

## Subtype ESTIA HWT-1401H8

|                     |   |
|---------------------|---|
| Certificate Holder  | TOSHIBA AIR CONDITIONING                              |
| Address             | Porsham Close, Belliver Industrial Estate             |
| ZIP                 | PL6 7DB   |
| City                | Plymouth  |
| Country             | GB  |
| Certification Body  | DIN CERTCO Gesellschaft für Konformitätsbewertung mbH |
| Subtype title       | ESTIA HWT-1401H8                                      |
| Registration number | 011-1W0609  |
| Heat Pump Type      | Outdoor Air/Water                                     |
| Refrigerant         | R32   |
| Mass of Refrigerant | 1.4 kg  |
| Certification Date  | 11.07.2023  |
| Testing basis       | HP KEYMARK certification scheme rules V11             |

## Model HWT-1401H8W-E / HWT-1401XWHM3W-E

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Model name                          | HWT-1401H8W-E / HWT-1401XWHM3W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
| COP Tj = +2°C   | 4.55            | 3.34               |
| Cdh Tj = +2 °C  | 0.96            | 0.97               |
| Pdh Tj = +7°C   | 3.97 kW         | 3.86 kW            |
| COP Tj = +7°C   | 6.27            | 4.76               |
| Cdh Tj = +7 °C  | 0.92            | 0.93               |
| Pdh Tj = 12°C   | 4.28 kW         | 4.24 kW            |
| COP Tj = 12°C   | 9.16            | 7.27               |
| Cdh Tj = +12 °C | 0.9             | 0.9                |
| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |

|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.68        | 2.21        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.88 kW    | 9.35 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.63        | 2.01        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| P <sub>off</sub>  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Q <sub>he</sub>                               | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8W-E / HWT-1401XWHM6W-E

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Model name                          | HWT-1401H8W-E / HWT-1401XWHM6W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
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| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |

|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.68        | 2.21        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.88 kW    | 9.35 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.63        | 2.01        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| P <sub>off</sub>  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Q <sub>he</sub>                               | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8W-E / HWT-1401XWHT6W-E

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Model name                          | HWT-1401H8W-E / HWT-1401XWHT6W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
| COP Tj = +2°C   | 4.55            | 3.34               |
| Cdh Tj = +2 °C  | 0.96            | 0.97               |
| Pdh Tj = +7°C   | 3.97 kW         | 3.86 kW            |
| COP Tj = +7°C   | 6.27            | 4.76               |
| Cdh Tj = +7 °C  | 0.92            | 0.93               |
| Pdh Tj = 12°C   | 4.28 kW         | 4.24 kW            |
| COP Tj = 12°C   | 9.16            | 7.27               |
| Cdh Tj = +12 °C | 0.9             | 0.9                |
| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |

|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.68        | 2.21        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.88 kW    | 9.35 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.63        | 2.01        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| P <sub>off</sub>  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Q <sub>he</sub>                               | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8W-E / HWT-1401XWHT9W-E

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Model name                          | HWT-1401H8W-E / HWT-1401XWHT9W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

## EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
| COP Tj = +2°C   | 4.55            | 3.34               |
| Cdh Tj = +2 °C  | 0.96            | 0.97               |
| Pdh Tj = +7°C   | 3.97 kW         | 3.86 kW            |
| COP Tj = +7°C   | 6.27            | 4.76               |
| Cdh Tj = +7 °C  | 0.92            | 0.93               |
| Pdh Tj = 12°C   | 4.28 kW         | 4.24 kW            |
| COP Tj = 12°C   | 9.16            | 7.27               |
| Cdh Tj = +12 °C | 0.9             | 0.9                |
| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |



|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.68        | 2.21        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.88 kW    | 9.35 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.63        | 2.01        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| P <sub>off</sub>  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Q <sub>he</sub>                               | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8RW-E / HWT-1401XWHM3W-E

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Model name                          | HWT-1401H8RW-E / HWT-1401XWHM3W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

## EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
| COP Tj = +2°C   | 4.55            | 3.34               |
| Cdh Tj = +2 °C  | 0.96            | 0.97               |
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| COP Tj = +7°C   | 6.27            | 4.76               |
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| Pdh Tj = 12°C   | 4.28 kW         | 4.24 kW            |
| COP Tj = 12°C   | 9.16            | 7.27               |
| Cdh Tj = +12 °C | 0.9             | 0.9                |
| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |

|   |             |             |
|---|-------------|-------------|
| COP Tj = Tbiv                                       | 2.68        | 2.21        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.88 kW    | 9.35 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.63        | 2.01        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Qhe                       | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8RW-E / HWT-1401XWHM6W-E

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Model name                          | HWT-1401H8RW-E / HWT-1401XWHM6W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
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| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
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|   |             |             |
|---|-------------|-------------|
| COP Tj = Tbiv                                       | 2.68        | 2.21        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.88 kW    | 9.35 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.63        | 2.01        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Qhe                       | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8RW-E / HWT-1401XWHT6W-E

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Model name                          | HWT-1401H8RW-E / HWT-1401XWHT6W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

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|   |             |             |
|---|-------------|-------------|
| COP Tj = Tbiv                                       | 2.68        | 2.21        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.88 kW    | 9.35 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.63        | 2.01        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| Poff  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Qhe                       | 5053 kWh    | 6567 kWh    |

## Model HWT-1401H8RW-E / HWT-1401XWHT9W-E

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Model name                          | HWT-1401H8RW-E / HWT-1401XWHT9W-E |
| Application                         | Heating (medium 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 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 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 62 dB(A)        | 62 dB(A)           |

### EN 14825 | Average Climate

|                 | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| $\eta_s$        | 183 %           | 138 %              |
| Prated          | 11 kW           | 11 kW              |
| SCOP            | 4.57            | 3.55               |
| Tbiv            | -7 °C           | -7 °C              |
| TOL             | -10 °C          | -10 °C             |
| Pdh Tj = -7°C   | 10.06 kW        | 9.93 kW            |
| COP Tj = -7°C   | 2.68            | 2.21               |
| Cdh Tj = -7 °C  | 0.99            | 0.99               |
| Pdh Tj = +2°C   | 6.23 kW         | 6.24 kW            |
| COP Tj = +2°C   | 4.55            | 3.34               |
| Cdh Tj = +2 °C  | 0.96            | 0.97               |
| Pdh Tj = +7°C   | 3.97 kW         | 3.86 kW            |
| COP Tj = +7°C   | 6.27            | 4.76               |
| Cdh Tj = +7 °C  | 0.92            | 0.93               |
| Pdh Tj = 12°C   | 4.28 kW         | 4.24 kW            |
| COP Tj = 12°C   | 9.16            | 7.27               |
| Cdh Tj = +12 °C | 0.9             | 0.9                |
| Pdh Tj = Tbiv   | 10.06 kW        | 9.93 kW            |



|   |             |             |
|---|-------------|-------------|
| COP $T_j = T_{biv}$   | 2.68        | 2.21        |
| $P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 10.88 kW    | 9.35 kW     |
| COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$       | 2.63        | 2.01        |
| $C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$ | 0.89        | 0.91        |
| WTOL  | 65 °C       | 65 °C       |
| P <sub>off</sub>  | 11 W        | 11 W        |
| PTO   | 52 W        | 52 W        |
| PSB   | 11 W        | 11 W        |
| PCK   | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input                              | Electricity | Electricity |
| Supplementary Heater: PSUP  | 0.12 kW     | 1.7 kW      |
| Annual energy consumption Q <sub>he</sub>                               | 5053 kWh    | 6567 kWh    |