





**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-****D                   |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | yes                             |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | average climate conditions.     |


| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 135   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 8.9   | kW   | Tj = - 7 °C  | COPd       | 2.18  | -    |
| Degradation co-efficient (**)  | Cdh      | 1.00  | -    | Tj = + 2 °C  | COPd       | 3.27  | -    |
| Tj = + 2 °C  | Pdh      | 5.4   | kW   | Tj = + 7 °C  | COPd       | 4.81  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = +12 °C  | COPd       | 7.06  | -    |
| Tj = + 7 °C  | Pdh      | 5.2   | kW   | Tj = bivalent temperature  | COPd       | 1.91  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 1.91  | -    |
| Tj = +12 °C  | Pdh      | 3.6   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | -10   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -10   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 5975    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 148 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |     |   |  |

Contact details: MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:



Atsushi EDAYOSHI  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.  
 · Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.  
 (\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |                              |                     |
|---------------------------------------|------------------------------|---------------------|
| Model(s):                             | Outdoor unit:                | PUD-SHWM100YAA(-BS) |
|                                       | Indoor unit:                 | EHST20D-****D       |
| Air-to-water heat pump:               | yes                          |                     |
| Water-to-water heat pump:             | no                           |                     |
| Brine-to-water heat pump:             | no                           |                     |
| Low-temperature heat pump:            | no                           |                     |
| Equipped with a supplementary heater: | yes                          |                     |
| Heat pump combination heater:         | yes                          |                     |
| Parameters for                        | low-temperature application. |                     |
| Parameters for                        | average climate conditions.  |                     |

| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 178   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 8.9   | kW   | Tj = - 7 °C  | COPd       | 3.16  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = + 2 °C  | COPd       | 4.45  | -    |
| Tj = + 2 °C  | Pdh      | 5.7   | kW   | Tj = + 7 °C  | COPd       | 5.63  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = +12 °C  | COPd       | 7.89  | -    |
| Tj = + 7 °C  | Pdh      | 5.4   | kW   | Tj = bivalent temperature  | COPd       | 2.92  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 2.92  | -    |
| Tj = +12 °C  | Pdh      | 4.5   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | -10   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -10   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 4571    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 148 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |     |   |  |

Contact details

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Atsushi EDAYOSHI

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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-****D                   |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | yes                             |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | colder climate conditions.      |

| Item   | Symbol               | Value | Unit | Item   | Symbol           | Value | Unit |
|--|----------------------|-------|------|--|------------------|-------|------|
| Rated heat output (*)  | Prated               | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$         | 114   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                      |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                  |       |      |
| T <sub>j</sub> = - 7 °C  | P <sub>d,h</sub>     | 6.1   | kW   | T <sub>j</sub> = - 7 °C  | COP <sub>d</sub> | 2.70  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.99  | -    | T <sub>j</sub> = + 2 °C  | COP <sub>d</sub> | 3.30  | -    |
| T <sub>j</sub> = + 2 °C  | P <sub>d,h</sub>     | 3.7   | kW   | T <sub>j</sub> = + 7 °C  | COP <sub>d</sub> | 4.65  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.98  | -    | T <sub>j</sub> = +12 °C  | COP <sub>d</sub> | 6.88  | -    |
| T <sub>j</sub> = + 7 °C  | P <sub>d,h</sub>     | 3.8   | kW   | T <sub>j</sub> = bivalent temperature  | COP <sub>d</sub> | 1.56  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97  | -    | T <sub>j</sub> = operation limit temperature (***)   | COP <sub>d</sub> | 1.57  | -    |
| T <sub>j</sub> = +12 °C  | P <sub>d,h</sub>     | 4.4   | kW   | T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | COP <sub>d</sub> | 1.56  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97  | -    | Operation limit temperature  | TOL              | -28   | °C   |
| T <sub>j</sub> = bivalent temperature  | P <sub>d,h</sub>     | 8.4   | kW   | Heating water operating limit temperature  | WTOL             | 60    | °C   |
| T <sub>j</sub> = operation limit temperature (***)   | P <sub>d,h</sub>     | 8.1   | kW   | Supplementary heater   |                  |       |      |
| T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | P <sub>d,h</sub>     | 8.5   | kW   | Rated heat output (*)  | P <sub>sup</sub> | 2.0   | kW   |
| Bivalent temperature   | T <sub>biv</sub>     | -16   | °C   | Type of energy input   | Electrical       |       |      |
| Reference design conditions for space heating  | T <sub>designh</sub> | -22   | °C   | Power consumption in modes other than active mode  |                  |       |      |
| Off mode   |                      |       |      | P <sub>OFF</sub>   |                  |       |      |
| Thermostat-off mode  |                      |       |      | P <sub>TO</sub>  |                  |       |      |
| Standby mode   |                      |       |      | P <sub>SB</sub>  |                  |       |      |
| Crankcase heater mode  |                      |       |      | P <sub>CK</sub>  |                  |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 8411    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     |                                 |     |   |  |
| Declared load profile             |                   |       |     | Water heating energy efficiency |     |   |  |
| L                                 |                   |       |     | $\eta_{wh}$                     | 120 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 4.090 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 900   | kWh |                                 |     |   |  |

|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
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|-----------------|--|--|--|--|--|

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UNITED KINGDOM

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(T<sub>j</sub>).

(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | EHST20D-****D                |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | yes                          |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | colder climate conditions.   |

| Item   | Symbol               | Value | Unit | Item   | Symbol           | Value | Unit |
|--|----------------------|-------|------|--|------------------|-------|------|
| Rated heat output (*)  | Prated               | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$         | 148   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                      |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                  |       |      |
| T <sub>j</sub> = - 7 °C  | P <sub>d,h</sub>     | 6.2   | kW   | T <sub>j</sub> = - 7 °C  | COP <sub>d</sub> | 3.78  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.99  | -    | T <sub>j</sub> = + 2 °C  | COP <sub>d</sub> | 4.07  | -    |
| T <sub>j</sub> = + 2 °C  | P <sub>d,h</sub>     | 3.9   | kW   | T <sub>j</sub> = + 7 °C  | COP <sub>d</sub> | 5.45  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.98  | -    | T <sub>j</sub> = +12 °C  | COP <sub>d</sub> | 7.50  | -    |
| T <sub>j</sub> = + 7 °C  | P <sub>d,h</sub>     | 3.9   | kW   | T <sub>j</sub> = bivalent temperature  | COP <sub>d</sub> | 2.15  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97  | -    | T <sub>j</sub> = operation limit temperature (***)   | COP <sub>d</sub> | 1.86  | -    |
| T <sub>j</sub> = +12 °C  | P <sub>d,h</sub>     | 4.5   | kW   | T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | COP <sub>d</sub> | 2.20  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.96  | -    | Operation limit temperature  | TOL              | -28   | °C   |
| T <sub>j</sub> = bivalent temperature  | P <sub>d,h</sub>     | 8.4   | kW   | Heating water operating limit temperature  | WTOL             | 60    | °C   |
| T <sub>j</sub> = operation limit temperature (***)   | P <sub>d,h</sub>     | 8.1   | kW   | Supplementary heater   |                  |       |      |
| T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | P <sub>d,h</sub>     | 8.5   | kW   | Rated heat output (*)  | P <sub>sup</sub> | 2.0   | kW   |
| Bivalent temperature   | T <sub>biv</sub>     | -16   | °C   | Type of energy input   | Electrical       |       |      |
| Reference design conditions for space heating  | T <sub>designh</sub> | -22   | °C   | Power consumption in modes other than active mode  |                  |       |      |
| Off mode   |                      |       |      | P <sub>OFF</sub>   |                  |       |      |
| Thermostat-off mode  |                      |       |      | P <sub>TO</sub>  |                  |       |      |
| Standby mode   |                      |       |      | P <sub>SB</sub>  |                  |       |      |
| Crankcase heater mode  |                      |       |      | P <sub>CK</sub>  |                  |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 6517    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     |                                 |     |   |  |
| Declared load profile             |                   |       |     | Water heating energy efficiency |     |   |  |
| L                                 |                   |       |     | $\eta_{wh}$                     | 120 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 4.090 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 900   | kWh |                                 |     |   |  |

|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
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(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-****D                   |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | yes                             |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | warmer climate conditions.      |

| Item   | Symbol           | Value | Unit | Item   | Symbol     | Value | Unit |
|--|------------------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated           | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 161   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |                  |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh              | -     | kW   | Tj = - 7 °C  | COPd       | -     | -    |
| Degradation co-efficient (**)  | Cdh              | -     | -    | Tj = + 2 °C  | COPd       | 2.05  | -    |
| Tj = + 2 °C  | Pdh              | 10.0  | kW   | Tj = + 7 °C  | COPd       | 3.56  | -    |
| Degradation co-efficient (**)  | Cdh              | 1.00  | -    | Tj = +12 °C  | COPd       | 5.70  | -    |
| Tj = + 7 °C  | Pdh              | 6.4   | kW   | Tj = bivalent temperature  | COPd       | 2.05  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.99  | -    | Tj = operation limit temperature (***)   | COPd       | 2.05  | -    |
| Tj = +12 °C  | Pdh              | 4.2   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh              | 0.97  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh              | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh              | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv             | 2     | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh         | 2     | °C   |  |            |       |      |
| Power consumption in modes other than active mode  |                  |       |      |  |            |       |      |
| Off mode   | P <sub>OFF</sub> | 0.022 | kW   |  |            |       |      |
| Thermostat-off mode  | P <sub>TO</sub>  | 0.022 | kW   |  |            |       |      |
| Standby mode   | P <sub>SB</sub>  | 0.022 | kW   |  |            |       |      |
| Crankcase heater mode  | P <sub>CK</sub>  | 0.000 | kW   |  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Other items                         |                 |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Capacity control                    | variable        |         |     |                               |   |      |                   |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 3252    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |             |     |   |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-------------|-----|---|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency | $\eta_{wh}$ | 162 | % |
| Declared load profile             | L                 |       |     |                                 |             |     |   |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.070 | kWh |                                 |             |     |   |
| Annual electricity consumption    | AEC               | 675   | kWh |                                 |             |     |   |

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.      Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

Atsushi EDAYOSHI

The signature is signed in the average climate / medium-temperature section.

Manager, Quality Assurance Department

UNITED KINGDOM

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· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | EHST20D-****D                |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | yes                          |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | warmer climate conditions.   |

| Item   | Symbol           | Value | Unit | Item   | Symbol     | Value | Unit |
|--|------------------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated           | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 232   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |                  |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh              | -     | kW   | Tj = - 7 °C  | COPd       | -     | -    |
| Degradation co-efficient (**)  | Cdh              | -     | -    | Tj = + 2 °C  | COPd       | 3.45  | -    |
| Tj = + 2 °C  | Pdh              | 10.0  | kW   | Tj = + 7 °C  | COPd       | 5.57  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.99  | -    | Tj = +12 °C  | COPd       | 7.55  | -    |
| Tj = + 7 °C  | Pdh              | 6.4   | kW   | Tj = bivalent temperature  | COPd       | 3.45  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 3.45  | -    |
| Tj = +12 °C  | Pdh              | 4.4   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh              | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh              | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh              | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv             | 2     | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh         | 2     | °C   |  |            |       |      |
| Power consumption in modes other than active mode  |                  |       |      |  |            |       |      |
| Off mode   | P <sub>OFF</sub> | 0.022 | kW   |  |            |       |      |
| Thermostat-off mode  | P <sub>TO</sub>  | 0.022 | kW   |  |            |       |      |
| Standby mode   | P <sub>SB</sub>  | 0.022 | kW   |  |            |       |      |
| Crankcase heater mode  | P <sub>CK</sub>  | 0.000 | kW   |  |            |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 2273    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 162 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.070 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 675   | kWh |                                 |     |   |  |

Contact details  
 MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.      Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;  
 Atsushi EDAYOSHI  
 The signature is signed in the average climate / medium-temperature section.  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.  
 · Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.  
 (\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.



**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-MED                     |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | no                              |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | average climate conditions.     |

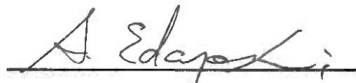
| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 135   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 8.9   | kW   | Tj = - 7 °C  | COPd       | 2.18  | -    |
| Degradation co-efficient (**)  | Cdh      | 1.00  | -    | Tj = + 2 °C  | COPd       | 3.27  | -    |
| Tj = + 2 °C  | Pdh      | 5.4   | kW   | Tj = + 7 °C  | COPd       | 4.81  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = +12 °C  | COPd       | 7.06  | -    |
| Tj = + 7 °C  | Pdh      | 5.2   | kW   | Tj = bivalent temperature  | COPd       | 1.91  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 1.91  | -    |
| Tj = +12 °C  | Pdh      | 3.6   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | -10   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -10   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 5975    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 148 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |     |   |  |

Contact details: MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:



Atsushi EDAYOSHI  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

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 · Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.  
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 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | EHST20D-MED                  |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | no                           |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | average climate conditions.  |

| Item   | Symbol           | Value   | Unit | Item   | Symbol          | Value | Unit |
|--|------------------|---------|------|--|-----------------|-------|------|
| Rated heat output (*)  | Prated           | 10.0    | kW   | Seasonal space heating energy efficiency   | $\eta_s$        | 178   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |                  |         |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |                 |       |      |
| Tj = - 7 °C  | Pdh              | 8.9     | kW   | Tj = - 7 °C  | COPd            | 3.16  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.99    | -    | Tj = + 2 °C  | COPd            | 4.45  | -    |
| Tj = + 2 °C  | Pdh              | 5.7     | kW   | Tj = + 7 °C  | COPd            | 5.63  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.98    | -    | Tj = +12 °C  | COPd            | 7.89  | -    |
| Tj = + 7 °C  | Pdh              | 5.4     | kW   | Tj = bivalent temperature  | COPd            | 2.92  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.98    | -    | Tj = operation limit temperature (***)   | COPd            | 2.92  | -    |
| Tj = +12 °C  | Pdh              | 4.5     | kW   | Operation limit temperature  | TOL             | -28   | °C   |
| Degradation co-efficient (**)  | Cdh              | 0.96    | -    | Heating water operating limit temperature  | WTOL            | 60    | °C   |
| Tj = bivalent temperature  | Pdh              | 10.0    | kW   | Supplementary heater   |                 |       |      |
| Tj = operation limit temperature (***)   | Pdh              | 10.0    | kW   | Rated heat output (*)  | Psup            | 0.0   | kW   |
| Bivalent temperature   | Tbiv             | -10     | °C   | Type of energy input   | Electrical      |       |      |
| Reference design conditions for space heating  | Tdesignh         | -10     | °C   | Power consumption in modes other than active mode  |                 |       |      |
| Power consumption in modes other than active mode  |                  |         |      | Off mode   |                 |       |      |
| Off mode   | P <sub>OFF</sub> | 0.022   | kW   | Thermostat-off mode  | P <sub>TO</sub> | 0.022 | kW   |
| Thermostat-off mode  | P <sub>TO</sub>  | 0.022   | kW   | Standby mode   | P <sub>SB</sub> | 0.022 | kW   |
| Standby mode   | P <sub>SB</sub>  | 0.022   | kW   | Crankcase heater mode  | P <sub>CK</sub> | 0.000 | kW   |
| Crankcase heater mode  | P <sub>CK</sub>  | 0.000   | kW   | Other items  |                 |       |      |
| Capacity control   |                  |         |      | Rated air flow rate, outdoors  |                 |       |      |
| variable   |                  |         |      | -  |                 |       |      |
| Sound power level, indoors/outdoors  | L <sub>WA</sub>  | 41 / 59 | dBA  | 2640 m <sup>3</sup> /h   |                 |       |      |
| Annual energy consumption  | Q <sub>HE</sub>  | 4571    | kWh  |  |                 |       |      |

|                                   |                   |       |     |                                 |             |     |   |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-------------|-----|---|
| For heat pump combination heater: |                   |       |     |                                 |             |     |   |
| Declared load profile             | L                 |       |     | Water heating energy efficiency | $\eta_{wh}$ | 148 | % |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |             |     |   |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |             |     |   |

Contact details

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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-MED                     |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | no                              |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | colder climate conditions.      |

| Item   | Symbol               | Value | Unit | Item   | Symbol           | Value | Unit |
|--|----------------------|-------|------|--|------------------|-------|------|
| Rated heat output (*)  | Prated               | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$         | 114   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                      |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                  |       |      |
| T <sub>j</sub> = - 7 °C  | P <sub>d,h</sub>     | 6.1   | kW   | T <sub>j</sub> = - 7 °C  | COP <sub>d</sub> | 2.70  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.99  | -    | T <sub>j</sub> = + 2 °C  | COP <sub>d</sub> | 3.30  | -    |
| T <sub>j</sub> = + 2 °C  | P <sub>d,h</sub>     | 3.7   | kW   | T <sub>j</sub> = + 7 °C  | COP <sub>d</sub> | 4.65  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.98  | -    | T <sub>j</sub> = +12 °C  | COP <sub>d</sub> | 6.88  | -    |
| T <sub>j</sub> = + 7 °C  | P <sub>d,h</sub>     | 3.8   | kW   | T <sub>j</sub> = bivalent temperature  | COP <sub>d</sub> | 1.56  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97  | -    | T <sub>j</sub> = operation limit temperature (***)   | COP <sub>d</sub> | 1.57  | -    |
| T <sub>j</sub> = +12 °C  | P <sub>d,h</sub>     | 4.4   | kW   | T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | COP <sub>d</sub> | 1.56  | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97  | -    | Operation limit temperature  | TOL              | -28   | °C   |
| T <sub>j</sub> = bivalent temperature  | P <sub>d,h</sub>     | 8.4   | kW   | Heating water operating limit temperature  | WTOL             | 60    | °C   |
| T <sub>j</sub> = operation limit temperature (***)   | P <sub>d,h</sub>     | 8.1   | kW   | Supplementary heater   |                  |       |      |
| T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)  | P <sub>d,h</sub>     | 8.5   | kW   | Rated heat output (*)  | P <sub>sup</sub> | 2.0   | kW   |
| Bivalent temperature   | T <sub>biv</sub>     | -16   | °C   | Type of energy input   | Electrical       |       |      |
| Reference design conditions for space heating  | T <sub>designh</sub> | -22   | °C   | Power consumption in modes other than active mode  |                  |       |      |
| Off mode   |                      |       |      | P <sub>OFF</sub>   | 0.022            | kW    |      |
| Thermostat-off mode  |                      |       |      | P <sub>TO</sub>  | 0.022            | kW    |      |
| Standby mode   |                      |       |      | P <sub>SB</sub>  | 0.022            | kW    |      |
| Crankcase heater mode  |                      |       |      | P <sub>CK</sub>  | 0.000            | kW    |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 8411    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     |                                 |     |   |  |
| Declared load profile             | L                 |       |     | Water heating energy efficiency |     |   |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 4.090 | kWh | $\eta_{wh}$                     | 120 | % |  |
| Annual electricity consumption    | AEC               | 900   | kWh |                                 |     |   |  |

|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
| Contact details |  | MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. |  | Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K. |  |
|-----------------|--|--|--|--|--|

The identification and signature of the person empowered to bind the supplier;

Atsushi EDAYOSHI

The signature is signed in the average climate / medium-temperature section.

Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |                              |                     |
|---------------------------------------|------------------------------|---------------------|
| Model(s):                             | Outdoor unit:                | PUD-SHWM100YAA(-BS) |
|                                       | Indoor unit:                 | EHST20D-MED         |
| Air-to-water heat pump:               | yes                          |                     |
| Water-to-water heat pump:             | no                           |                     |
| Brine-to-water heat pump:             | no                           |                     |
| Low-temperature heat pump:            | no                           |                     |
| Equipped with a supplementary heater: | no                           |                     |
| Heat pump combination heater:         | yes                          |                     |
| Parameters for                        | low-temperature application. |                     |
| Parameters for                        | colder climate conditions.   |                     |

| Item   | Symbol           | Value | Unit | Item   | Symbol          | Value | Unit |
|--|------------------|-------|------|--|-----------------|-------|------|
| Rated heat output (*)  | Prated           | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$        | 148   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |                  |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |                 |       |      |
| Tj = - 7 °C  | Pdh              | 6.2   | kW   | Tj = - 7 °C  | COPd            | 3.78  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.99  | -    | Tj = + 2 °C  | COPd            | 4.07  | -    |
| Tj = + 2 °C  | Pdh              | 3.9   | kW   | Tj = + 7 °C  | COPd            | 5.45  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.98  | -    | Tj = +12 °C  | COPd            | 7.50  | -    |
| Tj = + 7 °C  | Pdh              | 3.9   | kW   | Tj = bivalent temperature  | COPd            | 2.15  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.97  | -    | Tj = operation limit temperature (***)   | COPd            | 1.86  | -    |
| Tj = +12 °C  | Pdh              | 4.5   | kW   | Tj = - 15 °C (if TOL < - 20 °C)  | COPd            | 2.20  | -    |
| Degradation co-efficient (**)  | Cdh              | 0.96  | -    | Operation limit temperature  | TOL             | -28   | °C   |
| Tj = bivalent temperature  | Pdh              | 8.4   | kW   | Heating water operating limit temperature  | WTOL            | 60    | °C   |
| Tj = operation limit temperature (***)   | Pdh              | 8.1   | kW   | Supplementary heater   |                 |       |      |
| Tj = - 15 °C (if TOL < - 20 °C)  | Pdh              | 8.5   | kW   | Rated heat output (*)  | Psup            | 2.0   | kW   |
| Bivalent temperature   | Tbiv             | -16   | °C   | Type of energy input   | Electrical      |       |      |
| Reference design conditions for space heating  | Tdesignh         | -22   | °C   | Power consumption in modes other than active mode  |                 |       |      |
| Power consumption in modes other than active mode  |                  |       |      | Off mode   |                 |       |      |
| Off mode   | P <sub>OFF</sub> | 0.022 | kW   | Thermostat-off mode  | P <sub>TO</sub> | 0.022 | kW   |
| Thermostat-off mode  | P <sub>TO</sub>  | 0.022 | kW   | Standby mode   | P <sub>SB</sub> | 0.022 | kW   |
| Standby mode   | P <sub>SB</sub>  | 0.022 | kW   | Crankcase heater mode  | P <sub>CK</sub> | 0.000 | kW   |
| Crankcase heater mode  | P <sub>CK</sub>  | 0.000 | kW   | Other items  |                 |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 6517    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 120 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 4.090 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 900   | kWh |                                 |     |   |  |

Contact details  
 MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.      Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;  
 Atsushi EDAYOSHI  
 The signature is signed in the average climate / medium-temperature section.  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.  
 · Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.  
 (\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | EHST20D-MED                     |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | no                              |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | warmer climate conditions.      |

| Item   | Symbol               | Value   | Unit | Item   | Symbol           | Value             | Unit |
|--|----------------------|---------|------|--|------------------|-------------------|------|
| Rated heat output (*)  | Prated               | 10.0    | kW   | Seasonal space heating energy efficiency   | $\eta_s$         | 161               | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                      |         |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                  |                   |      |
| T <sub>j</sub> = - 7 °C  | P <sub>d,h</sub>     | -       | kW   | T <sub>j</sub> = - 7 °C  | COP <sub>d</sub> | -                 | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | -       | -    | T <sub>j</sub> = + 2 °C  | COP <sub>d</sub> | 2.05              | -    |
| T <sub>j</sub> = + 2 °C  | P <sub>d,h</sub>     | 10.0    | kW   | T <sub>j</sub> = + 7 °C  | COP <sub>d</sub> | 3.56              | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 1.00    | -    | T <sub>j</sub> = +12 °C  | COP <sub>d</sub> | 5.70              | -    |
| T <sub>j</sub> = + 7 °C  | P <sub>d,h</sub>     | 6.4     | kW   | T <sub>j</sub> = bivalent temperature  | COP <sub>d</sub> | 2.05              | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.99    | -    | T <sub>j</sub> = operation limit temperature (***)   | COP <sub>d</sub> | 2.05              | -    |
| T <sub>j</sub> = +12 °C  | P <sub>d,h</sub>     | 4.2     | kW   | Operation limit temperature  | TOL              | -28               | °C   |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.97    | -    | Heating water operating limit temperature  | WTOL             | 60                | °C   |
| T <sub>j</sub> = bivalent temperature  | P <sub>d,h</sub>     | 10.0    | kW   | Supplementary heater   |                  |                   |      |
| T <sub>j</sub> = operation limit temperature (***)   | P <sub>d,h</sub>     | 10.0    | kW   | Rated heat output (*)  | P <sub>sup</sub> | 0.0               | kW   |
| Bivalent temperature   | T <sub>biv</sub>     | 2       | °C   | Type of energy input   | Electrical       |                   |      |
| Reference design conditions for space heating  | T <sub>designh</sub> | 2       | °C   | Power consumption in modes other than active mode  |                  |                   |      |
| Off mode   |                      |         |      | P <sub>OFF</sub>   |                  |                   |      |
| Thermostat-off mode  |                      |         |      | P <sub>TO</sub>  |                  |                   |      |
| Standby mode   |                      |         |      | P <sub>SB</sub>  |                  |                   |      |
| Crankcase heater mode  |                      |         |      | P <sub>CK</sub>  |                  |                   |      |
| Other items  |                      |         |      | Rated air flow rate, outdoors  |                  |                   |      |
| Capacity control   | variable             |         |      | -  | 2640             | m <sup>3</sup> /h |      |
| Sound power level, indoors/outdoors  | L <sub>WA</sub>      | 41 / 59 | dBA  |  |                  |                   |      |
| Annual energy consumption  | Q <sub>HE</sub>      | 3252    | kWh  |  |                  |                   |      |
| For heat pump combination heater:  |                      |         |      | Water heating energy efficiency  |                  |                   |      |
| Declared load profile  | L                    |         |      | $\eta_{wh}$  | 162              | %                 |      |
| Daily electricity consumption  | Q <sub>elec</sub>    | 3.070   | kWh  |  |                  |                   |      |
| Annual electricity consumption   | AEC                  | 675     | kWh  |  |                  |                   |      |

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Atsushi EDAYOSHI

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Manager, Quality Assurance Department

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | EHST20D-MED                  |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | no                           |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | warmer climate conditions.   |

| Item   | Symbol               | Value   | Unit | Item   | Symbol           | Value             | Unit |
|--|----------------------|---------|------|--|------------------|-------------------|------|
| Rated heat output (*)  | Prated               | 10.0    | kW   | Seasonal space heating energy efficiency   | $\eta_s$         | 232               | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                      |         |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub> |                  |                   |      |
| T <sub>j</sub> = - 7 °C  | P <sub>d,h</sub>     | -       | kW   | T <sub>j</sub> = - 7 °C  | COP <sub>d</sub> | -                 | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | -       | -    | T <sub>j</sub> = + 2 °C  | COP <sub>d</sub> | 3.45              | -    |
| T <sub>j</sub> = + 2 °C  | P <sub>d,h</sub>     | 10.0    | kW   | T <sub>j</sub> = + 7 °C  | COP <sub>d</sub> | 5.57              | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.99    | -    | T <sub>j</sub> = +12 °C  | COP <sub>d</sub> | 7.55              | -    |
| T <sub>j</sub> = + 7 °C  | P <sub>d,h</sub>     | 6.4     | kW   | T <sub>j</sub> = bivalent temperature  | COP <sub>d</sub> | 3.45              | -    |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.98    | -    | T <sub>j</sub> = operation limit temperature (***)   | COP <sub>d</sub> | 3.45              | -    |
| T <sub>j</sub> = +12 °C  | P <sub>d,h</sub>     | 4.4     | kW   | Operation limit temperature  | TOL              | -28               | °C   |
| Degradation co-efficient (**)  | C <sub>d,h</sub>     | 0.96    | -    | Heating water operating limit temperature  | WTOL             | 60                | °C   |
| T <sub>j</sub> = bivalent temperature  | P <sub>d,h</sub>     | 10.0    | kW   | Supplementary heater   |                  |                   |      |
| T <sub>j</sub> = operation limit temperature (***)   | P <sub>d,h</sub>     | 10.0    | kW   | Rated heat output (*)  | P <sub>sup</sub> | 0.0               | kW   |
| Bivalent temperature   | T <sub>biv</sub>     | 2       | °C   | Type of energy input   | Electrical       |                   |      |
| Reference design conditions for space heating  | T <sub>designh</sub> | 2       | °C   | Power consumption in modes other than active mode  |                  |                   |      |
| Off mode   |                      |         |      | P <sub>OFF</sub>   |                  |                   |      |
| Thermostat-off mode  |                      |         |      | P <sub>TO</sub>  |                  |                   |      |
| Standby mode   |                      |         |      | P <sub>SB</sub>  |                  |                   |      |
| Crankcase heater mode  |                      |         |      | P <sub>CK</sub>  |                  |                   |      |
| Other items  |                      |         |      | Rated air flow rate, outdoors  |                  |                   |      |
| Capacity control   | variable             |         |      | -  | 2640             | m <sup>3</sup> /h |      |
| Sound power level, indoors/outdoors  | L <sub>WA</sub>      | 41 / 59 | dBA  |  |                  |                   |      |
| Annual energy consumption  | Q <sub>HE</sub>      | 2273    | kWh  |  |                  |                   |      |
| For heat pump combination heater:  |                      |         |      | Water heating energy efficiency  |                  |                   |      |
| Declared load profile  | L                    |         |      | $\eta_{wh}$  | 162              | %                 |      |
| Daily electricity consumption  | Q <sub>elec</sub>    | 3.070   | kWh  |  |                  |                   |      |
| Annual electricity consumption   | AEC                  | 675     | kWh  |  |                  |                   |      |

**Contact details**

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Atsushi EDAYOSHI

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Manager, Quality Assurance Department

UNITED KINGDOM

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 (\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

 (\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | ERST20D-****D                   |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | yes                             |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | average climate conditions.     |

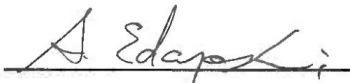
| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 135   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 8.9   | kW   | Tj = - 7 °C  | COPd       | 2.18  | -    |
| Degradation co-efficient (**)  | Cdh      | 1.00  | -    | Tj = + 2 °C  | COPd       | 3.27  | -    |
| Tj = + 2 °C  | Pdh      | 5.4   | kW   | Tj = + 7 °C  | COPd       | 4.81  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = +12 °C  | COPd       | 7.06  | -    |
| Tj = + 7 °C  | Pdh      | 5.2   | kW   | Tj = bivalent temperature  | COPd       | 1.91  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 1.91  | -    |
| Tj = +12 °C  | Pdh      | 3.6   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | -10   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -10   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 5975    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 148 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |     |   |  |

Contact details: MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

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Atsushi EDAYOSHI  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

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 (\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | ERST20D-****D                |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | yes                          |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | average climate conditions.  |

| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 178   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 8.9   | kW   | Tj = - 7 °C  | COPd       | 3.16  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = + 2 °C  | COPd       | 4.45  | -    |
| Tj = + 2 °C  | Pdh      | 5.7   | kW   | Tj = + 7 °C  | COPd       | 5.63  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = +12 °C  | COPd       | 7.89  | -    |
| Tj = + 7 °C  | Pdh      | 5.4   | kW   | Tj = bivalent temperature  | COPd       | 2.92  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 2.92  | -    |
| Tj = +12 °C  | Pdh      | 4.5   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | -10   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -10   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 4571    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |             |     |   |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-------------|-----|---|
| For heat pump combination heater: |                   |       |     |                                 |             |     |   |
| Declared load profile             | L                 |       |     | Water heating energy efficiency | $\eta_{wh}$ | 148 | % |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.340 | kWh |                                 |             |     |   |
| Annual electricity consumption    | AEC               | 736   | kWh |                                 |             |     |   |

|                 |  |  |  |
|-----------------|--|--|--|
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Atsushi EDAYOSHI

The signature is signed in the average climate / medium-temperature section.

Manager, Quality Assurance Department

UNITED KINGDOM

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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.



**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |                                 |                     |
|---------------------------------------|---------------------------------|---------------------|
| Model(s):                             | Outdoor unit:                   | PUD-SHWM100YAA(-BS) |
|                                       | Indoor unit:                    | ERST20D-****D       |
| Air-to-water heat pump:               | yes                             |                     |
| Water-to-water heat pump:             | no                              |                     |
| Brine-to-water heat pump:             | no                              |                     |
| Low-temperature heat pump:            | no                              |                     |
| Equipped with a supplementary heater: | yes                             |                     |
| Heat pump combination heater:         | yes                             |                     |
| Parameters for                        | medium-temperature application. |                     |
| Parameters for                        | colder climate conditions.      |                     |

| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 114   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | 6.1   | kW   | Tj = - 7 °C  | COPd       | 2.70  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = + 2 °C  | COPd       | 3.30  | -    |
| Tj = + 2 °C  | Pdh      | 3.7   | kW   | Tj = + 7 °C  | COPd       | 4.65  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = +12 °C  | COPd       | 6.88  | -    |
| Tj = + 7 °C  | Pdh      | 3.8   | kW   | Tj = bivalent temperature  | COPd       | 1.56  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.97  | -    | Tj = operation limit temperature (***)   | COPd       | 1.57  | -    |
| Tj = +12 °C  | Pdh      | 4.4   | kW   | Tj = - 15 °C (if TOL < - 20 °C)  | COPd       | 1.56  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.97  | -    | Operation limit temperature  | TOL        | -28   | °C   |
| Tj = bivalent temperature  | Pdh      | 8.4   | kW   | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = operation limit temperature (***)   | Pdh      | 8.1   | kW   | Supplementary heater   |            |       |      |
| Tj = - 15 °C (if TOL < - 20 °C)  | Pdh      | 8.5   | kW   | Rated heat output (*)  | Psup       | 2.0   | kW   |
| Bivalent temperature   | Tbiv     | -16   | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | -22   | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 8411    | kWh |                               |      |                   |  |

|                                   |       |       |     |                                 |     |   |  |
|-----------------------------------|-------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |       |       |     |                                 |     |   |  |
| Declared load profile             | L     |       |     | Water heating energy efficiency |     |   |  |
| Daily electricity consumption     | Qelec | 4.090 | kWh | $\eta_{wh}$                     | 120 | % |  |
| Annual electricity consumption    | AEC   | 900   | kWh |                                 |     |   |  |

Contact details

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(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                              |
|---------------------------------------|---------------|------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)          |
|                                       | Indoor unit:  | ERST20D-****D                |
| Air-to-water heat pump:               |               | yes                          |
| Water-to-water heat pump:             |               | no                           |
| Brine-to-water heat pump:             |               | no                           |
| Low-temperature heat pump:            |               | no                           |
| Equipped with a supplementary heater: |               | yes                          |
| Heat pump combination heater:         |               | yes                          |
| Parameters for                        |               | low-temperature application. |
| Parameters for                        |               | colder climate conditions.   |

| Item   | Symbol   | Value | Unit | Item   | Symbol   | Value | Unit |
|--|----------|-------|------|--|----------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$ | 148   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      |
| Tj = - 7 °C  | Pdh      | 6.2   | kW   | Tj = - 7 °C  | COPd     | 3.78  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = + 2 °C  | COPd     | 4.07  | -    |
| Tj = + 2 °C  | Pdh      | 3.9   | kW   | Tj = + 7 °C  | COPd     | 5.45  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = +12 °C  | COPd     | 7.50  | -    |
| Tj = + 7 °C  | Pdh      | 3.9   | kW   | Tj = bivalent temperature  | COPd     | 2.15  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.97  | -    | Tj = operation limit temperature (***)   | COPd     | 1.86  | -    |
| Tj = +12 °C  | Pdh      | 4.5   | kW   | Tj = - 15 °C (if TOL < - 20 °C)  | COPd     | 2.20  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Operation limit temperature  | TOL      | -28   | °C   |
| Tj = bivalent temperature  | Pdh      | 8.4   | kW   | Heating water operating limit temperature  | WTOL     | 60    | °C   |
| Tj = operation limit temperature (***)   | Pdh      | 8.1   | kW   |  |          |       |      |
| Tj = - 15 °C (if TOL < - 20 °C)  | Pdh      | 8.5   | kW   |  |          |       |      |
| Bivalent temperature   | Tbiv     | -16   | °C   |  |          |       |      |
| Reference design conditions for space heating  | Tdesignh | -22   | °C   |  |          |       |      |

|   |                  |       |    |                       |                  |     |    |
|---|------------------|-------|----|-----------------------|------------------|-----|----|
| Power consumption in modes other than active mode |                  |       |    | Supplementary heater  |                  |     |    |
| Off mode  | P <sub>OFF</sub> | 0.022 | kW | Rated heat output (*) | P <sub>sup</sub> | 2.0 | kW |
| Thermostat-off mode                               | P <sub>TO</sub>  | 0.022 | kW |                       |                  |     |    |
| Standby mode                                      | P <sub>SB</sub>  | 0.022 | kW |                       |                  |     |    |
| Crankcase heater mode                             | P <sub>CK</sub>  | 0.000 | kW |                       |                  |     |    |
|   |                  |       |    | Type of energy input  | Electrical       |     |    |

|                                     |                 |         |     |                               |      |                   |  |
|-------------------------------------|-----------------|---------|-----|-------------------------------|------|-------------------|--|
| Other items                         |                 |         |     | Rated air flow rate, outdoors |      |                   |  |
| Capacity control                    | variable        |         |     | -                             | 2640 | m <sup>3</sup> /h |  |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |      |                   |  |
| Annual energy consumption           | Q <sub>HE</sub> | 6517    | kWh |                               |      |                   |  |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 120 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 4.090 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 900   | kWh |                                 |     |   |  |

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(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |               |                                 |
|---------------------------------------|---------------|---------------------------------|
| Model(s):                             | Outdoor unit: | PUD-SHWM100YAA(-BS)             |
|                                       | Indoor unit:  | ERST20D-****D                   |
| Air-to-water heat pump:               |               | yes                             |
| Water-to-water heat pump:             |               | no                              |
| Brine-to-water heat pump:             |               | no                              |
| Low-temperature heat pump:            |               | no                              |
| Equipped with a supplementary heater: |               | yes                             |
| Heat pump combination heater:         |               | yes                             |
| Parameters for                        |               | medium-temperature application. |
| Parameters for                        |               | warmer climate conditions.      |

| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 161   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | -     | kW   | Tj = - 7 °C  | COPd       | -     | -    |
| Degradation co-efficient (**)  | Cdh      | -     | -    | Tj = + 2 °C  | COPd       | 2.05  | -    |
| Tj = + 2 °C  | Pdh      | 10.0  | kW   | Tj = + 7 °C  | COPd       | 3.56  | -    |
| Degradation co-efficient (**)  | Cdh      | 1.00  | -    | Tj = +12 °C  | COPd       | 5.70  | -    |
| Tj = + 7 °C  | Pdh      | 6.4   | kW   | Tj = bivalent temperature  | COPd       | 2.05  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = operation limit temperature (***)   | COPd       | 2.05  | -    |
| Tj = +12 °C  | Pdh      | 4.2   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.97  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | 2     | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | 2     | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 3252    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 162 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.070 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 675   | kWh |                                 |     |   |  |

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 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.  
 (\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

|                                       |                              |                     |
|---------------------------------------|------------------------------|---------------------|
| Model(s):                             | Outdoor unit:                | PUD-SHWM100YAA(-BS) |
|                                       | Indoor unit:                 | ERST20D-****D       |
| Air-to-water heat pump:               | yes                          |                     |
| Water-to-water heat pump:             | no                           |                     |
| Brine-to-water heat pump:             | no                           |                     |
| Low-temperature heat pump:            | no                           |                     |
| Equipped with a supplementary heater: | yes                          |                     |
| Heat pump combination heater:         | yes                          |                     |
| Parameters for                        | low-temperature application. |                     |
| Parameters for                        | warmer climate conditions.   |                     |

| Item   | Symbol   | Value | Unit | Item   | Symbol     | Value | Unit |
|--|----------|-------|------|--|------------|-------|------|
| Rated heat output (*)  | Prated   | 10.0  | kW   | Seasonal space heating energy efficiency   | $\eta_s$   | 232   | %    |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj |          |       |      | Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj |            |       |      |
| Tj = - 7 °C  | Pdh      | -     | kW   | Tj = - 7 °C  | COPd       | -     | -    |
| Degradation co-efficient (**)  | Cdh      | -     | -    | Tj = + 2 °C  | COPd       | 3.45  | -    |
| Tj = + 2 °C  | Pdh      | 10.0  | kW   | Tj = + 7 °C  | COPd       | 5.57  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.99  | -    | Tj = +12 °C  | COPd       | 7.55  | -    |
| Tj = + 7 °C  | Pdh      | 6.4   | kW   | Tj = bivalent temperature  | COPd       | 3.45  | -    |
| Degradation co-efficient (**)  | Cdh      | 0.98  | -    | Tj = operation limit temperature (***)   | COPd       | 3.45  | -    |
| Tj = +12 °C  | Pdh      | 4.4   | kW   | Operation limit temperature  | TOL        | -28   | °C   |
| Degradation co-efficient (**)  | Cdh      | 0.96  | -    | Heating water operating limit temperature  | WTOL       | 60    | °C   |
| Tj = bivalent temperature  | Pdh      | 10.0  | kW   | Supplementary heater   |            |       |      |
| Tj = operation limit temperature (***)   | Pdh      | 10.0  | kW   | Rated heat output (*)  | Psup       | 0.0   | kW   |
| Bivalent temperature   | Tbiv     | 2     | °C   | Type of energy input   | Electrical |       |      |
| Reference design conditions for space heating  | Tdesignh | 2     | °C   | Power consumption in modes other than active mode  |            |       |      |
| Off mode   |          |       |      | P <sub>OFF</sub>   |            |       |      |
| Thermostat-off mode  |          |       |      | P <sub>TO</sub>  |            |       |      |
| Standby mode   |          |       |      | P <sub>SB</sub>  |            |       |      |
| Crankcase heater mode  |          |       |      | P <sub>CK</sub>  |            |       |      |

|                                     |                 |         |     |                               |   |      |                   |
|-------------------------------------|-----------------|---------|-----|-------------------------------|---|------|-------------------|
| Capacity control                    | variable        |         |     | Rated air flow rate, outdoors | - | 2640 | m <sup>3</sup> /h |
| Sound power level, indoors/outdoors | L <sub>WA</sub> | 41 / 59 | dBA |                               |   |      |                   |
| Annual energy consumption           | Q <sub>HE</sub> | 2273    | kWh |                               |   |      |                   |

|                                   |                   |       |     |                                 |     |   |  |
|-----------------------------------|-------------------|-------|-----|---------------------------------|-----|---|--|
| For heat pump combination heater: |                   |       |     | Water heating energy efficiency |     |   |  |
| Declared load profile             | L                 |       |     | $\eta_{wh}$                     | 162 | % |  |
| Daily electricity consumption     | Q <sub>elec</sub> | 3.070 | kWh |                                 |     |   |  |
| Annual electricity consumption    | AEC               | 675   | kWh |                                 |     |   |  |

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