

Subtype DC Inverter Air to Water Heat Pump Unit- R32-15AIO

|                     |                                                                  |
|---------------------|------------------------------------------------------------------|
| 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- R32-15AIO               |
| Registration number | 041-K115-08                                                      |
| Heat Pump Type      | Outdoor Air/Water                                                |
| Refrigerant         | R32                                                              |
| Mass of Refrigerant | 2.6 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: M15kWR32AIO; Outdoor unit: M15WR32AIO

|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| Model name                          | Indoor unit: M15kWR32AIO; Outdoor unit: M15WR32AIO |
| 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     | 3x400V 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  | 40 dB(A) |
| Sound power level outdoor | 61 dB(A) |

##### EN 16147 | Average Climate

|                                 |               |
|---------------------------------|---------------|
| Declared load profile           | XL            |
| Efficiency $\eta_{DHW}$         | 125 %         |
| COP                             | 3.00          |
| Heating up time                 | 23:8:13 h:min |
| Standby power input             | 46.0 W        |
| Reference hot water temperature | 44.7 °C       |
| Mixed water at 40°C             | 219 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 | 9.58 kW         | 11.14 kW           |
| El input    | 1.85 kW         | 4.14 kW            |
| COP         | 5.19            | 2.69               |

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

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 35 dB(A)           |
| Sound power level outdoor | 57 dB(A)        | 61 dB(A)           |

**EN 14825 | Average Climate**

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_S$                                            | 185 %           | 127 %              |
| Prated                                              | 11.60 kW        | 11.04 kW           |
| SCOP                                                | 4.70            | 3.24               |
| Tbiv                                                | -7 °C           | -7 °C              |
| TOL                                                 | -25 °C          | -25 °C             |
| Pdh Tj = -7°C                                       | 10.26 kW        | 9.76 kW            |
| COP Tj = -7°C                                       | 3.38            | 1.89               |
| Cdh Tj = -7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +2°C                                       | 6.30 kW         | 6.11 kW            |
| COP Tj = +2°C                                       | 4.69            | 3.22               |
| Cdh Tj = +2 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +7°C                                       | 6.13 kW         | 5.93 kW            |
| COP Tj = +7°C                                       | 6.29            | 4.76               |
| Cdh Tj = +7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = 12°C                                       | 5.97 kW         | 6.92 kW            |
| COP Tj = 12°C                                       | 6.02            | 5.80               |
| Cdh Tj = +12 °C                                     | 0.900           | 0.900              |
| Pdh Tj = Tbiv                                       | 10.26 kW        | 9.76 kW            |
| COP Tj = Tbiv                                       | 3.38            | 1.89               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 11.23 kW        | 9.13 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.02            | 1.70               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900           | 0.900              |
| WTOL                                                | 56 °C           | 56 °C              |
| Poff                                                | 13 W            | 13 W               |
| PTO                                                 | 39 W            | 39 W               |
| PSB                                                 | 13 W            | 13 W               |
| PCK                                                 | 41 W            | 41 W               |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0.37 kW         | 1.91 kW            |
| Annual energy consumption Qhe                       | 5096 kWh        | 7039 kWh           |