

Subtype S-Therm Ontario All in One 40 60

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 40 60
Registration number	041-K037-19
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-40TRB*2/GSH-40ERB2

Model name	GSH-40TRB*2/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	L
Efficiency η_{DHW}	116 %
COP	2.76
Heating up time	3:54 h:min
Standby power input	34.8 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	226 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	91 %
COP	2.18
Heating up time	4:10 h:min
Standby power input	39.2 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	226 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	122 %
COP	2.92
Heating up time	3:39 h:min
Standby power input	31.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	228 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	1.31 kW
COP	5.19	2.75

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	184 %	128 %
Prated	5.00 kW	5.00 kW
SCOP	4.67	3.27
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 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

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}	2.80 kW	2.30 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	1.19	1.35
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	1.27 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 Tj = -15°C (if TOL	2.03	1.35
Cdh Tj = -15 °C	0.980	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	62 dB(A)	62 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	232 %	154 %
Prated	5.00 kW	4.00 kW
SCOP	5.87	3.92
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-60TRB*2/GSH-60ERB2

Model name	GSH-60TRB*2/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	L
Efficiency η_{DHW}	116 %
COP	2.76
Heating up time	3:54 h:min
Standby power input	34.8 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	226 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	91 %
COP	2.18
Heating up time	4:10 h:min
Standby power input	39.2 W
Reference hot water temperature	52.8 °C
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EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	122 %
COP	2.92
Heating up time	3:39 h:min
Standby power input	31.9 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	228 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	5.61 kW
El input	1.23 kW	1.93 kW
COP	4.88	2.90

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	182 %	128 %
Prated	6.00 kW	5.00 kW
SCOP	4.62	3.27
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	2.80 kW	2.80 kW
COP Tj = 12°C	6.39	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 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	145 %	104 %
Prated	4.00 kW	4.00 kW
SCOP	3.70	2.67
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 Tj = -15°C (if TOL	1.98	1.38
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	62 dB(A)	62 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	232 %	160 %
Prated	5.00 kW	5.00 kW
SCOP	5.87	4.07
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