Subtype S-Therm Ontario All in One 80 100-3

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 80 100-3
Registration number	041-K037-29
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.84 kg
Certification Date	03.03.2023
Testing basis	Heat Pump Keymark Scheme Rules Rev 11
Testing laboratory	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch, CN

Model GSH-80TRB*2-3/GSH-80ERB-3	
Model name	GSH-80TRB*2-3/GSH-80ERB-3
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	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water	
EN 16147 | Average Climate	
Declared load profile	XL
Efficiency ηDHW	117 %
COP	2.74
Heating up time	1:28 h:min
Standby power input	46.8 W
Reference hot water temperature	53 °C
Mixed water at 40°C	234 l
EN 16147 | Colder Climate	
Declared load profile	XL
Efficiency ηDHW	90 %
COP	2.15
Heating up time	1:48 h:min
Standby power input	47 W
Reference hot water temperature	52 °C
Mixed water at 40°C	230 l
EN 16147 | Warmer Climate	
Declared load profile	XL
Efficiency ηDHW	118 %
COP	2.75
Heating up time	2:28 h:min
Standby power input	52 W
Reference hot water temperature	52 °C
Mixed water at 40°C	237 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 kW	7.2 kW
El input	1.63 kW	3.19 kW
COP	4.91	2.26

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	178 %	136 %
Prated	8 kW	9 kW
SCOP	4.53	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.3 kW	7.9 kW
COP Tj = -7°C	2.96	2.32
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.5 kW	4.9 kW
COP Tj = +2°C	4.59	3.36
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	3.8 kW	4.2 kW
COP Tj = +7°C	5.53	4.6
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	4.3 kW	4.1 kW
COP Tj = 12°C	6.86	5.34
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	7.3 kW	7.9 kW
COP Tj = Tbiv	2.96	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.3 kW	7.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	1.92
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	0.7 kW	1.9 kW
Annual energy consumption Qhe	3768 kWh	5350 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	127 %	106 %
Prated	8 kW	8 kW
SCOP	3.25	2.73
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.1 kW	4.8 kW
COP Tj = -7°C	2.65	2.07
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	4 kW	3.4 kW
COP Tj = +2°C	3.68	3.27
Cdh Tj = +2 °C	0.97	0.97
Pdh Tj = +7°C	3.8 kW	3.8 kW
COP Tj = +7°C	4.84	4
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	4.1 kW	4.1 kW
COP Tj = 12°C	6.26	5.47
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	6.3 kW	6.7 kW
COP Tj = Tbiv	2.73	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.8 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.94	1.8
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	2.2 kW	2.3 kW
Annual energy consumption Qhe	5925 kWh	7481 kWh
Pdh Tj = -15°C (if TOL	6.3	6.7
COP Tj = -15°C (if TOL	2.73	2.12

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	202 %	154 %
Prated	8 kW	9 kW
SCOP	5.13	3.93
Tbiv	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	8.4 kW	8.5 kW
COP Tj = +2°C	3.61	2.41
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.5 kW	6.1 kW
COP Tj = +7°C	4.65	3.64
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	4.1 kW	3.8 kW
COP Tj = 12°C	6.26	4.67
Cdh Tj = +12 °C	0.96	0.98
Pdh Tj = Tbiv	8.4 kW	8.5 kW
COP Tj = Tbiv	3.61	2.41
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.4 kW	8.5 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.41
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 kW	0 kW
Annual energy consumption Qhe	2199 kWh	2916 kWh

Model GSH-100TRB*2-3/GSH-100ERB-3	
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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	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water	
EN 16147 | Average Climate	
Declared load profile	XL
Efficiency ηDHW	117 %
COP	2.74
Heating up time	1:28 h:min
Standby power input	46.8 W
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EN 16147 | Colder Climate	
Declared load profile	XL
Efficiency ηDHW	90 %
COP	2.15
Heating up time	1:48 h:min
Standby power input	47 W
Reference hot water temperature	52 °C
Mixed water at 40°C	230 l
EN 16147 | Warmer Climate	
Declared load profile	XL
Efficiency ηDHW	118 %
COP	2.75
Heating up time	2:28 h:min
Standby power input	52 W
Reference hot water temperature	52 °C
Mixed water at 40°C	237 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 kW	8.55 kW
El input	2.15 kW	3.89 kW
COP	4.65	2.2

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	185 %	136 %
Prated	9 kW	10 kW
SCOP	4.7	3.48
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.7 kW	8.6 kW
COP Tj = -7°C	2.69	2.25
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5 kW	5.2 kW
COP Tj = +2°C	4.71	3.36
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	3.9 kW	4.2 kW
COP Tj = +7°C	6.52	4.71
Cdh Tj = +7 °C	0.95	0.97
Pdh Tj = 12°C	4.4 kW	4.1 kW
COP Tj = 12°C	7.03	5.36
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	7.7 kW	8.6 kW
COP Tj = Tbiv	2.69	2.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.1 kW	7.6 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.75	2.11
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	0.9 kW	2.4 kW
Annual energy consumption Qhe	3829 kWh	5753 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	126 %	124 %
Prated	8 kW	9 kW
SCOP	3.23	3.18
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.1 kW	5.5 kW
COP Tj = -7°C	2.65	2.98
Cdh Tj = -7 °C	0.98	0.98
Pdh Tj = +2°C	4 kW	3.2 kW
COP Tj = +2°C	3.68	3.56
Cdh Tj = +2 °C	0.97	0.97
Pdh Tj = +7°C	3.8 kW	3.7 kW
COP Tj = +7°C	4.84	3.99
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	4.1 kW	4.1 kW
COP Tj = 12°C	6.26	5.45
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	6.5 kW	7.7 kW
COP Tj = Tbiv	2.51	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.8 kW	5.7 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.94	1.8
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	2.2 kW	3.3 kW
Annual energy consumption Qhe	6118 kWh	7255 kWh
Pdh Tj = -15°C (if TOL	6.5	7.7
COP Tj = -15°C (if TOL	2.51	2.23

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	200 %	154 %
Prated	9 kW	9 kW
SCOP	5.08	3.93
Tbiv	2 °C	2 °C

TOL	2 °C	2 °C
Pdh Tj = +2°C	8.9 kW	9.3 kW
COP Tj = +2°C	2.87	2.38
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.5 kW	6.1 kW
COP Tj = +7°C	4.65	3.64
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	4.1 kW	3.8 kW
COP Tj = 12°C	6.34	4.67
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	8.9 kW	9.3 kW
COP Tj = Tbiv	2.87	2.38
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.9 kW	9.3 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.87	2.38
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 kW	0 kW
Annual energy consumption Qhe	2350 kWh	3190 kWh