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BE INNOVATIVE

# MELORIA HEAT PUMP WATER HEATER

EN

New!

# MELORIA

## HEAT PUMP STORAGE WATER HEATERS FOR DOMESTIC HOT WATER SUPPLY

**Available in wall-hung versions for 100 litres and 150 litres nominal capacity**

100 150

**Available in floor-standing versions for 190 litres and 300 litres nominal capacity**

190 300

- **Refrigerant gas R290 - very low environmental impact GWP index = 3**
- **Excellent heating performance values**
- **Equipped with electric auxiliary resistance as standard**
- **Hot water setting range from 38 °C to 65 °C**
- **Wide operating range based on outside temperature.**
  **-7 °C ÷ 43 °C heat pump only**
  **-20 °C ÷ 45 °C with auxiliary resistance**
- Aluminium microchannel heat exchanger
- Double protection against corrosion: magnesium node and impressed-current anode
- Polyurethane thermal insulation
- The floor-standing versions are preset with an additional exchange circuit for integration with a solar thermal system
- Preset for connection to solar photovoltaic system
- Option to vary the available head at the inlet - outlet of air ducts
- Wi-Fi module for remote control

- *Integrated user interface*
- *4' LCD display with keypad*
- *Displaying errors and alarms on screen*
- *Child Lock function*
- *On/off control, Timer, 'Vacation' mode, ' Disinfection' mode for anti-legionella, electrical resistance activation and 'Smart' function*

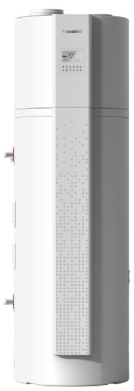
| Model | Code | Energy efficiency class Load profile (1) | Hot water storage | Total height (2) | Diameter | Depth (3) | Gross weight |
|---|---|---|---|---|---|---|---|
| | | | litres | mm | mm | mm | kg |
| **100** | DME0MMX100 | M | 98 | 1365 | 500 | 550 | 72 |
| **150** | DME0MMX200 | L | 145 | 1708 | 500 | 550 | 87 |
| **190 S** | DME0MBS190 | L | 181 | 1730 | 560 | 595 | 115 |
| **300 S** | DME0MBS300 | XL | 270 | 1895 | 660 | 695 | 160 |

(1) Under average climatic conditions, according to EU Regulation 812/2013.

(2) Including air duct initial connections.

(3) It represents the overall dimensions in depth including the control panel and, for the 100 - 150 litre models, the wall mounting bracket.

**MELORIA WALL-HUNG VERSIONS 100 - 150**

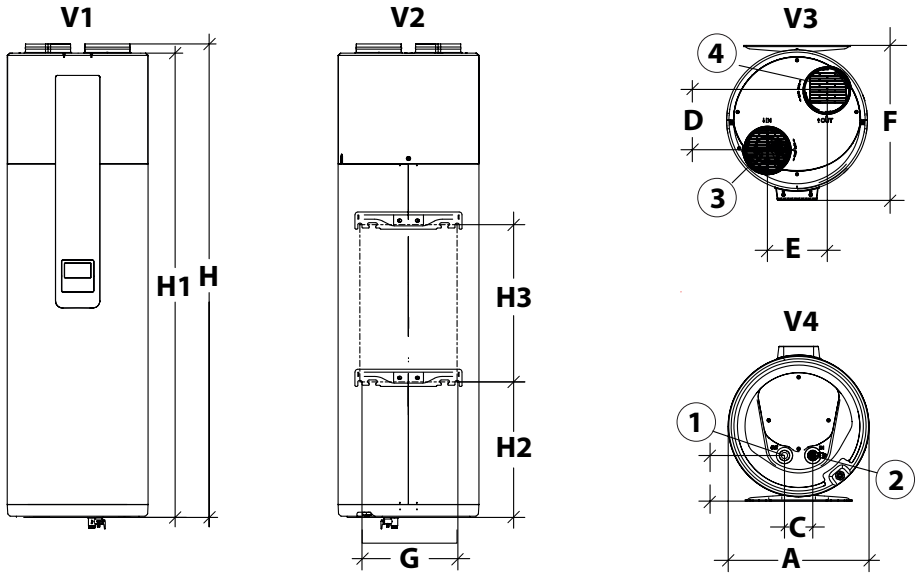


**MELORIA FLOOR-STANDING VERSIONS 190 S - 300 S**

## MELORIA DISPLAY

| Function | Description |
|---|---|
| VACATION | The water temperature in the tank is kept low (set at 15°C) to avoid the risk of freezing, reducing on/off cycles. |
| HYBRID | Heat pump and electric heater operate at the same time, only in case of very low air source temperatures or if the heat pump cannot reach the set temperature after a long period of functioning. |
| E-HEATER | The heat pump and electric resistance are activated by operating simultaneously. |
| ECONOMY | The heat pump heats the water up to its maximum capacity in standard performance with high efficiency. The electrical resistance is activated if additional heating is required. The heat pump and the electrical resistance do not work at the same time. |
| SMART | The use habits of the user from the last 7 days are stored. The water heater is activated in advance according to the user's peak use hours. |

## DIMENSIONS OF MELORIA 100 AND MELORIA 150 WALL-HUNG WATER HEATERS




| KEY | |
|---|---|
| V1 | Front view |
| V2 | Rear view |
| V3 | Top view |
| V4 | Bottom view |
| 1 | ½' hot water outlet |
| 2 | ½' cold water inlet |
| 3 | Air inlet D 160 |
| 4 | Air outlet D 160 |

| Ref. | um | MELORIA 100 | MELORIA 150 |
|---|---|---|---|
| A | mm | 500 | 500 |
| B | mm | 162 | 162 |
| C | mm | 100 | 100 |
| D | mm | 210 | 210 |
| E | mm | 210 | 210 |
| F | mm | 550 | 550 |
| G | mm | 345 | 345 |
| H | mm | 1365 | 1708 |
| H1 | mm | 1332 | 1675 |
| H2 | mm | 281 | 481 |
| H3 | mm | 415 | 558 |



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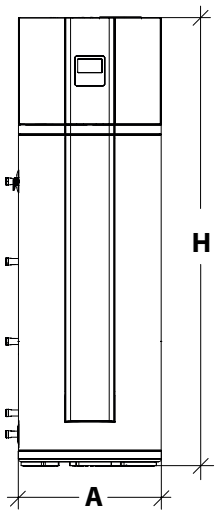
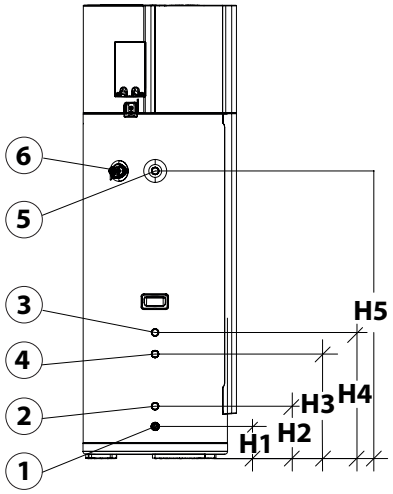
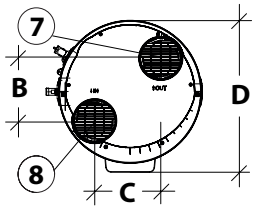
## MELORIA 190 S FLOOR-STANDING WATER HEATER DIMENSIONS




FRONT VIEW




REAR VIEW

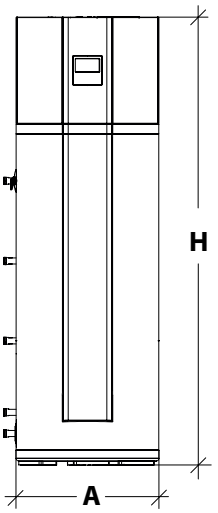



VIEW FROM TOP

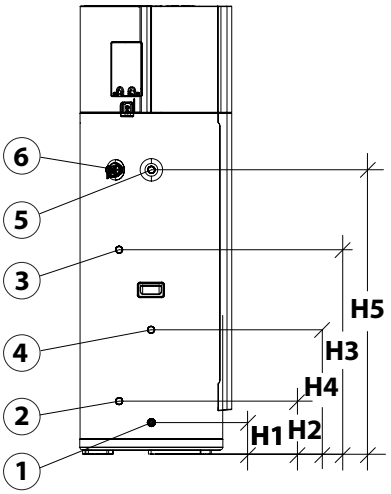
| KEY | |
|---|---|
| 1 | Drain connection - NPT 3/4 |
| 2 | Outlet (to) solar circuit ¾' |
| 3 | Inlet (from) solar circuit ¾' |
| 4 | ¾' cold water inlet |
| 5 | ¾' hot water outlet |
| 6 | ¾' overpressure drain |
| 7 | Air outlet D160 |
| 8 | Air inlet D 160 |

| Ref. | um | MELORIA 190 S |
|---|---|---|
| A | mm | 560 |
| B | mm | 250 |
| C | mm | 250 |
| D | mm | 595 |
| H | mm | 1730 |
| H1 | mm | 125 |
| H2 | mm | 230 |
| H3 | mm | 395 |
| H4 | mm | 570 |
| H5 | mm | 1100 |

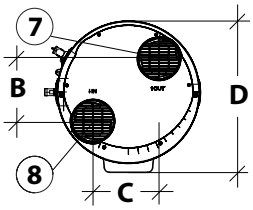
## MELORIA 300 S FLOOR-STANDING WATER HEATER DIMENSIONS




FRONT VIEW




REAR VIEW




VIEW FROM TOP

| KEY | |
|---|---|
| 1 | Drain connection - NPT 3/4 |
| 2 | Outlet (to) solar circuit ¾' |
| 3 | Inlet (from) solar circuit ¾' |
| 4 | ¾' cold water inlet |
| 5 | ¾' hot water outlet |
| 6 | ¾' overpressure drain |
| 7 | D190 air outlet |
| 8 | D190 air inlet |

| Ref. | um | MELORIA 300 S |
|---|---|---|
| A | mm | 660 |
| B | mm | 300 |
| C | mm | 200 |
| D | mm | 695 |
| H | mm | 1895 |
| H1 | mm | 125 |
| H2 | mm | 215 |
| H3 | mm | 825 |
| H4 | mm | 425 |
| H5 | mm | 1185 |

| Technical Specifications | um | MELORIA 100 | MELORIA 150 | MELORIA 190 S | MELORIA 300 S |
|---|---|---|---|---|---|
| Product code | - | DME0MMX100 | DME0MMX200 | DME0MBS190 | DME0MBS300 |
| Empty net weight | kg | 66 | 81 | 94 | 132 |
| Empty gross weight | kg | 72 | 87 | 115 | 160 |
| Nominal storage capacity | l | 100 | 150 | 190 | 300 |
| Actual storage capacity | l | 98 | 145 | 181 | 270 |
| Tank material | - | Steel | Steel | Steel | Steel |
| Type of internal coating | - | Enamelling | Enamelling | Enamelling | Enamelling |
| Insulation material | - | Polyurethane | Polyurethane | Polyurethane | Polyurethane |
| Insulation thickness | mm | 42 | 42 | 42 | 42 |
| Maximum working pressure | bar/MPa | 7,5/ 0,75 | 7,5 / 0,75 | 8,5 / 0,85 | 8,5 / 0,85 |
| Pes dispersions | kW | 0,019 (1) | 0,023 (2) | 0,026 (3) | 0,022 (3) |
| Solar coil exchange surface area | m2 | – | – | 0,6 | 1,1 |
| Solar coil material | - | – | – | INOX AISI 316 L | INOX AISI 316 L |
| Maximum solar coil pressure | bar / MPa | – | – | 10/1 | 10/1 |
| Refrigerant type | - | R290 | R290 | R290 | R290 |
| Refrigerant charge | g | 150 | 150 | 150 | 150 |
| GWP | - | 3 | 3 | 3 | 3 |
| CO2 equivalent | t | 0,00045 | 0,00045 | 0,00045 | 0,00045 |
| Refrigerant circuit operating pressure (aspiration side) | MPa | 1,2 | 1,2 | 1,2 | 1,2 |
| Refrigerant circuit operating pressure (drain side) | MPa | 3 | 3 | 3 | 3 |
| Refrigerant circuit maximum pressure | MPa | 3,1 | 3,1 | 3,1 | 3,1 |
| Min - max power supply | V | 220 – 240 | 220 – 240 | 220 – 240 | 220 – 240 |
| Frequency | Hz | 50 – 1Ph | 50 – 1Ph | 50 – 1Ph | 50 – 1Ph |
| Electrical protection class | IP | 21 | 21 | 21 | 21 |
| Min - max installation room temperature | °C | 0 ÷ 43 | 0 ÷ 43 | 0 ÷ 43 | 0 ÷ 43 |
| Min - max outside air temperature | °C | -7 ÷ 43 | -7 ÷ 43 | -7 ÷ 43 | -7 ÷ 43 |
| Min - max outside air temperature with resistance | °C | -20 ÷ 45 | -20 ÷ 45 | -20 ÷ 45 | -20 ÷ 45 |
| Hot water maximum temperature - heat pump only | °C | 65 | 65 | 65 | 65 |
| Hot water maximum temperature - with resistance | °C | 70 | 70 | 70 | 70 |
| Hot water setting range | °C | 38 – 65 | 38 – 65 | 38 – 65 | 38 – 65 |
| Nominal air flow rate | m³/h | 200 | 240 | 350 | 450 |
| Minimum volume for the installation room * | m³ | 15 | 15 | 15 | 15 |
| Minimum area for the installation room * | m² | 4 | 4 | 4 | 4 |

(1) EN 16147 - Average climate conditions air T 7°C/6°C (dry bulb/wet bulb), water inlet T 10 °C. Hot water outlet T setting 55°C.
(2) EN 16147 - Average climate conditions air T 7°C/6°C (dry bulb/wet bulb), water inlet T 10 °C. Hot water outlet T setting 52°C.
(3) EN 16147 - Average climate conditions air T 7°C/6°C (dry bulb/wet bulb), water inlet T 10 °C. Hot water outlet T setting 53°C.
* Requirements to ensure proper functioning with performance.

## PERFORMANCE DATA TABLE

| Technical Specifications | um | MELORIA 100 | MELORIA 150 | MELORIA 190 S | MELORIA 300 S |
|---|---|---|---|---|---|
| Product code | - | DME0MMX100 | DME0MMX200 | DME0MBS190 | DME0MBS300 |
| Maximum power input to the heat pump | W | 450 | 750 | 600 | 710 |
| Electrical resistance power | W | 1500 | 1500 | 1640 | 1640 |
| Maximum power consumption of the heat pump (with resistance) | W | 1950 | 2250 | 2240 | 2350 |
| Maximum input power to the heat pump | A | 9 | 9 | 10,5 | 11 |
| COP - air T 7°C | W/W | 2,61 (1) | 2,67 (2) | 3,13 (5) | 3,13 (5) |
| SCOP - air T 7°C | W/W | 2,61 (1) | 2,67 (2) | 3,13 (5) | 3,13 (5) |
| Heating time - air T 7°C | hh:min | 06:04 (1) | 06:32 (2) | 07:47 (5) | 09:02 (5) |
| COP air temperature 14 °C | W/W | 2,74 (3) | 3,02 (4) | 3,52 (6) | 3,51 (6) |
| SCOP air temperature 14°C | W/W | 2,74 (3) | 3,02 (4) | 3,52 (6) | 3,51 (6) |
| Heating time – air T 14°C | Hh:min | 05:14 (3) | 06:10 (4) | 06:33 (6) | 07:35 (6) |

(1) EN 16147 - Average climate conditions air T 7°C/6°C (dry bulb/wet bulb), water inlet T 10 °C. Hot water outlet T setting 55°C.Water heating heat pump only
(2) EN 16147 - Average climate conditions air T 7°C/6°C (dry bulb/wet bulb), water inlet T 10 °C. Hot water outlet T setting 52°C.Water heating heat pump only
(3) EN16147 - At declared load profile, outside T air 14°C / 13°C (dry bulb / wet bulb), water inlet T 10°C setting hot water outlet T 54°C.Water heating heat pump only
(4) EN16147 - At declared load profile, outside T air 14°C / 13°C (dry bulb / wet bulb), water inlet T 10°C setting hot water outlet T 52°C.Water heating heat pump only
(5) EN16147 - At declared load profile, outside T air 7°C / 6°C (dry bulb / wet bulb), water inlet T 10°C setting hot water outlet T 53°C.Water heating heat pump only
(6) EN16147 - At declared load profile, outside T air 14°C / 13°C (dry bulb / wet bulb), water inlet T 10°C setting hot water outlet T 53°C.Water heating heat pump only

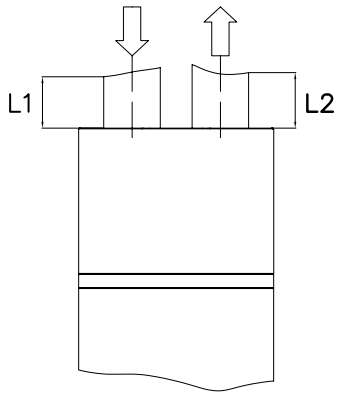
## ERP PERFORMANCE DATA TABLE ACCORDING TO EU REGULATIONS 812/2013 AND EU 814/2013

| Technical Specifications | | um | MELORIA 100 | MELORIA 150 | MELORIA 190 S | MELORIA 300 S |
|---|---|---|---|---|---|---|
| Product code | - | - | DME0MMX100 | DME0MMX200 | DME0MBS190 | DME0MBS300 |
| Stated load profile | - | - | M | L | L | XL |
| Energy efficiency class water heating - average climate F -> A+ | - | - | A+ | A+ | A+ | A+ |
| Energy efficiency water heating - average climate | $\eta_{wh}$ | % | 111 | 122 | 130 | 128 |
| Energy efficiency water heating - warmer climate | $\eta_{wh}$ | % | 114 | 137 | 144 | 144 |
| Energy efficiency water heating - colder climate | $\eta_{wh}$ | % | 92 | 103 | 86 | 104 |
| Annual energy consumption - average climate | AEC | kWh | 463 | 843 | 785 | 1312 |
| Annual energy consumption - warmer climate | AEC | kWh | 451 | 746 | 708 | 1167 |
| Annual electricity consumption - colder climate | AEC | kWh | 558 | 997 | 1192 | 1614 |
| Thermostat temperature settings | - | °C | 55 | 52 | 54 | 53 |
| Indoor/outdoor sound power (*) | LWA | dB(A) | 54 / - | 56 / - | 51 / 54 | 51 / 54 |
| Daily energy consumption - average climate | $Q_{elec}$ | kWh | 2,435 | 4,36 | 3,718 | 6,095 |
| Daily energy consumption - warmer climate | $Q_{elec}$ | kWh | 2,133 | 3,85 | 3,314 | 5,148 |
| Daily electricity consumption - colder climate | $Q_{elec}$ | kWh | 2,631 | 4,685 | 5,62 | 7,499 |
| Hot water storage | V | l | 98 | 145 | 181 | 270 |
| Mixed water at 40°C - average climate | V40 | litres | 110 | 160 | 245 | 345 |

(*) According to EN 12102 - 2. Unit not channelled and set to ECO operation mode

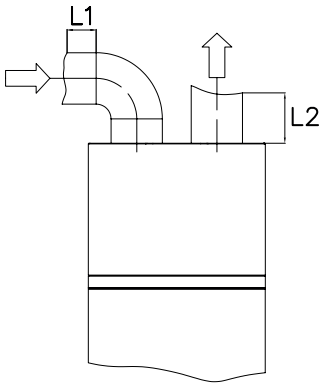
## TOTAL DUCT LENGTHS TABLE

### Vertical ducts



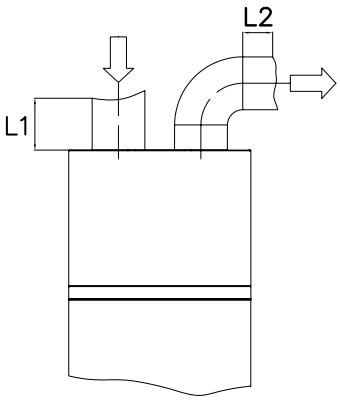

| Model | Ducts diameter | L1 + L2 |
|---|---|---|
| - | mm | m |
| MELORIA 100 | 160 | 60 |
| MELORIA 150 | 160 | 50 |
| MELORIA 190 S | 160 | 32 |
| MELORIA 300 S | 190 | 40 |

### Horizontal aspiration - vertical ejection



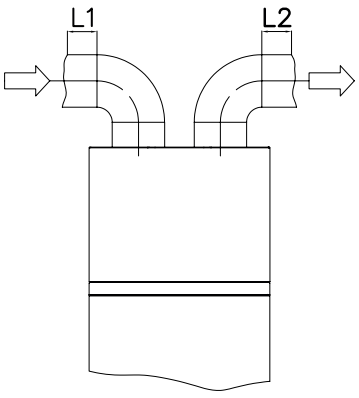

| Model | Ducts diameter | L1 + L2 |
|---|---|---|
| - | mm | m |
| MELORIA 100 | 160 | 57 |
| MELORIA 150 | 160 | 46 |
| MELORIA 190 S | 160 | 28 |
| MELORIA 300 S | 190 | 36 |

### Vertical aspiration - horizontal ejection




| Model | Ducts diameter | L1 + L2 |
|---|---|---|
| - | mm | m |
| MELORIA 100 | 160 | 57 |
| MELORIA 150 | 160 | 46 |
| MELORIA 190 S | 160 | 28 |
| MELORIA 300 S | 190 | 36 |

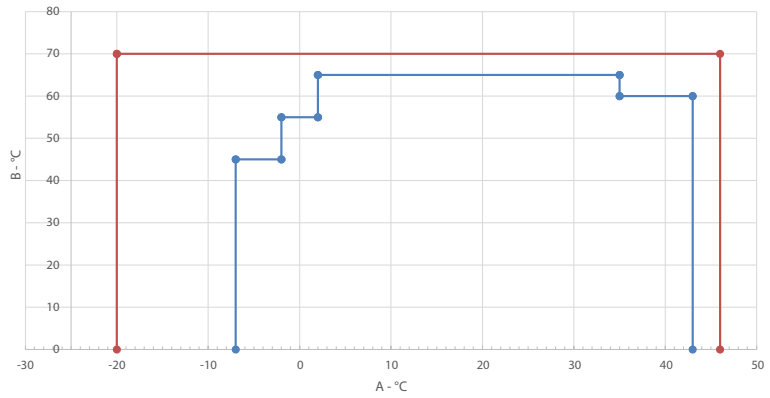
### Horizontal aspiration - horizontal ejection




| Model | Ducts diameter | L1 + L2 |
|---|---|---|
| - | mm | m |
| MELORIA 100 | 160 | 54 |
| MELORIA 150 | 160 | 42 |
| MELORIA 190 S | 160 | 24 |
| MELORIA 300 S | 190 | 32 |

## DIAGRAMS

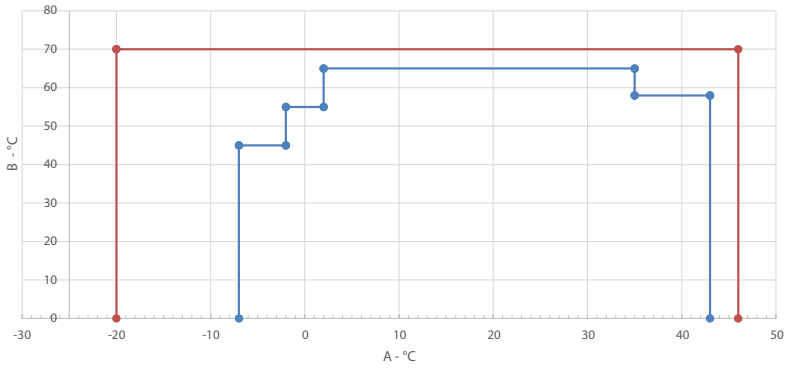
### MELORIA 100




**A**= Inlet air temperature
**B**= Hot water maximum temperature

Operating limit area - electric resistance only
Operating limit area - heat pump only

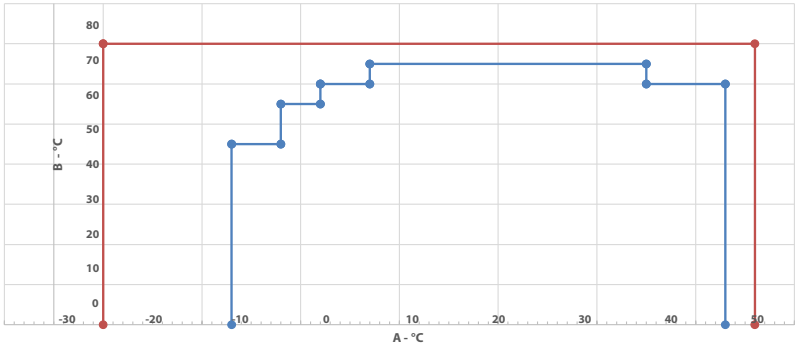
### MELORIA 150




**A**= Inlet air temperature
**B**= Hot water maximum temperature

Operating limit area - electric resistance only
Operating limit area - heat pump only

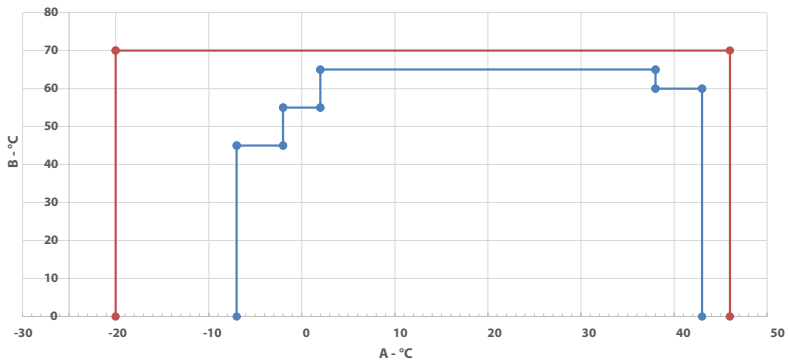
### MELORIA 190 S




**A**= Inlet air temperature
**B**= Hot water maximum temperature

Operating limit area - electric resistance only
Operating limit area - heat pump only

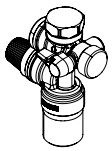
### MELORIA 300 S



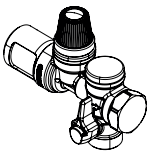

**A**= Inlet air temperature
**B**= Hot water maximum temperature

Operating limit area - electric resistance only
Operating limit area - heat pump only

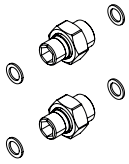
## ACCESSORIES



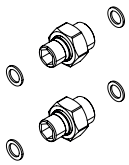
| Description | Code |
|---|---|
| Safety hydraulic unit EN 1487. Connection ½'.<br>Vertical installation under water heater.<br>Height 122 mm | DKGRUPSI00 |



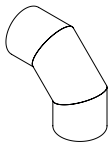
| Description | Code |
|---|---|
| Safety hydraulic unit EN 1487. Connection ¾'.<br>Configuration available according to the configuration, either vertical or horizontal use.<br>Height x Length: 100 x 130 mm (horizontal use).<br>Height x Length: 130 x 100 mm (vertical use). | DKGRUPSI01 |



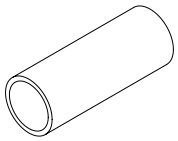
| Description | Code |
|---|---|
| Dielectric joint M/F ½' - 2 pcs.<br>Including ½' gaskets. | DKGIUDIE00 |



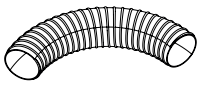
| Description | Code |
|---|---|
| Dielectric joint M/F ¾' - 2 pcs.<br>Including ¾' gaskets. | DKGIUDIE01 |



| Description | Code |
|---|---|
| Initial elbow air duct diameter 160 + connection clamp. | 0CURVAXX37 |

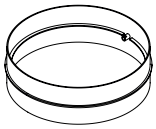


| Description | Code |
|---|---|
| Straight pipe diameter 160, 0.5 m + connection clamp. | 0PROLUNG34 |

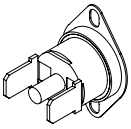


| Description | Code |
|---|---|
| Flexible air duct D 203 L 1 metre | DKCONDAR00 |

| Description | Code |
|---|---|
| Galvanised clamp D 190-210 for air duct D 203 | DKFASCET00 |



| Description | Code |
|---|---|
| Coupling D 200 | DKMANICT01 |



| Description | Code |
|---|---|
| Safety thermostat kit 80 °C with manual reset for solar integration | DKTERSIC00 |

| Description | Code |
|---|---|
| Probe kit for solar panel | DKSONDAC00 |

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# Notes

The manufacturer reserves the right to make any modifications deemed necessary without prior notification.

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FONDITAL S.p.A. Società a unico socio
Via Cerreto, 40
25079 VOBARNO (Brescia) Italia
Tel.: +39 0365 878.31 - Fax: +39 0365 878.304
E-mail: info@fondital.it - Web: www.fondital.com

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COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001•ISO 14001
ISO 45001•ISO 50001