

| Technical parameters                                                                                                                                                                                                                                                                                                     |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------|------|------------------------------------------------------------------------------------------------|--------------------|------|-------------------|--|--|--|
| Model(s):                                                                                                                                                                                                                                                                                                                | KHC-12RY3-B                                                               |       |      |                                                                                                |                    |      |                   |  |  |  |
| Air-to-water heat pump:                                                                                                                                                                                                                                                                                                  | YES                                                                       |       |      |                                                                                                |                    |      |                   |  |  |  |
| Water-to-water heat pump:                                                                                                                                                                                                                                                                                                | NO                                                                        |       |      |                                                                                                |                    |      |                   |  |  |  |
| Brine-to-water heat pump:                                                                                                                                                                                                                                                                                                | NO                                                                        |       |      |                                                                                                |                    |      |                   |  |  |  |
| Low-temperature heat pump:                                                                                                                                                                                                                                                                                               | NO                                                                        |       |      |                                                                                                |                    |      |                   |  |  |  |
| Equipped with a supplementary heater:                                                                                                                                                                                                                                                                                    | NO                                                                        |       |      |                                                                                                |                    |      |                   |  |  |  |
| Heat pump combination heater:                                                                                                                                                                                                                                                                                            | NO                                                                        |       |      |                                                                                                |                    |      |                   |  |  |  |
| Declared climate condition:                                                                                                                                                                                                                                                                                              | COLDER                                                                    |       |      |                                                                                                |                    |      |                   |  |  |  |
| Parameters are declared for medium-temperature application.                                                                                                                                                                                                                                                              |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| Item                                                                                                                                                                                                                                                                                                                     | Symbol                                                                    | Value | Unit | Item                                                                                           | Symbol             |      |                   |  |  |  |
| Rated heat output (*)                                                                                                                                                                                                                                                                                                    | P <sub>rated</sub>                                                        | 10.3  | kW   | Seasonal space heating energy efficiency                                                       | $\eta_s$           |      |                   |  |  |  |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>                                                                                                                                                                                                           |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| T <sub>j</sub> = -7°C                                                                                                                                                                                                                                                                                                    | P <sub>dh</sub>                                                           | 6.63  | kW   | T <sub>j</sub> = -7°C                                                                          | COP <sub>d</sub>   |      |                   |  |  |  |
| T <sub>j</sub> = 2°C                                                                                                                                                                                                                                                                                                     | P <sub>dh</sub>                                                           | 4.06  | kW   | T <sub>j</sub> = 2°C                                                                           | COP <sub>d</sub>   |      |                   |  |  |  |
| T <sub>j</sub> = 7°C                                                                                                                                                                                                                                                                                                     | P <sub>dh</sub>                                                           | 2.78  | kW   | T <sub>j</sub> = 7°C                                                                           | COP <sub>d</sub>   |      |                   |  |  |  |
| T <sub>j</sub> = 12°C                                                                                                                                                                                                                                                                                                    | P <sub>dh</sub>                                                           | 3.33  | kW   | T <sub>j</sub> = 12°C                                                                          | COP <sub>d</sub>   |      |                   |  |  |  |
| T <sub>j</sub> = bivalent temperature                                                                                                                                                                                                                                                                                    | P <sub>dh</sub>                                                           | 8.41  | kW   | T <sub>j</sub> = bivalent temperature                                                          | COP <sub>d</sub>   |      |                   |  |  |  |
| T <sub>j</sub> = operating limit                                                                                                                                                                                                                                                                                         | P <sub>dh</sub>                                                           | 4.19  | kW   | T <sub>j</sub> = operating limit                                                               | COP <sub>d</sub>   |      |                   |  |  |  |
| For air-to-water heat pumps: T <sub>j</sub> = -15°C                                                                                                                                                                                                                                                                      | P <sub>dh</sub>                                                           | -     | kW   | For air-to-water heat pumps: T <sub>j</sub> = -15°C                                            | COP <sub>d</sub>   |      |                   |  |  |  |
| Bivalent temperature                                                                                                                                                                                                                                                                                                     | T <sub>biv</sub>                                                          | -15   | °C   | For air-to-water heat pumps: Operation limit temperature                                       | T <sub>OL</sub>    |      |                   |  |  |  |
| Cycling interval capacity for heating                                                                                                                                                                                                                                                                                    | P <sub>cych</sub>                                                         | -     | kW   | Cycling interval efficiency                                                                    | COP <sub>cyc</sub> |      |                   |  |  |  |
| Degradation co-efficient (**)                                                                                                                                                                                                                                                                                            | C <sub>dh</sub>                                                           | 0.9   | --   | Heating water operating limit temperature                                                      | WT <sub>OL</sub>   |      |                   |  |  |  |
| Power consumption in modes other than active mode                                                                                                                                                                                                                                                                        |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| Off mode                                                                                                                                                                                                                                                                                                                 | P <sub>off</sub>                                                          | 0.020 | kW   | Supplementary heater                                                                           |                    |      |                   |  |  |  |
| Standby mode                                                                                                                                                                                                                                                                                                             | P <sub>sb</sub>                                                           | 0.020 | kW   | Rated heat output (**)                                                                         | P <sub>sup</sub>   |      |                   |  |  |  |
| Thermostat-off mode                                                                                                                                                                                                                                                                                                      | P <sub>to</sub>                                                           | 0.030 | kW   | Type of energy input                                                                           | Electrical         |      |                   |  |  |  |
| Crankcase heater mode                                                                                                                                                                                                                                                                                                    | P <sub>ck</sub>                                                           | 0.000 | kW   |                                                                                                |                    |      |                   |  |  |  |
| Other items                                                                                                                                                                                                                                                                                                              |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| Capacity control                                                                                                                                                                                                                                                                                                         | variable                                                                  |       |      | For air-to-water heat pumps: Rated air flow rate, outdoors                                     | -                  | 4060 | m <sup>3</sup> /h |  |  |  |
| Sound power level, indoors/outdoors                                                                                                                                                                                                                                                                                      | L <sub>WA</sub>                                                           | -     | dB   | For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | -                  | -    | m <sup>3</sup> /h |  |  |  |
| Annual energy consumption                                                                                                                                                                                                                                                                                                | Q <sub>HE</sub>                                                           | 8420  | kWh  |                                                                                                |                    |      |                   |  |  |  |
| For heat pump combination heater:                                                                                                                                                                                                                                                                                        |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| Declared load profile                                                                                                                                                                                                                                                                                                    | -                                                                         |       |      | Water heating energy efficiency                                                                | $\eta_{wh}$        | -    | %                 |  |  |  |
| Daily electricity consumption                                                                                                                                                                                                                                                                                            | Q <sub>clec</sub>                                                         | -     | kWh  | Daily fuel consumption                                                                         | Q <sub>fuel</sub>  | -    | kWh               |  |  |  |
| Annual electricity consumption                                                                                                                                                                                                                                                                                           | AEC                                                                       | -     | kWh  | Annual fuel consumption                                                                        | AFC                | -    | GJ                |  |  |  |
| Contact details                                                                                                                                                                                                                                                                                                          | KLIMA-THERM Sp. z o. o.<br>ul. Ostrobramska 101A, 04-041 Warszawa, Polska |       |      |                                                                                                |                    |      |                   |  |  |  |
| (*) For heat pump space heaters and heat pump combination heaters, the rated heat output P <sub>rated</sub> is equal to the design load for heating P <sub>designh</sub> , and the rated heat output of a supplementary heater P <sub>sup</sub> is equal to the supplementary capacity for heating sup(T <sub>j</sub> ). |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |
| (**) If C <sub>dh</sub> is not determined by measurement then the default degradation coefficient is C <sub>dh</sub> = 0.9.                                                                                                                                                                                              |                                                                           |       |      |                                                                                                |                    |      |                   |  |  |  |