Subtype S-Therm Ontario All in One 80 100

Certificate Holder	SINCLAIR Global Group s.r.o.
Address	Purkyňova 45
ZIP	61200
City	Brno
Country	CZ
Certification Body	BRE Global Limited
Subtype title	S-Therm Ontario All in One 80 100
Registration number	041-K037-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.1 kg
Certification Date	03.03.2023
Testing basis	Heat Pump Keymark Scheme Rules Rev 11
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

Model GSH-80TRB*2/GSH-80ERB2	
Model name	GSH-80TRB*2/GSH-80ERB2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
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	n/a

Outdoor Air/Water	
EN 16147 | Average Climate	
Declared load profile	L
Efficiency ηDHW	123 %
COP	2.92
Heating up time	1:47 h:min
Standby power input	36.1 W
Reference hot water temperature	53.1 °C
Mixed water at 40°C	226 l
EN 16147 | Colder Climate	
Declared load profile	L
Efficiency ηDHW	94 %
COP	2.25
Heating up time	1:58 h:min
Standby power input	38.2 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	226 l
EN 16147 | Warmer Climate	
Declared load profile	L
Efficiency ηDHW	143 %
COP	3.40
Heating up time	1:33 h:min
Standby power input	30.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	226 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	8.00 kW	7.98 kW
El input	1.61 kW	2.60 kW
COP	4.97	3.06

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	181 %	129 %
Prated	7.00 kW	7.00 kW
SCOP	4.60	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.20 kW	6.30 kW
COP Tj = -7°C	2.94	2.24
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	3.90 kW	4.10 kW
COP Tj = +2°C	4.39	3.18
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	3.00 kW	4.30 kW
COP Tj = +7°C	6.29	4.26
Cdh Tj = +7 °C	0.950	0.970
Pdh Tj = 12°C	3.60 kW	5.00 kW
COP Tj = 12°C	8.43	5.93
Cdh Tj = +12 °C	0.940	0.970
Pdh Tj = Tbiv	6.20 kW	6.30 kW
COP Tj = Tbiv	2.94	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.90 kW	6.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.69	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.10 kW	0.70 kW
Annual energy consumption Qhe	3149 kWh	4371 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	146 %	112 %
Prated	7.00 kW	7.00 kW
SCOP	3.72	2.87
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.50 kW	4.60 kW
COP Tj = -7°C	3.26	2.64
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	3.30 kW	3.30 kW
COP Tj = +2°C	4.26	3.24
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	4.30 kW	4.20 kW
COP Tj = +7°C	6.04	4.76
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	4.90 kW	4.70 kW
COP Tj = 12°C	7.26	5.86
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	5.80 kW	5.90 kW
COP Tj = Tbiv	2.63	1.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.50 kW	2.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.52	1.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.50 kW	4.10 kW
Annual energy consumption Qhe	4628 kWh	5982 kWh
Pdh Tj = -15°C (if TOL	5.80	5.90

COP Tj = -15°C (if TOL	2.63	1.77
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	67 dB(A)	67 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	217 %	159 %
Prated	8.00 kW	8.00 kW
SCOP	5.50	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.20 kW	8.10 kW
COP Tj = +2°C	3.58	2.52
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.40 kW	5.30 kW
COP Tj = +7°C	4.84	3.38
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	5.10 kW	5.20 kW
COP Tj = 12°C	7.08	5.42
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	8.20 kW	8.10 kW
COP Tj = Tbiv	3.58	2.52
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.20 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.58	2.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1947 kWh	2645 kWh

Model GSH-100TRB*2/GSH-100ERB2	
Model name	GSH-100TRB*2/GSH-100ERB2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
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	n/a

Outdoor Air/Water	
EN 16147 | Average Climate	
Declared load profile	L
Efficiency ηDHW	123 %
COP	2.92
Heating up time	1:47 h:min
Standby power input	36.1 W
Reference hot water temperature	53.1 °C
Mixed water at 40°C	226 l
EN 16147 | Colder Climate	
Declared load profile	L
Efficiency ηDHW	94 %
COP	2.25
Heating up time	1:58 h:min
Standby power input	38.2 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	226 l
EN 16147 | Warmer Climate	
Declared load profile	L
Efficiency ηDHW	143 %
COP	3.40
Heating up time	1:33 h:min
Standby power input	30.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	226 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	10.00 kW	9.47 kW
El input	2.10 kW	3.12 kW
COP	4.76	3.04

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	181 %	127 %
Prated	9.00 kW	8.00 kW
SCOP	4.60	3.25
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.70 kW	6.90 kW
COP Tj = -7°C	2.87	2.12
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	4.80 kW	4.20 kW
COP Tj = +2°C	4.34	3.09
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	3.10 kW	4.30 kW
COP Tj = +7°C	6.58	4.34
Cdh Tj = +7 °C	0.950	0.970
Pdh Tj = 12°C	3.70 kW	4.90 kW
COP Tj = 12°C	8.37	5.91
Cdh Tj = +12 °C	0.940	0.970
Pdh Tj = Tbiv	7.70 kW	6.90 kW
COP Tj = Tbiv	2.87	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.10 kW	6.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.20 kW
Annual energy consumption Qhe	4038 kWh	5091 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	149 %	110 %
Prated	8.00 kW	8.00 kW
SCOP	3.80	2.82
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.20 kW	5.30 kW
COP Tj = -7°C	3.25	2.42
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	3.20 kW	3.10 kW
COP Tj = +2°C	4.31	3.23
Cdh Tj = +2 °C	0.970	0.970
Pdh Tj = +7°C	4.30 kW	4.20 kW
COP Tj = +7°C	6.11	4.78
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	4.90 kW	4.80 kW
COP Tj = 12°C	7.30	5.91
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	6.40 kW	6.70 kW
COP Tj = Tbiv	2.69	1.83
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.60 kW	3.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.67	1.22
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	4.70 kW
Annual energy consumption Qhe	5201 kWh	6985 kWh
Pdh Tj = -15°C (if TOL	6.40	6.70

COP Tj = -15°C (if TOL	2.69	1.83
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	217 %	161 %
Prated	9.00 kW	9.00 kW
SCOP	5.50	4.10
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.80 kW	9.00 kW
COP Tj = +2°C	3.15	2.48
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.80 kW	5.90 kW
COP Tj = +7°C	4.86	3.56
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	5.10 kW	5.20 kW
COP Tj = 12°C	7.18	5.30
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	8.80 kW	9.00 kW
COP Tj = Tbiv	3.15	2.48
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.80 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.15	2.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	25 W	25 W
PTO	25 W	25 W
PSB	25 W	25 W
PCK	25 W	25 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2183 kWh	2927 kWh