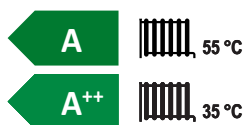


SPLITTED REFRIGERATORS HUB RADIATOR

Patented high efficiency multi-compressor heat pump systems with direct refrigerant / water exchange from 2 to 8 units with separate and independent circuits to produce heating and air conditioning for medium and large users



ENERGY RATING



Technical and construction features

HUB RADIATOR SPLITTING REFRIGERATORS (formed by UE Booster in cascade and UI technical water accumulators) are patented high efficiency multi-compressor heat pump systems with direct refrigerant / water exchange from 2 to 8 units with separate and independent circuits to produce heating and air conditioning for medium / large users. With the HUB RADIATOR SPLITTED REFRIGERATING UNITS system, the external heat pump Booster units are supplied separately to be combined with internal units for inertial storage of technical water that are usually located in the boiler room. The VT series cylindrical technical water accumulators are equipped with connections of various diameters to connect the refrigeration lines of the boosters and to connect the delivery and return of the carrier fluid to the system terminals.

These models are equipped with external coatings insulated in anti-condensation PVC and thermal insulation in rigid polyurethane 50 mm thick.

These accumulators, being placed inside the premises, do not require antifreeze glycol and also allow to reduce heat loss in both winter and summer use. Cylindrical accumulators are available in the following models:

- VT 300 where up to 4 Boosters can be connected in cascade
- VT 500 where up to 6 Boosters can be connected in cascade
- VT 800 where you can insert up to 8 Boosters in cascade
- VT 1000 where you can insert up to 8 Boosters in cascade

The Booster outdoor units are available in the following models:

- HR 3.0 single-compressor outdoor booster
- HR 7.8 single-compressor outdoor booster
- HR 9.0 INVERTER single compressor outdoor booster

The boosters have been designed in the software part to work in cascade with direct high conductivity copper exchangers immersed in the technical accumulator.

This new technology allows a better yield of the whole thermodynamic cycle and above all the winter defrosting operations are more effective, and much shorter and less expensive.

















It is possible to obtain the required powers by choosing from the range, type and number of boosters up to a maximum of 8 compressors that work on 8 separate and independent circuits, in order to obtain maximum reliability and the best load partialization. The system is supplied as standard complete with a factory pre-wired electrical panel equipped with special differential magneto-thermal switches, voltage monitoring relays and an electronic control unit for each Booster applied.



| Model | Code | € |
|---|----------|----------|
| Accumulator VT 300 | 37306020 | 1.700,00 |
| Accumulator VT 500 | 37306030 | 2.100,00 |
| Accumulator VT 800 | 37306040 | 2.400,00 |
| Accumulator VT 100 | 37306045 | 2.600,00 |
| Booster HR 3.0 heating/cooling | 76020240 | 2.430,00 |
| Booster HR 7.8 heating/cooling | 76020500 | 4.130,00 |
| Booster HR 9.0 heating/cooling INVERTER | 76040500 | 6.560,00 |

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| Accessories SPLITTED REFRIGERATORS HUB RADIATOR | | | Code | € |
|---|---|--|---|---|
|  | 230 V single-phase integrative electrical resistance degree of protection IP 65 | mod. 1500 W mod. 2000 W mod. 3000 W | 75050102 75050103 75060300 | 150,00 160,00 170,00 |
|  | Additional inverter electronic circulator max flow rate 3.3 m ³ / h max head 6.2 m electrical absorption min. 4 W - max 45 W | | 35006001 | 214,00 |
|  | System pump kit which includes: Inverter electronic circulation pump complete with shut-off valves, air vent jolly valve, safety valve, threaded plugs and probe wells | | 75100011 | 380,00 |
|  | Hot / cold inverter system pump kit which includes: electronic circulation pump complete with valves shut-off valves, air vent jolly valve, safety valve, threaded caps and probe holder wells | | 75100009 | 674,00 |
|  | High efficiency inverter electronic circulator with wet rotor and ECM permanent magnet motor | mod. 3/6 Q max 3,2 m ³ /h H max 6,6 m mod. 9/10 Q max 9 m ³ /h H max 10,5 m mod. 18/12 Q max 18 m ³ /h H max 12,8 m mod. 27/16 Q max 27 m ³ /h H max 16,0 m mod. 30/18G Q max 30 m ³ /h H max 18,0 m | 35006002 36576012 36576013 36576014 36576015 | 540,00 1.220,00 2.380,00 3.780,00 6.590,00 |
|  | Command and remote control panel | mod. built-in mod. wall | 75100005 75100028 | 90,00 110,00 |
|  | Load control relay for managing the absorbed power | mod. BUS connection mod. Radio frequency | 37081062 37081063 | 148,00 336,00 |
|  | Web server home automation control unit | | 75101005 | 580,00 |
|  | Mixing valve for radiant systems | mod. fixed mechanical adjustment mod. motorized adjustment | 75101032 75101033 | 90,00 530,00 |
|  | Additional capacitor for HR Booster | mod. only hot mod. hot/cold | 26505565 26505567 | 300,00 400,00 |
|  | Anchoring shelf for external Booster including rubber anti-vibration mounts | mod. Booster HR 3.0 mod. Booster HR 7.8 - 9.0 | 37081060 37081061 | 50,00 90,00 |
|  | Anchoring bracket for inclined roof for external Booster mod. HR 3.0 - 7.8 - 9.0 including rubber anti-vibration mounts | | 37081064 | 130,00 |
|  | Antivibration floor base in vulcanized rubber (height from the ground mm 95) with level and screws for Booster HR 3.0 - 7.8 - 9.0 (pack of 2 pieces) | | 75100018 | 94,00 |
|  | Anti-vibration kit for installation on shelves | | 75100022 | 18,00 |
|  | Spring anti-vibration kit in stainless steel complete with bolts, washers and nuts (pack of 2 pieces) | mod. HR 3.0 mod. HR 7.8 - 9.0 | 37081065 37081066 | 52,00 56,00 |
|  | Condensate anti-freeze heating cable with thermal sensor, factory fitted | mod. 3 meters 90 W mod. 6 meters 120 W | 37081067 37081068 | 56,00 66,00 |

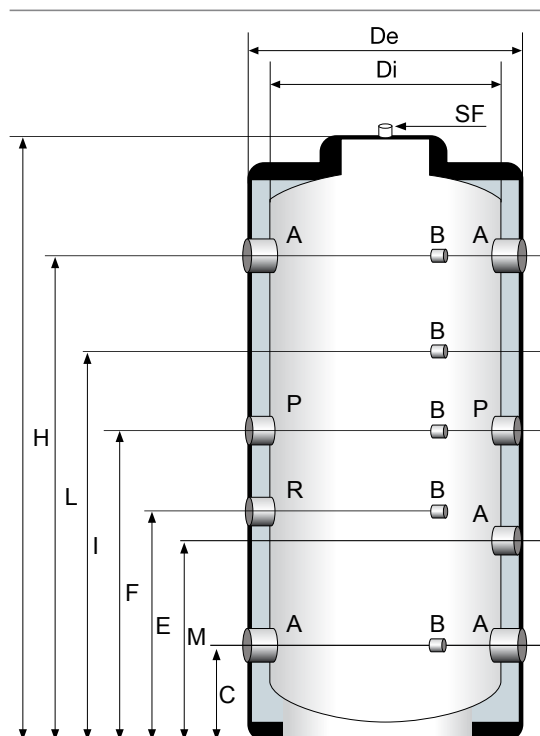
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Accessories SPLITTED REFRIGERATORS HUB RADIATOR

| | | | Code | € |
|---|---|---|----------------------------------|------------------------------|
|  | Auxiliary basin for installation under shelf equipped with 90 W heating cable | mod. HR 3.0 mod. HR 7.8 - 9.0 | 37081069 37081070 | 252,00 272,00 |
|  | Floor support complete with auxiliary basin equipped with 90 W heating cable | mod. HR 3.0 H fixed mod. HR 7.8 - 9.0 H fixed mod. HR 7.8 - 9.0 H variable | 37081071 37081073 37081074 | 308,00 330,00 354,00 |
|  | DHW thermostatic mixer for anti-scald solar thermal systems | mod. MIX L mod. MIX XL mod. MIX XXL | 50103015 50203015 50303015 | 370,00 396,00 1.370,00 |
|  | Domestic hot water recirculation kit Inverter electronic circulator with brass body max flow rate 0.4 m3 / h max head 1.0 m | | 35006004 | 460,00 |
|  | Electronic management kit and additional heat generator connection sleeves | | 75100024 | 194,00 |
|  | Anti-vibration flexible joint kit with connecting flange and straight union | mod. HR 7.8 - 9.0 (5/8") mod. HR 3.0 (3/8") | 75100014 75100015 | 120,00 60,00 |
|  | Antivibration flexible joint kit with flare and 90 ° curved union | mod. HR 7.8 - 9.0 (5/8") mod. HR 3.0 (3/8") | 75100016 75100017 | 120,00 60,00 |
|  | Programmer clock kit | | 35639900 | 40,00 |
|  | AIR BOX cabinet for cylindrical internal unit - external frame covering the technical storage | mod. 300 L 950 P 930 - H 1950 mod. 500 L 950 P 930 - H 1950 mod. 800 L 1200 P 1180 - H 2100 | 75060202 75060203 75060204 | 620,00 990,00 1.100,00 |
|  | Open shelf for n. 2 Booster outdoor units mod. HR 7.8 - 9.0 complete with anti-vibration mounts (fig. 1) | | 75060406 | 240,00 |
|  | RACK 2 wardrobe for n. 2 Booster outdoor units mod. HR 3.0 - 7.8 - 9.0 (fig. 2) | | 75060306 | 890,00 |
|  | RACK 3 wardrobe for n. 3 external units Booster mod. HR 3.0 - 7.8 - 9.0 Height 210 cm Width 96 cm Depth 54 cm (fig.3) | | 75060206 | 980,00 |

Accumulator dimensions SPLITTED REFRIGERATING UNITS HUB RADIATOR



| Model | U.M. | VT 300 | VT 500 | VT 800 | VT 1000 |
|----------------------------|------|----------|-----------|-----------|------------|
| De | mm | 600 | 750 | 990 | 990 |
| Di | mm | 500 | 650 | 790 | 790 |
| H | mm | 1545 | 1605 | 1665 | 2010 |
| C | mm | 225 | 222 | 222 | 222 |
| E | mm | 596 | 615 | 655 | 800 |
| F | mm | 840 | 860 | 840 | 1050 |
| I | mm | 1080 | 1105 | 1145 | 1250 |
| L | mm | 1340 | 1355 | 1385 | 1710 |
| M | mm | 642 | 642 | 642 | 642 |
| A | | 2" | 2" 1/2 | 3" | 3" |
| B | | 1/2" | 1/2" | 1/2" | 1/2" |
| R | | 1" 1/4 | 1" 1/4 | 1" 1/2 | 1" 1/5 |
| P | | 1" 1/2 | 1" 1/2 | 1" 1/2 | 1" 1/2 |
| SF | | 1/2" | 1/2" | 1/2" | 1/2" |
| Technical water content | l | 300 | 500 | 800 | 1000 |
| Insulation thickness | mm | 50 | 50 | 100 | 100 |
| Max pressure | bar | 4 | 4 | 4 | 4 |
| Min / max temperature | °C | 4 / 95 | 4 / 95 | 4 / 95 | 4 / 95 |
| Thermal dispersion | W | 93,0 | 94,1 | 117,5 | 119,2 |
| Unladen / operating weight | Kg | 80 / 378 | 114 / 609 | 146 / 941 | 162 / 1162 |

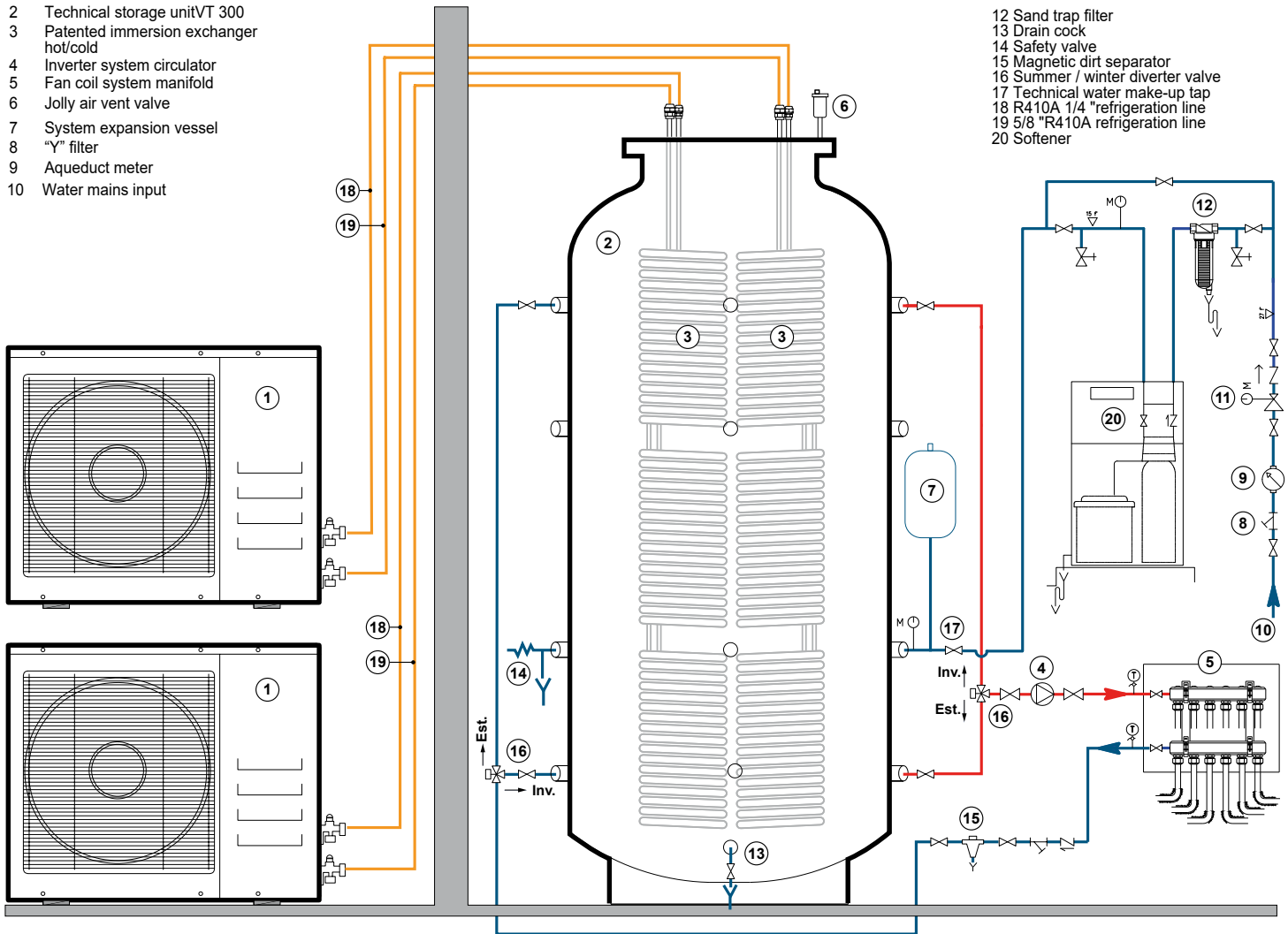
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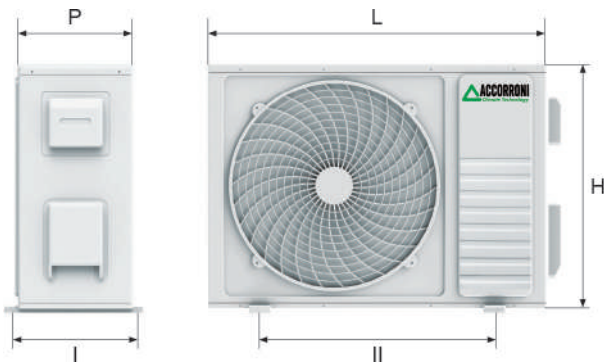
Schema applicativo GRUPPI FRIGORIFERI SPLITTATI HUB RADIATOR

- 1 External moto-evaporator Booster HR 7.8 hot/cold
- 2 Technical storage unit VT 300
- 3 Patented immersion exchanger hot/cold
- 4 Inverter system circulator
- 5 Fan coil system manifold
- 6 Jolly air vent valve
- 7 System expansion vessel
- 8 "Y" filter
- 9 Aqueduct meter
- 10 Water mains input

- 11 Pressure reducer
- 12 Sand trap filter
- 13 Drain cock
- 14 Safety valve
- 15 Magnetic dirt separator
- 16 Summer / winter diverter valve
- 17 Technical water make-up tap
- 18 R410A 1/4" refrigeration line
- 19 5/8" R410A refrigeration line
- 20 Softener

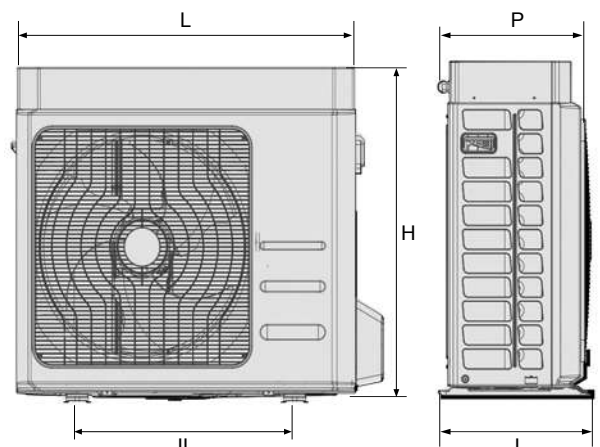


External booster dimensions HR 3.0 - 7.8



| Outdoor Unit Models | L | H | P | I | II | Weight |
|---------------------|-----|-----|-----|-----|-----|--------|
| | mm | mm | mm | mm | mm | kg |
| Booster HR 3.0 | 700 | 552 | 256 | 275 | 435 | 33 |
| Booster HR 7.8 | 830 | 585 | 300 | 330 | 515 | 43 |

External booster dimensions HR 9.0 INVERTER



| Outdoor Unit Models | L | H | P | I | II | Weight |
|-------------------------|-----|-----|-----|-----|-----|--------|
| | mm | mm | mm | mm | mm | kg |
| Booster HR 9.0 inverter | 925 | 785 | 380 | 358 | 540 | 62 |

SPLITTED REFRIGERATORS HUB RADIATOR

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Technical data table Booster SPLITTED REFRIGERATORS HUB RADIATOR

| DESCRIPTION | U.M. | HR 3.0 hot/cold | HR 7.8 hot/cold | HR 9.0 inverter hot/cold |
|---|-------|--|--------------------|-----------------------------|
| Thermal power (1) | kW | 3,11 | 8,12 | 3,54/8,01/8,81* |
| Absorbed power (1) | kW | 0,74 | 1,96 | 1,89 |
| C.O.P. (1) | W/W | 4,20 | 4,14 | 4,24 |
| Thermal power (2) | kW | 2,97 | 7,75 | 2,85/7,92/8,71* |
| Absorbed power (2) | kW | 0,94 | 2,52 | 2,39 |
| C.O.P. (2) | W/W | 3,16 | 3,07 | 3,31 |
| Thermal power (3) | kW | 2,58 | 6,73 | 2,54/7,04/7,74* |
| Absorbed power (3) | kW | 0,74 | 2,00 | 2,15 |
| C.O.P. (3) | W/W | 3,48 | 3,37 | 3,52 |
| Thermal power (4) | kW | 2,47 | 6,44 | 2,46/6,82/7,50* |
| Absorbed power (4) | kW | 0,94 | 2,54 | 2,74 |
| C.O.P. (4) | W/W | 2,67 | 2,53 | 2,68 |
| Thermal power (5) | kW | 2,11 | 5,52 | 2,31/6,41/7,05* |
| Absorbed power (5) | kW | 0,75 | 2,00 | 2,31 |
| C.O.P. (5) | W/W | 2,81 | 2,76 | 3,04 |
| Thermal power (6) | kW | 1,99 | 5,20 | 2,25/6,25/6,88* |
| Absorbed power (6) | kW | 0,94 | 2,53 | 2,78 |
| C.O.P. (6) | W/W | 2,11 | 2,05 | 3,39 |
| S.C.O.P. (7) | W/W | 3,78 | 3,71 | 3,94 |
| Seasonal heating efficiency (η_s) | % | 153,1 | 150,3 | 159,62 |
| Cooling power (8) | kW | 2,94 | 7,24 | 4,91/7,72/8,49* |
| Absorbed power (8) | kW | 0,72 | 1,89 | 1,76 |
| E.E.R. (8) | W/W | 4,08 | 3,82 | 4,38 |
| Cooling power (9) | kW | 2,63 | 5,84 | 3,80/6,08/6,69* |
| Absorbed power (9) | kW | 0,89 | 2,20 | 1,99 |
| E.E.R. (9) | W/W | 2,95 | 2,65 | 3,05 |
| S.E.E.R. (9) | W/W | 3,67 | 3,32 | 4,25 |
| Energy efficiency class (10) | | A / A++ | | A++ / A+++ |
| Compressor type | | Rotation ON-OFF | | Twin Rotary DC INV. |
| Compressor number | | 1 | | |
| Refrigerant circuit | | 1 | | |
| Defrosting method | | Reverse cycle with immersion condenser | | |
| Type of refrigerant | | R410A | | |
| Technical water temperature min / max | °C | + 4 / + 58 | | |
| Amount of refrigerant (pre-inserted) | Kg | 1,1 | 1,5 | 2,2 |
| Min distance between outdoor and indoor unit | m | 3 | | |
| Max distance between outdoor and indoor unit without charging | m | 5 | | |
| Max distance between outdoor and indoor unit with recharge | m | 15 | | |
| Max difference in height between outdoor and indoor unit | m | 5 | | |
| Refrigerant gas line connection | | 3/8" | 5/8" | 5/8" |
| Coolant line connection | | 1/4" | 1/4" | 3/8" |
| Sound power (11) | dB(A) | 65,1 | 68,4 | 64,0 |
| Sound pressure at one meter (12) | dB(A) | 51,2 | 54,7 | 49,8 |
| External temperature operating limits | °C | -15 / +45 | | -20 / +46 |
| Power supply | | 230V/1/50Hz | | |
| Max absorbed power | kW | 0,94 | 2,53 | 4,70 |
| Max absorbed current | A | 4,30 | 11,57 | 20,40 |
| Weight | Kg | 33 | 55 | 62 |

(1) Heating: external air temperature 7 °C d.b. - 6 °C b.u. ; inlet / outlet water temperature 30/35 °C

(2) Heating: external air temperature 7 °C d.b. - 6 °C b.u. ; inlet / outlet water temperature 40/45 °C

(3) Heating: external air temperature 0 °C d.b. ; inlet / outlet water temperature 30/35 °C

(4) Heating: outside air temperature 0 °C d.b. ; inlet / outlet water temperature 40/45 °C

(5) Heating: outside air temperature -7 °C d.b. ; inlet / outlet water temperature 30/35 °C

(6) Heating: external air temperature -7 °C d.b. ; inlet / outlet water temperature 40/45 °C

(7) Heating: average climatic conditions; inlet / outlet water temperature 30/35 °C

(8) Cooling: external air temperature 35 °C db; inlet / outlet water temperature 23/18 °C

(9) Cooling: external air temperature 35 °C db; inlet / outlet water temperature 12/7 °C

(10) Water 35 °C / 55 °C

(11) Measurements carried out according to UNI EN 14511 in heating mode and boundary conditions (1)

(12) Value calculated according to ISO 3744: 2010 (*) By activating the maximum HZ function