

Subtype ETERA M

Certificate Holder	KRONOTERM d.o.o.
Address	Trnava 5e
ZIP	3303
City	Gomilsko
Country	SI
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	ETERA M
Registration number	011-1W0886
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R452B
Mass of Refrigerant	1.3 kg
Certification Date	26.09.2024
Testing basis	HP KEYMARK certification scheme rules V14

Model ETERA M-1 HT / HK 3F E

Model name	ETERA M-1 HT / HK 3F E
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 50Hz
Off-peak product	Yes

Brine/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.11 kW	8.11 kW
EI input	1.24 kW	2.59 kW
COP	4.89	3.13

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	220 %	156 %
Prated	12.20 kW	12.10 kW
SCOP	5.70	4.10
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.81 kW	10.67 kW
COP Tj = -7°C	4.96	3.39
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	7.07 kW	6.65 kW
COP Tj = +2 °C	5.81	4.11
Cdh Tj = +2 °C	0.993	0.994
Pdh Tj = +7°C	4.68 kW	4.26 kW
COP Tj = +7°C	6.01	4.42

Cdh Tj = +7 °C	0.989	0.991
Pdh Tj = 12°C	3.97 kW	3.58 kW
COP Tj = 12°C	5.96	4.84
Cdh Tj = +12 °C	0.987	0.988
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	4420 kWh	6095 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	225 %	158 %
Prated	12.20 kW	12.10 kW
SCOP	5.82	4.16
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.52 kW	7.36 kW
COP Tj = -7°C	5.77	3.91
Cdh Tj = -7 °C	0.993	0.995
Pdh Tj = +2°C	4.88 kW	4.56 kW
COP Tj = +2°C	6.03	4.38
Cdh Tj = +2 °C	0.989	0.992
Pdh Tj = +7°C	3.97 kW	3.55 kW
COP Tj = +7°C	5.96	4.61
Cdh Tj = +7 °C	0.987	0.989
Pdh Tj = 12°C	3.46 kW	3.59 kW
COP Tj = 12°C	5.80	5.09
Cdh Tj = +12 °C	0.986	0.988
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	5167 kWh	7172 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	214 %	156 %
Prated	12.20 kW	12.10 kW
SCOP	5.55	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.20 kW	12.07 kW
COP Tj = +2°C	4.81	3.18
Cdh Tj = +2 °C	0.996	0.998
Pdh Tj = +7°C	7.87 kW	7.94 kW
COP Tj = +7°C	5.55	3.89
Cdh Tj = +7 °C	0.994	0.996
Pdh Tj = 12°C	3.78 kW	3.69 kW
COP Tj = 12°C	5.72	4.44
Cdh Tj = +12 °C	0.987	0.990
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W

PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	2935 kWh	3956 kWh

Water/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.06 kW	8.10 kW
El input	0.90 kW	2.09 kW
COP	6.72	3.88

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	313 %	213 %
Prated	12.10 kW	12.00 kW
SCOP	8.02	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.90 kW	10.83 kW
COP Tj = -7°C	6.89	4.20
Cdh Tj = -7 °C	0.994	0.997
Pdh Tj = +2°C	6.60 kW	6.56 kW
COP Tj = +2 °C	8.07	5.58
Cdh Tj = +2 °C	0.990	0.993
Pdh Tj = +7°C	4.27 kW	4.28 kW
COP Tj = +7°C	8.50	6.14
Cdh Tj = +7 °C	0.984	0.988
Pdh Tj = 12°C	4.02 kW	4.01 kW
COP Tj = 12°C	9.05	6.81
Cdh Tj = +12 °C	0.982	0.986
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	3118 kWh	4489 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	324 %	220 %
Prated	12.20 kW	12.00 kW
SCOP	8.31	5.70
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.46 kW	7.46 kW
COP Tj = -7°C	8.02	5.35
Cdh Tj = -7 °C	0.991	0.994
Pdh Tj = +2°C	4.57 kW	4.58 kW
COP Tj = +2°C	8.67	6.03
Cdh Tj = +2 °C	0.984	0.989
Pdh Tj = +7°C	4.02 kW	4.03 kW
COP Tj = +7°C	9.05	6.62
Cdh Tj = +7 °C	0.982	0.986
Pdh Tj = 12°C	4.03 kW	4.04 kW
COP Tj = 12°C	8.81	7.20
Cdh Tj = +12 °C	0.982	0.985
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW

Annual energy consumption Qhe	3621 kWh	5190 kWh
EN 14825 Warmer Climate		
	Low temperature	Medium temperature
ηs	317 %	213 %
Prated	12.10 kW	12.00 kW
SCOP	8.13	5.52
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.15 kW	12.05 kW
COP Tj = +2°C	6.63	3.96
Cdh Tj = +2 °C	0.995	0.997
Pdh Tj = +7°C	7.97 kW	7.94 kW
COP Tj = +7°C	7.78	5.05
Cdh Tj = +7 °C	0.992	0.994
Pdh Tj = 12°C	4.04 kW	4.04 kW
COP Tj = 12°C	8.83	6.33
Cdh Tj = +12 °C	0.982	0.987
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	1987 kWh	2902 kWh

Model ETERA-C M-1 HT / HK 3F

Model name	ETERA-C M-1 HT / HK 3F
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	Yes

Brine/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.05 kW	8.11 kW
EI input	1.24 kW	2.59 kW
COP	4.89	3.13

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	220 %	156 %
Prated	12.20 kW	12.10 kW
SCOP	5.70	4.10
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.81 kW	10.67 kW
COP Tj = -7°C	4.96	3.39
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	7.07 kW	6.65 kW
COP Tj = +2 °C	5.81	4.11
Cdh Tj = +2 °C	0.993	0.994
Pdh Tj = +7°C	4.68 kW	4.26 kW
COP Tj = +7°C	6.01	4.42

Cdh Tj = +7 °C	0.989	0.991
Pdh Tj = 12°C	3.97 kW	3.58 kW
COP Tj = 12°C	5.96	4.84
Cdh Tj = +12 °C	0.987	0.988
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	4420 kWh	6095 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	225 %	158 %
Prated	12.20 kW	12.10 kW
SCOP	5.82	4.16
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.52 kW	7.36 kW
COP Tj = -7°C	5.77	3.91
Cdh Tj = -7 °C	0.993	0.995
Pdh Tj = +2°C	4.88 kW	4.56 kW
COP Tj = +2°C	6.03	4.38
Cdh Tj = +2 °C	0.989	0.992
Pdh Tj = +7°C	3.97 kW	3.55 kW
COP Tj = +7°C	5.96	4.61
Cdh Tj = +7 °C	0.987	0.989
Pdh Tj = 12°C	3.46 kW	3.59 kW
COP Tj = 12°C	5.80	5.09
Cdh Tj = +12 °C	0.986	0.988
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	5167 kWh	7172 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	214 %	156 %
Prated	12.20 kW	12.10 kW
SCOP	5.55	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.20 kW	12.07 kW
COP Tj = +2°C	4.81	3.18
Cdh Tj = +2 °C	0.996	0.998
Pdh Tj = +7°C	7.87 kW	7.94 kW
COP Tj = +7°C	5.55	3.89
Cdh Tj = +7 °C	0.994	0.996
Pdh Tj = 12°C	3.78 kW	3.69 kW
COP Tj = 12°C	5.72	4.44
Cdh Tj = +12 °C	0.987	0.990
Pdh Tj = Tbiv	12.20 kW	12.07 kW
COP Tj = Tbiv	4.81	3.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.20 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.81	3.18
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W

PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	2935 kWh	3956 kWh

Water/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.06 kW	8.10 kW
El input	0.90 kW	2.09 kW
COP	6.72	3.88

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	313 %	213 %
Prated	12.10 kW	12.00 kW
SCOP	8.02	5.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.90 kW	10.83 kW
COP Tj = -7°C	6.89	4.20
Cdh Tj = -7 °C	0.994	0.997
Pdh Tj = +2°C	6.60 kW	6.56 kW
COP Tj = +2 °C	8.07	5.58
Cdh Tj = +2 °C	0.990	0.993
Pdh Tj = +7°C	4.27 kW	4.28 kW
COP Tj = +7°C	8.50	6.14
Cdh Tj = +7 °C	0.984	0.988
Pdh Tj = 12°C	4.02 kW	4.01 kW
COP Tj = 12°C	9.05	6.81
Cdh Tj = +12 °C	0.982	0.986
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	3118 kWh	4489 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	324 %	220 %
Prated	12.20 kW	12.00 kW
SCOP	8.31	5.70
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.46 kW	7.46 kW
COP Tj = -7°C	8.02	5.35
Cdh Tj = -7 °C	0.991	0.994
Pdh Tj = +2°C	4.57 kW	4.58 kW
COP Tj = +2°C	8.67	6.03
Cdh Tj = +2 °C	0.984	0.989
Pdh Tj = +7°C	4.02 kW	4.03 kW
COP Tj = +7°C	9.05	6.62
Cdh Tj = +7 °C	0.982	0.986
Pdh Tj = 12°C	4.03 kW	4.04 kW
COP Tj = 12°C	8.81	7.20
Cdh Tj = +12 °C	0.982	0.985
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW

Annual energy consumption Qhe	3621 kWh	5190 kWh
EN 14825 Warmer Climate		
	Low temperature	Medium temperature
ηs	317 %	213 %
Prated	12.10 kW	12.00 kW
SCOP	8.13	5.52
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.15 kW	12.05 kW
COP Tj = +2°C	6.63	3.96
Cdh Tj = +2 °C	0.995	0.997
Pdh Tj = +7°C	7.97 kW	7.94 kW
COP Tj = +7°C	7.78	5.05
Cdh Tj = +7 °C	0.992	0.994
Pdh Tj = 12°C	4.04 kW	4.04 kW
COP Tj = 12°C	8.83	6.33
Cdh Tj = +12 °C	0.982	0.987
Pdh Tj = Tbiv	12.15 kW	12.05 kW
COP Tj = Tbiv	6.63	3.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.15 kW	12.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.63	3.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	kW	kW
Annual energy consumption Qhe	1987 kWh	2902 kWh

Model ETERA M-1 HT / HK UF E

Model name	ETERA M-1 HT / HK UF E
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	Yes

Brine/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.11 kW	8.10 kW
EI input	1.23 kW	2.56 kW
COP	4.97	3.17

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	220 %	162 %
Prated	12.10 kW	12.10 kW
SCOP	5.71	4.24
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.80 kW	10.70 kW
COP Tj = -7°C	4.97	3.35
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.84 kW	6.68 kW
COP Tj = +2°C	5.79	4.29
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	4.50 kW	4.30 kW
COP Tj = +7°C	6.00	4.62

Cdh Tj = +7 °C	0.989	0.991
Pdh Tj = 12°C	4.02 kW	4.07 kW
COP Tj = 12°C	6.14	5.06
Cdh Tj = +12 °C	0.988	0.990
Pdh Tj = Tbiv	12.18 kW	12.07 kW
COP Tj = Tbiv	4.80	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.18 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.80	3.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4378 kWh	5895 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	226 %	165 %
Prated	12.10 kW	12.10 kW
SCOP	5.85	4.32
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.54 kW	7.46 kW
COP Tj = -7°C	5.79	4.10
Cdh Tj = -7 °C	0.994	0.995
Pdh Tj = +2°C	4.74 kW	4.57 kW
COP Tj = +2°C	6.02	4.53
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.02 kW	4.09 kW
COP Tj = +7°C	6.14	4.99
Cdh Tj = +7 °C	0.988	0.990
Pdh Tj = 12°C	3.98 kW	4.01 kW
COP Tj = 12°C	6.09	5.16
Cdh Tj = +12 °C	0.988	0.990
Pdh Tj = Tbiv	12.18 kW	12.07 kW
COP Tj = Tbiv	4.80	3.11

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.18 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.80	3.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5094 kWh	6898 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	34 dB(A)	36 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	214 %	160 %
Prated	12.10 kW	12.10 kW
SCOP	5.55	4.20
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.18 kW	12.07 kW
COP Tj = +2°C	4.80	3.11
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	7.93 kW	7.73 kW
COP Tj = +7°C	5.57	3.88
Cdh Tj = +7 °C	0.994	0.996
Pdh Tj = 12°C	3.61 kW	4.02 kW
COP Tj = 12°C	5.69	4.72
Cdh Tj = +12 °C	0.987	0.990
Pdh Tj = Tbiv	12.18 kW	12.07 kW
COP Tj = Tbiv	4.80	3.11
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.18 kW	12.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.80	3.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W

PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2915 kWh	3852 kWh

Water/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.02 kW	8.07 kW
El input	0.94 kW	2.07 kW
COP	6.40	3.90

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	301 %	211 %
Prated	12.10 kW	12.10 kW
SCOP	7.72	5.47
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.88 kW	10.87 kW
COP Tj = -7°C	6.94	4.28
Cdh Tj = -7 °C	0.995	0.997
Pdh Tj = +2°C	6.70 kW	6.67 kW
COP Tj = +2 °C	7.65	5.52
Cdh Tj = +2 °C	0.991	0.993
Pdh Tj = +7°C	4.33 kW	4.35 kW
COP Tj = +7°C	8.06	5.98
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.02 kW	3.99 kW
COP Tj = 12°C	9.02	6.66
Cdh Tj = +12 °C	0.983	0.986
Pdh Tj = Tbiv	12.16 kW	12.15 kW
COP Tj = Tbiv	6.74	4.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.16 kW	12.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.74	4.05

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3239 kWh	4572 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	311 %	215 %
Prated	12.10 kW	12.10 kW
SCOP	7.97	5.58
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.44 kW	7.52 kW
COP Tj = -7°C	7.73	5.26
Cdh Tj = -7 °C	0.991	0.994
Pdh Tj = +2°C	4.53 kW	4.61 kW
COP Tj = +2°C	8.13	5.84
Cdh Tj = +2 °C	0.986	0.989
Pdh Tj = +7°C	4.02 kW	4.00 kW
COP Tj = +7°C	9.02	6.44
Cdh Tj = +7 °C	0.983	0.987
Pdh Tj = 12°C	3.98 kW	4.07 kW
COP Tj = 12°C	8.32	7.04
Cdh Tj = +12 °C	0.984	0.986
Pdh Tj = Tbiv	12.16 kW	12.15 kW
COP Tj = Tbiv	6.74	4.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.16 kW	12.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.74	4.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	3744 kWh	5348 kWh
EN 14825 Warmer Climate		
	Low temperature	Medium temperature
ηs	301 %	207 %
Prated	12.10 kW	12.10 kW
SCOP	7.72	5.38
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.16 kW	12.15 kW
COP Tj = +2°C	6.74	4.05
Cdh Tj = +2 °C	0.995	0.997
Pdh Tj = +7°C	7.97 kW	7.89 kW
COP Tj = +7°C	7.49	4.96
Cdh Tj = +7 °C	0.992	0.995
Pdh Tj = 12°C	4.02 kW	3.97 kW
COP Tj = 12°C	8.19	6.06
Cdh Tj = +12 °C	0.984	0.988
Pdh Tj = Tbiv	12.16 kW	12.15 kW
COP Tj = Tbiv	6.74	4.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.16 kW	12.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.74	4.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.997
WTOL	67 °C	67 °C
Poff	9 W	9 W
PTO	9 W	9 W
PSB	9 W	9 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2093 kWh	3005 kWh