

## Subtype ECOGEO B/C 3 5-22kW

Certificate Holder	Ecoforest Geotermia S.L.
Address	Rúa das Pontes, 25
ZIP	36350
City	Nigrán (Pontevedra)
Country	ES
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	ECOGEO B/C 3 5-22kW
Registration number	011-1W0331
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	1.5 kg
Certification Date	28.05.2019

**Model ecoGEO C3T 5-22kW**

Model name	ecoGEO C3T 5-22kW
Application	Heating + DHW + low 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 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	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW
COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	13.83 kW	11.90 kW
COP T <sub>j</sub> = -7°C	4.39	3.71
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +2°C	8.55 kW	7.38 kW
COP T <sub>j</sub> = +2°C	5.18	4.66
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.62 kW	4.80 kW
COP T <sub>j</sub> = +7°C	5.38	5.24
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.57 kW	3.55 kW
COP T <sub>j</sub> = 12°C	4.94	5.55
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.77	2.90
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.77	2.90
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>		
WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	11672 kWh	11679 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	18.78	16.54
COP T <sub>j</sub> = -15°C (if TOL	4.06	3.09

Cdh Tj = -15 °C	0.99	0.99
-----------------	------	------

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	6574 kWh	7228 kWh

**Model ecoGEO C4T 5-22kW**

Model name	ecoGEO C4T 5-22kW
Application	Heating + DHW + low 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 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	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW
COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	13.83 kW	11.90 kW
COP T <sub>j</sub> = -7°C	4.39	3.71
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +2°C	8.55 kW	7.38 kW
COP T <sub>j</sub> = +2°C	5.18	4.66
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.62 kW	4.80 kW
COP T <sub>j</sub> = +7°C	5.38	5.24
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.57 kW	3.55 kW
COP T <sub>j</sub> = 12°C	4.94	5.55
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.77	2.90
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.77	2.90
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>		
WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	11672 kWh	11679 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	18.78	16.54
COP T <sub>j</sub> = -15°C (if TOL	4.06	3.09

Cdh Tj = -15 °C	0.99	0.99
-----------------	------	------

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	6574 kWh	7228 kWh

**Model ecoGEO C3 5-22kW**

Model name	ecoGEO C3 5-22kW
Application	Heating + DHW + low 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 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	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW
COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	13.83 kW	11.90 kW
COP T <sub>j</sub> = -7°C	4.39	3.71
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +2°C	8.55 kW	7.38 kW
COP T <sub>j</sub> = +2°C	5.18	4.66
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.62 kW	4.80 kW
COP T <sub>j</sub> = +7°C	5.38	5.24
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.57 kW	3.55 kW
COP T <sub>j</sub> = 12°C	4.94	5.55
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.77	2.90
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.77	2.90
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>		
WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	11672 kWh	11679 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	18.78	16.54
COP T <sub>j</sub> = -15°C (if TOL	4.06	3.09

Cdh Tj = -15 °C	0.99	0.99
-----------------	------	------

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	6574 kWh	7228 kWh

**Model ecoGEO C4 5-22kW**

Model name	ecoGEO C4 5-22kW
Application	Heating + DHW + low 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	100 %
COP	1.68
Heating up time	0:56:51 h:min
Standby power input	162.8 W
Reference hot water temperature	57.5 °C
Mixed water at 40°C	233 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	
<b>EN 14511-2   Heating</b>		
	Low temperature	Medium temperature
Heat output	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02
<b>EN 12102-1   Average Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
<b>EN 14825   Average Climate</b>		
	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW
COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	13.83 kW	11.90 kW
COP T <sub>j</sub> = -7°C	4.39	3.71
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +2°C	8.55 kW	7.38 kW
COP T <sub>j</sub> = +2°C	5.18	4.66
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.62 kW	4.80 kW
COP T <sub>j</sub> = +7°C	5.38	5.24
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.57 kW	3.55 kW
COP T <sub>j</sub> = 12°C	4.94	5.55
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.77	2.90
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	24.76 kW	19.09 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.77	2.90
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>		
WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	11672 kWh	11679 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL	18.78	16.54
COP T <sub>j</sub> = -15°C (if TOL	4.06	3.09

Cdh Tj = -15 °C	0.99	0.99
-----------------	------	------

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	6574 kWh	7228 kWh

**Model ecoGEO B3T 5-22kW**

Model name	ecoGEO B3T 5-22kW
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
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW

COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.83 kW	11.90 kW
COP Tj = -7°C	4.39	3.71
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	8.55 kW	7.38 kW
COP Tj = +2°C	5.18	4.66
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.62 kW	4.80 kW
COP Tj = +7°C	5.38	5.24
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.57 kW	3.55 kW
COP Tj = 12°C	4.94	5.55
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW

COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	11672 kWh	11679 kWh
Pdh Tj = -15°C (if TOL	18.78	16.54
COP Tj = -15°C (if TOL	4.06	3.09
Cdh Tj = -15 °C	0.99	0.99

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90

$C_{dh} T_j = TOL$  or  $P_{dh} T_j = T_{designh}$  if  $TOL < T_{designh}$

WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	6574 kWh	7228 kWh

**Model ecoGEO B4T 5-22kW**

Model name	ecoGEO B4T 5-22kW
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
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW

COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.83 kW	11.90 kW
COP Tj = -7°C	4.39	3.71
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	8.55 kW	7.38 kW
COP Tj = +2°C	5.18	4.66
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.62 kW	4.80 kW
COP Tj = +7°C	5.38	5.24
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.57 kW	3.55 kW
COP Tj = 12°C	4.94	5.55
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW

COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	11672 kWh	11679 kWh
Pdh Tj = -15°C (if TOL	18.78	16.54
COP Tj = -15°C (if TOL	4.06	3.09
Cdh Tj = -15 °C	0.99	0.99

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90

$C_{dh} T_j = TOL$  or  $P_{dh} T_j = T_{designh}$  if  $TOL < T_{designh}$

WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	6574 kWh	7228 kWh

**Model ecoGEO B3 5-22kW**

Model name	ecoGEO B3 5-22kW
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
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW

COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.83 kW	11.90 kW
COP Tj = -7°C	4.39	3.71
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	8.55 kW	7.38 kW
COP Tj = +2°C	5.18	4.66
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.62 kW	4.80 kW
COP Tj = +7°C	5.38	5.24
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.57 kW	3.55 kW
COP Tj = 12°C	4.94	5.55
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW

COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	11672 kWh	11679 kWh
Pdh Tj = -15°C (if TOL	18.78	16.54
COP Tj = -15°C (if TOL	4.06	3.09
Cdh Tj = -15 °C	0.99	0.99

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90

$C_{dh} T_j = TOL$  or  $P_{dh} T_j = T_{designh}$  if  $TOL < T_{designh}$

WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	6574 kWh	7228 kWh

**Model ecoGEO B4 5-22kW**

Model name	ecoGEO B4 5-22kW
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
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	8.60 kW	7.91 kW
El input	1.76 kW	2.62 kW
COP	4.88	3.02

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	181 %	142 %
Prated	23.00 kW	20.00 kW
SCOP	4.71	3.77
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.07 kW	17.41 kW
COP Tj = -7°C	3.27	2.67
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	12.97 kW	10.69 kW
COP Tj = +2°C	4.86	3.60
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	8.50 kW	7.08 kW

COP Tj = +7°C	5.52	4.99
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.79 kW	3.76 kW
COP Tj = 12°C	5.19	4.38
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	10085 kWh	10970 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	186 %	161 %
Prated	23.00 kW	20.00 kW
SCOP	4.86	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.83 kW	11.90 kW
COP Tj = -7°C	4.39	3.71
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	8.55 kW	7.38 kW
COP Tj = +2°C	5.18	4.66
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.62 kW	4.80 kW
COP Tj = +7°C	5.38	5.24
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	3.57 kW	3.55 kW
COP Tj = 12°C	4.94	5.55
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW

COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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	11672 kWh	11679 kWh
Pdh Tj = -15°C (if TOL	18.78	16.54
COP Tj = -15°C (if TOL	4.06	3.09
Cdh Tj = -15 °C	0.99	0.99

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	179 %	140 %
Prated	23.00 kW	20.00 kW
SCOP	4.67	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.76 kW	19.09 kW
COP Tj = +2°C	3.77	2.90
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	14.91 kW	12.89 kW
COP Tj = +7°C	4.20	3.21
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.56 kW	5.72 kW
COP Tj = 12°C	5.33	4.36
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	24.76 kW	19.09 kW
COP Tj = Tbiv	3.77	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.76 kW	19.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.77	2.90

$C_{dh} T_j = TOL$  or  $P_{dh} T_j = T_{designh}$  if  $TOL < T_{designh}$

WTOL	60 °C	60 °C
P <sub>off</sub>	7 W	7 W
PTO	7 W	7 W
PSB	6 W	6 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 <sub>he</sub>	6574 kWh	7228 kWh