

Subtype S-Therm Ontario Split 40 60 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 40 60 2
Registration number	041-K037-24
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	Bureau Veritas Consumer Products Services (Guangzhou) Co., Ltd, Science City Branch

Model GSH-40IRBC/GSH-40ERB2

Model name	GSH-40IRBC/GSH-40ERB2
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}	107 %
COP	2.53
Heating up time	2:52 h:min
Standby power input	78.6 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	374 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	79 %
COP	1.90
Heating up time	2:55 h:min
Standby power input	81.6 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	371 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	111 %
COP	2.62
Heating up time	1:40 h:min
Standby power input	74.8 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	4.00 kW	3.60 kW
El input	0.77 kW	1.40 kW
COP	5.20	2.57

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	128 %
Prated	5.00 kW	5.00 kW
SCOP	4.65	3.28
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.60 kW	4.00 kW
COP Tj = -7°C	3.23	2.03
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	2.90 kW	2.60 kW
COP Tj = +2°C	4.59	3.27
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.60 kW	2.30 kW
COP Tj = +7°C	6.39	4.30
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	2.80 kW	2.80 kW
COP Tj = 12°C	6.37	6.00
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	4.60 kW	4.00 kW
COP Tj = Tbiv	3.23	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	3.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.38
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	0.80 kW	1.20 kW
Annual energy consumption Q _{he}	2216 kWh	3152 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	145 %	95 %
Prated	4.00 kW	3.00 kW
SCOP	3.70	2.45
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	2.40 kW	1.90 kW
COP T _j = -7°C	2.68	1.72
C _{dh} T _j = -7 °C	0.970	0.980
P _{dh} T _j = +2°C	2.30 kW	1.90 kW
COP T _j = +2°C	5.34	3.41
C _{dh} T _j = +2 °C	0.940	0.960
P _{dh} T _j = +7°C	2.70 kW	2.60 kW
COP T _j = +7°C	7.04	5.29
C _{dh} T _j = +7 °C	0.940	0.950
P _{dh} T _j = 12°C	2.60 kW	2.90 kW
COP T _j = 12°C	6.90	6.71
C _{dh} T _j = +12 °C	0.930	0.940
P _{dh} T _j = T _{biv}	3.10 kW	2.70 kW
COP T _j = T _{biv}	2.06	1.35
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.70 kW	2.30 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.58	1.10
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	1.20 kW	0.70 kW
Annual energy consumption Q _{he}	2662 kWh	3015 kWh
P _{dh} T _j = -15°C (if TOL	3.10	2.70
COP T _j = -15°C (if TOL	2.06	1.35
C _{dh} T _j = -15 °C		

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
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η_s	232 %	153 %
Prated	5.00 kW	4.00 kW
SCOP	5.88	3.90
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.80 kW	4.20 kW
COP Tj = +2°C	3.46	2.10
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = +7°C	3.30 kW	2.60 kW
COP Tj = +7°C	5.57	3.40
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.90 kW	2.70 kW
COP Tj = 12°C	7.60	5.55
Cdh Tj = +12 °C	0.930	0.950
Pdh Tj = Tbiv	4.80 kW	4.20 kW
COP Tj = Tbiv	3.46	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.80 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.46	2.10
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	1137 kWh	1365 kWh

Model GSH-60IRBC/GSH-60ERB2

Model name	GSH-60IRBC/GSH-60ERB2
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}	107 %
COP	2.53
Heating up time	2:52 h:min
Standby power input	78.6 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	374 l

EN 16147 | Colder Climate

Declared load profile	XL
Efficiency η_{DHW}	79 %
COP	1.90
Heating up time	2:55 h:min
Standby power input	81.6 W
Reference hot water temperature	51.0 °C
Mixed water at 40°C	371 l

EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency η_{DHW}	111 %
COP	2.62
Heating up time	1:40 h:min
Standby power input	74.8 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	6.00 kW	5.40 kW
El input	1.20 kW	2.16 kW
COP	5.00	2.50

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	181 %	128 %
Prated	6.00 kW	5.00 kW
SCOP	4.60	3.28
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.30 kW	4.00 kW
COP Tj = -7°C	2.81	2.03
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	3.30 kW	2.60 kW
COP Tj = +2°C	4.68	3.27
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.60 kW	2.30 kW
COP Tj = +7°C	6.47	4.30
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	2.60 kW	2.80 kW
COP Tj = 12°C	5.72	6.00
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	5.30 kW	4.00 kW
COP Tj = Tbiv	2.81	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	3.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.38
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	1.80 kW	1.20 kW
Annual energy consumption Q _{he}	2685 kWh	3152 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	144 %	103 %
Prated	4.00 kW	4.00 kW
SCOP	3.68	2.65
T _{biv}	-15 °C	-15 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	2.60 kW	2.40 kW
COP T _j = -7°C	2.69	1.83
C _{dh} T _j = -7 °C	0.970	0.980
P _{dh} T _j = +2°C	2.30 kW	2.10 kW
COP T _j = +2°C	5.34	3.87
C _{dh} T _j = +2 °C	0.940	0.950
P _{dh} T _j = +7°C	2.70 kW	2.50 kW
COP T _j = +7°C	7.04	5.31
C _{dh} T _j = +7 °C	0.940	0.950
P _{dh} T _j = 12°C	2.60 kW	2.90 kW
COP T _j = 12°C	6.90	6.73
C _{dh} T _j = +12 °C	0.930	0.940
P _{dh} T _j = T _{biv}	3.40 kW	3.10 kW
COP T _j = T _{biv}	1.98	1.38
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.70 kW	2.30 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.58	1.10
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	1.30 kW	1.70 kW
Annual energy consumption Q _{he}	2674 kWh	3701 kWh
P _{dh} T _j = -15°C (if TOL	3.40	3.10
COP T _j = -15°C (if TOL	1.98	1.38
C _{dh} T _j = -15 °C		

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
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η_s	232 %	159 %
Prated	5.00 kW	5.00 kW
SCOP	5.88	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.20 kW	5.10 kW
COP Tj = +2°C	3.53	2.14
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = +7°C	3.30 kW	3.30 kW
COP Tj = +7°C	5.57	3.49
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.90 kW	2.70 kW
COP Tj = 12°C	7.60	5.67
Cdh Tj = +12 °C	0.930	0.950
Pdh Tj = Tbiv	5.20 kW	5.10 kW
COP Tj = Tbiv	3.53	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.20 kW	5.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.53	2.14
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	1136 kWh	1643 kWh