

**Subtype Ecodan Zubadan 14-300D Packaged**

Certificate Holder	Mitsubishi Electric Air Conditioning Systems Europe LTD
Address	Nettlehill Road, Houston Industrial Estate
ZIP	EH54 5EQ
City	Livingston
Country	GB
Certification Body	SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise)
Subtype title	Ecodan Zubadan 14-300D Packaged
Registration number	037-0038-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	3.3 kg
Certification Date	19.12.2023
Testing basis	HP Keymark scheme rules rev. no. 6
Testing laboratory	SZU Brno, CZ

**Model PUZ-HWM140VHA(-BS) + EHPT30X-\*M\*D**

Model name	PUZ-HWM140VHA(-BS) + EHPT30X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	132 %
Prated	14 kW	14 kW
SCOP	4.47	3.37
Tbiv	-7 °C	-7 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	12.4 kW	12.4 kW
COP Tj = -7°C	2.55	1.98
Cdh Tj = -7 °C	1	1
Pdh Tj = +2°C	7.5 kW	7.5 kW
COP Tj = +2°C	4.4	3.25
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.9 kW	5.1 kW
COP Tj = +7°C	6.28	4.64
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	5.7 kW	5.2 kW
COP Tj = 12°C	7.43	6.24
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.4 kW	12.4 kW
COP Tj = Tbiv	2.55	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.9 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.4	1.75
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Qhe	6470 kWh	8589 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

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

$\eta_s$	227 %	160 %
Prated	14 kW	14 kW
SCOP	5.75	4.07
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.1	3.25
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	1.94
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3252 kWh	4593 kWh

**Model PUZ-HWM140VHA(-BS) + EHPT30X-M\*D**

Model name	PUZ-HWM140VHA(-BS) + EHPT30X-M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	132 %
Prated	14 kW	14 kW
SCOP	4.47	3.37
Tbiv	-7 °C	-7 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	12.4 kW	12.4 kW
COP Tj = -7°C	2.55	1.98
Cdh Tj = -7 °C	1	1
Pdh Tj = +2°C	7.5 kW	7.5 kW
COP Tj = +2°C	4.4	3.25
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	4.9 kW	5.1 kW
COP Tj = +7°C	6.28	4.64
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	5.7 kW	5.2 kW
COP Tj = 12°C	7.43	6.24
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	12.4 kW	12.4 kW
COP Tj = Tbiv	2.55	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.9 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.4	1.75
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Qhe	6470 kWh	8589 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

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

$\eta_s$	227 %	160 %
Prated	14 kW	14 kW
SCOP	5.75	4.07
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.1	3.25
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	1.94
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3252 kWh	4593 kWh

**Model PUZ-HWM140VHA(-BS) + ERPT30X-\*M\*D**

Model name	PUZ-HWM140VHA(-BS) + ERPT30X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	178 %	133 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.51	3.39
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-28 °C	-28 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.4 kW	12.4 kW
COP T <sub>j</sub> = -7°C	2.55	1.98
C <sub>dh T<sub>j</sub></sub> = -7 °C	1	1
P <sub>dh T<sub>j</sub></sub> = +2°C	7.5 kW	7.5 kW
COP T <sub>j</sub> = +2°C	4.4	3.25
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.99	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.9 kW	5.1 kW
COP T <sub>j</sub> = +7°C	6.28	4.64
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.98	0.99
P <sub>dh T<sub>j</sub></sub> = 12°C	5.7 kW	5.2 kW
COP T <sub>j</sub> = 12°C	7.43	6.24
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.98	0.98
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.4 kW	12.4 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.55	1.98
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.4	1.75
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6407 kWh	8534 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

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

$\eta_s$	232 %	162 %
Prated	14 kW	14 kW
SCOP	5.87	4.13
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.1	3.25
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	1.94
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3186 kWh	4527 kWh

**Model PUZ-HWM140YHA(-BS) + EHPT30X-\*M\*D**

Model name	PUZ-HWM140YHA(-BS) + EHPT30X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	175 %	131 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.46	3.36
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-28 °C	-28 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.4 kW	12.4 kW
COP T <sub>j</sub> = -7°C	2.55	1.98
Cd <sub>h</sub> T <sub>j</sub> = -7 °C	1	1
P <sub>dh T<sub>j</sub></sub> = +2°C	7.5 kW	7.5 kW
COP T <sub>j</sub> = +2°C	4.42	3.26
Cd <sub>h</sub> T <sub>j</sub> = +2 °C	0.99	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.9 kW	5.1 kW
COP T <sub>j</sub> = +7°C	6.26	4.64
Cd <sub>h</sub> T <sub>j</sub> = +7 °C	0.98	0.99
P <sub>dh T<sub>j</sub></sub> = 12°C	5.7 kW	5.2 kW
COP T <sub>j</sub> = 12°C	7.43	6.24
Cd <sub>h</sub> T <sub>j</sub> = +12 °C	0.98	0.98
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.4 kW	12.4 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.55	1.98
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.4	1.75
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6492 kWh	8608 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature

$\eta_s$	225 %	159 %
Prated	14 kW	14 kW
SCOP	5.69	4.04
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.12	3.26
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	1.94
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3288 kWh	4628 kWh

**Model PUZ-HWM140YHA(-BS) + EHPT30X-M\*D**

Model name	PUZ-HWM140YHA(-BS) + EHPT30X-M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	175 %	131 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.46	3.36
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-28 °C	-28 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.4 kW	12.4 kW
COP T <sub>j</sub> = -7°C	2.55	1.98
C <sub>dh T<sub>j</sub></sub> = -7 °C	1	1
P <sub>dh T<sub>j</sub></sub> = +2°C	7.5 kW	7.5 kW
COP T <sub>j</sub> = +2°C	4.42	3.26
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.99	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.9 kW	5.1 kW
COP T <sub>j</sub> = +7°C	6.26	4.64
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.98	0.99
P <sub>dh T<sub>j</sub></sub> = 12°C	5.7 kW	5.2 kW
COP T <sub>j</sub> = 12°C	7.43	6.24
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.98	0.98
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.4 kW	12.4 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.55	1.98
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.4	1.75
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6492 kWh	8608 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

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

$\eta_s$	225 %	159 %
Prated	14 kW	14 kW
SCOP	5.69	4.04
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.12	3.26
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.14	1.94
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3288 kWh	4628 kWh

**Model PUZ-HWM140YHA(-BS) + ERPT30X-\*M\*D**

Model name	PUZ-HWM140YHA(-BS) + ERPT30X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	118 %
COP	2.83
Heating up time	02:26 h:min
Standby power input	51 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	3.02
Heating up time	02:21 h:min
Standby power input	41 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	14 kW	14 kW
El input	3.14 kW	5.24 kW
COP	4.46	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	177 %	133 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.51	3.39
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-28 °C	-28 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.4 kW	12.4 kW
COP T <sub>j</sub> = -7°C	2.55	1.98
C <sub>dh T<sub>j</sub></sub> = -7 °C	1	1
P <sub>dh T<sub>j</sub></sub> = +2°C	7.5 kW	7.5 kW
COP T <sub>j</sub> = +2°C	4.42	3.26
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.99	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.9 kW	5.1 kW
COP T <sub>j</sub> = +7°C	6.26	4.64
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.98	0.99
P <sub>dh T<sub>j</sub></sub> = 12°C	5.7 kW	5.2 kW
COP T <sub>j</sub> = 12°C	7.43	6.24
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.98	0.98
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.4 kW	12.4 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.55	1.98
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.4	1.75
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6412 kWh	8528 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

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

ηs	231 %	162 %
Prated	14 kW	14 kW
SCOP	5.86	4.13
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.15	1.94
Cdh Tj = +2 °C	1	1
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.12	3.26
Cdh Tj = +7 °C	0.99	1
Pdh Tj = 12°C	5.5 kW	5.2 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.15	1.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	1.94
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3191 kWh	4531 kWh

**Model PUZ-HWM140VHA(-BS) + EHPT30X-\*M\*E**

Model name	PUZ-HWM140VHA(-BS) + EHPT30X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	123 %
COP	3
Heating up time	2:44 h:min
Standby power input	44.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	134 %
COP	3.25
Heating up time	2:27 h:min
Standby power input	43.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.67 kW	4.29 kW
COP	4.5	2.8

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	176 %	132 %
Prated	14 kW	14 kW
SCOP	4.48	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.38 kW	12.38 kW
COP Tj = -7°C	2.74	1.7
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	7.56 kW	7.56 kW
COP Tj = +2°C	4.5	3.45
Cdh Tj = +2 °C	0.991	0.993
Pdh Tj = +7°C	4.92 kW	4.92 kW
COP Tj = +7°C	5.72	4.65
Cdh Tj = +7 °C	0.983	0.986
Pdh Tj = 12°C	5.55 kW	5.25 kW
COP Tj = 12°C	7.37	6.29
Cdh Tj = +12 °C	0.98	0.982
Pdh Tj = Tbiv	12.38 kW	12.38 kW
COP Tj = Tbiv	2.74	1.7
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.9 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.44	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Qhe	6452 kWh	8579 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	228 %	160 %
Prated	14 kW	14 kW
SCOP	5.77	4.08
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.07	1.83
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.15	3.3
Cdh Tj = +7 °C	0.991	0.995
Pdh Tj = 12°C	5.47 kW	5.15 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.983
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.07	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.07	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3244 kWh	4584 kWh

**Model PUZ-HWM140VHA(-BS) + ERPT30X-\*M\*E**

Model name	PUZ-HWM140VHA(-BS) + ERPT30X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	123 %
COP	3
Heating up time	2:44 h:min
Standby power input	44.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	134 %
COP	3.25
Heating up time	2:27 h:min
Standby power input	43.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.67 kW	4.29 kW
COP	4.5	2.8

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	178 %	133 %
Prated	14 kW	14 kW
SCOP	4.52	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.38 kW	12.38 kW
COP Tj = -7°C	2.74	1.7
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	7.56 kW	7.56 kW
COP Tj = +2°C	4.5	3.45
Cdh Tj = +2 °C	0.991	0.993
Pdh Tj = +7°C	4.92 kW	4.92 kW
COP Tj = +7°C	5.72	4.65
Cdh Tj = +7 °C	0.983	0.986
Pdh Tj = 12°C	5.55 kW	5.25 kW
COP Tj = 12°C	7.37	6.29
Cdh Tj = +12 °C	0.98	0.982
Pdh Tj = Tbiv	12.38 kW	12.38 kW
COP Tj = Tbiv	2.74	1.7
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.9 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.44	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Qhe	6396 kWh	8524 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	232 %	163 %
Prated	14 kW	14 kW
SCOP	5.89	4.14
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.07	1.83
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.15	3.3
Cdh Tj = +7 °C	0.991	0.995
Pdh Tj = 12°C	5.47 kW	5.15 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.98	0.983
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.07	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.07	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3178 kWh	4518 kWh

**Model PUZ-HWM140YHA(-BS) + EHPT30X-\*M\*E**

Model name	PUZ-HWM140YHA(-BS) + EHPT30X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	123 %
COP	3
Heating up time	2:44 h:min
Standby power input	44.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	134 %
COP	3.25
Heating up time	2:27 h:min
Standby power input	43.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.67 kW	4.29 kW
COP	4.5	2.8

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	175 %	131 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.46	3.36
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.38 kW	12.38 kW
COP T <sub>j</sub> = -7°C	2.74	1.7
C <sub>dh T<sub>j</sub></sub> = -7 °C	0.995	0.997
P <sub>dh T<sub>j</sub></sub> = +2°C	7.56 kW	7.56 kW
COP T <sub>j</sub> = +2°C	4.5	3.45
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.987	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.92 kW	4.92 kW
COP T <sub>j</sub> = +7°C	5.72	4.65
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.974	0.979
P <sub>dh T<sub>j</sub></sub> = 12°C	5.55 kW	5.25 kW
COP T <sub>j</sub> = 12°C	7.37	6.29
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.971	0.974
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.38 kW	12.38 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.74	1.7
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.44	1.49
C <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	0.996	0.998
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6485 kWh	8612 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	225 %	159 %
Prated	14 kW	14 kW
SCOP	5.69	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.07	1.83
Cdh Tj = +2 °C	0.995	0.997
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.15	3.3
Cdh Tj = +7 °C	0.987	0.992
Pdh Tj = 12°C	5.47 kW	5.15 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.97	0.975
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.07	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.07	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3286 kWh	4625 kWh

**Model PUZ-HWM140YHA(-BS) + ERPT30X-\*M\*E**

Model name	PUZ-HWM140YHA(-BS) + ERPT30X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

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

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	123 %
COP	3
Heating up time	2:44 h:min
Standby power input	44.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 16147 | Warmer Climate**

Declared load profile	XL
Efficiency $\eta_{DHW}$	134 %
COP	3.25
Heating up time	2:27 h:min
Standby power input	43.5 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	12 kW	12 kW
El input	2.67 kW	4.29 kW
COP	4.5	2.8

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	178 %	133 %
P <sub>rated</sub>	14 kW	14 kW
SCOP	4.52	3.39
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	12.38 kW	12.38 kW
COP T <sub>j</sub> = -7°C	2.74	1.7
C <sub>dh T<sub>j</sub></sub> = -7 °C	0.995	0.997
P <sub>dh T<sub>j</sub></sub> = +2°C	7.56 kW	7.56 kW
COP T <sub>j</sub> = +2°C	4.5	3.45
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.987	0.99
P <sub>dh T<sub>j</sub></sub> = +7°C	4.92 kW	4.92 kW
COP T <sub>j</sub> = +7°C	5.72	4.65
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.974	0.979
P <sub>dh T<sub>j</sub></sub> = 12°C	5.55 kW	5.25 kW
COP T <sub>j</sub> = 12°C	7.37	6.29
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.971	0.974
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	12.38 kW	12.38 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.74	1.7
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	13.9 kW	13.9 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.44	1.49
C <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	0.996	0.998
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.1 kW	0.1 kW
Annual energy consumption Q <sub>he</sub>	6404 kWh	8531 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	232 %	162 %
Prated	14 kW	14 kW
SCOP	5.87	4.13
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14 kW	14 kW
COP Tj = +2°C	3.07	1.83
Cdh Tj = +2 °C	0.995	0.997
Pdh Tj = +7°C	9 kW	9 kW
COP Tj = +7°C	5.15	3.3
Cdh Tj = +7 °C	0.987	0.992
Pdh Tj = 12°C	5.47 kW	5.15 kW
COP Tj = 12°C	7.43	5.91
Cdh Tj = +12 °C	0.97	0.975
Pdh Tj = Tbiv	14 kW	14 kW
COP Tj = Tbiv	3.07	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14 kW	14 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.07	1.83
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	3189 kWh	4528 kWh