TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) No. 811/2013]

(8) External air temperature 35 °C, water temperature 23 °C / 18 °C (EN14511:2022)

(9) External air temperature 7 °C dry bulb / 6 °C wet bulb, water temperature 30 °C / 35 °C (EN14511:2022)

(10) Determined from measurements carried out in accordance with ISO 9614