

Subtype Vitocal 2xx-G B10

Certificate Holder	Viessmann Climate Solutions SE
Address	Viessmannstr. 1
ZIP	35107
City	Allendorf/Eder
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Vitocal 2xx-G B10
Registration number	011-1W0287
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R410A
Mass of Refrigerant	1.8 kg
Certification Date	11.07.2019

Model VITOCAL 200-G BWC 201.B10

Model name	VITOCAL 200-G BWC 201.B10
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
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
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.27 kW	9.31 kW
El input	2.16 kW	3.15 kW
COP	4.75	2.96

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	200 %	150 %
Prated	11.72 kW	10.81 kW
SCOP	5.21	3.95
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.32 kW	9.46 kW
COP Tj = -7°C	4.91	3.19
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.41 kW	9.97 kW
COP Tj = +2°C	5.19	4.10
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.51 kW	10.00 kW
COP Tj = +7°C	5.48	4.18

Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.57 kW	10.18 kW
COP Tj = 12°C	5.76	4.64
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.32 kW	9.46 kW
COP Tj = Tbiv	4.91	3.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.50 kW
Annual energy consumption Qhe	4651 kWh	5652 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	186 %	141 %
Prated	17.18 kW	15.83 kW
SCOP	4.86	3.73
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.48 kW	9.86 kW
COP Tj = -7°C	5.48	3.88
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.55 kW	10.04 kW
COP Tj = +2°C	5.64	4.26
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.60 kW	10.17 kW
COP Tj = +7°C	5.79	4.62
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.60 kW	10.25 kW
COP Tj = 12°C	5.78	4.88
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	10.48 kW	9.86 kW
COP Tj = Tbiv	5.48	3.88

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.91 kW	6.52 kW
Annual energy consumption Qhe	8717 kWh	10461 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	201 %	143 %
Prated	10.27 kW	9.39 kW
SCOP	5.23	3.77
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.31 kW
COP Tj = +2°C	4.75	2.96
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	10.35 kW	9.64 kW
COP Tj = +7°C	5.05	3.43
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.52 kW	10.06 kW
COP Tj = 12°C	5.54	4.29
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.27 kW	9.31 kW
COP Tj = Tbiv	4.75	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W

PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2623 kWh	3323 kWh

Water/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	13.82 kW	12.48 kW
EI input	2.22 kW	3.29 kW
COP	6.23	3.79

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	269 %	192 %
Prated	15.20 kW	14.20 kW
SCOP	6.93	5.01
T _{biv}	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	13.94 kW	12.74 kW
COP T _j = -7°C	6.53	4.12
C _{dh} T _j = -7 °C	0.996	0.998
P _{dh} T _j = +2°C	14.04 kW	13.22 kW
COP T _j = +2°C	6.89	4.96
C _{dh} T _j = +2 °C	0.996	0.997
P _{dh} T _j = +7°C	14.23 kW	13.51 kW
COP T _j = +7°C	7.34	5.61
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12°C	14.36 kW	13.79 kW
COP T _j = 12°C	7.68	6.31
C _{dh} T _j = +12 °C	0.996	0.997
P _{dh} T _j = T _{biv}	13.94 kW	12.74 kW
COP T _j = T _{biv}	6.53	4.12
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.82 kW	12.48 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.23	3.79

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.38 kW	1.72 kW
Annual energy consumption Qhe	4533 kWh	5856 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	241 %	184 %
Prated	22.40 kW	21.60 kW
SCOP	6.22	4.81
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	14.24 kW	13.32 kW
COP Tj = -7°C	7.33	5.18
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	14.29 kW	13.58 kW
COP Tj = +2°C	7.53	5.77
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.37 kW	13.79 kW
COP Tj = +7°C	7.73	6.31
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.36 kW	13.95 kW
COP Tj = 12°C	7.74	6.71
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	14.24 kW	13.32 kW
COP Tj = Tbiv	7.33	5.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.58 kW	9.12 kW

Annual energy consumption Q _{he}	8875 kWh	11076 kWh
---	----------	-----------

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	272 %	192 %
Prated	13.40 kW	12.40 kW
SCOP	7.01	5.00
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	13.82 kW	12.48 kW
COP T _j = +2°C	6.23	3.79
C _{dh} T _j = +2 °C	0.997	0.998
P _{dh} T _j = +7°C	14.02 kW	12.93 kW
COP T _j = +7°C	6.77	4.47
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12°C	14.26 kW	13.60 kW
COP T _j = 12°C	7.44	5.80
C _{dh} T _j = +12 °C	0.996	0.997
P _{dh} T _j = T _{biv}	13.82 kW	12.48 kW
COP T _j = T _{biv}	6.23	3.79
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.82 kW	12.48 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.23	3.79
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.997	0.998
WTOL	65 °C	65 °C
P _{off}	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2556 kWh	3313 kWh

Model VITOCAL 200-G BWC 201.B10 SC

Model name	VITOCAL 200-G BWC 201.B10 SC
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

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

Brine/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.27 kW	9.31 kW
El input	2.16 kW	3.15 kW
COP	4.75	2.96

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	200 %	150 %
Prated	11.72 kW	10.81 kW
SCOP	5.21	3.95
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.32 kW	9.46 kW
COP Tj = -7°C	4.91	3.19
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.41 kW	9.97 kW
COP Tj = +2°C	5.19	4.10
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.51 kW	10.00 kW
COP Tj = +7°C	5.48	4.18

Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.57 kW	10.18 kW
COP Tj = 12°C	5.76	4.64
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.32 kW	9.46 kW
COP Tj = Tbiv	4.91	3.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.50 kW
Annual energy consumption Qhe	4651 kWh	5652 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	186 %	141 %
Prated	17.18 kW	15.83 kW
SCOP	4.86	3.73
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.48 kW	9.86 kW
COP Tj = -7°C	5.48	3.88
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.55 kW	10.04 kW
COP Tj = +2°C	5.64	4.26
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.60 kW	10.17 kW
COP Tj = +7°C	5.79	4.62
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.60 kW	10.25 kW
COP Tj = 12°C	5.78	4.88
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	10.48 kW	9.86 kW
COP Tj = Tbiv	5.48	3.88

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.91 kW	6.52 kW
Annual energy consumption Qhe	8717 kWh	10461 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	201 %	143 %
Prated	10.27 kW	9.39 kW
SCOP	5.23	3.77
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.31 kW
COP Tj = +2°C	4.75	2.96
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	10.35 kW	9.64 kW
COP Tj = +7°C	5.05	3.43
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.52 kW	10.06 kW
COP Tj = 12°C	5.54	4.29
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.27 kW	9.31 kW
COP Tj = Tbiv	4.75	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W

PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2623 kWh	3323 kWh

Water/Water

EN 14511-4 | Heating

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

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	13.82 kW	12.48 kW
El input	2.22 kW	3.29 kW
COP	6.23	3.79

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	269 %	192 %
Prated	15.20 kW	14.20 kW
SCOP	6.93	5.01
T _{biv}	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	13.94 kW	12.74 kW
COP T _j = -7°C	6.53	4.12
C _{dh} T _j = -7 °C	0.996	0.998
P _{dh} T _j = +2°C	14.04 kW	13.22 kW
COP T _j = +2°C	6.89	4.96
C _{dh} T _j = +2 °C	0.996	0.997
P _{dh} T _j = +7°C	14.23 kW	13.51 kW
COP T _j = +7°C	7.34	5.61
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12°C	14.36 kW	13.79 kW
COP T _j = 12°C	7.68	6.31
C _{dh} T _j = +12 °C	0.996	0.997
P _{dh} T _j = T _{biv}	13.94 kW	12.74 kW
COP T _j = T _{biv}	6.53	4.12
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.82 kW	12.48 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.23	3.79

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.38 kW	1.72 kW
Annual energy consumption Qhe	4533 kWh	5856 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	241 %	184 %
Prated	22.40 kW	21.60 kW
SCOP	6.22	4.81
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	14.24 kW	13.32 kW
COP Tj = -7°C	7.33	5.18
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	14.29 kW	13.58 kW
COP Tj = +2°C	7.53	5.77
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.37 kW	13.79 kW
COP Tj = +7°C	7.73	6.31
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.36 kW	13.95 kW
COP Tj = 12°C	7.74	6.71
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	14.24 kW	13.32 kW
COP Tj = Tbiv	7.33	5.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.58 kW	9.12 kW

Annual energy consumption Q _{he}	8875 kWh	11076 kWh
EN 14825 Warmer Climate		
	Low temperature	Medium temperature
η_s	272 %	192 %
Prated	13.40 kW	12.40 kW
SCOP	7.01	5.00
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	13.82 kW	12.48 kW
COP T _j = +2°C	6.23	3.79
C _{dh} T _j = +2 °C	0.997	0.998
P _{dh} T _j = +7°C	14.02 kW	12.93 kW
COP T _j = +7°C	6.77	4.47
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12°C	14.26 kW	13.60 kW
COP T _j = 12°C	7.44	5.80
C _{dh} T _j = +12 °C	0.996	0.997
P _{dh} T _j = T _{biv}	13.82 kW	12.48 kW
COP T _j = T _{biv}	6.23	3.79
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	13.82 kW	12.48 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	6.23	3.79
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.997	0.998
WTOL	65 °C	65 °C
P _{off}	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2556 kWh	3313 kWh

Model VITOCAL 222-G BWT 221.B10

Model name	VITOCAL 222-G BWT 221.B10
Application	Heating + DHW + low temp
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
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 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 14511-4 | Heating

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

Starting and operating test passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.27 kW	9.31 kW
El input	2.16 kW	3.15 kW
COP	4.75	2.96

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	200 %	150 %
Prated	11.72 kW	10.81 kW
SCOP	5.21	3.95
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.32 kW	9.46 kW
COP Tj = -7°C	4.91	3.19
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.41 kW	9.97 kW
COP Tj = +2°C	5.19	4.10
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.51 kW	10.00 kW
COP Tj = +7°C	5.48	4.18
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.57 kW	10.18 kW
COP Tj = 12°C	5.76	4.64
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.32 kW	9.46 kW
COP Tj = Tbiv	4.91	3.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.45 kW	1.50 kW
Annual energy consumption Q _{he}	4651 kWh	5652 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η _s	186 %	141 %
Prated	17.18 kW	15.83 kW
SCOP	4.86	3.73
T _{biv}	-7 °C	-7 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7 °C	10.48 kW	9.86 kW
COP T _j = -7 °C	5.48	3.88
C _{dh} T _j = -7 °C	0.996	0.997
P _{dh} T _j = +2 °C	10.55 kW	10.04 kW
COP T _j = +2 °C	5.64	4.26
C _{dh} T _j = +2 °C	0.996	0.997
P _{dh} T _j = +7 °C	10.60 kW	10.17 kW
COP T _j = +7 °C	5.79	4.62
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12 °C	10.60 kW	10.25 kW
COP T _j = 12 °C	5.78	4.88
C _{dh} T _j = +12 °C	0.996	0.996
P _{dh} T _j = T _{biv}	10.48 kW	9.86 kW
COP T _j = T _{biv}	5.48	3.88
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	10.27 kW	9.31 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.75	2.96
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.997	0.998
WTOL	65 °C	65 °C
P _{off}	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.91 kW	6.52 kW
Annual energy consumption Q _{he}	8717 kWh	10461 kWh

EN 12102-1 | Warmer Climate

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

Sound power level indoor	46 dB(A)	46 dB(A)
--------------------------	----------	----------

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	201 %	143 %
Prated	10.27 kW	9.39 kW
SCOP	5.23	3.77
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.31 kW
COP Tj = +2°C	4.75	2.96
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	10.35 kW	9.64 kW
COP Tj = +7°C	5.05	3.43
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.52 kW	10.06 kW
COP Tj = 12°C	5.54	4.29
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.27 kW	9.31 kW
COP Tj = Tbiv	4.75	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2623 kWh	3323 kWh

Water/Water

EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 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	13.82 kW	12.48 kW
El input	2.22 kW	3.29 kW
COP	6.23	3.79

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	269 %	192 %
Prated	15.20 kW	14.20 kW
SCOP	6.93	5.01
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.94 kW	12.74 kW
COP Tj = -7°C	6.53	4.12
Cdh Tj = -7 °C	0.996	0.998
Pdh Tj = +2°C	14.04 kW	13.22 kW
COP Tj = +2°C	6.89	4.96
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.23 kW	13.51 kW
COP Tj = +7°C	7.34	5.61
Cdh Tj = +7 °C	0.996	0.997

Pdh Tj = 12°C	14.36 kW	13.79 kW
COP Tj = 12°C	7.68	6.31
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	13.94 kW	12.74 kW
COP Tj = Tbiv	6.53	4.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.38 kW	1.72 kW
Annual energy consumption Qhe	4533 kWh	5856 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	241 %	184 %
Prated	22.40 kW	21.60 kW
SCOP	6.22	4.81
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	14.24 kW	13.32 kW
COP Tj = -7°C	7.33	5.18
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	14.29 kW	13.58 kW
COP Tj = +2°C	7.53	5.77
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.37 kW	13.79 kW
COP Tj = +7°C	7.73	6.31
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.36 kW	13.95 kW
COP Tj = 12°C	7.74	6.71
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	14.24 kW	13.32 kW
COP Tj = Tbiv	7.33	5.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.58 kW	9.12 kW
Annual energy consumption Qhe	8875 kWh	11076 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	272 %	192 %
Prated	13.40 kW	12.40 kW
SCOP	7.01	5.00
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.82 kW	12.48 kW
COP Tj = +2°C	6.23	3.79
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	14.02 kW	12.93 kW
COP Tj = +7°C	6.77	4.47
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.26 kW	13.60 kW
COP Tj = 12°C	7.44	5.80
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	13.82 kW	12.48 kW
COP Tj = Tbiv	6.23	3.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2556 kWh	3313 kWh

Model VITOCAL 222-G BWT 221.B10 SC

Model name	VITOCAL 222-G BWT 221.B10 SC
Application	Heating + DHW + low temp
Units	Indoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
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 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 14511-4 | Heating

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

Starting and operating test passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.27 kW	9.31 kW
El input	2.16 kW	3.15 kW
COP	4.75	2.96

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	200 %	150 %
Prated	11.72 kW	10.81 kW
SCOP	5.21	3.95
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.32 kW	9.46 kW
COP Tj = -7°C	4.91	3.19
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	10.41 kW	9.97 kW
COP Tj = +2°C	5.19	4.10
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	10.51 kW	10.00 kW
COP Tj = +7°C	5.48	4.18
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.57 kW	10.18 kW
COP Tj = 12°C	5.76	4.64
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.32 kW	9.46 kW
COP Tj = Tbiv	4.91	3.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	1.45 kW	1.50 kW
Annual energy consumption Q _{he}	4651 kWh	5652 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	186 %	141 %
Prated	17.18 kW	15.83 kW
SCOP	4.86	3.73
T _{biv}	-7 °C	-7 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7 °C	10.48 kW	9.86 kW
COP T _j = -7 °C	5.48	3.88
C _{dh} T _j = -7 °C	0.996	0.997
P _{dh} T _j = +2 °C	10.55 kW	10.04 kW
COP T _j = +2 °C	5.64	4.26
C _{dh} T _j = +2 °C	0.996	0.997
P _{dh} T _j = +7 °C	10.60 kW	10.17 kW
COP T _j = +7 °C	5.79	4.62
C _{dh} T _j = +7 °C	0.996	0.997
P _{dh} T _j = 12 °C	10.60 kW	10.25 kW
COP T _j = 12 °C	5.78	4.88
C _{dh} T _j = +12 °C	0.996	0.996
P _{dh} T _j = T _{biv}	10.48 kW	9.86 kW
COP T _j = T _{biv}	5.48	3.88
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	10.27 kW	9.31 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.75	2.96
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.997	0.998
WTOL	65 °C	65 °C
P _{off}	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.91 kW	6.52 kW
Annual energy consumption Q _{he}	8717 kWh	10461 kWh

EN 12102-1 | Warmer Climate

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

Sound power level indoor	46 dB(A)	46 dB(A)
--------------------------	----------	----------

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	201 %	143 %
Prated	10.27 kW	9.39 kW
SCOP	5.23	3.77
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.31 kW
COP Tj = +2°C	4.75	2.96
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	10.35 kW	9.64 kW
COP Tj = +7°C	5.05	3.43
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	10.52 kW	10.06 kW
COP Tj = 12°C	5.54	4.29
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	10.27 kW	9.31 kW
COP Tj = Tbiv	4.75	2.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.31 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2623 kWh	3323 kWh

Water/Water

EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	130 %
COP	3.11
Heating up time	1:14 h:min
Standby power input	63.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	302 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	13.82 kW	12.48 kW
El input	2.22 kW	3.29 kW
COP	6.23	3.79

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	269 %	192 %
Prated	15.20 kW	14.20 kW
SCOP	6.93	5.01
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.94 kW	12.74 kW
COP Tj = -7°C	6.53	4.12
Cdh Tj = -7 °C	0.996	0.998
Pdh Tj = +2°C	14.04 kW	13.22 kW
COP Tj = +2°C	6.89	4.96
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.23 kW	13.51 kW
COP Tj = +7°C	7.34	5.61
Cdh Tj = +7 °C	0.996	0.997

Pdh Tj = 12°C	14.36 kW	13.79 kW
COP Tj = 12°C	7.68	6.31
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	13.94 kW	12.74 kW
COP Tj = Tbiv	6.53	4.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.38 kW	1.72 kW
Annual energy consumption Qhe	4533 kWh	5856 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	241 %	184 %
Prated	22.40 kW	21.60 kW
SCOP	6.22	4.81
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	14.24 kW	13.32 kW
COP Tj = -7°C	7.33	5.18
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	14.29 kW	13.58 kW
COP Tj = +2°C	7.53	5.77
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	14.37 kW	13.79 kW
COP Tj = +7°C	7.73	6.31
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.36 kW	13.95 kW
COP Tj = 12°C	7.74	6.71
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	14.24 kW	13.32 kW
COP Tj = Tbiv	7.33	5.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.58 kW	9.12 kW
Annual energy consumption Qhe	8875 kWh	11076 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	272 %	192 %
Prated	13.40 kW	12.40 kW
SCOP	7.01	5.00
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.82 kW	12.48 kW
COP Tj = +2°C	6.23	3.79
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	14.02 kW	12.93 kW
COP Tj = +7°C	6.77	4.47
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	14.26 kW	13.60 kW
COP Tj = 12°C	7.44	5.80
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	13.82 kW	12.48 kW
COP Tj = Tbiv	6.23	3.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.82 kW	12.48 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.23	3.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2556 kWh	3313 kWh