




HUB RADIATOR HYBRID HRC

Patented integrated high efficiency hybrid system with direct refrigerant / water exchange with support boiler to produce domestic hot water and heating for small and medium users



| Model | Code |
|--|-----------------|
| HUB RADIATOR HRC - U.I. Indoor unit boiler from 2 - 16 kW + outdoor unit Booster HR 3.0 | 76801920 |
| HUB RADIATOR HRC - U.I. caldaia da 2 - 16 kW + U.E. Booster HR 7.8 | 76800900 |
| HUB RADIATOR HRC - U.I. caldaia da 2,5 - 25 kW + U.E. Booster HR 3.0 | 76801901 |
| HUB RADIATOR HRC - U.I. caldaia da 2,5 - 25 kW + U.E. Booster HR 7.8 | 76800901 |
| HUB RADIATOR HRC - U.I. caldaia da 3 - 32 kW + U.E. Booster HR 3.0 | 76801922 |
| HUB RADIATOR HRC - U.I. caldaia da 3 - 32 kW + U.E. Booster HR 7.8 | 76800902 |
| BOOSTER additional HR 3.0 | 76010240 |
| BOOSTER additional HR 7.8 | 76010500 |

Accessories HUB RADIATOR HRC






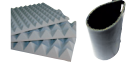





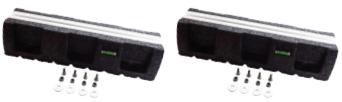



| | | |
|---|--|--|
|  | From 1 to 2 HR First start booster | 35639901 |
|  | Control panel and remote control wall or recessed | 75100005 |
|  | Load monitoring relay for the management of the absorbed power | mod. Connection BUS 37081062 mod. Radiofrequency 37081063 |

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




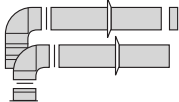


| | | | |
|---|---|--|------------------------------------|
|  | 1/2" ACS mixing valve kit 200 CX microprocessor with external probe | | 75100023 |
|  | 200 CX microprocessor with external probe | | 16505060 |
|  | Mixing valve motorized for radiant systems | mod. standard regulation mod. climatic regulation | 75101032 75101033 |
|  | Web server | | 75101005 |
|  | Additional condenser for HR Hot Booster only | | 26505565 |
|  | Silenced Booster Kit | | 75100001 |
|  | Anchor shelf for Booster HR external included rubber antivibration | mod. Booster 3.0 mod. Booster 7.0 | 37081060 37081061 |
|  | Flexible anti-vibration joint kit with connection folder and filler for Booster HR 7.8 straight (complete with 5/8 "joint and 3/8" joint) | | 75100014 |
|  | Flexible anti-vibration joint kit with connection folder and union for Booster HR 3.0 straight (3/8" joint only) | | 75100015 |
|  | Flexible anti-vibration joint kit with connection folder and filler for Booster HR 7.8 curved at 90 ° (complete with 5/8" joint and 3/8" joint) | | 75100016 |
|  | Flexible anti-vibration joint kit with connection folder and nozzle for Booster HR 3.0 90 ° curved (3/8" joint only) | | 75100017 |
|  | Anti-vibration floor base in vulcanized rubber (height from the ground mm 95) with level and viterie for Booster HR 3.0 and Booster HR 7.8 (pack of 2 pieces) | | 75100018 |
|  | Anti-vibration kit for ground installation | | 75100021 |
|  | Anti-vibration kit for installation on shelves | | 75100022 |
|  | Programmer clock kit | | 35639900 |

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Boiler accessories HUB RADIATOR HRC

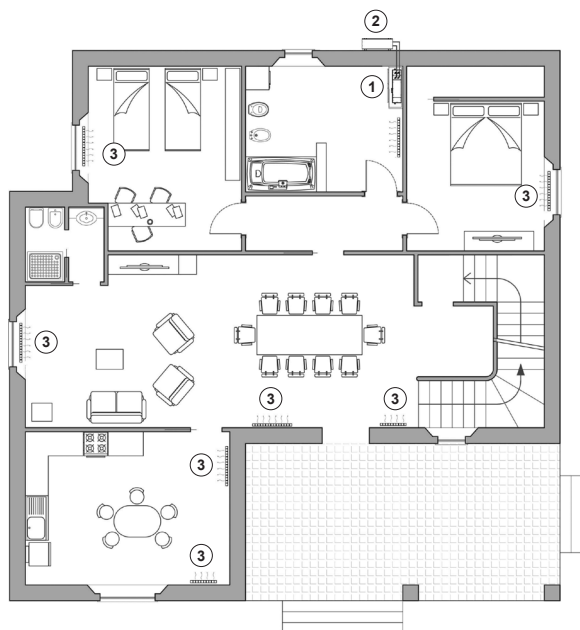
Code

| | | |
|---|--|-----------------|
|  | Coaxial curve kit Ø 60/100 with terminal | |
|  | Smoke exhaust kit coaxial Ø 60/100 | 30403000 |
|  | Coaxial extension Ø 60/100 M / F = 1000 mm | 30403002 |
|  | 90° coaxial curve Ø 60/100 M / F | 30403004 |
|  | 45° coaxial curve Ø 60/100 M / F | 30403003 |
|  | Flue gas exhaust kit Ø 80/80 | 30403007 |
|  | Extension Ø 80 M / F = 1000 mm | 30403011 |
|  | Splitter kit Ø 80/80 | 30403018 |

Renewable evolution and economic advantage

Example of energy savings with housing from 150 m² located in Turin with HUB RADIATOR HRC HYBRID SYSTEM climatic zone E degrees day 2600

- 1 HRC internal unit
- 2 Outdoor unit HRC (Booster HR 7.8)
- 3 Cast iron radiators



| ENERGY DIAGNOSIS | U.M. | | METHANE | GPL |
|---|------|-----------|--------------|----------------|
| People | n. | 4 | | |
| Energetic class | | F | | |
| Type of plant | | radiators | | |
| Consumption DHW per person | l/g | 50 | | |
| ANNUAL SAVINGS WITH HRC * (150 m ² residence in Turin) | € | | 650,00 - 34% | 2.160,00 - 52% |
| ANNUAL SAVINGS WITH HRC AND PHOTOVOLTAIC * | € | | 810,00 - 38% | 2.300,00 - 56% |
| ENERGY CLASS IMPROVEMENT from F * | | | a D | a C |
| INCREASE VALUE OF THE BUILDING * | | | 6% | 8% |
| ANNUAL EXPENDITURE ** | € | | 2.100,00* | 4.200,00* |

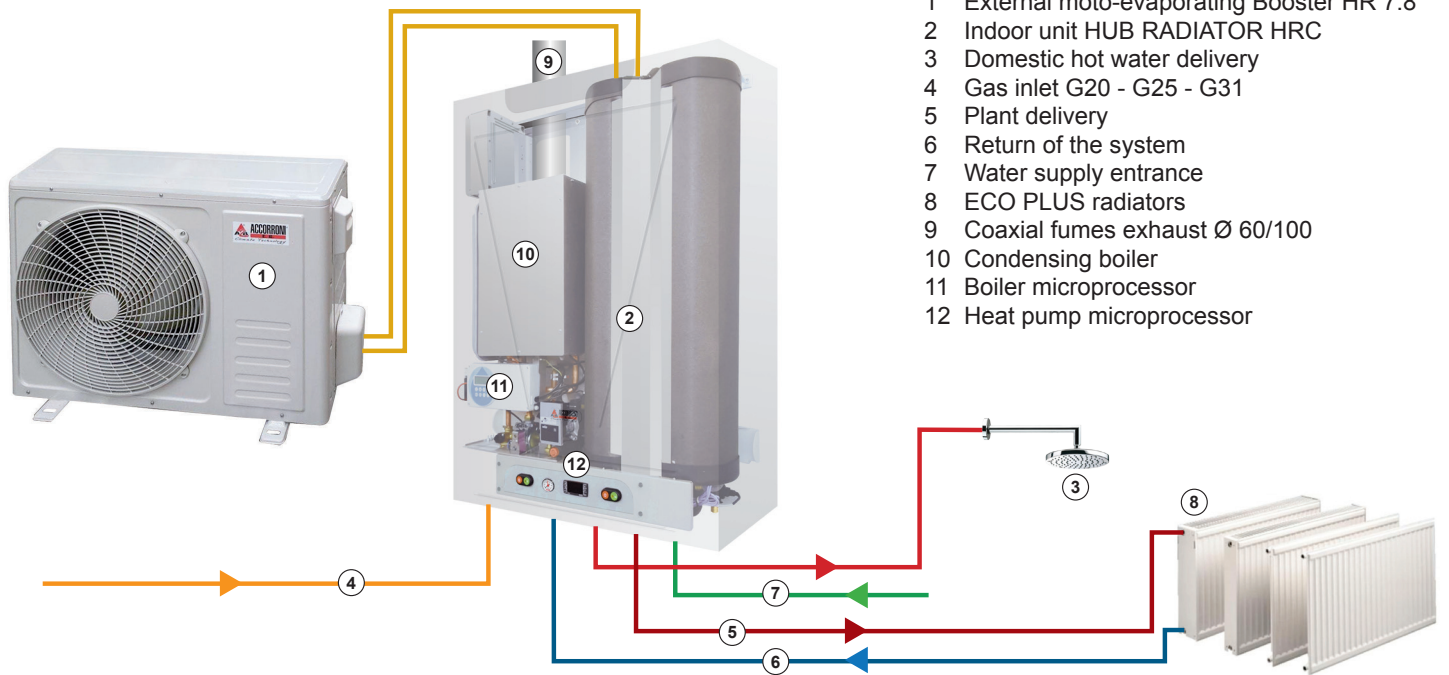
* Estimated indicative only. The official and definitive energy performance calculations must be performed by qualified technicians according to the regulations in force and according to the real conditions of the house

** Maximum estimate

HUB RADIATOR HYBRID HRC

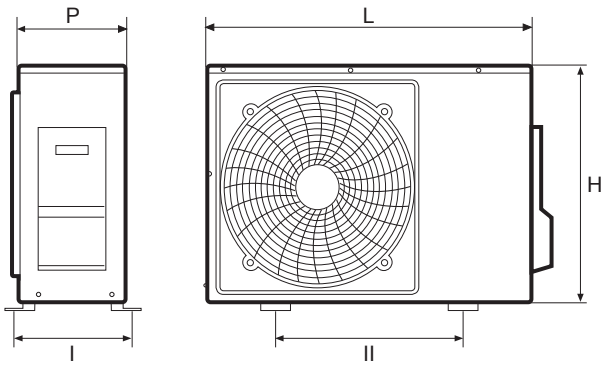
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Application example HUB RADIATOR HRC



- 1 External moto-evaporating Booster HR 7.8
- 2 Indoor unit HUB RADIATOR HRC
- 3 Domestic hot water delivery
- 4 Gas inlet G20 - G25 - G31
- 5 Plant delivery
- 6 Return of the system
- 7 Water supply entrance
- 8 ECO PLUS radiators
- 9 Coaxial fumes exhaust Ø 60/100
- 10 Condensing boiler
- 11 Boiler microprocessor
- 12 Heat pump microprocessor

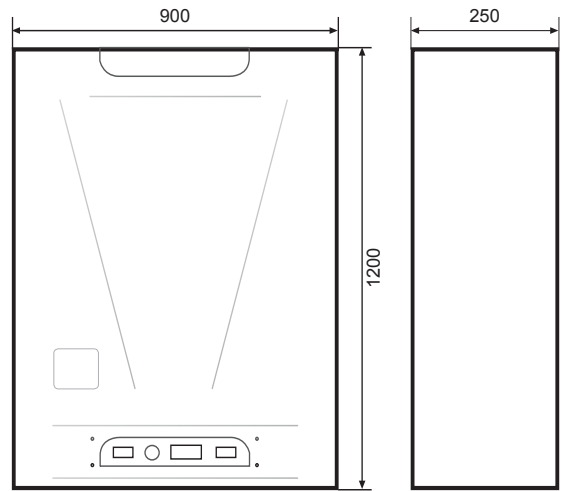
Outdoor unit dimensions HUB RADIATOR HRC



| Booster | L | H | P | I | II | kg |
|----------------------|-----|-----|-----|-----|-----|----|
| External unit HR 3.0 | 700 | 552 | 256 | 275 | 435 | 33 |
| External unit HR 7.8 | 902 | 650 | 307 | 350 | 620 | 55 |

Values in mm

Indoor unit dimensions HUB RADIATOR HRC



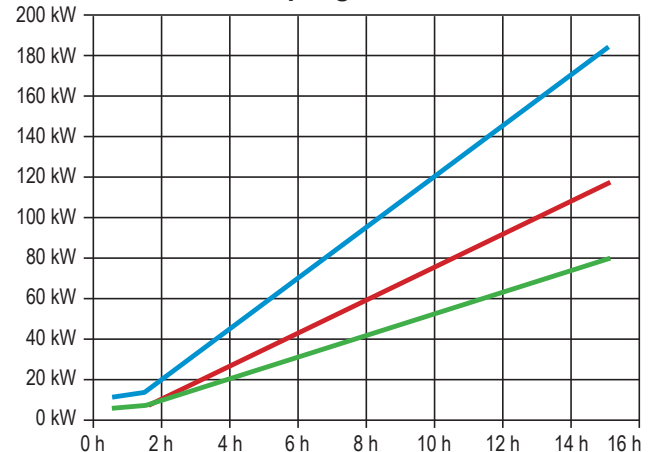
Technical data of the internal unit HUB RADIATOR HRC

| DESCRIPTION | U.M. | |
|---|-------------------|-------------------------|
| Electronic circulator model | | Wilo Yonos Para RS 25/6 |
| Water accumulation content | l | 70 |
| Max electronic circulator flow rate | m ³ /h | 3,3 |
| Prevalence max electronic circulator | m | 6,2 |
| Electric absorption electronic circulator | W | 3 - 45 |
| Safety valve calibration | bar | 4 |
| Power supply | | 230V/1/50Hz |
| Empty weight | kg | 64 |

Legend of DHW withdrawals

- Total thermal power delivered HUB RADIATOR HRC
- Thermal power delivered to the HUB RADIATOR HRC boiler
- Thermal power delivered Booster in heat pump HUB RADIATOR HRC

DHW continuous sampling HUB RADIATOR HRC *



(* DHW temperature 40 ° C, DHW flow rate 9 l / min, temperature inlet mains water 12 ° C, outside air temperature 10 ° C

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Technical data table boiler HUB RADIATOR HRC

| DESCRIPTION | U.M. | HRC 16 | HRC 25 | HRC 32 |
|---|------|---------------------------------------|--------|--------|
| Category | | II2E+3P - II2H2P - II2E3P - I2HI3PI2L | | |
| Guy | | C13 - C53 | | |
| Reference gas | | G20-G25-G31 | | |
| Energy Performance | | ☆☆☆☆ | | |
| Nominal thermal flow | kW | 16,2 | 25,0 | 32,0 |
| Minimum thermal flow | kW | 2,8 | 2,5 | 3,2 |
| HEATING | °C | 80 / 60 | | |
| Nominal thermal power | kW | 15,0 | 24,5 | 29,1 |
| Minimum thermal power | kW | 2,5 | 2,3 | 2,9 |
| Burning efficiency | % | 98,0 | 98,0 | 97,4 |
| Partial load performance at 30% | % | 108,0 | 108,0 | 105,4 |
| GAS G20 gas supply pressure | mbar | 20 | | |
| Gas supply pressure GAS G25 | mbar | 25 | | |
| Gas supply pressure GAS G31 | mbar | 37 | | |
| Mass flow rate of flue gas at nominal flow / min G20 | kg/h | 47 / 10 | | |
| Mass flow rate of flue gas at nominal flow / min G25 | kg/h | 47 / 10 | | |
| Mass flow rate of fumes with thermal flow rate nom./min G31 | kg/h | 48 / 10 | | |
| C02 with thermal flow rate nom./min G20 | % | 9,4 / 9,0 | | |
| C02 at nominal flow / min G25 | % | 9,4 / 9,0 | | |
| C02 at nominal flow / min G31 | % | 10,6 / 10,1 | | |
| C0 at 0% of O2 at nominal flow / min G20 | ppm | 168 / 4 | | |
| C0 at 0% of O2 at nominal flow / min G25 | ppm | 167 / 4 | | |
| C0 at 0% of O2 at thermal flow rate nom./min G31 | ppm | 188 / 3 | | |
| NOx at 0% of O2 at thermal flow rate nom./min G20 | ppm | 45 / 17 | | |
| NOx at 0% of O2 at thermal flow rate nom./min G25 | ppm | 44 / 18 | | |
| NOx at 0% of O2 at thermal flow rate nom./min G31 | ppm | 49 / 21 | | |
| Flue gas temperature at nominal flow / min (80/60 ° C) G20 | °C | 68 / 66 | | |
| Flue gas temperature at nominal flow / min (80/60 ° C) G25 | °C | 68 / 66 | | |
| Flue gas temperature at nominal flow / min (80/60 ° C) G31 | °C | 70 / 68 | | |
| NOx Class | | 5 | | |
| Expansion vessel | l | 7 | | |
| Preload expansion vessel | bar | 1 | | |
| Max working pressure | bar | 3 | | |
| Min working pressure | bar | 0,6 | | |
| Max working temperature | °C | 90 | | |
| ELECTRICAL CHARACTERISTICS | | | | |
| Power supply | | 230V/1/50Hz | | |
| Power | W | 180 | | |
| Degree of protection | | IP X4D | | |
| DIMENSIONS AND CONNECTIONS | | | | |
| Width | mm | 410 | | |
| Height | mm | 780 | | |
| Depth | mm | 230 | | |
| Weight | kg | 38 | 40 | 42 |
| Supply / return | | 3/4" | | |
| Gas | | 3/4" | | |
| Concentric exhaust / outlet diameter | mm | 60 / 100 | | |
| Concentric tube length min / max | m | (0,5÷10) + (1 curva a 90°) | | |
| Separate suction / discharge pipe diameter | mm | 80 / 80 | | |
| Separate pipe length min / max | m | (0,5÷32) + (0,5÷32) + (2 curve a 90°) | | |

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Technical data table Booster HUB RADIATOR HRC

| DESCRIPTION | U.M. | HR 3.0 | HR 7.8 |
|--|-------------------|---|--------|
| Thermal power (1) | kW | 3,11 | 8,12 |
| Power consumption (1) | kW | 0,75 | 1,96 |
| C.O.P. (1) | W/W | 4,17 | 4,14 |
| Thermal power (2) | kW | 2,97 | 7,75 |
| Power consumption (2) | kW | 0,91 | 2,42 |
| C.O.P. (2) | W/W | 3,28 | 3,20 |
| S.C.O.P. (3) | kW | 3,78 | 3,71 |
| Seasonal heating efficiency (η_s) | W/W | 153,1 | 150,3 |
| Energy efficiency (4) | | A++ / A+ | |
| Defrosting method | | Cycle inversion with immersion condensers | |
| Type of refrigerant | | R410A | |
| Sound level | dB(A) | 52 | 60 |
| Refrigerant quantity (pre-installed) | kg | 1,1 | 2,1 |
| Min distance between external and internal unit | m | 3 | |
| Max distance between outdoor and indoor units without charging | m | 5 | |
| Max distance between outdoor and indoor unit with recharge | m | 15 | |
| Maximum difference in height between outdoor and indoor units | m | 5 | |
| Fitting of the refrigerant gas line | | 3/8" | 5/8" |
| Refrigerant fluid line connection | | 1/4" | 3/8" |
| Inverter electronic circulator | | Wilo Yonos Para RS 25/6 | |
| Technical accumulation water content | l | 70 | |
| Inverter electronic circulator max flow | m ³ /h | 3,3 | |
| Prevalence max electronic circulator inverter | m | 6,2 | |
| Electric absorption of the electronic circulator inverter | W | 3 - 45 | |
| Volume expansion vessel | l | 7 | |
| Preload expansion vessel | bar | 1 | |
| Safety valve calibration | bar | 3 | |
| Electric back-up resistance | W | 1500 | |
| Power supply | | 230V/1/50Hz | |
| Hydraulic connections cold water inlet and DHW outlet | | 1/2" M | |
| Hydraulic connections for system delivery and return | | 3/4" M | |
| Indoor unit weight | kg | 64 | |
| Outdoor unit weight | kg | 33 | 55 |

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

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

(3) Heating: average climate conditions; T.biv. ; inlet / outlet water temperature 30/35 °C

(4) Heating: water temperature 35 °C / 55 °C