

Subtype S-Therm Ontario Split 80 100 2

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 Split 80 100 2
Registration number	041-K037-25
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

Model GSH-80IRBC/GSH-80ERB2

Model name	GSH-80IRBC/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	XL
Efficiency η_{DHW}	111 %
COP	2.51
Heating up time	1:32 h:min
Standby power input	132.0 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	371 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	82 %
COP	1.55
Heating up time	1:51 h:min
Standby power input	183.7 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	376 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	118 %
COP	2.24
Heating up time	1:27 h:min
Standby power input	86.1 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	375 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	7.20 kW
El input	1.61 kW	3.05 kW
COP	4.97	2.36

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	67 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	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 Q _{he}	3149 kWh	4371 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	146 %	112 %
Prated	7.00 kW	7.00 kW
SCOP	3.73	2.88
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	4.50 kW	4.60 kW
COP T _j = -7°C	3.26	2.64
C _{dh} T _j = -7 °C	0.980	0.990
P _{dh} T _j = +2°C	3.30 kW	3.30 kW
COP T _j = +2°C	4.26	3.24
C _{dh} T _j = +2 °C	0.970	0.980
P _{dh} T _j = +7°C	4.30 kW	4.20 kW
COP T _j = +7°C	6.04	4.76
C _{dh} T _j = +7 °C	0.960	0.970
P _{dh} T _j = 12°C	4.90 kW	4.70 kW
COP T _j = 12°C	7.26	5.86
C _{dh} T _j = +12 °C	0.960	0.970
P _{dh} T _j = T _{biv}	5.80 kW	5.90 kW
COP T _j = T _{biv}	2.63	1.77
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	4.50 kW	2.90 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.52	1.26
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}		
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	4628 kWh	5982 kWh
P _{dh} T _j = -15°C (if TOL	5.80	5.90
COP T _j = -15°C (if TOL	2.63	1.77
C _{dh} T _j = -15 °C		

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
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η_s	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-100IRBC/GSH-100ERB2

Model name	GSH-100IRBC/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	XL
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Heating up time	1:32 h:min
Standby power input	132.0 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	371 l

EN 16147 | Colder Climate

Declared load profile	XL
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COP	1.55
Heating up time	1:51 h:min
Standby power input	183.7 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	376 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	118 %
COP	2.24
Heating up time	1:27 h:min
Standby power input	86.1 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	375 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	8.55 kW
El input	2.10 kW	3.72 kW
COP	4.76	2.30

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	64 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	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 Q _{he}	4038 kWh	5091 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	149 %	110 %
Prated	8.00 kW	8.00 kW
SCOP	3.80	2.83
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	5.20 kW	5.30 kW
COP T _j = -7°C	3.25	2.42
C _{dh} T _j = -7 °C	0.980	0.990
P _{dh} T _j = +2°C	3.20 kW	3.10 kW
COP T _j = +2°C	4.31	3.23
C _{dh} T _j = +2 °C	0.970	0.970
P _{dh} T _j = +7°C	4.30 kW	4.20 kW
COP T _j = +7°C	6.11	4.78
C _{dh} T _j = +7 °C	0.960	0.970
P _{dh} T _j = 12°C	4.90 kW	4.80 kW
COP T _j = 12°C	7.30	5.91
C _{dh} T _j = +12 °C	0.960	0.970
P _{dh} T _j = T _{biv}	6.40 kW	6.70 kW
COP T _j = T _{biv}	2.69	1.83
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.60 kW	3.30 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.67	1.22
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}		
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	5201 kWh	6985 kWh
P _{dh} T _j = -15°C (if TOL	6.40	6.70
COP T _j = -15°C (if TOL	2.69	1.83
C _{dh} T _j = -15 °C		

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
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η_s	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