

Subtype DC Inverter Air to Water Heat Pump Unit- R32-12AIO

|                     |  |
|---------------------|--|
| Certificate Holder  | DUKO Energie s.r.o.  |
| Address             | Šafaříkova 1737  |
| ZIP                 | 53901  |
| City                | Hlinsko  |
| Country             | CZ   |
| Certification Body  | BRE Global Limited   |
| Subtype title       | DC Inverter Air to Water Heat Pump Unit- R32-12AIO               |
| Registration number | 041-K115-06  |
| Heat Pump Type      | Outdoor Air/Water  |
| Refrigerant         | R32  |
| Mass of Refrigerant | 1.8 kg   |
| Certification Date  | 27.08.2025   |
| Testing basis       | HP KEYMARK certification scheme rules rev. no.15                 |
| Testing laboratory  | TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN |

Model Indoor unit: M12kWR32AIO; Outdoor unit: M12kWR32AIO

|                                     |   |
|-------------------------------------|---|
| Model name                          | Indoor unit: M12kWR32AIO; Outdoor unit: M12kWR32AIO |
| Application                         | Heating + DHW + low temp                            |
| Units                               | Indoor, Outdoor                                     |
| Climate zone (for heating)          | n/a   |
| Reversibility                       | Yes   |
| Cooling mode application (optional) | n/a   |
| Any additional heat sources         | n/a   |

#### General data

|                  |             |
|------------------|-------------|
| Power supply     | 1x230V 50Hz |
| Off-peak product | n/a         |

#### Outdoor Air/Water

##### EN 16147 | Operating test

|                              |   |
|------------------------------|---|
| Temperature operating range  | 2 |
| Safety devices checking test | 2 |
| Condensate draining          | 2 |

##### EN 12102-2 | Average Climate

|                           |          |
|---------------------------|----------|
| Sound power level indoor  | 46 dB(A) |
| Sound power level outdoor | 54 dB(A) |

##### EN 16147 | Average Climate

|                                 |                |
|---------------------------------|----------------|
| Declared load profile           | L              |
| Efficiency ηDHW                 | 121 %          |
| COP                             | 2.87           |
| Heating up time                 | 22:44:31 h:min |
| Standby power input             | 39.0 W         |
| Reference hot water temperature | 45.3 °C        |
| Mixed water at 40°C             | 223 l          |

##### EN 14511-4 | Heating

|  |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |

##### EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 6.67 kW         | 10.51 kW           |
| El input    | 1.35 kW         | 3.83 kW            |
| COP         | 4.93            | 2.75               |

##### EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 45 dB(A)        | 46 dB(A)           |
| Sound power level outdoor | 52 dB(A)        | 54 dB(A)           |

**EN 14825 | Average Climate**

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| $\eta_S$  | 181 %           | 132 %              |
| Prated  | 8.79 kW         | 7.07 kW            |
| SCOP  | 4.60            | 3.36               |
| Tbiv  | -7 °C           | -7 °C              |
| TOL   | -25 °C          | -25 °C             |
| Pdh Tj = -7°C                                       | 7.78 kW         | 6.26 kW            |
| COP Tj = -7°C                                       | 3.25            | 1.79               |
| Cdh Tj = -7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +2°C                                       | 4.91 kW         | 3.84 kW            |
| COP Tj = +2°C                                       | 4.46            | 3.46               |
| Cdh Tj = +2 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +7°C                                       | 4.19 kW         | 4.06 kW            |
| COP Tj = +7°C                                       | 6.16            | 4.84               |
| Cdh Tj = +7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = 12°C                                       | 5.02 kW         | 4.87 kW            |
| COP Tj = 12°C                                       | 8.24            | 6.74               |
| Cdh Tj = +12 °C                                     | 0.900           | 0.900              |
| Pdh Tj = Tbiv                                       | 7.78 kW         | 6.26 kW            |
| COP Tj = Tbiv                                       | 3.25            | 1.79               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 6.36 kW         | 5.86 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.78            | 1.78               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900           | 0.900              |
| WTOL  | 56 °C           | 56 °C              |
| Poff  | 17 W            | 9 W                |
| PTO   | 25 W            | 25 W               |
| PSB   | 17 W            | 9 W                |
| PCK   | 33 W            | 39 W               |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 2.43 kW         | 1.21 kW            |
| Annual energy consumption Qhe                       | 3944 kWh        | 4345 kWh           |