

## Subtype Thermia Legend 17

|                     |  |
|---------------------|--|
| Certificate Holder  | Thermia                                      |
| Address             | Snickaregatan 1                              |
| ZIP                 |  |
| City                | Arvika                                       |
| Country             | SE   |
| Certification Body  | RISE CERT                                    |
| Subtype title       | Thermia Legend 17                            |
| Registration number | 012-C700140                                  |
| Heat Pump Type      | Brine/Water and Water/Water                  |
| Refrigerant         | R452B  |
| Mass of Refrigerant | 1.25 kg                                      |
| Certification Date  | 25.10.2022                                   |
| Testing basis       | EN 14511:2018, EN 14825:2018, EN 12102:2017. |

## Model Thermia Legend 17 Duo 400V

|                                     |  |
|-------------------------------------|--|
| Model name                          | Thermia Legend 17 Duo 400V                     |
| Application                         | Heating (medium temp)                          |
| Units                               | Indoor   |
| Climate zone (for heating)          | Colder, Warmer, Warmer Climate, Colder Climate |
| Cooling mode application (optional) | n/a  |
| Any additional heat sources         | n/a  |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 3x400V 50Hz |
| Off-peak product | Yes         |

## Brine/Water

## EN 14511-4 | Heating

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

## EN 12102-1 | Average Climate

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

## EN 14825 | Average Climate

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| $\eta_s$  | 184 %           | 140 %              |
| Prated  | 18.14 kW        | 19.84 kW           |
| SCOP  | 4.79            | 3.70               |
| Tbiv  | -8 °C           | -5 °C              |
| TOL   | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 16.77 kW        | 15.92 kW           |
| COP Tj = -7°C                                       | 4.54            | 3.16               |
| Cdh Tj = -7 °C                                      | 0.997           | 0.998              |
| Pdh Tj = +2°C                                       | 17.06 kW        | 16.25 kW           |
| COP Tj = +2°C                                       | 4.78            | 3.71               |
| Cdh Tj = +2 °C                                      | 0.997           | 0.998              |
| Pdh Tj = +7°C                                       | 17.24 kW        | 16.46 kW           |
| COP Tj = +7°C                                       | 5.01            | 4.08               |
| Cdh Tj = +7 °C                                      | 0.997           | 0.998              |
| Pdh Tj = 12°C                                       | 17.18 kW        | 16.72 kW           |
| COP Tj = 12°C                                       | 5.19            | 4.50               |
| Cdh Tj = +12 °C                                     | 0.997           | 0.997              |
| Pdh Tj = Tbiv                                       | 16.74 kW        | 16.03 kW           |
| COP Tj = Tbiv                                       | 4.50            | 3.32               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 16.69 kW        | 15.77 kW           |

|   |             |             |
|---|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.43        | 2.96        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.998       | 0.998       |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 6 W         | 6 W         |
| PTO   | 10 W        | 10 W        |
| PSB   | 10 W        | 10 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.45 kW     | 4.07 kW     |
| Annual energy consumption Qhe                       | 7818 kWh    | 11065 kWh   |

#### EN 12102-1 | Colder Climate

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

#### EN 14825 | Colder Climate

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| $\eta_s$  | 189 %           | 144 %              |
| Prated  | 18.86 kW        | 19.03 kW           |
| SCOP  | 4.92            | 3.80               |
| Tbiv  | -18 °C          | -16 °C             |
| TOL   | -22 °C          | -22 °C             |
| Pdh Tj = -7°C                                       | 17.13 kW        | 16.18 kW           |
| COP Tj = -7°C                                       | 4.84            | 3.58               |
| Cdh Tj = -7 °C                                      | 0.997           | 0.998              |
| Pdh Tj = +2°C                                       | 17.23 kW        | 16.42 kW           |
| COP Tj = +2°C                                       | 5.03            | 3.99               |
| Cdh Tj = +2 °C                                      | 0.997           | 0.998              |
| Pdh Tj = +7°C                                       | 17.19 kW        | 16.64 kW           |
| COP Tj = +7°C                                       | 5.14            | 4.36               |
| Cdh Tj = +7 °C                                      | 0.997           | 0.998              |
| Pdh Tj = 12°C                                       | 17.19 kW        | 16.82 kW           |
| COP Tj = 12°C                                       | 5.17            | 4.68               |
| Cdh Tj = +12 °C                                     | 0.997           | 0.997              |
| Pdh Tj = Tbiv                                       | 16.88 kW        | 16.02 kW           |
| COP Tj = Tbiv                                       | 4.63            | 3.31               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 16.69 kW        | 15.77 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.43            | 2.96               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.998           | 0.998              |
| WTOL  | 65 °C           | 65 °C              |
| Poff  | 6 W             | 6 W                |

|  |             |             |
|--|-------------|-------------|
| PTO  | 10 W        | 10 W        |
| PSB  | 10 W        | 10 W        |
| PCK  | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP                 | 2.17 kW     | 3.26 kW     |
| Annual energy consumption Q <sub>he</sub>  | 9456 kWh    | 12345 kWh   |

#### EN 12102-1 | Warmer Climate

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

#### EN 14825 | Warmer Climate

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| $\eta_s$  | 185 %           | 141 %              |
| Prated  | 19.67 kW        | 18.61 kW           |
| SCOP  | 4.84            | 3.73               |
| T <sub>biv</sub>  | 4 °C            | 4 °C               |
| TOL   | 2 °C            | 2 °C               |
| P <sub>dh</sub> T <sub>j</sub> = +2°C   | 16.69 kW        | 15.77 kW           |
| COP T <sub>j</sub> = +2°C   | 4.43            | 2.96               |
| C <sub>dh</sub> T <sub>j</sub> = +2 °C  | 0.998           | 0.998              |
| P <sub>dh</sub> T <sub>j</sub> = +7°C   | 17.03 kW        | 16.10 kW           |
| COP T <sub>j</sub> = +7°C   | 4.76            | 3.45               |
| C <sub>dh</sub> T <sub>j</sub> = +7 °C  | 0.997           | 0.998              |
| P <sub>dh</sub> T <sub>j</sub> = 12°C   | 17.21 kW        | 16.53 kW           |
| COP T <sub>j</sub> = 12°C   | 5.08            | 4.20               |
| C <sub>dh</sub> T <sub>j</sub> = +12 °C   | 0.997           | 0.998              |
| P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>   | 16.86 kW        | 15.95 kW           |
| COP T <sub>j</sub> = T <sub>biv</sub>   | 4.61            | 3.20               |
| P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> | 16.69 kW        | 15.77 kW           |
| COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>                         | 4.43            | 2.96               |
| C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub> | 0.998           | 0.998              |
| WTOL  | 65 °C           | 65 °C              |
| P <sub>off</sub>  | 6 W             | 6 W                |
| PTO   | 10 W            | 10 W               |
| PSB   | 10 W            | 10 W               |
| PCK   | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input  | Electricity     | Electricity        |
| Supplementary Heater: PSUP  | 2.98 kW         | 2.84 kW            |
| Annual energy consumption Q <sub>he</sub>   | 5433 kWh        | 6658 kWh           |

#### Water/Water

#### EN 14511-4 | Heating

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

#### EN 14825 | Average Climate

|   | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| $\eta_s$  | 213 %           | 178 %              |
| Prated  | 21.73 kW        | 24.86 kW           |
| SCOP  | 5.51            | 4.64               |
| Tbiv  | -9 °C           | -6 °C              |
| TOL   | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 20.82 kW        | 20.94 kW           |
| COP Tj = -7°C                                       | 5.41            | 3.96               |
| Cdh Tj = -7 °C                                      | 0.997           | 0.997              |
| Pdh Tj = +2°C                                       | 20.59 kW        | 21.51 kW           |
| COP Tj = +2°C                                       | 5.53            | 4.68               |
| Cdh Tj = +2 °C                                      | 0.996           | 0.997              |
| Pdh Tj = +7°C                                       | 20.31 kW        | 21.60 kW           |
| COP Tj = +7°C                                       | 5.65            | 5.11               |
| Cdh Tj = +7 °C                                      | 0.996           | 0.997              |
| Pdh Tj = 12°C                                       | 19.97 kW        | 21.41 kW           |
| COP Tj = 12°C                                       | 5.75            | 5.49               |
| Cdh Tj = +12 °C                                     | 0.996           | 0.997              |
| Pdh Tj = Tbiv                                       | 20.89 kW        | 21.03 kW           |
| COP Tj = Tbiv                                       | 5.35            | 4.07               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.95 kW        | 20.68 kW           |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 5.31            | 3.68               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997           | 0.998              |
| WTOL  | 65 °C           | 65 °C              |
| Poff  | 8 W             | 8 W                |
| PTO   | 14 W            | 14 W               |
| PSB   | 14 W            | 14 W               |
| PCK   | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0.78 kW         | 4.18 kW            |
| Annual energy consumption Qhe                       | 8141 kWh        | 11062 kWh          |

#### EN 14825 | Colder Climate

|          | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| $\eta_s$ | 215 %           | 182 %              |
| Prated   | 22.57 kW        | 24.24 kW           |
| SCOP     | 5.58            | 4.76               |
| Tbiv     | -19 °C          | -17 °C             |

|   |             |             |
|---|-------------|-------------|
| TOL   | -22 °C      | -22 °C      |
| Pdh Tj = -7°C                                       | 20.53 kW    | 21.39 kW    |
| COP Tj = -7°C                                       | 5.57        | 4.51        |
| Cdh Tj = -7 °C                                      | 0.996       | 0.997       |
| Pdh Tj = +2°C                                       | 20.28 kW    | 21.58 kW    |
| COP Tj = +2°C                                       | 5.66        | 5.01        |
| Cdh Tj = +2 °C                                      | 0.996       | 0.997       |
| Pdh Tj = +7°C                                       | 20.05 kW    | 21.49 kW    |
| COP Tj = +7°C                                       | 5.72        | 5.37        |
| Cdh Tj = +7 °C                                      | 0.996       | 0.997       |
| Pdh Tj = 12°C                                       | 20.01 kW    | 21.32 kW    |
| COP Tj = 12°C                                       | 5.74        | 5.63        |
| Cdh Tj = +12 °C                                     | 0.996       | 0.997       |
| Pdh Tj = Tbiv                                       | 20.79 kW    | 21.05 kW    |
| COP Tj = Tbiv                                       | 5.43        | 4.08        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.95 kW    | 20.68 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 5.31        | 3.68        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997       | 0.998       |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 8 W         | 8 W         |
| PTO   | 14 W        | 14 W        |
| PSB   | 14 W        | 14 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.62 kW     | 3.56 kW     |
| Annual energy consumption Qhe                       | 9978 kWh    | 12556 kWh   |

#### EN 14825 | Warmer Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 213 %           | 179 %              |
| Prated          | 22.45 kW        | 24.49 kW           |
| SCOP            | 5.53            | 4.67               |
| Tbiv            | 3 °C            | 4 °C               |
| TOL             | 2 °C            | 2 °C               |
| Pdh Tj = +2°C   | 20.95 kW        | 20.68 kW           |
| COP Tj = +2°C   | 5.31            | 3.68               |
| Cdh Tj = +2 °C  | 0.997           | 0.998              |
| Pdh Tj = +7°C   | 20.64 kW        | 21.27 kW           |
| COP Tj = +7°C   | 5.51            | 4.35               |
| Cdh Tj = +7 °C  | 0.996           | 0.997              |
| Pdh Tj = 12°C   | 20.18 kW        | 21.58 kW           |
| COP Tj = 12°C   | 5.69            | 5.24               |
| Cdh Tj = +12 °C | 0.996           | 0.997              |

|   |             |             |
|---|-------------|-------------|
| Pdh Tj = Tbiv                                       | 20.84 kW    | 20.99 kW    |
| COP Tj = Tbiv                                       | 5.39        | 4.01        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.95 kW    | 20.68 kW    |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 5.31        | 3.68        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997       | 0.998       |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 8 W         | 8 W         |
| PTO   | 14 W        | 14 W        |
| PSB   | 14 W        | 14 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 1.50 kW     | 3.81 kW     |
| Annual energy consumption Qhe                       | 5427 kWh    | 7010 kWh    |