



Technical Report No.: 64.181.22.02858.01 Rev.00

Date: 2022-10-24

Client: Report holder's name: SolarEast Heat Pump Ltd.

Report holder's Address: No.73 Defu Road, Xingtan Town Shunde District 528325 Foshan City, Guangdong Province, People's Republic of China

Contact person of applicant: Lai XiaoPing

Manufacturer's name: SolarEast Heat Pump Ltd.

Manufacturer's address: No.73 Defu Road, Xingtan Town Shunde District 528325 Foshan City, Guangdong Province, People's Republic of China

Factory: Factory's name: SolarEast Heat Pump Ltd.

Factory's address: No.73 Defu Road, Xingtan Town Shunde District 528325 Foshan City, Guangdong Province, People's Republic of China

Test object: Product: Air Source Heat Pump
Model: BLN-012TC1; BLN-012TC3

Trade name: -

Test specification: EN 14825:2018
 (EU) No 813/2013
 EN 14511-3:2018

Purpose of examination: Test according to the test specification
 EU 2016/2282:2016-11-30

Test result: The test results show that the presented product is in compliance with the above listed test specifications.

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Doc No.: ITC-TTW0902.02E – Rev.11

1 Description of the test object

1.1 Function

Manufacturer's specification for intended use:
 These appliances are air to water heat pump.
 Manufacturer's specification for predictive use:
 According to user manual

1.2 Consideration of the foreseeable use

- Not applicable
- Covered through the applied standard
- Covered by the following comment
- Covered by attached risk analysis

1.3 Technical Data

Model :	BLN-012TC1; BLN-012TC3
Rated Voltage (V) :	220-240V~ for BLN-012TC1; 380-415V, 3N~ for BLN-012TC3
Rated Frequency (Hz) :	50
Rated Power (W) :	5400 for BLN-012TC1; 5850 for BLN-012TC3
Rated Current (A) :	25.0 for BLN-012TC1; 10.0 for BLN-012TC3
Protection Class :	Class I
Protection Against Moisture :	IPX4
Construction :	Stationary
Supply connection :	<input type="checkbox"/> Non detachable cord <input checked="" type="checkbox"/> Permanent connection to fixed wiring
Operation mode:	<input checked="" type="checkbox"/> Continuous operation; <input type="checkbox"/> Intermittent operation; <input type="checkbox"/> Short time operation;
Refrigerant/charge (g) :	R290 / 900g
Declared parameters :	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Warmer <input type="checkbox"/> Colder
Sound power level dB(A) :	N/A
Series No :	8D00220725003005 for BLN-012TC1; 8A00220912003001 for BLN-012TC3

2 Order

2.1 Date of Purchase Order, Customer's Reference

2022-09-06 , SolarEast Heat Pump Ltd.

2.2 Test Sample(s)

- Reception date(s): 2022-09-07

- Location(s) of reception:

For Energy test:

Guangzhou Lingxin Technology Co., LTD

Address: Room 101, Building 2, No.13 west Route, Kengtou Industrial Zone, Nancun Town, Panyu District, Guangzhou

- Condition of test sample(s): completed and can be normal operation

2.3 Date(s) of Testing

2022-09-07 to 2022-09-30

2.4 Location(s) of Testing

Same as 2.2

2.5 Points of Non-compliance or Exceptions of the Test Procedure

N/A

3 Test Results

3.1 Positive Test Results

See Appendix I

4 Remark

N/A

4.1 The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further par-ticulars as well as of the composition and layout.

4.2 When the product is placed on the market, it must be accompanied with safety Instruc-tions written in official language of the country. The instructions shall give information re-garding safe operation, installation and maintenance.

5 Documentation

- Appendix I Test results
- Appendix II Marking plate
- Appendix III photo documentation
- Appendix IV Construction data form
- Appendix V Test equipment list

6 Summary

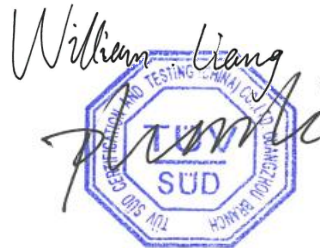
- 1) These appliances are Air To Water Heat Pump Unit, each one including a whole compression type refrigerant circuit to heat water in another circuit. These appliances were for cooling and heating water function, this report only for heating capacity test.
- 2) The main power for model BLN-012TC1 is supplied by a 3-pole supply cord connecting to fixed wiring.
- 3) The main power for model BLN-012TC3 is supplied by a 5-pole supply cord connecting to fixed wiring.
- 4) Water enthalpy method was adopted in this report.
- 5) Standby mode power, off mode power and thermostat-off mode power were tested according to clause 12 of standard EN 14825:2018.
- 6) The model has two appearances, only the front panel is different between the two appearances, the rest is exactly the same.

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch

TÜV SÜD Group

Tested by: William Liang, Project Handler

printed name, function & signature



Approved by: Plum Li, Designated Reviewer

printed name, function & signature

Appendix I Test results

Table 1.	Heating mode(Low temperature application):						P	
Model	BLN-012TC1							
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/> Average	<input type="checkbox"/> Warmer	<input type="checkbox"/> Colder			
1. Test conditions:								
Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger		
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)		
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 34		
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 30		
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 27		
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 24		
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 35.3		
F	$(T_{bivalent-16})/(T_{designh-16})$				T _{biv}	a / 34		
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A		
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions, the capacity is 12045.13W, the power is 2613.98W, the COP is 4.61W/W.								
2.Tested data/correction data(Average):								
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/W34 (88%)	
	--	A	B	C	D	E	F	
Data collection period	hh: min:sec	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	
The heat pump defrosts	--	No	No	No	No	No	No	
Complete Cycles	--	0	0	0	0	0	0	
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02	
Voltage	V	230.0	229.1	229.0	230.1	229.3	230.0	
Current input of the unit	A	4.13	5.38	3.08	2.41	15.31	4.13	
Power input of the unit	kW	2.841	1.207	0.667	0.515	3.508	2.841	
Test conditions indoor unit								
Inlet Water temperature, DB	°C	30.68	27.81	25.34	22.19	31.34	30.68	
Outlet Water temperature, DB	°C	34.35	30.11	27.03	24.00	35.33	34.35	

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-7.02	2.00	6.99	11.98	-10.00	-7.02
Air inlet temperature, WB	°C	-8.19	0.99	5.99	10.98	-11.00	-8.19
Summary of the results							
Total heating capacity	kW	8.872	5.421	4.047	4.383	9.646	8.872
Effective power input	kW	2.812	1.179	0.639	0.486	3.480	2.812
Coefficient of performance (COP)	--	3.15	4.60	6.34	9.01	2.77	3.15
Compressor frequency	Hz	73	34	22**	20	88	73
Water flow	m³/h	2.04	2.04	2.04	2.04	2.04	2.04
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data. **In part condition, this compressor frequency is lowest.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	10.029	TOL(°C)		-10			
Test result A, B, C, D, E, F conditions:							
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load	
E	10.029	9.646	2.77	0.00	1.00	2.77	
F	8.872	8.872	3.15	0.00	1.00	3.15	
A	8.872	8.872	3.15	0.00	1.00	3.15	
B	5.400	5.421	4.60	0.00	1.00	4.60	
C	3.472	4.047	6.34	0.99	0.86	6.33	
D	1.543	4.383	9.01	0.99	0.35	8.85	
CR: part load divided by capacity;							

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.038
Standby mode [P_{SB}]	kW	0.013
Crankcase heater [P_{CK}]	kW	0.083
Off mode [P_{OFF}]	kW	0.013

Conclusions:	Unit	Value
SCOP _{on} :	kWh/kWh	4.87
SCOP:	kWh/kWh	4.85
Q_H :	kWh/year	20720
Q_{HE} :	kWh/year	4274
$\eta_{s,h}$	%	190.9
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++

Appendix I Test results

Table 2.	Heating mode(Medium temperature application):						P
Model	BLN-012TC1						
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/> Average	<input type="checkbox"/> Warmer	<input type="checkbox"/> Colder		
1. Test conditions:							
Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger	
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 52	
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 42	
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 36	
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 30	
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 55.3	
F	$(T_{biv-16})/(T_{designh-16})$				T _{biv}	a / 52	
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 47/55 conditions, the capacity is 12182.52W, the power is 4042.92W, the COP is 3.01W/W.							
2.Tested data/correction data(Average):							
General test conditions/ Part-Load	Unit	A(-7)/W52 (88%)	A2/W42 (54%)	A7/W36 (35%)	A12/W30 (15%)	A(-10)/W55.3 (100%)	A(-7)/W52 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00
The heat pump defrosts	--	No	No	No	No	No	No
Complete Cycles	--	0	0	0	0	0	0
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	230.0	229.8	229.9	230.0	229.0	230.0
Current input of the unit	A	15.82	6.81	4.82	4.02	19.97	15.82
Power input of the unit	kW	3.625	1.551	1.085	0.895	4.571	3.625
Test conditions indoor unit							
Inlet Water temperature, DB	°C	46.16	38.19	32.36	25.77	48.38	46.16
Outlet Water temperature, DB	°C	52.00	42.03	36.09	30.05	55.01*	52.00

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-7.01	2.00	6.99	11.98	-10.00	-7.01
Air inlet temperature, WB	°C	-8.04	0.99	5.98	10.98	-10.99	-8.04
Summary of the results							
Total heating capacity	kW	8.600	5.613	5.544	6.406	9.752	8.600
Effective power input	kW	3.613	1.539	1.073	0.883	4.559	3.613
Coefficient of performance (COP)	--	2.38	3.65	5.17	7.25	2.14	2.38
Compressor frequency	Hz	75	37	30	30	92	75
Water flow	m³/h	1.27	1.27	1.27	1.27	1.27	1.27
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	9.721	TOL(°C)		-10			
Test result A, B, C, D, E, F conditions:							
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load	
E	9.721	9.752	2.14	0.00	1.00	2.14	
F	8.600	8.600	2.38	0.00	1.00	2.38	
A	8.600	8.600	2.38	0.00	1.00	2.38	
B	5.235	5.613	3.65	0.00	0.93	3.65	
C	3.365	5.544	5.17	0.99	0.61	5.13	
D	1.496	6.406	7.25	0.99	0.23	7.02	
CR: part load divided by capacity;							

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.038
Standby mode [P_{SB}]	kW	0.013
Crankcase heater [P_{CK}]	kW	0.083
Off mode [P_{OFF}]	kW	0.013

Conclusions:	Unit	Value
SCOP _{on} :	kWh/kWh	3.85
SCOP:	kWh/kWh	3.84
Q_H :	kWh/year	20084
Q_{HE} :	kWh/year	5233
$\eta_{s,h}$	%	150.5
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A+++

Appendix I Test results

Table 3.	Heating mode(Low temperature application):						P	
Model	BLN-012TC3							
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/> Average	<input type="checkbox"/> Warmer	<input type="checkbox"/> Colder			
1. Test conditions:								
Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger		
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)		
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 34		
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 30		
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 27		
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 24		
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 35.3		
F	$(T_{bivalent-16})/(T_{designh-16})$				T _{biv}	a / 34		
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A		
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions, the capacity is 12117.33W, the power is 2613.12W, the COP is 4.64W/W.								
2. Tested data/correction data(Average):								
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/W34 (88%)	
	--	A	B	C	D	E	F	
Data collection period	hh: min:sec	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	
The heat pump defrosts	--	No	No	No	No	No	No	
Complete Cycles	--	0	0	0	0	0	0	
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02	
Voltage	V	399.4	400.1	399.6	399.6	399.0	399.4	
Current input of the unit	A	4.83	2.30	1.41	1.15	5.79	4.83	
Power input of the unit	kW	2.866	1.205	0.688	0.535	3.550	2.866	
Test conditions indoor unit								
Inlet Water temperature, DB	°C	30.34	27.95	25.24	22.06	30.85	30.34	
Outlet Water temperature, DB	°C	34.09	30.22	27.01	23.92	35.00	34.09	

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-7.04	1.96	6.96	11.95	-10.03	-7.04
Air inlet temperature, WB	°C	-8.06	1.01	6.00	11.01	-10.99	-8.06
Summary of the results							
Total heating capacity	kW	8.856	5.427	4.161	4.443	9.803	8.856
Effective power input	kW	2.825	1.164	0.646	0.493	3.509	2.825
Coefficient of performance (COP)	--	3.14	4.66	6.44	9.01	2.79	3.14
Compressor frequency	Hz	72	33	22**	20	88	72
Water flow	m³/h	2.05	2.05	2.05	2.05	2.05	2.05
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data. **In part condition, this compressor frequency is lowest.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	10.011	TOL(°C)		-10			
Test result A, B, C, D, E, F conditions:							
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load	
E	10.011	9.803	2.79	0.00	1.00	2.79	
F	8.856	8.856	3.14	0.00	1.00	3.14	
A	8.856	8.856	3.14	0.00	1.00	3.14	
B	5.391	5.427	4.66	0.00	0.99	4.66	
C	3.465	4.161	6.44	0.99	0.83	6.43	
D	1.540	4.443	9.01	0.99	0.35	8.84	
CR: part load divided by capacity;							

Doc No.: ITC-TTW0902.02E – Rev.11



Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.038
Standby mode [P_{SB}]	kW	0.013
Crankcase heater [P_{CK}]	kW	0.083
Off mode [P_{OFF}]	kW	0.013

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.92
SCOP:	kWh/kWh	4.90
Q_H :	kWh/year	20683
Q_{HE} :	kWh/year	4223
$\eta_{s,h}$	%	192.9
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++

Appendix I Test results

Table 4.	Heating mode(Medium temperature application):						P
Model	BLN-012TC3						
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/> Average	<input type="checkbox"/> Warmer	<input type="checkbox"/> Colder		
1. Test conditions:							
Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger	
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 52	
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 42	
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 36	
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 30	
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 55.3	
F	$(T_{bivalent-16})/(T_{designh-16})$				T _{biv}	a / 52	
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 47/55 conditions, the capacity is 12063.91W, the power is 3906.66W, the COP is 3.09W/W.							
2.Tested data/correction data(Average):							
General test conditions/ Part-Load	Unit	A(-7)/W52 (88%)	A2/W42 (54%)	A7/W36 (35%)	A12/W30 (15%)	A(-10)/W55.3 (100%)	A(-7)/W52 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00	2:10:00
The heat pump defrosts	--	No	No	No	No	No	No
Complete Cycles	--	0	0	0	0	0	0
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	397.9	398.5	398.3	398.4	398.1	397.9
Current input of the unit	A	5.78	2.81	1.58	1.21	7.07	5.78
Power input of the unit	kW	3.577	1.523	0.796	0.591	4.583	3.577
Test conditions indoor unit							
Inlet Water temperature, DB	°C	46.12	38.21	33.48	27.22	48.45	46.12
Outlet Water temperature, DB	°C	52.03	41.99	36.05	30.09	55.01*	52.03

Doc No.: ITC-TTW0902.02E – Rev.11



Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-7.04	1.96	6.96	11.96	-10.03	-7.04
Air inlet temperature, WB	°C	-8.02	1.01	6.01	11.01	-11.03	-8.02
Summary of the results							
Total heating capacity	kW	8.471	5.467	3.877	4.163	9.602	8.471
Effective power input	kW	3.548	1.493	0.767	0.562	4.554	3.548
Coefficient of performance (COP)	--	2.39	3.66	5.06	7.41	2.11	2.39
Compressor frequency	Hz	75	37	22**	20	96	75
Water flow	m³/h	1.26	1.26	1.26	1.26	1.26	1.26
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data. **In part condition, this compressor frequency is lowest.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	9.576	TOL(°C)		-10			
Test result A, B, C, D, E, F conditions:							
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load	
E	9.576	9.602	2.11	0.00	1.00	2.11	
F	8.471	8.471	2.39	0.00	1.00	2.39	
A	8.471	8.471	2.39	0.00	1.00	2.39	
B	5.156	5.467	3.66	0.00	0.94	3.66	
C	3.315	3.877	5.06	0.99	0.85	5.05	
D	1.473	4.163	7.41	0.99	0.35	7.28	
CR: part load divided by capacity;							

Doc No.: ITC-TTW0902.02E – Rev.11







Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.038
Standby mode [P_{SB}]	kW	0.013
Crankcase heater [P_{CK}]	kW	0.083
Off mode [P_{OFF}]	kW	0.013





Conclusions:	Unit	Value
SCOP _{on} :	kWh/kWh	3.86
SCOP:	kWh/kWh	3.84
Q_H :	kWh/year	19785
Q_{HE} :	kWh/year	5152
$\eta_{s,h}$	%	150.6
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A+++

Appendix II Marking plate

Nameplate			
Model: <u>BLN-012TC1</u>			
Air Source Heat Pump			
Model		BLN-012TC1	
Power Supply		220-240V~ / 50Hz	
Heating ¹	Capacity	kW	4.30 -15.20
	Input Power	kW	0.87 -3.73
	Input Current	A	4.02-16.38
Heating ²	Capacity	kW	4.25-14.55
	Input Power	kW	1.45-4.28
	Input Current	A	6.71-18.80
Cooling	Capacity	kW	3.65-11.04
	Input Power	kW	1.12-3.97
	Input Current	A	5.18-17.44
SCOP (Water Temp. At 35°C)		4.85	
SCOP (Water Temp. At 55°C)		3.84	
Rated Input Power		kW	5.40
Rated Input Current		A	25.0
Refrigerant Type/Charge/GWP		.../kg	R290 / 0.90 / 3
CO ₂ Equivalent		/	0.0027t
Operation Pressure(Low Side)		MPa	0.8
Operation Pressure(High Side)		MPa	3.0
Maximum Allowable Pressure		MPa	3.0
Electrical Shockproof		/	I
IP Class		/	IPX4
Max. Outlet Water Temp.		°C	75
Operating Ambient Temperature		°C	-25 ~ 45
Water Piping Connections		inch	G1
Rated Water Flow		m ³ /h	2.06
Water Pressure Drop		kPa	20
Min/Max water pressure		MPa	0.1 / 0.3
Noise Level		dB(A)	50
Net Dimensions (L×W×H)		mm	1287×448×904
Net Weight		kg	123
Rated Test Conditions: Heating ¹ : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 30°C/35°C Heating ² : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 47°C/55°C Cooling: Ambient Temp 35°C/24°C(DB/WB), Water-In/Out Temp 12°C/7°C SolarEast Heat Pump Ltd. No.73 Defu Road, Xingtan Town Shunde District 528325 Foshan City, Guangdong Province, People's Republic of China			
   			


Doc No.: ITC-TTW0902.02E – Rev.11


Appendix II Marking plate

Nameplate			
Model: <u>BLN-012TC3</u>			
Air Source Heat Pump			
Model		BLN-012TC3	
Power Supply		380-415V / 3N~ / 50Hz	
Heating ¹	Capacity	kW	4.30 - 15.20
	Input Power	kW	0.87 - 3.73
	Input Current	A	1.78-6.04
Heating ²	Capacity	kW	4.25- 14.55
	Input Power	kW	1.45-4.28
	Input Current	A	2.84-6.78
Cooling	Capacity	kW	3.65-11.04
	Input Power	kW	1.12-3.97
	Input Current	A	1.97-6.30
SCOP (Water Temp. At 35°C)		4.90	
SCOP (Water Temp. At 55°C)		3.84	
Rated Input Power		kW	5.85
Rated Input Current		A	10.0
Refrigerant Type/Charge/GWP		.../kg	R290 / 0.90 / 3
CO ₂ Equivalent		/	0.0027t
Operation Pressure(Low Side)		MPa	0.8
Operation Pressure(High Side)		MPa	3.0
Maximum Allowable Pressure		MPa	3.0
Electrical Shockproof		/	I
IP Class		/	IPX4
Max. Outlet Water Temp.		°C	75
Operating Ambient Temperature		°C	-25 ~ 45
Water Piping Connections		inch	G1
Rated Water Flow		m ³ /h	2.06
Water Pressure Drop		kPa	20
Min/Max water pressure		MPa	0.1 / 0.3
Noise Level		dB(A)	50
Net Dimensions (L×W×H)		mm	1287×448×904
Net Weight		kg	123
Rated Test Conditions: Heating ¹ : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 30°C/35°C Heating ² : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 47°C/55°C Cooling: Ambient Temp 35°C/24°C(DB/WB), Water-In/Out Temp 12°C/7°C SolarEast Heat Pump Ltd. No.73 Defu Road, Xingtan Town Shunde District 528325 Foshan City, Guangdong Province, People's Republic of China			
   			

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix III photo documentaiton


Details of:	Overall view for BLN-012TC1
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Compressor for BLN-012TC1
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Doc No.: ITC-TTW0902.02E – Rev.11

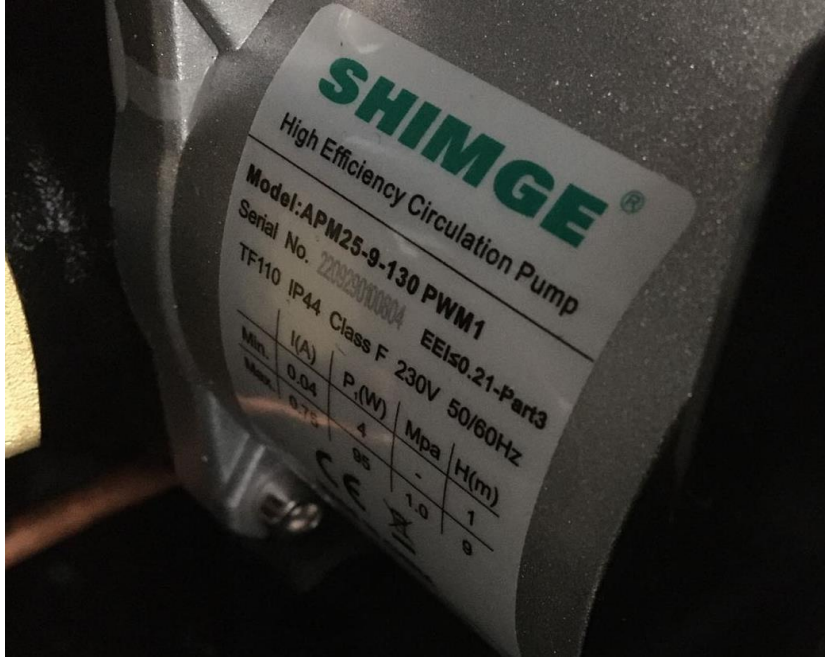
Appendix III photo documentaiton


Details of:	Fan Motor for BLN-012TC1
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Details of:	Main Control Board for BLN-012TC1
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Doc No.: ITC-TTW0902.02E – Rev.11



Appendix III photo documentaiton

Details of:	Water Pump for BLN-012TC1
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Overall view for BLN-012TC1 (optional)
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	


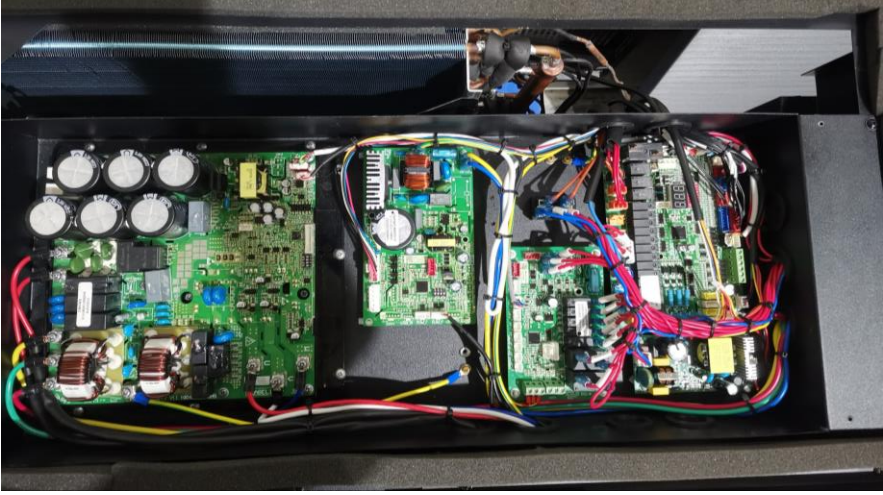
Doc No.: ITC-TTW0902.02E – Rev.11

Appendix III photo documentaiton

Details of:	Overall view for BLN-012TC3
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	
Details of:	Compressor for BLN-012TC3
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	


Doc No.: ITC-TTW0902.02E – Rev.11


Appendix III photo documentaiton

Details of:	Fan Motor for BLN-012TC3
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	
Details of:	Main Control Board for BLN-012TC3
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix III photo documentaiton

Details of:	Water Pump for BLN-012TC3
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Overall view for BLN-012TC3 (optional)
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix IV Construction data form

Model: BLN-012TC1		
Part		Technical data
1. Compressor		
	Manufacture:	SHANGHAI HIGHLY ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP13300PSDPC8FQ
	Rated capacity:	2860W
	Serial-number:	W6PN5H0570N2
	Specification:	DC143.5V; R290
2. Condenser		
	Manufacture:	danfoss (Hangzhou) Plate Heat Exchanger Co., Ltd.
	Type:	C39L-EZ-54
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	332mm*118mm*77mm
3. Evaporator		
	Manufacture:	Guangzhou AOTAI Refrigeration Equipment Co., LTD.
	Type:	DKLNSC-010PN9A1-LQ-1
	Heat exchanger:	Finned heat exchanger
	Dimension(mm):	900mm*307mm*850mm
4. Fan motor		
	Manufacture:	Jiangmen LT Motor Co.,Ltd.
	Type:	RD200HC
	Fan type:	3 blade
	Specification:	DC310V; 200W
5. Main control board		
	Manufacture:	GUANGDONG REAL-DESIGN INTELLIGENCE TECHNOLOGY CO., LTD.
	Type:	R-SY001-M-V2.0
	Specification:	220-240V; 50Hz
6. Water pump		
	Manufacture:	SHIMGE PUMP INDUSTRY (JIANGSU) CO., LTD.
	Type:	APF25-9-130 PWM1
	Specification:	inputpower: 95W; L=130mm; G1.5"

Doc No.: ITC-TTW0902.02E – Rev.11

Appendix IV Construction data form

Model: BLN-012TC3		
Part		Technical data
1. Compressor		
	Manufacture:	SHANGHAI HIGHLY ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP13300PSDPC8FQ
	Rated capacity:	2860W
	Serial-number:	W6PN5H0570N2
	Specification:	DC143.5V; R290
2. Condenser		
	Manufacture:	Weyee Heat Exchanger Corporation Limited
	Type:	C39L-EZ-54
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	332mm*118mm*77mm
3. Evaporator		
	Manufacture:	Guangzhou AOTAI Refrigeration Equipment Co., LTD.
	Type:	DKLNSC-010PN9A1-LQ-1
	Heat exchanger:	Finned heat exchanger
	Dimension(mm):	900mm*307mm*850mm
4. Fan motor		
	Manufacture:	Jiangmen LT Motor Co., Ltd.
	Type:	RD200HC
	Fan type:	3 blade
	Specification:	DC310V; 200W
5. Main control board		
	Manufacture:	GUANGDONG REAL-DESIGN INTELLIGENCE TECHNOLOGY CO., LTD.
	Type:	R-SY001-M-V2.0
	Specification:	380-415V; 50Hz
6. Water pump		
	Manufacture:	SHIMGE PUMP INDUSTRY (JIANGSU) CO., LTD.
	Type:	APF25-9-130 PWM1
	Specification:	inputpower: 95W; L=130mm; G1.5"

Doc No.: ITC-TTW0902.02E – Rev.11



Appendix V Equipment List

No.	Type	Manufacture	Model	Equipment ID	Calibration Due Date
1	Digital power meter	YOKOGAWA	WT230	91HC39024	2023-01-04
2	Platinum resistance	CHINO	Pt100	TS-019XC0130	2023-01-04
3	Platinum resistance	CHINO	Pt100	TS3XA0248	2023-01-04
4	Temperature and humidity sensor	YOKOGAWA	HMD62	S4610294	2023-01-04
5	Water pressure gauge	YOKOGAWA	MPM489	B86832	2023-01-04
6	Water pressure gauge	YOKOGAWA	MPM489	B86833	2023-01-04
7	Flowmeter	YOKOGAWA	AXG032	S5W920561039	2023-01-04

-- End of Report --