

## Subtype Ecodan Zubadan (TR) 12 + 200D AA

|                     |                                                                                   |
|---------------------|-----------------------------------------------------------------------------------|
| Certificate Holder  | Mitsubishi Electric Air Conditioning Systems Europe LTD                           |
| Address             | Nettlehill Road, Houston Industrial Estate                                        |
| ZIP                 | EH54 5EQ                                                                          |
| City                | Livingston                                                                        |
| Country             | GB                                                                                |
| Certification Body  | SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise) |
| Subtype title       | Ecodan Zubadan (TR) 12 + 200D AA                                                  |
| Registration number | 037-0124-23                                                                       |
| Heat Pump Type      | Outdoor Air/Water                                                                 |
| Refrigerant         | R32                                                                               |
| Mass of Refrigerant | 1.8 kg                                                                            |
| Certification Date  | 26.04.2023                                                                        |
| Testing basis       | HP Keymark scheme rules rev. no. 9                                                |

## Model PUZ-SHWM120VAA + EHST20D-\*M\*D

|                                     |                               |
|-------------------------------------|-------------------------------|
| Model name                          | PUZ-SHWM120VAA + EHST20D-*M*D |
| Application                         | Heating + DHW + low temp      |
| Units                               | Indoor, Outdoor               |
| Climate zone (for heating)          | n/a                           |
| Heat Source                         | Outdoor Air                   |
| Cooling mode application (optional) | n/a                           |
| Any additional heat sources         | n/a                           |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 1x230V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

### EN 16147 | Average Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 134 %      |
| COP                             | 3.2        |
| Heating up time                 | 2:09 h:min |
| Standby power input             | 43 W       |
| Reference hot water temperature | 51.5 °C    |
| Mixed water at 40°C             | 274 l      |

### EN 14511-4 | Heating

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

### EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

### EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

### EN 12102-1 | Average Climate

|                          | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 41 dB(A)        | 41 dB(A)           |

Sound power level outdoor                      58 dB(A)                      58 dB(A)

#### EN 14825 | Average Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 179 %           | 136 %              |
| Prated                                              | 12.1 kW         | 12.1 kW            |
| SCOP                                                | 4.56            | 3.49               |
| Tbiv                                                | -10 °C          | -10 °C             |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 10.7 kW         | 10.7 kW            |
| COP Tj = -7°C                                       | 2.85            | 2.13               |
| Cdh Tj = -7 °C                                      | 0.996           | 0.997              |
| Pdh Tj = +2°C                                       | 6.5 kW          | 6.5 kW             |
| COP Tj = +2°C                                       | 4.53            | 3.36               |
| Cdh Tj = +2 °C                                      | 0.99            | 0.992              |
| Pdh Tj = +7°C                                       | 5.2 kW          | 5 kW               |
| COP Tj = +7°C                                       | 6.04            | 4.75               |
| Cdh Tj = +7 °C                                      | 0.983           | 0.986              |
| Pdh Tj = 12°C                                       | 4 kW            | 3.8 kW             |
| COP Tj = 12°C                                       | 7.02            | 6.32               |
| Cdh Tj = +12 °C                                     | 0.974           | 0.975              |
| Pdh Tj = Tbiv                                       | 12.1 kW         | 12.1 kW            |
| COP Tj = Tbiv                                       | 2.43            | 1.78               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW         | 12.1 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43            | 1.78               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997           | 0.998              |
| WTOL                                                | 60 °C           | 60 °C              |
| Poff                                                | 15 W            | 15 W               |
| PTO                                                 | 15 W            | 15 W               |
| PSB                                                 | 15 W            | 15 W               |
| PCK                                                 | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0 kW            | 0 kW               |
| Annual energy consumption Qhe                       | 5481 kWh        | 7169 kWh           |

#### EN 14825 | Cooling

|                | +7°C/+12°C | +18°C/+23°C |
|----------------|------------|-------------|
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.13       | 5.69        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.996      | 0.995       |
| Pdc Tj = 30°C  | 8.11 kW    | 8.84 kW     |

|                               |          |          |
|-------------------------------|----------|----------|
| EER Tj = 30°C                 | 3.98     | 5.75     |
| Cdc Tj = 30 °C                | 0.993    | 0.99     |
| Pdc Tj = 25°C                 | 5.21 kW  | 5.68 kW  |
| EER Tj = 25°C                 | 4.59     | 5.99     |
| Cdc Tj = 25 °C                | 0.987    | 0.984    |
| Pdc Tj = 20°C                 | 2.5 kW   | 3.5 kW   |
| EER Tj = 20°C                 | 4.45     | 6.3      |
| Cdc Tj = 20 °C                | 0.973    | 0.973    |
| Poff                          | 15 W     | 15 W     |
| PTO                           | 15 W     | 15 W     |
| PSB                           | 15 W     | 15 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1597 kWh | 1266 kWh |

## Model PUZ-SHWM120YAA + EHST20D-\*M\*D

|                                     |                               |
|-------------------------------------|-------------------------------|
| Model name                          | PUZ-SHWM120YAA + EHST20D-*M*D |
| Application                         | Heating + DHW + low temp      |
| Units                               | Indoor, Outdoor               |
| Climate zone (for heating)          | n/a                           |
| Heat Source                         | Outdoor Air                   |
| Cooling mode application (optional) | n/a                           |
| Any additional heat sources         | n/a                           |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 3x400V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

### EN 16147 | Average Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 134 %      |
| COP                             | 3.2        |
| Heating up time                 | 2:09 h:min |
| Standby power input             | 43 W       |
| Reference hot water temperature | 51.5 °C    |
| Mixed water at 40°C             | 274 l      |

### EN 14511-4 | Heating

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

### EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

### EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

### EN 12102-1 | Average Climate

|                          | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 41 dB(A)        | 41 dB(A)           |

|                                                     |                 |                    |
|-----------------------------------------------------|-----------------|--------------------|
| Sound power level outdoor                           | 58 dB(A)        | 58 dB(A)           |
| EN 14825   Average Climate                          |                 |                    |
|                                                     | Low temperature | Medium temperature |
| $\eta_s$                                            | 178 %           | 136 %              |
| Prated                                              | 12.1 kW         | 12.1 kW            |
| SCOP                                                | 4.53            | 3.47               |
| Tbiv                                                | -10 °C          | -10 °C             |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 10.7 kW         | 10.7 kW            |
| COP Tj = -7°C                                       | 2.85            | 2.13               |
| Cdh Tj = -7 °C                                      | 0.994           | 0.996              |
| Pdh Tj = +2°C                                       | 6.5 kW          | 6.5 kW             |
| COP Tj = +2°C                                       | 4.53            | 3.36               |
| Cdh Tj = +2 °C                                      | 0.985           | 0.989              |
| Pdh Tj = +7°C                                       | 5.2 kW          | 5 kW               |
| COP Tj = +7°C                                       | 6.04            | 4.75               |
| Cdh Tj = +7 °C                                      | 0.974           | 0.979              |
| Pdh Tj = 12°C                                       | 4 kW            | 3.8 kW             |
| COP Tj = 12°C                                       | 7.02            | 6.32               |
| Cdh Tj = +12 °C                                     | 0.961           | 0.963              |
| Pdh Tj = Tbiv                                       | 12.1 kW         | 12.1 kW            |
| COP Tj = Tbiv                                       | 2.43            | 1.78               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW         | 12.1 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43            | 1.78               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.996           | 0.997              |
| WTOL                                                | 60 °C           | 60 °C              |
| Poff                                                | 22 W            | 22 W               |
| PTO                                                 | 22 W            | 22 W               |
| PSB                                                 | 22 W            | 22 W               |
| PCK                                                 | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0 kW            | 0 kW               |
| Annual energy consumption Qhe                       | 5516 kWh        | 7204 kWh           |
| EN 14825   Cooling                                  |                 |                    |
|                                                     | +7°C/+12°C      | +18°C/+23°C        |
| Pdesignc                                            | 11 kW           | 12 kW              |
| SEER                                                | 4.1             | 5.62               |
| Pdc Tj = 35°C                                       | 11 kW           | 12 kW              |
| EER Tj = 35°C                                       | 2.85            | 4.3                |
| Cdc Tj = 35 °C                                      | 0.994           | 0.992              |
| Pdc Tj = 30°C                                       | 8.11 kW         | 8.84 kW            |

|                               |          |          |
|-------------------------------|----------|----------|
| EER Tj = 30°C                 | 3.98     | 5.75     |
| Cdc Tj = 30 °C                | 0.989    | 0.986    |
| Pdc Tj = 25°C                 | 5.21 kW  | 5.68 kW  |
| EER Tj = 25°C                 | 4.59     | 5.99     |
| Cdc Tj = 25 °C                | 0.981    | 0.977    |
| Pdc Tj = 20°C                 | 2.5 kW   | 3.5 kW   |
| EER Tj = 20°C                 | 4.45     | 6.3      |
| Cdc Tj = 20 °C                | 0.961    | 0.96     |
| Poff                          | 22 W     | 22 W     |
| PTO                           | 22 W     | 22 W     |
| PSB                           | 22 W     | 22 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1611 kWh | 1282 kWh |

## Model PUZ-SHWM120VAA + EHSD-\*M\*D

|                                     |                            |
|-------------------------------------|----------------------------|
| Model name                          | PUZ-SHWM120VAA + EHSD-*M*D |
| Application                         | Heating (medium temp)      |
| Units                               | Indoor, Outdoor            |
| Climate zone (for heating)          | n/a                        |
| Heat Source                         | Outdoor Air                |
| Cooling mode application (optional) | n/a                        |
| Any additional heat sources         | n/a                        |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 1x230V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 41 dB(A)        | 41 dB(A)           |
| Sound power level outdoor | 58 dB(A)        | 58 dB(A)           |

## EN 14825 | Average Climate

|          | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| $\eta_s$ | 179 %           | 136 %              |
| Prated   | 12.1 kW         | 12.1 kW            |
| SCOP     | 4.56            | 3.49               |
| Tbiv     | -10 °C          | -10 °C             |
| TOL      | -10 °C          | -10 °C             |

|                                                     |             |             |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = -7°C                                       | 10.7 kW     | 10.7 kW     |
| COP Tj = -7°C                                       | 2.85        | 2.13        |
| Cdh Tj = -7 °C                                      | 0.996       | 0.997       |
| Pdh Tj = +2°C                                       | 6.5 kW      | 6.5 kW      |
| COP Tj = +2°C                                       | 4.53        | 3.36        |
| Cdh Tj = +2 °C                                      | 0.99        | 0.992       |
| Pdh Tj = +7°C                                       | 5.2 kW      | 5 kW        |
| COP Tj = +7°C                                       | 6.04        | 4.75        |
| Cdh Tj = +7 °C                                      | 0.983       | 0.986       |
| Pdh Tj = 12°C                                       | 4 kW        | 3.8 kW      |
| COP Tj = 12°C                                       | 7.02        | 6.32        |
| Cdh Tj = +12 °C                                     | 0.974       | 0.975       |
| Pdh Tj = Tbiv                                       | 12.1 kW     | 12.1 kW     |
| COP Tj = Tbiv                                       | 2.43        | 1.78        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW     | 12.1 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43        | 1.78        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997       | 0.998       |
| WTOL                                                | 60 °C       | 60 °C       |
| Poff                                                | 15 W        | 15 W        |
| PTO                                                 | 15 W        | 15 W        |
| PSB                                                 | 15 W        | 15 W        |
| PCK                                                 | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0 kW        | 0 kW        |
| Annual energy consumption Qhe                       | 5481 kWh    | 7169 kWh    |

#### EN 14825 | Cooling

|                | +7°C/+12°C | +18°C/+23°C |
|----------------|------------|-------------|
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.13       | 5.69        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.996      | 0.995       |
| Pdc Tj = 30°C  | 8.11 kW    | 8.84 kW     |
| EER Tj = 30°C  | 3.98       | 5.75        |
| Cdc Tj = 30 °C | 0.993      | 0.99        |
| Pdc Tj = 25°C  | 5.21 kW    | 5.68 kW     |
| EER Tj = 25°C  | 4.59       | 5.99        |
| Cdc Tj = 25 °C | 0.987      | 0.984       |
| Pdc Tj = 20°C  | 2.5 kW     | 3.5 kW      |
| EER Tj = 20°C  | 4.45       | 6.3         |
| Cdc Tj = 20 °C | 0.973      | 0.973       |
| Poff           | 15 W       | 15 W        |

|                               |          |          |
|-------------------------------|----------|----------|
| PTO                           | 15 W     | 15 W     |
| PSB                           | 15 W     | 15 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1597 kWh | 1266 kWh |

## Model PUZ-SHWM120YAA + EHSD-\*M\*D

|                                     |                            |
|-------------------------------------|----------------------------|
| Model name                          | PUZ-SHWM120YAA + EHSD-*M*D |
| Application                         | Heating (medium temp)      |
| Units                               | Indoor, Outdoor            |
| Climate zone (for heating)          | n/a                        |
| Heat Source                         | Outdoor Air                |
| Cooling mode application (optional) | n/a                        |
| Any additional heat sources         | n/a                        |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 3x400V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 41 dB(A)        | 41 dB(A)           |
| Sound power level outdoor | 58 dB(A)        | 58 dB(A)           |

## EN 14825 | Average Climate

|          | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| $\eta_s$ | 178 %           | 136 %              |
| Prated   | 12.1 kW         | 12.1 kW            |
| SCOP     | 4.53            | 3.47               |
| Tbiv     | -10 °C          | -10 °C             |
| TOL      | -10 °C          | -10 °C             |

|                                                     |             |             |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = -7°C                                       | 10.7 kW     | 10.7 kW     |
| COP Tj = -7°C                                       | 2.85        | 2.13        |
| Cdh Tj = -7 °C                                      | 0.994       | 0.996       |
| Pdh Tj = +2°C                                       | 6.5 kW      | 6.5 kW      |
| COP Tj = +2°C                                       | 4.53        | 3.36        |
| Cdh Tj = +2 °C                                      | 0.985       | 0.989       |
| Pdh Tj = +7°C                                       | 5.2 kW      | 5 kW        |
| COP Tj = +7°C                                       | 6.04        | 4.75        |
| Cdh Tj = +7 °C                                      | 0.974       | 0.979       |
| Pdh Tj = 12°C                                       | 4 kW        | 3.8 kW      |
| COP Tj = 12°C                                       | 7.02        | 6.32        |
| Cdh Tj = +12 °C                                     | 0.961       | 0.963       |
| Pdh Tj = Tbiv                                       | 12.1 kW     | 12.1 kW     |
| COP Tj = Tbiv                                       | 2.43        | 1.78        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW     | 12.1 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43        | 1.78        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.996       | 0.997       |
| WTOL                                                | 60 °C       | 60 °C       |
| Poff                                                | 22 W        | 22 W        |
| PTO                                                 | 22 W        | 22 W        |
| PSB                                                 | 22 W        | 22 W        |
| PCK                                                 | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0 kW        | 0 kW        |
| Annual energy consumption Qhe                       | 5516 kWh    | 7204 kWh    |

#### EN 14825 | Cooling

|                |            |             |
|----------------|------------|-------------|
|                | +7°C/+12°C | +18°C/+23°C |
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.1        | 5.62        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.994      | 0.992       |
| Pdc Tj = 30°C  | 8.11 kW    | 8.84 kW     |
| EER Tj = 30°C  | 3.98       | 5.75        |
| Cdc Tj = 30 °C | 0.989      | 0.986       |
| Pdc Tj = 25°C  | 5.21 kW    | 5.68 kW     |
| EER Tj = 25°C  | 4.59       | 5.99        |
| Cdc Tj = 25 °C | 0.981      | 0.977       |
| Pdc Tj = 20°C  | 2.5 kW     | 3.5 kW      |
| EER Tj = 20°C  | 4.45       | 6.3         |
| Cdc Tj = 20 °C | 0.961      | 0.96        |
| Poff           | 22 W       | 22 W        |

|                               |          |          |
|-------------------------------|----------|----------|
| PTO                           | 22 W     | 22 W     |
| PSB                           | 22 W     | 22 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1611 kWh | 1282 kWh |

## Model PUZ-SHWM120VAA + ERST20D-\*M\*D

|                                     |                               |
|-------------------------------------|-------------------------------|
| Model name                          | PUZ-SHWM120VAA + ERST20D-*M*D |
| Application                         | Heating + DHW + low temp      |
| Units                               | Indoor, Outdoor               |
| Climate zone (for heating)          | n/a                           |
| Heat Source                         | Outdoor Air                   |
| Reversibility                       | Yes                           |
| Cooling mode application (optional) | +7°C/12°C, +18°C/+23°C        |
| Any additional heat sources         | n/a                           |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 1x230V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 16147 | Average Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 134 %      |
| COP                             | 3.2        |
| Heating up time                 | 2:09 h:min |
| Standby power input             | 43 W       |
| Reference hot water temperature | 51.5 °C    |
| Mixed water at 40°C             | 274 l      |

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|  | Low temperature | Medium temperature |
|--|-----------------|--------------------|
|--|-----------------|--------------------|

|                           |          |          |
|---------------------------|----------|----------|
| Sound power level indoor  | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 58 dB(A) | 58 dB(A) |

#### EN 14825 | Average Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 181 %           | 138 %              |
| Prated                                              | 12.1 kW         | 12.1 kW            |
| SCOP                                                | 4.61            | 3.51               |
| Tbiv                                                | -10 °C          | -10 °C             |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 10.7 kW         | 10.7 kW            |
| COP Tj = -7°C                                       | 2.85            | 2.13               |
| Cdh Tj = -7 °C                                      | 0.996           | 0.997              |
| Pdh Tj = +2°C                                       | 6.5 kW          | 6.5 kW             |
| COP Tj = +2°C                                       | 4.53            | 3.36               |
| Cdh Tj = +2 °C                                      | 0.99            | 0.992              |
| Pdh Tj = +7°C                                       | 5.2 kW          | 5 kW               |
| COP Tj = +7°C                                       | 6.04            | 4.75               |
| Cdh Tj = +7 °C                                      | 0.983           | 0.986              |
| Pdh Tj = 12°C                                       | 4 kW            | 3.8 kW             |
| COP Tj = 12°C                                       | 7.02            | 6.32               |
| Cdh Tj = +12 °C                                     | 0.974           | 0.975              |
| Pdh Tj = Tbiv                                       | 12.1 kW         | 12.1 kW            |
| COP Tj = Tbiv                                       | 2.43            | 1.78               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW         | 12.1 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43            | 1.78               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997           | 0.998              |
| WTOL                                                | 60 °C           | 60 °C              |
| Poff                                                | 15 W            | 15 W               |
| PTO                                                 | 15 W            | 15 W               |
| PSB                                                 | 15 W            | 15 W               |
| PCK                                                 | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0 kW            | 0 kW               |
| Annual energy consumption Qhe                       | 5426 kWh        | 7114 kWh           |

#### EN 14825 | Cooling

|                | +7°C/+12°C | +18°C/+23°C |
|----------------|------------|-------------|
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.13       | 5.69        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.996      | 0.995       |

|                               |          |          |
|-------------------------------|----------|----------|
| Pdc Tj = 30°C                 | 8.11 kW  | 8.84 kW  |
| EER Tj = 30°C                 | 3.98     | 5.75     |
| Cdc Tj = 30 °C                | 0.993    | 0.99     |
| Pdc Tj = 25°C                 | 5.21 kW  | 5.68 kW  |
| EER Tj = 25°C                 | 4.59     | 5.99     |
| Cdc Tj = 25 °C                | 0.987    | 0.984    |
| Pdc Tj = 20°C                 | 2.5 kW   | 3.5 kW   |
| EER Tj = 20°C                 | 4.45     | 6.3      |
| Cdc Tj = 20 °C                | 0.973    | 0.973    |
| Poff                          | 15 W     | 15 W     |
| PTO                           | 15 W     | 15 W     |
| PSB                           | 15 W     | 15 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1597 kWh | 1266 kWh |

## Model PUZ-SHWM120YAA + ERST20D-\*M\*D

|                                     |                               |
|-------------------------------------|-------------------------------|
| Model name                          | PUZ-SHWM120YAA + ERST20D-*M*D |
| Application                         | Heating + DHW + low temp      |
| Units                               | Indoor, Outdoor               |
| Climate zone (for heating)          | n/a                           |
| Heat Source                         | Outdoor Air                   |
| Reversibility                       | Yes                           |
| Cooling mode application (optional) | +7°C/12°C, +18°C/+23°C        |
| Any additional heat sources         | n/a                           |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 3x400V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 16147 | Average Climate

|                                 |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency $\eta_{DHW}$         | 134 %      |
| COP                             | 3.2        |
| Heating up time                 | 2:09 h:min |
| Standby power input             | 43 W       |
| Reference hot water temperature | 51.5 °C    |
| Mixed water at 40°C             | 274 l      |

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|  | Low temperature | Medium temperature |
|--|-----------------|--------------------|
|--|-----------------|--------------------|

|                           |          |          |
|---------------------------|----------|----------|
| Sound power level indoor  | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 58 dB(A) | 58 dB(A) |

#### EN 14825 | Average Climate

|                                                     | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| $\eta_s$                                            | 181 %           | 137 %              |
| Prated                                              | 12.1 kW         | 12.1 kW            |
| SCOP                                                | 4.6             | 3.51               |
| Tbiv                                                | -10 °C          | -10 °C             |
| TOL                                                 | -10 °C          | -10 °C             |
| Pdh Tj = -7°C                                       | 10.7 kW         | 10.7 kW            |
| COP Tj = -7°C                                       | 2.85            | 2.13               |
| Cdh Tj = -7 °C                                      | 0.994           | 0.996              |
| Pdh Tj = +2°C                                       | 6.5 kW          | 6.5 kW             |
| COP Tj = +2°C                                       | 4.53            | 3.36               |
| Cdh Tj = +2 °C                                      | 0.985           | 0.989              |
| Pdh Tj = +7°C                                       | 5.2 kW          | 5 kW               |
| COP Tj = +7°C                                       | 6.04            | 4.75               |
| Cdh Tj = +7 °C                                      | 0.974           | 0.979              |
| Pdh Tj = 12°C                                       | 4 kW            | 3.8 kW             |
| COP Tj = 12°C                                       | 7.02            | 6.32               |
| Cdh Tj = +12 °C                                     | 0.961           | 0.963              |
| Pdh Tj = Tbiv                                       | 12.1 kW         | 12.1 kW            |
| COP Tj = Tbiv                                       | 2.43            | 1.78               |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW         | 12.1 kW            |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43            | 1.78               |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.996           | 0.997              |
| WTOL                                                | 60 °C           | 60 °C              |
| Poff                                                | 22 W            | 22 W               |
| PTO                                                 | 22 W            | 22 W               |
| PSB                                                 | 22 W            | 22 W               |
| PCK                                                 | 0 W             | 0 W                |
| Supplementary Heater: Type of energy input          | Electricity     | Electricity        |
| Supplementary Heater: PSUP                          | 0 kW            | 0 kW               |
| Annual energy consumption Qhe                       | 5435 kWh        | 7123 kWh           |

#### EN 14825 | Cooling

|                | +7°C/+12°C | +18°C/+23°C |
|----------------|------------|-------------|
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.1        | 5.62        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.994      | 0.992       |

|                               |          |          |
|-------------------------------|----------|----------|
| Pdc Tj = 30°C                 | 8.11 kW  | 8.84 kW  |
| EER Tj = 30°C                 | 3.98     | 5.75     |
| Cdc Tj = 30 °C                | 0.989    | 0.986    |
| Pdc Tj = 25°C                 | 5.21 kW  | 5.68 kW  |
| EER Tj = 25°C                 | 4.59     | 5.99     |
| Cdc Tj = 25 °C                | 0.981    | 0.977    |
| Pdc Tj = 20°C                 | 2.5 kW   | 3.5 kW   |
| EER Tj = 20°C                 | 4.45     | 6.3      |
| Cdc Tj = 20 °C                | 0.961    | 0.96     |
| Poff                          | 22 W     | 22 W     |
| PTO                           | 22 W     | 22 W     |
| PSB                           | 22 W     | 22 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1611 kWh | 1282 kWh |

## Model PUZ-SHWM120VAA + ERSD-\*M\*D

|                                     |                            |
|-------------------------------------|----------------------------|
| Model name                          | PUZ-SHWM120VAA + ERSD-*M*D |
| Application                         | Heating (medium temp)      |
| Units                               | Indoor, Outdoor            |
| Climate zone (for heating)          | n/a                        |
| Heat Source                         | Outdoor Air                |
| Reversibility                       | Yes                        |
| Cooling mode application (optional) | +7°C/12°C, +18°C/+23°C     |
| Any additional heat sources         | n/a                        |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 1x230V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 41 dB(A)        | 41 dB(A)           |
| Sound power level outdoor | 58 dB(A)        | 58 dB(A)           |

## EN 14825 | Average Climate

|          | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| $\eta_s$ | 181 %           | 138 %              |
| Prated   | 12.1 kW         | 12.1 kW            |
| SCOP     | 4.61            | 3.51               |
| Tbiv     | -10 °C          | -10 °C             |

|                                                     |             |             |
|-----------------------------------------------------|-------------|-------------|
| TOL                                                 | -10 °C      | -10 °C      |
| Pdh Tj = -7°C                                       | 10.7 kW     | 10.7 kW     |
| COP Tj = -7°C                                       | 2.85        | 2.13        |
| Cdh Tj = -7 °C                                      | 0.996       | 0.997       |
| Pdh Tj = +2°C                                       | 6.5 kW      | 6.5 kW      |
| COP Tj = +2°C                                       | 4.53        | 3.36        |
| Cdh Tj = +2 °C                                      | 0.99        | 0.992       |
| Pdh Tj = +7°C                                       | 5.2 kW      | 5 kW        |
| COP Tj = +7°C                                       | 6.04        | 4.75        |
| Cdh Tj = +7 °C                                      | 0.983       | 0.986       |
| Pdh Tj = 12°C                                       | 4 kW        | 3.8 kW      |
| COP Tj = 12°C                                       | 7.02        | 6.32        |
| Cdh Tj = +12 °C                                     | 0.974       | 0.975       |
| Pdh Tj = Tbiv                                       | 12.1 kW     | 12.1 kW     |
| COP Tj = Tbiv                                       | 2.43        | 1.78        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW     | 12.1 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43        | 1.78        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.997       | 0.998       |
| WTOL                                                | 60 °C       | 60 °C       |
| Poff                                                | 15 W        | 15 W        |
| PTO                                                 | 15 W        | 15 W        |
| PSB                                                 | 15 W        | 15 W        |
| PCK                                                 | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0 kW        | 0 kW        |
| Annual energy consumption Qhe                       | 5426 kWh    | 7114 kWh    |

#### EN 14825 | Cooling

|                |            |             |
|----------------|------------|-------------|
|                | +7°C/+12°C | +18°C/+23°C |
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.13       | 5.69        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.996      | 0.995       |
| Pdc Tj = 30°C  | 8.11 kW    | 8.84 kW     |
| EER Tj = 30°C  | 3.98       | 5.75        |
| Cdc Tj = 30 °C | 0.993      | 0.99        |
| Pdc Tj = 25°C  | 5.21 kW    | 5.68 kW     |
| EER Tj = 25°C  | 4.59       | 5.99        |
| Cdc Tj = 25 °C | 0.987      | 0.984       |
| Pdc Tj = 20°C  | 2.5 kW     | 3.5 kW      |
| EER Tj = 20°C  | 4.45       | 6.3         |
| Cdc Tj = 20 °C | 0.973      | 0.973       |

|                               |          |          |
|-------------------------------|----------|----------|
| Poff                          | 15 W     | 15 W     |
| PTO                           | 15 W     | 15 W     |
| PSB                           | 15 W     | 15 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1597 kWh | 1266 kWh |

## Model PUZ-SHWM120YAA + ERSD-\*M\*D

|                                     |                            |
|-------------------------------------|----------------------------|
| Model name                          | PUZ-SHWM120YAA + ERSD-*M*D |
| Application                         | Heating (medium temp)      |
| Units                               | Indoor, Outdoor            |
| Climate zone (for heating)          | n/a                        |
| Heat Source                         | Outdoor Air                |
| Reversibility                       | Yes                        |
| Cooling mode application (optional) | +7°C/12°C, +18°C/+23°C     |
| Any additional heat sources         | n/a                        |

## General data

|                  |             |
|------------------|-------------|
| Power supply     | 3x400V 50Hz |
| Off-peak product | n/a         |

## Outdoor Air/Water

## EN 14511-4 | Heating

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

## EN 14511-2 | Heating

|             | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 10 kW           | 7 kW               |
| El input    | 2.06 kW         | 2.59 kW            |
| COP         | 4.85            | 2.7                |

## EN 14511-2 | Cooling

|                  | +7°C/+12°C | +18°C/+23°C |
|------------------|------------|-------------|
| El input         | 3.86 kW    | 2.79 kW     |
| Cooling capacity | 11         | 12          |
| EER              | 2.85       | 4.3         |

## EN 12102-1 | Average Climate

|                           | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor  | 41 dB(A)        | 41 dB(A)           |
| Sound power level outdoor | 58 dB(A)        | 58 dB(A)           |

## EN 14825 | Average Climate

|          | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| $\eta_s$ | 181 %           | 137 %              |
| Prated   | 12.1 kW         | 12.1 kW            |
| SCOP     | 4.6             | 3.51               |
| Tbiv     | -10 °C          | -10 °C             |

|                                                     |             |             |
|-----------------------------------------------------|-------------|-------------|
| TOL                                                 | -10 °C      | -10 °C      |
| Pdh Tj = -7°C                                       | 10.7 kW     | 10.7 kW     |
| COP Tj = -7°C                                       | 2.85        | 2.13        |
| Cdh Tj = -7 °C                                      | 0.994       | 0.996       |
| Pdh Tj = +2°C                                       | 6.5 kW      | 6.5 kW      |
| COP Tj = +2°C                                       | 4.53        | 3.36        |
| Cdh Tj = +2 °C                                      | 0.985       | 0.989       |
| Pdh Tj = +7°C                                       | 5.2 kW      | 5 kW        |
| COP Tj = +7°C                                       | 6.04        | 4.75        |
| Cdh Tj = +7 °C                                      | 0.974       | 0.979       |
| Pdh Tj = 12°C                                       | 4 kW        | 3.8 kW      |
| COP Tj = 12°C                                       | 7.02        | 6.32        |
| Cdh Tj = +12 °C                                     | 0.961       | 0.963       |
| Pdh Tj = Tbiv                                       | 12.1 kW     | 12.1 kW     |
| COP Tj = Tbiv                                       | 2.43        | 1.78        |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.1 kW     | 12.1 kW     |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.43        | 1.78        |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.996       | 0.997       |
| WTOL                                                | 60 °C       | 60 °C       |
| Poff                                                | 22 W        | 22 W        |
| PTO                                                 | 22 W        | 22 W        |
| PSB                                                 | 22 W        | 22 W        |
| PCK                                                 | 0 W         | 0 W         |
| Supplementary Heater: Type of energy input          | Electricity | Electricity |
| Supplementary Heater: PSUP                          | 0 kW        | 0 kW        |
| Annual energy consumption Qhe                       | 5435 kWh    | 7123 kWh    |

#### EN 14825 | Cooling

|                |            |             |
|----------------|------------|-------------|
|                | +7°C/+12°C | +18°C/+23°C |
| Pdesignc       | 11 kW      | 12 kW       |
| SEER           | 4.1        | 5.62        |
| Pdc Tj = 35°C  | 11 kW      | 12 kW       |
| EER Tj = 35°C  | 2.85       | 4.3         |
| Cdc Tj = 35 °C | 0.994      | 0.992       |
| Pdc Tj = 30°C  | 8.11 kW    | 8.84 kW     |
| EER Tj = 30°C  | 3.98       | 5.75        |
| Cdc Tj = 30 °C | 0.989      | 0.986       |
| Pdc Tj = 25°C  | 5.21 kW    | 5.68 kW     |
| EER Tj = 25°C  | 4.59       | 5.99        |
| Cdc Tj = 25 °C | 0.981      | 0.977       |
| Pdc Tj = 20°C  | 2.5 kW     | 3.5 kW      |
| EER Tj = 20°C  | 4.45       | 6.3         |
| Cdc Tj = 20 °C | 0.961      | 0.96        |

|                               |          |          |
|-------------------------------|----------|----------|
| Poff                          | 22 W     | 22 W     |
| PTO                           | 22 W     | 22 W     |
| PSB                           | 22 W     | 22 W     |
| PCK                           | 0 W      | 0 W      |
| Annual energy consumption Qce | 1611 kWh | 1282 kWh |