

Subtype Vitocal 100-S/111-S | 8kW 230V

Certificate Holder	Viessmann Climate Solutions GmbH & Co. KG
Address	Viessmannstr. 1
ZIP	35107
City	Allendorf/Eder
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Vitocal 100-S/111-S   8kW 230V
Registration number	011-1W0402
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.6 kg
Certification Date	02.11.2020
Testing basis	HP KEYMARK certification scheme rules rev. 7

**Model Vitocal 100-S AWB-M 101.B08**

Model name	Vitocal 100-S AWB-M 101.B08
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder 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	Yes

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	176 %	125 %
Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99

Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW
COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30

Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 100-S AWB-M-E 101.B08**

Model name	Vitocal 100-S AWB-M-E 101.B08
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder 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	Yes

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	176 %	125 %
Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99

Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW
COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30

Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 100-S AWB-M-E-AC 101.B08**

Model name	Vitocal 100-S AWB-M-E-AC 101.B08
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder 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	Yes

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	176 %	125 %
Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99

Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW
COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30

Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 100-S AWB-M-E-AC 101.B08 F**

Model name	Vitocal 100-S AWB-M-E-AC 101.B08 F
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder 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	Yes

**Outdoor Air/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	176 %	125 %
Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99

Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW
COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30

Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 111-S AWBT-M-AC 111.B08**

Model name	Vitocal 111-S AWBT-M-AC 111.B08
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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	Yes

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

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	2.97
Heating up time	1:22 h:min
Standby power input	26.0 W
Reference hot water temperature	23.1 °C
Mixed water at 40°C	291 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	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	125 %

Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW

COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 111-S AWBT-M-E 111.B08**

Model name	Vitocal 111-S AWBT-M-E 111.B08
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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	Yes

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

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	2.97
Heating up time	1:22 h:min
Standby power input	26.0 W
Reference hot water temperature	23.1 °C
Mixed water at 40°C	291 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	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	125 %

Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW

COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 111-S AWBT-M-E-AC 111.B08**

Model name	Vitocal 111-S AWBT-M-E-AC 111.B08
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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	Yes

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

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	2.97
Heating up time	1:22 h:min
Standby power input	26.0 W
Reference hot water temperature	23.1 °C
Mixed water at 40°C	291 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	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	125 %

Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW

COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW

**Model Vitocal 111-S AWBT-M-E-AC 111.B08 F**

Model name	Vitocal 111-S AWBT-M-E-AC 111.B08 F
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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	Yes

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

Declared load profile	XL
Efficiency $\eta_{DHW}$	125 %
COP	2.97
Heating up time	1:22 h:min
Standby power input	26.0 W
Reference hot water temperature	23.1 °C
Mixed water at 40°C	291 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	8.13 kW	9.67 kW
El input	1.74 kW	3.61 kW
COP	4.66	2.69

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	176 %	125 %

Prated	6.40 kW	6.70 kW
SCOP	4.46	3.20
Tbiv	-8 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.24 kW	5.93 kW
COP Tj = -7°C	2.74	1.95
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.25 kW	3.60 kW
COP Tj = +2°C	4.25	2.90
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.09 kW	6.94 kW
COP Tj = +7°C	6.19	4.93
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.96 kW	6.69 kW
COP Tj = 12°C	8.88	7.34
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.91 kW	5.93 kW
COP Tj = Tbiv	2.63	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.99 kW	4.74 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.96 kW
Annual energy consumption Qhe	13206 kWh	13788 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	141 %	98 %
Prated	6.80 kW	6.10 kW
SCOP	3.60	2.53
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.69 kW	4.20 kW

COP Tj = -7°C	2.97	2.09
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.16 kW	3.65 kW
COP Tj = +2°C	4.61	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.14 kW	4.78 kW
COP Tj = +7°C	6.68	5.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	6.00 kW	5.75 kW
COP Tj = 12°C	8.83	7.30
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	5.52 kW	4.95 kW
COP Tj = Tbiv	2.13	1.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	1.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.21	0.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.77 kW	6.07 kW
Annual energy consumption Qhe	16466 kWh	14650 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	238 %	159 %
Prated	8.80 kW	8.40 kW
SCOP	6.03	4.06
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.77 kW	8.37 kW
COP Tj = +2°C	3.40	2.28
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.53 kW	6.67 kW
COP Tj = +7°C	5.36	3.38
Cdh Tj = +7 °C	0.99	0.99

Pdh Tj = 12°C	5.90 kW	5.38 kW
COP Tj = 12°C	8.09	5.62
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.77 kW	8.37 kW
COP Tj = Tbiv	3.40	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.77 kW	8.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.40	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	15 W	15 W
PTO	0 W	0 W
PSB	0 W	0 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	11720 kWh	11186 kWh

**EN 14825 | Average Climate**

Pdesignh	6.70 kW
Backup Heater	0.00 kW