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| Summary of                 | Ecodan Zubadan 8/11/14                            | Reg. No.     | 037-0059-20           |
|----------------------------|---|--------------|-----------------------|
| Certificate Holder         |   |              |                       |
| Name                       | Mitsubishi Electric Air Conditioning Systems Euro | pe LTD       |                       |
| Address                    | Nettlehill Road, Houston Industrial Estate        | Zip          | EH54 5EQ              |
| City                       | Livingston  | Country      | United Kingdom        |
| Certification Body         | SZU - Strojirensky zkusebni ustav (Engineering 1  | est Institut | e, Public Enterprise) |
| Name of testing laboratory | Austrian Institute of Technology                  |              |                       |
| Subtype title              | Ecodan Zubadan 8/11/14                            |              |                       |
| Heat Pump Type             | Outdoor Air/Water                                 |              |                       |
| Refrigerant                | R410a   |              |                       |
| Mass Of Refrigerant        | 5.5 kg  |              |                       |
| Certification Date         | 09.04.2020  |              |                       |
| Testing basis              | HP Keymark scheme rules rev. no. 7                |              |                       |



# Model: PUHZ-SHW80VHA(-BS) + EHSC-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |



# Model: PUHZ-SHW80VHA(-BS) + EHSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |



# Model: PUHZ-SHW80VHA(-BS) + EHSC-YM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |



# Model: PUHZ-SHW80VHA(-BS) + EHST20C-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

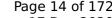
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |





| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



# Model: PUHZ-SHW80VHA(-BS) + EHST20C-VM\*C

| General Data |             |  |
|--------------|-------------|--|
| Power supply | 1x230V 50Hz |  |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

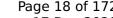
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |





| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 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                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



# Model: PUHZ-SHW80VHA(-BS) + EHST20C-YM\*C

| General Data |             |  |
|--------------|-------------|--|
| Power supply | 3x400V 50Hz |  |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

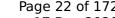
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 171 %           | 131 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.36            | 3.35               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |
|               |                 |                    |





| 7.40 kW     | 7.10 kW  |
|-------------|--|
| 7.59        | 6.72   |
| 0.98        | 0.98   |
| 8.50 kW     | 8.00 kW  |
| 2.91        | 2.04   |
| 5.10 kW     | 5.10 kW  |
| 1.47        | 1.55   |
| 60 °C       | 60 °C  |
| 15 W        | 15 W   |
| 15 W        | 15 W   |
| 15 W        | 15 W   |
| 0 W         | 0 W  |
| electricity | electricity  |
| 1.60 kW     | 1.40 kW  |
| 4429 kWh    | 5452 kWh   |
|             | 7.59  0.98  8.50 kW  2.91  5.10 kW  1.47  60 °C  15 W  15 W  0 W  electricity  1.60 kW |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW80VHA(-BS) + ERSC-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 174 %           | 133 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.44            | 3.40               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |



# Model: PUHZ-SHW80VHA(-BS) + ERSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 174 %           | 133 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.44            | 3.40               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |



# Model: PUHZ-SHW80VHA(-BS) + ERST20C-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 8.00 kW         | 8.00 kW            |
| El input               | 1.72 kW         | 2.83 kW            |
| СОР                    | 4.65            | 2.82               |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\ 30$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 174 %           | 133 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.44            | 3.40               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |

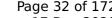


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#### This information was generated by the HP KEYMARK database on 17 Dec 2020

|  | · · · · · · · · · · · · · · · · · · · |             |
|--|---------------------------------------|-------------|
| Pdh Tj = 12°C                              | 7.40 kW                               | 7.10 kW     |
| COP Tj = 12°C                              | 7.59                                  | 6.72        |
| Cdh  | 0.98                                  | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW                               | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91                                  | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW                               | 5.10 kW     |
| COP Tj = TOL                               | 1.47                                  | 1.55        |
| WTOL                                       | 60 °C                                 | 60 °C       |
| Poff                                       | 15 W                                  | 15 W        |
| РТО  | 15 W                                  | 15 W        |
| PSB  | 15 W                                  | 15 W        |
| PCK  | o w                                   | 0 W         |
| Supplementary Heater: Type of energy input | electricity                           | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW                               | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh                              | 5452 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW80VHA(-BS) + ERST20C-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 8.00 kW         | 8.00 kW            |  |
| El input               | 1.72 kW         | 2.83 kW            |  |
| СОР                    | 4.65            | 2.82               |  |
| Indoor water flow rate | 1.38 m³/h       | 0.86 m³/h          |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 69 dB(A)        | 69 dB(A)           |

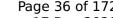
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 174 %           | 133 %              |
| Prated        | 9.60 kW         | 9.00 kW            |
| SCOP          | 4.44            | 3.40               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 8.50 kW         | 8.00 kW            |
| COP Tj = -7°C | 2.91            | 2.04               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 5.20 kW         | 4.90 kW            |
| COP Tj = +2°C | 4.31            | 3.25               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.40 kW         | 4.10 kW            |
| COP Tj = +7°C | 5.65            | 4.59               |
| Cdh           | 0.98            | 0.98               |





| Pdh Tj = 12°C                              | 7.40 kW     | 7.10 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.59        | 6.72        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 8.50 kW     | 8.00 kW     |
| COP Tj = Tbiv                              | 2.91        | 2.04        |
| Pdh Tj = TOL                               | 5.10 kW     | 5.10 kW     |
| COP Tj = TOL                               | 1.47        | 1.55        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 1.60 kW     | 1.40 kW     |
| Annual energy consumption Qhe              | 4429 kWh    | 5452 kWh    |

Domestic Hot Water (DHW)





# $$\operatorname{\textit{Page}}\ 36\ \text{of}\ 172$$ This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



### Model: PUHZ-SHW112VHA(-BS) + EHSC-M\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 1x230V 50Hz |  |  |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |



## $$\operatorname{\textit{Page}}\ 39$ of 172$$ This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |



### Model: PUHZ-SHW112VHA(-BS) + EHSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |



### Model: PUHZ-SHW112VHA(-BS) + EHSC-YM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |



### $$\operatorname{\textit{Page}}$$ 45 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |



### Model: PUHZ-SHW112VHA(-BS) + EHST20C-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

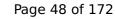
| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



 $$\operatorname{\textit{Page}}\xspace$  47 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

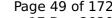
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |





|  | · · · · · · · · · · · · · · · · · · · |             |
|--|---------------------------------------|-------------|
| Pdh Tj = 12°C                              | 7.30 kW                               | 7.00 kW     |
| COP Tj = 12°C                              | 7.51                                  | 6.66        |
| Cdh  | 0.98                                  | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW                              | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85                                  | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW                               | 7.50 kW     |
| COP Tj = TOL                               | 1.45                                  | 1.53        |
| WTOL                                       | 60 °C                                 | 60 °C       |
| Poff                                       | 15 W                                  | 15 W        |
| РТО  | 15 W                                  | 15 W        |
| PSB  | 15 W                                  | 15 W        |
| PCK  | 0 W                                   | o w         |
| Supplementary Heater: Type of energy input | electricity                           | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW                               | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh                              | 7838 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



### Model: PUHZ-SHW112VHA(-BS) + EHST20C-VM\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 1x230V 50Hz |  |  |

### Heating

| EN 14511-2                         |           |           |
|------------------------------------|-----------|-----------|
| Low temperature Medium temperature |           |           |
| Heat output                        | 11.20 kW  | 11.20 kW  |
| El input                           | 2.51 kW   | 4.19 kW   |
| СОР                                | 4.46      | 2.67      |
| Indoor water flow rate             | 1.93 m³/h | 1.20 m³/h |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
|  |        |  |
| Starting and operating test                | passed |  |



 $$\operatorname{\textit{Page}}\ 51$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

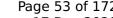
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |





|  | · · · · · · · · · · · · · · · · · · · |             |
|--|---------------------------------------|-------------|
| Pdh Tj = 12°C                              | 7.30 kW                               | 7.00 kW     |
| COP Tj = 12°C                              | 7.51                                  | 6.66        |
| Cdh  | 0.98                                  | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW                              | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85                                  | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW                               | 7.50 kW     |
| COP Tj = TOL                               | 1.45                                  | 1.53        |
| WTOL                                       | 60 °C                                 | 60 °C       |
| Poff                                       | 15 W                                  | 15 W        |
| РТО  | 15 W                                  | 15 W        |
| PSB  | 15 W                                  | 15 W        |
| PCK  | o w                                   | o w         |
| Supplementary Heater: Type of energy input | electricity                           | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW                               | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh                              | 7838 kWh    |
|  |                                       |             |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



# Model: PUHZ-SHW112VHA(-BS) + EHST20C-YM\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

### Heating

| EN 14511-2                         |           |           |
|------------------------------------|-----------|-----------|
| Low temperature Medium temperature |           |           |
| Heat output                        | 11.20 kW  | 11.20 kW  |
| El input                           | 2.51 kW   | 4.19 kW   |
| СОР                                | 4.46      | 2.67      |
| Indoor water flow rate             | 1.93 m³/h | 1.20 m³/h |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

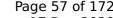
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 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                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |
|  |             |             |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



### Model: PUHZ-SHW112VHA(-BS) + ERSC-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |



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| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 15 W        | 15 W        |
| PSB  | 15 W        | 15 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |



### Model: PUHZ-SHW112VHA(-BS) + ERSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 1x230V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\xspace$  62 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |



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| 7.30 kW     | 7.00 kW   |
|-------------|---|
| 7.51        | 6.66  |
| 0.98        | 0.98  |
| 12.30 kW    | 11.20 kW  |
| 2.85        | 1.96  |
| 7.50 kW     | 7.50 kW   |
| 1.45        | 1.53  |
| 60 °C       | 60 °C   |
| 15 W        | 15 W  |
| 15 W        | 15 W  |
| 15 W        | 15 W  |
| 0 W         | 0 W   |
| electricity | electricity   |
| 2.10 kW     | 1.80 kW   |
| 6630 kWh    | 7838 kWh  |
|             | 7.51  0.98  12.30 kW  2.85  7.50 kW  1.45  60 °C  15 W  15 W  0 W  electricity  2.10 kW |



### Model: PUHZ-SHW112VHA(-BS) + ERST20C-M\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 1x230V 50Hz |  |  |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\xspace$  65 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

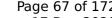
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.98        | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 15 W        | 15 W        |
| РТО  | 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                 | 2.10 kW     | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh    | 7838 kWh    |
|  |             |             |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



### Model: PUHZ-SHW112VHA(-BS) + ERST20C-VM\*C

| General Data             |  |
|--------------------------|--|
| Power supply 1x230V 50Hz |  |

### Heating

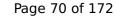
| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

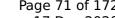
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.04            | 3.12               |
| Cdh           | 0.98            | 0.98               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.68            | 4.61               |
| Cdh           | 0.98            | 0.98               |





|  | · · · · · · · · · · · · · · · · · · · |             |
|--|---------------------------------------|-------------|
| Pdh Tj = 12°C                              | 7.30 kW                               | 7.00 kW     |
| COP Tj = 12°C                              | 7.51                                  | 6.66        |
| Cdh  | 0.98                                  | 0.98        |
| Pdh Tj = Tbiv                              | 12.30 kW                              | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85                                  | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW                               | 7.50 kW     |
| COP Tj = TOL                               | 1.45                                  | 1.53        |
| WTOL                                       | 60 °C                                 | 60 °C       |
| Poff                                       | 15 W                                  | 15 W        |
| РТО  | 15 W                                  | 15 W        |
| PSB  | 15 W                                  | 15 W        |
| PCK  | o w                                   | 0 W         |
| Supplementary Heater: Type of energy input | electricity                           | electricity |
| Supplementary Heater: PSUP                 | 2.10 kW                               | 1.80 kW     |
| Annual energy consumption Qhe              | 6630 kWh                              | 7838 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



### Model: PUHZ-SHW140YHA(-BS) + EHSC-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |



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| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + EHSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\xspace$ 77 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| 7.30 kW     | 7.00 kW   |
|-------------|---|
| 7.47        | 6.62  |
| 0.99        | 0.99  |
| 15.00 kW    | 14.00 kW  |
| 2.59        | 1.84  |
| 9.00 kW     | 9.00 kW   |
| 1.43        | 1.50  |
| 60 °C       | 60 °C   |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 0 W         | 0 W   |
| electricity | electricity   |
| 2.90 kW     | 2.50 kW   |
| 8222 kWh    | 9869 kWh  |
|             | 7.47  0.99  15.00 kW  2.59  9.00 kW  1.43  60 °C  22 W  22 W  0 W  electricity  2.90 kW |



# Model: PUHZ-SHW140YHA(-BS) + EHSC-YM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



 $$\operatorname{\textit{Page}}\ 79$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\xspace$ 80 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + EHST20C-M\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

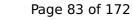
| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}$$  82 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

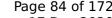
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |





|  | Terated by the fir item. |             |
|--|--------------------------|-------------|
| Pdh Tj = 12°C                              | 7.30 kW                  | 7.00 kW     |
| COP Tj = 12°C                              | 7.47                     | 6.62        |
| Cdh  | 0.99                     | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW                 | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59                     | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW                  | 9.00 kW     |
| COP Tj = TOL                               | 1.43                     | 1.50        |
| WTOL                                       | 60 °C                    | 60 °C       |
| Poff                                       | 22 W                     | 22 W        |
| РТО  | 22 W                     | 22 W        |
| PSB  | 22 W                     | 22 W        |
| PCK  | o w                      | 0 W         |
| Supplementary Heater: Type of energy input | electricity              | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW                  | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh                 | 9869 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW140YHA(-BS) + EHST20C-VM\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

## Heating

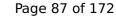
| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
|  |        |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

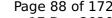
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW140YHA(-BS) + EHST20C-YM\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

## Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |
| El input               | 3.32 kW         | 5.62 kW            |  |
| СОР                    | 4.22            | 2.49               |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

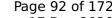
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 164 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW140YHA(-BS) + ERSC-M\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

# Heating

| EN 14511-2                         |           |           |  |
|------------------------------------|-----------|-----------|--|
| Low temperature Medium temperature |           |           |  |
| Heat output                        | 14.00 kW  | 14.00 kW  |  |
| El input                           | 3.32 kW   | 5.62 kW   |  |
| СОР                                | 4.22      | 2.49      |  |
| Indoor water flow rate             | 2.41 m³/h | 1.51 m³/h |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\xspace$ 95 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + ERSC-VM\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

# Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |
| El input               | 3.32 kW         | 5.62 kW            |  |
| СОР                    | 4.22            | 2.49               |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



 $$\operatorname{\textit{Page}}\xspace$  97 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\xspace$ 98 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + ERST20C-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

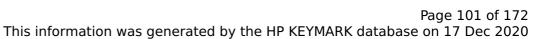
| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\ 100$ of 172$$  This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

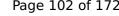
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW     | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





 $$\operatorname{\textit{Page}}\ 102$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW140YHA(-BS) + ERST20C-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

## Heating

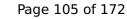
| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

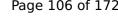
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.99               |





|  | · · · · · · · · · · · · · · · · · · · |             |
|--|---------------------------------------|-------------|
| Pdh Tj = 12°C                              | 7.30 kW                               | 7.00 kW     |
| COP Tj = 12°C                              | 7.47                                  | 6.62        |
| Cdh  | 0.99                                  | 0.99        |
| Pdh Tj = Tbiv                              | 15.00 kW                              | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59                                  | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW                               | 9.00 kW     |
| COP Tj = TOL                               | 1.43                                  | 1.50        |
| WTOL                                       | 60 °C                                 | 60 °C       |
| Poff                                       | 22 W                                  | 22 W        |
| РТО  | 22 W                                  | 22 W        |
| PSB  | 22 W                                  | 22 W        |
| PCK  | o w                                   | 0 W         |
| Supplementary Heater: Type of energy input | electricity                           | electricity |
| Supplementary Heater: PSUP                 | 2.90 kW                               | 2.50 kW     |
| Annual energy consumption Qhe              | 8222 kWh                              | 9869 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW112YHA(-BS) + EHSC-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\ 109$ of 172$$ This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |



# Model: PUHZ-SHW112YHA(-BS) + EHSC-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\ 111$ of 172$$  This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\ 112$ of 172$$ This information was generated by the HP KEYMARK database on 17 Dec 2020

| 7.30 kW     | 7.00 kW   |
|-------------|---|
| 7.51        | 6.66  |
| 0.99        | 0.99  |
| 12.30 kW    | 11.20 kW  |
| 2.85        | 1.96  |
| 7.50 kW     | 7.50 kW   |
| 1.45        | 1.53  |
| 60 °C       | 60 °C   |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 0 W         | 0 W   |
| electricity | electricity   |
| 2.30 kW     | 2.00 kW   |
| 6590 kWh    | 7792 kWh  |
|             | 7.51  0.99  12.30 kW  2.85  7.50 kW  1.45  60 °C  22 W  22 W  22 W  0 W  electricity  2.30 kW |



# Model: PUHZ-SHW112YHA(-BS) + EHSC-YM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |



# $$\operatorname{\textit{Page}}\ 115$$ of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |
|  |             |             |



# Model: PUHZ-SHW112YHA(-BS) + EHST20C-M\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

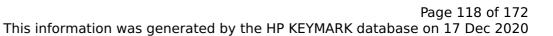
| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\xspace$  117 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

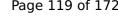
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW112YHA(-BS) + EHST20C-VM\*C

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

## Heating

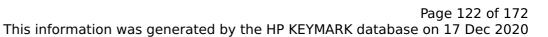
| EN 14511-2                         |           |           |
|------------------------------------|-----------|-----------|
| Low temperature Medium temperature |           |           |
| Heat output                        | 11.20 kW  | 11.20 kW  |
| El input                           | 2.51 kW   | 4.19 kW   |
| СОР                                | 4.46      | 2.67      |
| Indoor water flow rate             | 1.93 m³/h | 1.20 m³/h |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

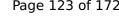
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |

Domestic Hot Water (DHW)





 $$\operatorname{\textit{Page}}\ 123$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW112YHA(-BS) + EHST20C-YM\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

## Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
|  |        |
| Starting and operating test                | passed |



 $$\operatorname{\textit{Page}}\ 125$$  of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

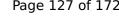
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 167 %           | 128 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.24            | 3.28               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |
|  |             |             |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW112YHA(-BS) + ERSC-M\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

# Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 11.20 kW        | 11.20 kW           |
| El input               | 2.51 kW         | 4.19 kW            |
| СОР                    | 4.46            | 2.67               |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |



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| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |



# Model: PUHZ-SHW112YHA(-BS) + ERSC-VM\*C

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

# Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |



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| 7.30 kW     | 7.00 kW   |
|-------------|---|
| 7.51        | 6.66  |
| 0.99        | 0.99  |
| 12.30 kW    | 11.20 kW  |
| 2.85        | 1.96  |
| 7.50 kW     | 7.50 kW   |
| 1.45        | 1.53  |
| 60 °C       | 60 °C   |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 22 W        | 22 W  |
| 0 W         | 0 W   |
| electricity | electricity   |
| 2.30 kW     | 2.00 kW   |
| 6590 kWh    | 7792 kWh  |
|             | 7.51  0.99  12.30 kW  2.85  7.50 kW  1.45  60 °C  22 W  22 W  22 W  0 W  electricity  2.30 kW |



# Model: PUHZ-SHW112YHA(-BS) + ERST20C-M\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

# Heating

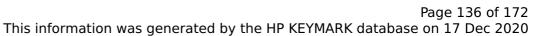
| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

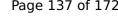
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |  |
|---------------------------------|-------------|--|
| Declared load profile           | L           |  |
| Efficiency ηDHW                 | 103 %       |  |
| СОР                             | 2.48        |  |
| Heating up time                 | 01:46 h:min |  |
| Standby power input             | 36.0 W      |  |
| Reference hot water temperature | 52.5 °C     |  |
| Mixed water at 40°C             | 292 I       |  |



# Model: PUHZ-SHW112YHA(-BS) + ERST20C-VM\*C

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

## Heating

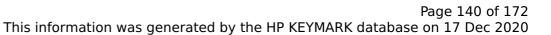
| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 11.20 kW        | 11.20 kW           |  |
| El input               | 2.51 kW         | 4.19 kW            |  |
| СОР                    | 4.46            | 2.67               |  |
| Indoor water flow rate | 1.93 m³/h       | 1.20 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

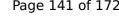
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 169 %           | 130 %              |
| Prated        | 13.90 kW        | 12.70 kW           |
| SCOP          | 4.29            | 3.31               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 12.30 kW        | 11.20 kW           |
| COP Tj = -7°C | 2.85            | 1.96               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +2°C | 7.50 kW         | 6.80 kW            |
| COP Tj = +2°C | 4.07            | 3.14               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 4.80 kW         | 4.40 kW            |
| COP Tj = +7°C | 5.72            | 4.65               |
| Cdh           | 0.99            | 0.99               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.51        | 6.66        |
| Cdh  | 0.99        | 0.99        |
| Pdh Tj = Tbiv                              | 12.30 kW    | 11.20 kW    |
| COP Tj = Tbiv                              | 2.85        | 1.96        |
| Pdh Tj = TOL                               | 7.50 kW     | 7.50 kW     |
| COP Tj = TOL                               | 1.45        | 1.53        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | o w         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.30 kW     | 2.00 kW     |
| Annual energy consumption Qhe              | 6590 kWh    | 7792 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |             |
|---------------------------------|-------------|
| Declared load profile           | L           |
| Efficiency ηDHW                 | 103 %       |
| СОР                             | 2.48        |
| Heating up time                 | 01:46 h:min |
| Standby power input             | 36.0 W      |
| Reference hot water temperature | 52.5 °C     |
| Mixed water at 40°C             | 292 I       |



# Model: PUHZ-SHW140YHA(-BS) + EHST20C-M\*D

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

# Heating

| EN 14511-2             |                 |                    |  |  |
|------------------------|-----------------|--------------------|--|--|
|                        | Low temperature | Medium temperature |  |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |  |
| El input               | 3.32 kW         | 5.62 kW            |  |  |
| СОР                    | 4.22            | 2.49               |  |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |  |

| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
| Starting and operating test                | passed |  |



| EN 12102-1                |                 |                    |  |  |
|---------------------------|-----------------|--------------------|--|--|
|                           | Low temperature | Medium temperature |  |  |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |  |  |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |  |  |

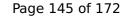
| EN 14825      |                 |                    |  |
|---------------|-----------------|--------------------|--|
|               | Low temperature | Medium temperature |  |
| $\eta_{s}$    | 163 %           | 127 %              |  |
| Prated        | 17.00 kW        | 15.80 kW           |  |
| SCOP          | 4.16            | 3.25               |  |
| Tbiv          | -7 °C           | -7 °C              |  |
| TOL           | -28 °C          | -28 °C             |  |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |  |
| COP Tj = -7°C | 2.59            | 1.84               |  |
| Cdh           | 0.99            | 1.00               |  |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |  |
| COP Tj = +2°C | 4.04            | 3.13               |  |
| Cdh           | 0.99            | 0.99               |  |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |  |
| COP Tj = +7°C | 5.71            | 4.67               |  |
| Cdh           | 0.99            | 0.98               |  |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





| EN 16147                        |            |  |
|---------------------------------|------------|--|
| Declared load profile           | L          |  |
| Efficiency ηDHW                 | 138 %      |  |
| СОР                             | 3.25       |  |
| Heating up time                 | 1:32 h:min |  |
| Standby power input             | 35.0 W     |  |
| Reference hot water temperature | 52.5 °C    |  |
| Mixed water at 40°C             | 278        |  |



## Model: PUHZ-SHW140YHA(-BS) + EHST20C-VM\*D

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

#### Heating

| EN 14511-2                         |           |           |  |
|------------------------------------|-----------|-----------|--|
| Low temperature Medium temperature |           |           |  |
| Heat output                        | 14.00 kW  | 14.00 kW  |  |
| El input                           | 3.32 kW   | 5.62 kW   |  |
| СОР                                | 4.22      | 2.49      |  |
| Indoor water flow rate             | 2.41 m³/h | 1.51 m³/h |  |

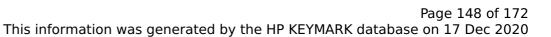
| EN 14511-4                                 |        |  |
|--|--------|--|
| Shutting off the heat transfer medium flow | passed |  |
| Complete power supply failure              | passed |  |
| Defrost test                               | passed |  |
|  |        |  |
| Starting and operating test                | passed |  |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

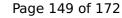
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 163 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





| EN 16147                        |            |  |
|---------------------------------|------------|--|
| Declared load profile           | L          |  |
| Efficiency ηDHW                 | 138 %      |  |
| СОР                             | 3.25       |  |
| Heating up time                 | 1:32 h:min |  |
| Standby power input             | 35.0 W     |  |
| Reference hot water temperature | 52.5 °C    |  |
| Mixed water at 40°C             | 278        |  |



## Model: PUHZ-SHW140YHA(-BS) + EHST20C-YM\*D

| General Data             |  |  |
|--------------------------|--|--|
| Power supply 3x400V 50Hz |  |  |

#### Heating

| EN 14511-2                         |           |           |  |
|------------------------------------|-----------|-----------|--|
| Low temperature Medium temperature |           |           |  |
| Heat output                        | 14.00 kW  | 14.00 kW  |  |
| El input                           | 3.32 kW   | 5.62 kW   |  |
| СОР                                | 4.22      | 2.49      |  |
| Indoor water flow rate             | 2.41 m³/h | 1.51 m³/h |  |

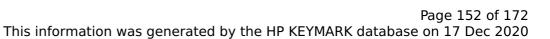
| EN 14511-4                                  |        |  |
|---|--------|--|
| Chutting off the heat transfer medium flour | d      |  |
| Shutting off the heat transfer medium flow  | passed |  |
| Complete power supply failure               | passed |  |
| Defrost test                                | passed |  |
| Starting and operating test                 | passed |  |



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| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

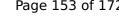
| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 163 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





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| EN 16147                        |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency ηDHW                 | 138 %      |
| СОР                             | 3.25       |
| Heating up time                 | 1:32 h:min |
| Standby power input             | 35.0 W     |
| Reference hot water temperature | 52.5 °C    |
| Mixed water at 40°C             | 278        |



# Model: PUHZ-SHW140YHA(-BS) + EHSC-M\*D

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |
| El input               | 3.32 kW         | 5.62 kW            |  |
| СОР                    | 4.22            | 2.49               |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 163 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |



# $$\operatorname{\textit{Page}}\xspace$ 156 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + EHSC-VM\*D

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 163 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |



# $$\operatorname{\textit{Page}}\ 159$$ of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + EHSC-YM\*D

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

### Heating

| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 163 %           | 127 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.16            | 3.25               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |



# $$\operatorname{\textit{Page}}\ 162$$ of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



## Model: PUHZ-SHW140YHA(-BS) + ERST20C-VM\*D

| General Data |             |
|--------------|-------------|
| Power supply | 3x400V 50Hz |

#### Heating

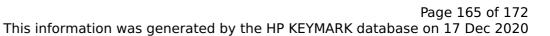
| EN 14511-2             |                 |                    |
|------------------------|-----------------|--------------------|
|                        | Low temperature | Medium temperature |
| Heat output            | 14.00 kW        | 14.00 kW           |
| El input               | 3.32 kW         | 5.62 kW            |
| СОР                    | 4.22            | 2.49               |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
|  |        |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |





| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |

Domestic Hot Water (DHW)





| EN 16147                        |            |
|---------------------------------|------------|
| Declared load profile           | L          |
| Efficiency ηDHW                 | 138 %      |
| СОР                             | 3.25       |
| Heating up time                 | 1:32 h:min |
| Standby power input             | 35.0 W     |
| Reference hot water temperature | 52.5 °C    |
| Mixed water at 40°C             | 278        |



# Model: PUHZ-SHW140YHA(-BS) + ERSC-M\*D

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |
| El input               | 3.32 kW         | 5.62 kW            |  |
| СОР                    | 4.22            | 2.49               |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |

| EN 14511-4                                 |        |
|--|--------|
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure              | passed |
| Defrost test                               | passed |
| Starting and operating test                | passed |



| EN 12102-1                |                 |                    |
|---------------------------|-----------------|--------------------|
|                           | Low temperature | Medium temperature |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |

| EN 14825      |                 |                    |
|---------------|-----------------|--------------------|
|               | Low temperature | Medium temperature |
| $\eta_{s}$    | 165 %           | 128 %              |
| Prated        | 17.00 kW        | 15.80 kW           |
| SCOP          | 4.21            | 3.27               |
| Tbiv          | -7 °C           | -7 °C              |
| TOL           | -28 °C          | -28 °C             |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |
| COP Tj = -7°C | 2.59            | 1.84               |
| Cdh           | 0.99            | 1.00               |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |
| COP Tj = +2°C | 4.04            | 3.13               |
| Cdh           | 0.99            | 0.99               |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |
| COP Tj = +7°C | 5.71            | 4.67               |
| Cdh           | 0.99            | 0.98               |



# $$\operatorname{\textit{Page}}\ 169$$ of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 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                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |



# Model: PUHZ-SHW140YHA(-BS) + ERSC-VM\*D

| General Data             |  |
|--------------------------|--|
| Power supply 3x400V 50Hz |  |

### Heating

| EN 14511-2             |                 |                    |  |
|------------------------|-----------------|--------------------|--|
|                        | Low temperature | Medium temperature |  |
| Heat output            | 14.00 kW        | 14.00 kW           |  |
| El input               | 3.32 kW         | 5.62 kW            |  |
| СОР                    | 4.22            | 2.49               |  |
| Indoor water flow rate | 2.41 m³/h       | 1.51 m³/h          |  |

| EN 14511-4                                 |        |  |  |
|--|--------|--|--|
| Shutting off the heat transfer medium flow | passed |  |  |
| Complete power supply failure              | passed |  |  |
| Defrost test                               | passed |  |  |
| Starting and operating test                | passed |  |  |



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| EN 12102-1                |                 |                    |  |  |
|---------------------------|-----------------|--------------------|--|--|
|                           | Low temperature | Medium temperature |  |  |
| Sound power level indoor  | 40 dB(A)        | 40 dB(A)           |  |  |
| Sound power level outdoor | 70 dB(A)        | 70 dB(A)           |  |  |

| EN 14825      |                 |                    |  |  |
|---------------|-----------------|--------------------|--|--|
|               | Low temperature | Medium temperature |  |  |
| $\eta_{s}$    | 165 %           | 128 %              |  |  |
| Prated        | 17.00 kW        | 15.80 kW           |  |  |
| SCOP          | 4.21            | 3.27               |  |  |
| Tbiv          | -7 °C           | -7 °C              |  |  |
| TOL           | -28 °C          | -28 °C             |  |  |
| Pdh Tj = -7°C | 15.00 kW        | 14.00 kW           |  |  |
| COP Tj = -7°C | 2.59            | 1.84               |  |  |
| Cdh           | 0.99            | 1.00               |  |  |
| Pdh Tj = +2°C | 9.10 kW         | 8.50 kW            |  |  |
| COP Tj = +2°C | 4.04            | 3.13               |  |  |
| Cdh           | 0.99            | 0.99               |  |  |
| Pdh Tj = +7°C | 5.90 kW         | 5.50 kW            |  |  |
| COP Tj = +7°C | 5.71            | 4.67               |  |  |
| Cdh           | 0.99            | 0.98               |  |  |



# $$\operatorname{\textit{Page}}\xspace$ 172 of 172 This information was generated by the HP KEYMARK database on 17 Dec 2020

| Pdh Tj = 12°C                              | 7.30 kW     | 7.00 kW     |
|--|-------------|-------------|
| COP Tj = 12°C                              | 7.47        | 6.62        |
| Cdh  | 0.99        | 0.98        |
| Pdh Tj = Tbiv                              | 15.00 kW    | 14.00 kW    |
| COP Tj = Tbiv                              | 2.59        | 1.84        |
| Pdh Tj = TOL                               | 9.00 kW     | 9.00 kW     |
| COP Tj = TOL                               | 1.43        | 1.50        |
| WTOL                                       | 60 °C       | 60 °C       |
| Poff                                       | 22 W        | 22 W        |
| РТО  | 22 W        | 22 W        |
| PSB  | 22 W        | 22 W        |
| PCK  | o w         | 0 W         |
| Supplementary Heater: Type of energy input | electricity | electricity |
| Supplementary Heater: PSUP                 | 2.86 kW     | 2.51 kW     |
| Annual energy consumption Qhe              | 8222 kWh    | 9869 kWh    |