

Subtype M thermal A series 18 22 26 30 kW

|                     |  |
|---------------------|--|
| Certificate Holder  | Immergas S.p.A.  |
| Address             | Via Cisa Ligure, 95  |
| ZIP                 | 42041  |
| City                | Brescello (RE)   |
| Country             | IT   |
| Certification Body  | BRE Global Limited   |
| Subtype title       | M thermal A series 18 22 26 30 kW                                |
| Registration number | 041-K026-04  |
| Heat Pump Type      | Outdoor Air/Water  |
| Refrigerant         | R32  |
| Mass of Refrigerant | 5 kg   |
| Certification Date  | 18.07.2022   |
| Testing basis       | Heat Pump Keymark Scheme Rules Rev 08                            |
| Testing laboratory  | TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN |

**Model MAGIS M18 T**

|                                     |                                |
|-------------------------------------|--------------------------------|
| Model name                          | MAGIS M18 T                    |
| Application                         | Heating (medium temp)          |
| Units                               | Outdoor                        |
| Climate zone (for heating)          | Warmer Climate, Colder Climate |
| 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 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 | 18.32 kW        | 18.10 kW           |
| El input    | 3.96 kW         | 6.63 kW            |
| COP         | 4.63            | 2.73               |

**EN 12102-1 | Average Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A)        | 71 dB(A)           |

**EN 14825 | Average Climate**

|                | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| $\eta_s$       | 181 %           | 125 %              |
| Prated         | 17.99 kW        | 17.67 kW           |
| SCOP           | 4.60            | 3.21               |
| Tbiv           | -7 °C           | -7 °C              |
| TOL            | -10 °C          | -10 °C             |
| Pdh Tj = -7°C  | 15.90 kW        | 15.61 kW           |
| COP Tj = -7°C  | 2.85            | 1.72               |
| Cdh Tj = -7 °C | 0.900           | 0.900              |
| Pdh Tj = +2°C  | 9.66 kW         | 9.59 kW            |
| COP Tj = +2°C  | 4.59            | 3.32               |
| Cdh Tj = +2 °C | 0.900           | 0.900              |
| Pdh Tj = +7°C  | 6.56 kW         | 6.37 kW            |

|   |             |             |
|---|-------------|-------------|
| COP Tj = +7°C                                       | 5.99        | 4.48        |
| Cdh Tj = +7 °C                                      | 0.900       | 0.900       |
| Pdh Tj = 12°C                                       | 3.76 kW     | 3.57 kW     |
| COP Tj = 12°C                                       | 7.08        | 5.27        |
| Cdh Tj = +12 °C                                     | 0.900       | 0.900       |
| Pdh Tj = Tbiv                                       | 15.90 kW    | 15.61 kW    |
| COP Tj = Tbiv                                       | 2.85        | 1.72        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 17.99 kW    | 15.00 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.49        | 1.17        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |             |             |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 18 W        | 18 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0.00 kW     | 2.64 kW     |
| Annual energy consumption Qhe                       | 8086 kWh    | 11375 kWh   |

**EN 12102-1 | Colder Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A)        | 71 dB(A)           |

**EN 14825 | Colder Climate**

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs              | 146 %           | 97 %               |
| Prated          | 17.76 kW        | 18.38 kW           |
| SCOP            | 3.73            | 2.50               |
| Tbiv            | -15 °C          | -7 °C              |
| TOL             | -22 °C          | -15 °C             |
| Pdh Tj = -7°C   | 11.21 kW        | 11.13 kW           |
| COP Tj = -7°C   | 3.09            | 1.98               |
| Cdh Tj = -7 °C  | 0.90            | 0.90               |
| Pdh Tj = +2°C   | 6.64 kW         | 6.65 kW            |
| COP Tj = +2°C   | 4.50            | 3.44               |
| Cdh Tj = + 2 °C | 0.90            | 0.90               |
| Pdh Tj = +7°C   | 4.77 kW         | 4.66 kW            |
| COP Tj = +7°C   | 5.85            | 4.35               |
| Cdh Tj = + 7 °C | 0.90            | 0.90               |
| Pdh Tj = 12°C   | 3.95 kW         | 3.74 kW            |
| COP Tj = 12°C   | 7.18            | 5.68               |
| Cdh Tj = +12 °C | 0.90            | 0.90               |
| Pdh Tj = Tbiv   | 14.49 kW        | 11.13 kW           |

|   |             |             |
|---|-------------|-------------|
| COP Tj = Tbiv                                       | 2.42        | 1.98        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.14 kW    | 13.56 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67        | 1.21        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 20 W        | 20 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 4.62 kW     | 18.38 kW    |
| Annual energy consumption Qhe                       | 11740 kWh   | 18156 kWh   |
| Pdh Tj = -15°C (if TOL)                             | 14.49       | 13.56       |
| COP Tj = -15°C (if TOL)                             | 2.42        | 1.21        |
| Cdh Tj = -15 °C                                     | 0.90        | 0.90        |

**EN 12102-1 | Warmer Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A)        | 71 dB(A)           |

**EN 14825 | Warmer Climate**

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs  | 226 %           | 157 %              |
| Prated  | 17.67 kW        | 18.07 kW           |
| SCOP  | 5.74            | 4.00               |
| Tbiv  | 7 °C            | 7 °C               |
| TOL   | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 17.67 kW        | 18.07 kW           |
| COP Tj = +2°C                                       | 3.53            | 2.12               |
| Cdh Tj = +2 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +7°C                                       | 11.36 kW        | 11.62 kW           |
| COP Tj = +7°C                                       | 5.16            | 3.49               |
| Cdh Tj = +7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = 12°C                                       | 5.45 kW         | 5.35 kW            |
| COP Tj = 12°C                                       | 7.01            | 5.09               |
| Cdh Tj = +12 °C                                     | 0.900           | 0.900              |
| Pdh Tj = Tbiv                                       | 11.36 kW        | 11.62 kW           |
| COP Tj = Tbiv                                       | 5.16            | 3.49               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 17.67 kW        | 18.07 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.53            | 2.12               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| WTOL  | 60 °C           | 60 °C              |

|  |             |             |
|--|-------------|-------------|
| Poff                                       | 18 W        | 18 W        |
| PTO  | 96 W        | 96 W        |
| PSB  | 18 W        | 18 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 0.00 kW     | 0.00 kW     |
| Annual energy consumption Qhe              | 4116 kWh    | 6041 kWh    |

**Model MAGIS M22 T**

|                                     |                                |
|-------------------------------------|--------------------------------|
| Model name                          | MAGIS M22 T                    |
| Application                         | Heating (medium temp)          |
| Units                               | Outdoor                        |
| Climate zone (for heating)          | Warmer Climate, Colder Climate |
| 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 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 | 22.30 kW        | 22.10 kW           |
| El input    | 5.13 kW         | 8.33 kW            |
| COP         | 4.35            | 2.65               |

**EN 12102-1 | Average Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A)        | 73 dB(A)           |

**EN 14825 | Average Climate**

|                | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| $\eta_s$       | 178 %           | 126 %              |
| Prated         | 22.31 kW        | 22.43 kW           |
| SCOP           | 4.53            | 3.22               |
| Tbiv           | -7 °C           | -7 °C              |
| TOL            | -10 °C          | -10 °C             |
| Pdh Tj = -7°C  | 19.72 kW        | 19.82 kW           |
| COP Tj = -7°C  | 2.74            | 1.74               |
| Cdh Tj = -7 °C | 0.90            | 0.90               |
| Pdh Tj = +2°C  | 12.03 kW        | 11.89 kW           |
| COP Tj = +2°C  | 4.41            | 3.32               |
| Cdh Tj = +2 °C | 0.90            | 0.90               |
| Pdh Tj = +7°C  | 8.00 kW         | 7.97 kW            |

|   |             |             |
|---|-------------|-------------|
| COP Tj = +7°C                                       | 6.29        | 4.66        |
| Cdh Tj = +7 °C                                      | 0.90        | 0.90        |
| Pdh Tj = 12°C                                       | 3.79 kW     | 3.60 kW     |
| COP Tj = 12°C                                       | 7.14        | 5.32        |
| Cdh Tj = +12 °C                                     | 0.90        | 0.90        |
| Pdh Tj = Tbiv                                       | 19.72 kW    | 19.82 kW    |
| COP Tj = Tbiv                                       | 2.74        | 1.74        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.33 kW    | 13.81 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35        | 1.08        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 18 W        | 18 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.97 kW     | 8.60 kW     |
| Annual energy consumption Qhe                       | 10180 kWh   | 14390 kWh   |

**EN 12102-1 | Colder Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A)        | 73 dB(A)           |

**EN 14825 | Colder Climate**

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs              | 146 %           | 102 %              |
| Prated          | 21.40 kW        | 22.36 kW           |
| SCOP            | 3.72            | 2.62               |
| Tbiv            | -15 °C          | -7 °C              |
| TOL             | -22 °C          | -15 °C             |
| Pdh Tj = -7°C   | 13.30 kW        | 13.53 kW           |
| COP Tj = -7°C   | 3.12            | 2.07               |
| Cdh Tj = -7 °C  | 0.90            | 0.90               |
| Pdh Tj = +2°C   | 8.25 kW         | 8.61 kW            |
| COP Tj = +2°C   | 4.42            | 3.70               |
| Cdh Tj = +2 °C  | 0.90            | 0.90               |
| Pdh Tj = +7°C   | 5.45 kW         | 5.21 kW            |
| COP Tj = +7°C   | 5.87            | 4.49               |
| Cdh Tj = +7 °C  | 0.90            | 0.90               |
| Pdh Tj = 12°C   | 3.98 kW         | 3.74 kW            |
| COP Tj = 12°C   | 7.19            | 5.76               |
| Cdh Tj = +12 °C | 0.90            | 0.90               |
| Pdh Tj = Tbiv   | 17.46 kW        | 13.53 kW           |
| COP Tj = Tbiv   | 2.36            | 2.07               |

|   |             |             |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.27 kW    | 13.78 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.69        | 1.24        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 20 W        | 20 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 8.13 kW     | 22.36 kW    |
| Annual energy consumption Qhe                       | 14179 kWh   | 21067 kWh   |
| Pdh Tj = -15°C (if TOL)                             | 17.46       | 13.78       |
| COP Tj = -15°C (if TOL)                             | 2.36        | 1.24        |
| Cdh Tj = -15 °C                                     | 0.90        | 0.90        |

**EN 12102-1 | Warmer Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A)        | 73 dB(A)           |

**EN 14825 | Warmer Climate**

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs  | 234 %           | 161 %              |
| Prated  | 21.90 kW        | 22.01 kW           |
| SCOP  | 5.85            | 4.09               |
| Tbiv  | 7 °C            | 7 °C               |
| TOL   | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 21.81 kW        | 22.01 kW           |
| COP Tj = +2°C                                       | 3.31            | 2.12               |
| Cdh Tj = +2 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +7°C                                       | 14.08 kW        | 14.15 kW           |
| COP Tj = +7°C                                       | 5.20            | 3.50               |
| Cdh Tj = +7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = 12°C                                       | 6.44 kW         | 6.38 kW            |
| COP Tj = 12°C                                       | 7.50            | 5.34               |
| Cdh Tj = +12 °C                                     | 0.900           | 0.900              |
| Pdh Tj = Tbiv                                       | 14.08 kW        | 14.15 kW           |
| COP Tj = Tbiv                                       | 5.20            | 3.50               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 21.81 kW        | 22.01 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.31            | 2.12               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| WTOL  | 60 °C           | 60 °C              |
| Poff  | 18 W            | 18 W               |

|  |             |             |
|--|-------------|-------------|
| PTO  | 96 W        | 96 W        |
| PSB  | 18 W        | 18 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 0.09 kW     | 0.00 kW     |
| Annual energy consumption Qhe              | 4945 kWh    | 7180 kWh    |

**Model MAGIS M26 T**

|                                     |                                |
|-------------------------------------|--------------------------------|
| Model name                          | MAGIS M26 T                    |
| Application                         | Heating (medium temp)          |
| Units                               | Outdoor                        |
| Climate zone (for heating)          | Warmer Climate, Colder Climate |
| 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 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 | 26.30 kW        | 26.06 kW           |
| El input    | 6.50 kW         | 10.72 kW           |
| COP         | 4.05            | 2.43               |

**EN 12102-1 | Average Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A)        | 75 dB(A)           |

**EN 14825 | Average Climate**

|                | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| $\eta_s$       | 177 %           | 123 %              |
| Prated         | 25.04 kW        | 26.15 kW           |
| SCOP           | 4.50            | 3.14               |
| Tbiv           | -7 °C           | -6 °C              |
| TOL            | -10 °C          | -10 °C             |
| Pdh Tj = -7°C  | 22.12 kW        | 20.64 kW           |
| COP Tj = -7°C  | 2.57            | 1.69               |
| Cdh Tj = -7 °C | 0.90            | 0.90               |
| Pdh Tj = +2°C  | 13.76 kW        | 14.26 kW           |
| COP Tj = +2°C  | 4.44            | 3.12               |
| Cdh Tj = +2 °C | 0.90            | 0.90               |
| Pdh Tj = +7°C  | 9.36 kW         | 9.29 kW            |

|   |             |             |
|---|-------------|-------------|
| COP Tj = +7°C                                       | 6.52        | 4.74        |
| Cdh Tj = +7 °C                                      | 0.90        | 0.90        |
| Pdh Tj = 12°C                                       | 4.09 kW     | 3.89 kW     |
| COP Tj = 12°C                                       | 7.35        | 5.48        |
| Cdh Tj = +12 °C                                     | 0.90        | 0.90        |
| Pdh Tj = Tbiv                                       | 22.12 kW    | 22.11 kW    |
| COP Tj = Tbiv                                       | 2.57        | 1.88        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.33 kW    | 13.86 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35        | 1.08        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 18 W        | 18 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 4.68 kW     | 12.28 kW    |
| Annual energy consumption Qhe                       | 11489 kWh   | 17204 kWh   |

**EN 12102-1 | Colder Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A)        | 75 dB(A)           |

**EN 14825 | Colder Climate**

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs              | 143 %           | 101 %              |
| Prated          | 25.75 kW        | 26.27 kW           |
| SCOP            | 3.64            | 2.59               |
| Tbiv            | -12 °C          | -7 °C              |
| TOL             | -22 °C          | -15 °C             |
| Pdh Tj = -7°C   | 15.91 kW        | 15.90 kW           |
| COP Tj = -7°C   | 3.10            | 2.10               |
| Cdh Tj = -7 °C  | 0.90            | 0.90               |
| Pdh Tj = +2°C   | 10.10 kW        | 10.17 kW           |
| COP Tj = +2°C   | 4.45            | 3.58               |
| Cdh Tj = +2 °C  | 0.90            | 0.90               |
| Pdh Tj = +7°C   | 6.30 kW         | 6.52 kW            |
| COP Tj = +7°C   | 6.06            | 4.99               |
| Cdh Tj = +7 °C  | 0.90            | 0.90               |
| Pdh Tj = 12°C   | 4.03 kW         | 3.63 kW            |
| COP Tj = 12°C   | 7.13            | 5.68               |
| Cdh Tj = +12 °C | 0.90            | 0.90               |
| Pdh Tj = Tbiv   | 18.97 kW        | 15.90 kW           |
| COP Tj = Tbiv   | 2.36            | 2.10               |

|   |             |             |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.07 kW    | 13.37 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67        | 1.20        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 20 W        | 20 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 12.68 kW    | 26.27 kW    |
| Annual energy consumption Qhe                       | 17421 kWh   | 24967 kWh   |
| Pdh Tj = -15°C (if TOL)                             | 18.95       | 13.37       |
| COP Tj = -15°C (if TOL                              | 2.27        | 1.20        |
| Cdh Tj = -15 °C                                     | 0.90        | 0.90        |

**EN 12102-1 | Warmer Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A)        | 75 dB(A)           |

**EN 14825 | Warmer Climate**

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs  | 231 %           | 168 %              |
| Prated  | 26.08 kW        | 26.22 kW           |
| SCOP  | 5.85            | 4.26               |
| Tbiv  | 7 °C            | 7 °C               |
| TOL   | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 25.50 kW        | 26.22 kW           |
| COP Tj = +2°C                                       | 3.00            | 1.99               |
| Cdh Tj = +2 °C                                      | 0.900           | 0.900              |
| Pdh Tj = +7°C                                       | 16.77 kW        | 16.86 kW           |
| COP Tj = +7°C                                       | 5.02            | 3.47               |
| Cdh Tj = +7 °C                                      | 0.900           | 0.900              |
| Pdh Tj = 12°C                                       | 7.65 kW         | 7.58 kW            |
| COP Tj = 12°C                                       | 7.78            | 5.94               |
| Cdh Tj = +12 °C                                     | 0.900           | 0.900              |
| Pdh Tj = Tbiv                                       | 16.77 kW        | 16.86 kW           |
| COP Tj = Tbiv                                       | 5.02            | 3.47               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 25.50 kW        | 26.22 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.00            | 1.99               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh |                 |                    |
| WTOL  | 60 °C           | 60 °C              |
| Poff  | 18 W            | 18 W               |

|  |             |             |
|--|-------------|-------------|
| PTO  | 96 W        | 96 W        |
| PSB  | 18 W        | 18 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 0.58 kW     | 0.00 kW     |
| Annual energy consumption Qhe              | 5959 kWh    | 8218 kWh    |

**Model MAGIS M30 T**

|                                     |                                |
|-------------------------------------|--------------------------------|
| Model name                          | MAGIS M30 T                    |
| Application                         | Heating (medium temp)          |
| Units                               | Outdoor                        |
| Climate zone (for heating)          | Warmer Climate, Colder Climate |
| 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 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 | 29.93 kW        | 29.68 kW           |
| El input    | 8.02 kW         | 12.97 kW           |
| COP         | 3.73            | 2.29               |

**EN 12102-1 | Average Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A)        | 77 dB(A)           |

**EN 14825 | Average Climate**

|                | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| $\eta_s$       | 165 %           | 123 %              |
| Prated         | 29.18 kW        | 29.69 kW           |
| SCOP           | 4.19            | 3.14               |
| Tbiv           | -5 °C           | -5 °C              |
| TOL            | -10 °C          | -10 °C             |
| Pdh Tj = -7°C  | 21.90 kW        | 20.11 kW           |
| COP Tj = -7°C  | 2.54            | 1.63               |
| Cdh Tj = -7 °C | 0.90            | 0.90               |
| Pdh Tj = +2°C  | 16.16 kW        | 16.49 kW           |
| COP Tj = +2°C  | 4.16            | 3.09               |
| Cdh Tj = +2 °C | 0.90            | 0.90               |
| Pdh Tj = +7°C  | 10.64 kW        | 10.50 kW           |

|   |             |              |
|---|-------------|--------------|
| COP Tj = +7°C                                       | 6.38        | 4.75         |
| Cdh Tj = +7 °C                                      | 0.90        | 0.90         |
| Pdh Tj = 12°C                                       | 4.54 kW     | 4.64 kW      |
| COP Tj = 12°C                                       | 7.72        | 5.91         |
| Cdh Tj = +12 °C                                     | 0.90        | 0.90         |
| Pdh Tj = Tbiv                                       | 23.51 kW    | 23.97 kW     |
| COP Tj = Tbiv                                       | 2.71        | 2.02         |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.37 kW    | 13.82 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35        | 1.07         |
| WTOL  | 60 °C       | 60 °C        |
| Poff  | 18 W        | 18 W         |
| PTO   | 96 W        | 96 W         |
| PSB   | 18 W        | 18 W         |
| PCK   | 0 W         | 0 W          |
| Supplementary Heater: Type of energy input          | Electricity | Electricity  |
| Supplementary Heater: PSUP                          | 8.75 kW     | 15.86 kW     |
| Annual energy consumption Qhe                       | 14165 kWh   | 19316.17 kWh |

**EN 12102-1 | Colder Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A)        | 77 dB(A)           |

**EN 14825 | Colder Climate**

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs              | 138 %           | 100 %              |
| Prated          | 29.13 kW        | 30.41 kW           |
| SCOP            | 3.52            | 2.56               |
| Tbiv            | -10 °C          | -7 °C              |
| TOL             | -22 °C          | -15 °C             |
| Pdh Tj = -7°C   | 18.49 kW        | 18.40 kW           |
| COP Tj = -7°C   | 3.07            | 2.10               |
| Cdh Tj = -7 °C  | 0.90            | 0.90               |
| Pdh Tj = +2°C   | 11.88 kW        | 11.22 kW           |
| COP Tj = +2°C   | 4.42            | 3.51               |
| Cdh Tj = +2 °C  | 0.90            | 0.90               |
| Pdh Tj = +7°C   | 7.53 kW         | 7.42 kW            |
| COP Tj = +7°C   | 6.15            | 5.18               |
| Cdh Tj = +7 °C  | 0.90            | 0.90               |
| Pdh Tj = 12°C   | 4.11 kW         | 3.64 kW            |
| COP Tj = 12°C   | 6.87            | 5.73               |
| Cdh Tj = +12 °C | 0.90            | 0.90               |
| Pdh Tj = Tbiv   | 19.93 kW        | 18.40 kW           |
| COP Tj = Tbiv   | 2.44            | 2.10               |

|   |             |             |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.17 kW    | 13.06 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67        | 1.18        |
| WTOL  | 60 °C       | 60 °C       |
| Poff  | 18 W        | 18 W        |
| PTO   | 96 W        | 96 W        |
| PSB   | 18 W        | 18 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 15.96 kW    | 30.41 kW    |
| Annual energy consumption Qhe                       | 20390 kWh   | 29238 kWh   |
| Pdh Tj = -15°C (if TOL                              | 18.61       | 13.06       |
| COP Tj = -15°C (if TOL                              | 2.24        | 1.18        |
| Cdh Tj = -15 °C                                     | 0.90        | 0.90        |

**EN 12102-1 | Warmer Climate**

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A)        | 77 dB(A)           |

**EN 14825 | Warmer Climate**

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs  | 213 %           | 163 %              |
| Prated  | 30.44 kW        | 29.73 kW           |
| SCOP  | 5.39            | 4.15               |
| Tbiv  | 7 °C            | 7 °C               |
| TOL   | 2 °C            | 2 °C               |
| Pdh Tj = +2°C                                       | 26.29 kW        | 26.41 kW           |
| COP Tj = +2°C                                       | 2.94            | 1.99               |
| Cdh Tj = +2 °C                                      | 0.90            | 0.90               |
| Pdh Tj = +7°C                                       | 19.57 kW        | 19.11 kW           |
| COP Tj = +7°C                                       | 4.75            | 3.37               |
| Cdh Tj = +7 °C                                      | 0.90            | 0.90               |
| Pdh Tj = 12°C                                       | 8.90 kW         | 8.92 kW            |
| COP Tj = 12°C                                       | 7.53            | 6.09               |
| Cdh Tj = +12 °C                                     | 0.90            | 0.90               |
| Pdh Tj = Tbiv                                       | 19.57 kW        | 19.11 kW           |
| COP Tj = Tbiv                                       | 4.75            | 3.37               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 26.29 kW        | 26.41 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.94            | 1.99               |
| WTOL  | 60 °C           | 60 °C              |
| Poff  | 18 W            | 18 W               |
| PTO   | 96 W            | 96 W               |
| PSB   | 18 W            | 18 W               |

|  |             |             |
|--|-------------|-------------|
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 4.15 kW     | 3.32 kW     |
| Annual energy consumption Qhe              | 7540 kWh    | 9580 kWh    |