

Technical Report No.: 64.181.22.04448.01 Rev.00

Date: 2022-12-07

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-018TC1, BLN-018TC3

Trade name: -

Test specification:  EN 14825:2018  
 EN 14511-3:2018

Purpose of examination: Test according to the test specification

(EU) No 813/2013

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-018TC1, BLN-018TC3

Rated Voltage (V) : 220-240V~ for BLN-018TC1;  
380-415V, 3N~ for BLN-018TC3

Rated Frequency (Hz) : 50

Rated Power (W) : 7500 for BLN-018TC1;  
10500 for BLN-018TC3

Rated Current (A) : 35.0 for BLN-018TC1;  
17.0 for BLN-018TC3

Protection Class : Class I

Protection Against Moisture : IPX4

Construction : Stationary

Supply connection :  Non detachable cord  
 Permanent connection to fixed wiring

Operation mode:  Continuous operation;  
 Intermittent operation;  
 Short time operation;

Refrigerant/charge (kg) : R290 / 1.4kg

Declared parameters :  Average  Warmer  Colder

Sound power level dB(A) : N/A

Series No : 8A00221005003010 for BLN-018TC1;  
8C00220927003072 for BLN-018TC3

## 2 Order

### 2.1 Date of Purchase Order, Customer's Reference

2022-10-31 , SolarEast Heat Pump Ltd.

### 2.2 Test Sample(s)

- Reception date(s): 2022-10-31

- 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

2022-10-31 to 2022-11-27

### 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 particulars as well as of the composition and layout.

**4.2** When the product is placed on the market, it must be accompanied with safety Instructions 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-018TC1 is supplied by a 3-pole supply cord connecting to fixed wiring.
- 3) The main power for model BLN-018TC3 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.

**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**

<b>Table 1.</b>	<b>Heating mode(Low temperature application):</b>						<b>P</b>	
<b>Model</b>	BLN-018TC1							
<b>Product type</b>	Air to Water	<b>Heating season</b>	<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 <sub>biv</sub>	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 18.010kW, the power is 4.096kW, the COP is 4.40kW/kW.

**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	230.9	231.3	231.4	231.5	230.8	230.9
Current input of the unit	A	15.84	8.94	6.12	5.08	19.24	15.84
Power input of the unit	kW	3.646	1.575	1.066	0.896	4.433	3.646
<b>Test conditions indoor unit</b>							
<b>Inlet Water temperature, DB</b>	°C	30.93	28.16	25.14	22.08	32.00	30.93
<b>Outlet Water temperature, DB</b>	°C	34.13	30.14	26.98	24.10	35.43	34.13

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**Appendix I Test results**

Test conditions <b>outdoor</b> unit							
Air inlet temperature, DB	°C	-7.03	1.97	6.97	11.98	-10.03	-7.03
Air inlet temperature, WB	°C	-8.15	1.02	6.01	11.02	-10.98	-8.15

Summary of the results							
Total heating capacity	kW	11.397	7.039	6.578	7.204	12.233	11.397
Effective power input	kW	3.610	1.539	1.030	0.860	4.397	3.610
Coefficient of performance (COP)	--	3.16	4.57	6.39	8.38	2.78	3.16
Compressor frequency	Hz	64	32	25	25	75	64
Water flow	m³/h	3.10	3.10	3.10	3.10	3.10	3.10

Remark: \* In part condition, outlet temperature data is recorded by a full average complete cycle's data.

<b>3.Calculation/conclusion for SCOP(Average):</b>							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	12.884	TOL(°C)		-10			

<b>Test result A, B, C, D, E, F conditions:</b>						
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load
E	12.884	12.233	2.78	0.00	1.00	2.78
F	11.397	11.397	3.16	0.00	1.00	3.16
A	11.397	11.397	3.16	0.00	1.00	3.16
B	6.938	7.039	4.57	0.00	0.99	4.57
C	4.460	6.578	6.39	0.99	0.68	6.36
D	1.982	7.204	8.38	0.99	0.28	8.16

CR: part load divided by capacity;

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**Appendix I Test results**

Electric power consumptions	Unit	Value
Thermostat-off mode [P <sub>TO</sub> ]	kW	0.014
Standby mode [P <sub>SB</sub> ]	kW	0.014
Crankcase heater [P <sub>CK</sub> ]	kW	0.042
Off mode [P <sub>OFF</sub> ]	kW	0.014

Conclusions:	Unit	Value
SCOP <sub>on</sub> :	kWh/kWh	4.84
SCOP:	kWh/kWh	4.83
Q <sub>H</sub> :	kWh/year	26618
Q <sub>HE</sub> :	kWh/year	5511
η <sub>s,h</sub>	%	190.2
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++



Appendix I Test results

<b>Table 2.</b>	<b>Heating mode(Medium temperature application):</b>					<b>P</b>	
<b>Model</b>	BLN-018TC1						
<b>Product type</b>	Air to Water	<b>Heating season</b>	<input checked="" type="checkbox"/> Average	<input type="checkbox"/> Warmer	<input type="checkbox"/> Colder		
<b>1. Test conditions:</b>							
<b>Condition</b>	<b>Part Load Ratio</b> in %				<b>Outdoor heat exchanger</b>	<b>Indoor heat exchanger</b>	
	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 <sub>biv</sub>	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 17.997kW, the power is 5.964kW, the COP is 3.02kW/kW.							
<b>2. Tested data/correction data(Average):</b>							
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	230.7	231.2	231.4	231.5	230.5	230.7
Current input of the unit	A	20.95	10.97	7.28	5.78	25.88	20.95
Power input of the unit	kW	4.832	1.916	1.254	0.990	5.964	4.832
Test conditions <b>indoor</b> unit							
<b>Inlet</b> Water temperature, DB	°C	46.92	38.94	33.23	26.85	49.39	46.92
<b>Outlet</b> Water temperature, DB	°C	52.07	42.07	36.05	30.00	55.00	52.07

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**Appendix I Test results**

Test conditions <b>outdoor</b> unit							
Air inlet temperature, DB	°C	-7.04	1.96	6.97	11.97	-10.03	-7.04
Air inlet temperature, WB	°C	-8.21	1.01	6.02	11.02	-11.07	-8.21

Summary of the results							
Total heating capacity	kW	11.420	6.952	6.267	7.050	12.373	11.420
Effective power input	kW	4.814	1.898	1.236	0.972	5.946	4.814
Coefficient of performance (COP)	--	2.37	3.66	5.07	7.25	2.08	2.37
Compressor frequency	Hz	67	32	25	25	80	67
Water flow	m³/h	1.90	1.90	1.90	1.90	1.90	1.90

Remark: \* In part condition, outlet temperature data is recorded by a full average complete cycle's data.

<b>3.Calculation/conclusion for SCOP(Average):</b>							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	12.910	TOL(°C)		-10			

<b>Test result A, B, C, D, E, F conditions:</b>						
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load
E	12.910	12.373	2.08	0.00	1.00	2.08
F	11.420	11.420	2.37	0.00	1.00	2.37
A	11.420	11.420	2.37	0.00	1.00	2.37
B	6.951	6.952	3.66	0.00	1.00	3.66
C	4.469	6.267	5.07	0.99	0.71	5.05
D	1.986	7.050	7.25	0.99	0.28	7.07

CR: part load divided by capacity;

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**Appendix I Test results**

Electric power consumptions	Unit	Value
Thermostat-off mode [P <sub>TO</sub> ]	kW	0.014
Standby mode [P <sub>SB</sub> ]	kW	0.014
Crankcase heater [P <sub>CK</sub> ]	kW	0.042
Off mode [P <sub>OFF</sub> ]	kW	0.014

Conclusions:	Unit	Value
SCOP <sub>on</sub> :	kWh/kWh	3.84
SCOP:	kWh/kWh	3.84
Q <sub>H</sub> :	kWh/year	26671
Q <sub>HE</sub> :	kWh/year	6953
η <sub>s,h</sub>	%	150.4
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A+++

**Appendix I Test results**

<b>Table 3.</b>	<b>Heating mode(Low temperature application):</b>						<b>P</b>	
<b>Model</b>	BLN-018TC3							
<b>Product type</b>	Air to Water	<b>Heating season</b>	<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 <sub>biv</sub>	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 18.005kW, the power is 4.058kW, the COP is 4.44kW/kW.

**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	401.1	401.6	401.7	401.9	401.1	401.1
Current input of the unit	A	5.80	3.03	2.11	1.77	6.84	5.80
Power input of the unit	kW	3.603	1.625	1.123	0.884	4.340	3.603
<b>Test conditions indoor unit</b>							
<b>Inlet Water temperature, DB</b>	°C	30.92	28.12	25.26	21.98	31.82	30.92
<b>Outlet Water temperature, DB</b>	°C	34.12	30.20	27.10	24.00	35.21	34.12

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**Appendix I Test results**

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-7.03	1.97	6.97	11.97	-10.03	-7.03
Air inlet temperature, WB	°C	-8.14	1.01	6.02	11.02	-11.05	-8.14
Summary of the results							
Total heating capacity	kW	11.390	7.386	6.592	7.219	12.087	11.390
Effective power input	kW	3.565	1.586	1.085	0.846	4.302	3.565
Coefficient of performance (COP)	--	3.20	4.66	6.08	8.54	2.81	3.20
Compressor frequency	Hz	64	32	25**	24	75	64
Water flow	m³/h	3.10	3.10	3.10	3.10	3.10	3.10
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)	12.876	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	12.876	12.087	2.81	0.00	1.00	2.81	
F	11.390	11.390	3.20	0.00	1.00	3.20	
A	11.390	11.390	3.20	0.00	1.00	3.20	
B	6.933	7.386	4.66	0.00	0.94	4.66	
C	4.457	6.592	6.08	0.99	0.68	6.05	
D	1.981	7.219	8.54	0.99	0.27	8.32	
CR: part load divided by capacity;							

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**Appendix I Test results**

Electric power consumptions	Unit	Value
Thermostat-off mode [ $P_{TO}$ ]	kW	0.014
Standby mode [ $P_{SB}$ ]	kW	0.014
Crankcase heater [ $P_{CK}$ ]	kW	0.043
Off mode [ $P_{OFF}$ ]	kW	0.014

Conclusions:	Unit	Value
SCOP <sub>on</sub> :	kWh/kWh	4.84
SCOP:	kWh/kWh	4.83
$Q_H$ :	kWh/year	26601
$Q_{HE}$ :	kWh/year	5505
$\eta_{s,h}$	%	190.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++

**Appendix I Test results**

<b>Table 4.</b>	<b>Heating mode(Medium temperature application):</b>						<b>P</b>	
<b>Model</b>	BLN-018TC3							
<b>Product type</b>	Air to Water	<b>Heating season</b>	<input checked="" type="checkbox"/>	Average	<input type="checkbox"/>	Warmer	<input type="checkbox"/>	Colder
<b>1. Test conditions:</b>								
<b>Condition</b>	<b>Part Load Ratio</b> in %				<b>Outdoor heat exchanger</b>	<b>Indoor heat exchanger</b>		
	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 <sub>biv</sub>	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 18.075kW, the power is 5.863kW, the COP is 3.08kW/kW.								
<b>2. Tested data/correction data(Average):</b>								
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	401.0	401.4	401.6	401.8	400.9	401.0	
Current input of the unit	A	7.36	3.44	2.35	1.88	9.06	7.36	
Power input of the unit	kW	4.723	1.924	1.252	0.982	5.882	4.723	
Test conditions <b>indoor</b> unit								
<b>Inlet</b> Water temperature, DB	°C	46.93	38.93	33.09	26.79	49.38	46.93	
<b>Outlet</b> Water temperature, DB	°C	52.10	42.08	35.90	29.94	55.09*	52.10	

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**Appendix I Test results**

Test conditions <b>outdoor</b> unit							
Air inlet temperature, DB	°C	-7.03	1.97	6.96	11.97	-10.03	-7.03
Air inlet temperature, WB	°C	-8.12	1.01	6.01	11.01	-11.09	-8.12

Summary of the results							
Total heating capacity	kW	11.385	6.953	6.261	7.022	12.583	11.385
Effective power input	kW	4.700	1.901	1.228	0.959	5.859	4.700
Coefficient of performance (COP)	--	2.42	3.66	5.10	7.32	2.15	2.42
Compressor frequency	Hz	67	32	25**	24	80	67
Water flow	m³/h	1.92	1.92	1.92	1.92	1.92	1.92

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)	12.870	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	12.870	12.583	2.15	0.00	1.00	2.15
F	11.385	11.385	2.42	0.00	1.00	2.42
A	11.385	11.385	2.42	0.00	1.00	2.42
B	6.930	6.953	3.66	0.00	1.00	3.66
C	4.455	6.261	5.10	0.99	0.71	5.08
D	1.980	7.022	7.32	0.99	0.28	7.14

CR: part load divided by capacity;

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**Appendix I Test results**

Electric power consumptions	Unit	Value
Thermostat-off mode [ $P_{TO}$ ]	kW	0.014
Standby mode [ $P_{SB}$ ]	kW	0.014
Crankcase heater [ $P_{CK}$ ]	kW	0.043
Off mode [ $P_{OFF}$ ]	kW	0.014

Conclusions:	Unit	Value
SCOP <sub>on</sub> :	kWh/kWh	3.86
SCOP:	kWh/kWh	3.86
$Q_H$ :	kWh/year	26590
$Q_{HE}$ :	kWh/year	6891
$\eta_{s,h}$	%	151.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A+++







Appendix II Marking plate

Nameplate			
<b>Model: <u>BLN-018TC1</u></b>			
<b>Air Source Heat Pump</b>			
Model		BLN-018TC1	
Power Supply		220-240V~ / 50Hz	
Heating <sup>1</sup>	Capacity	kW	7.24 – 21.90
	Input Power	kW	1.50 – 5.88
	Input Current	A	6.86 – 30.25
Heating <sup>2</sup>	Capacity	kW	6.36 – 19.45
	Input Power	kW	2.15 - 6.85
	Input Current	A	9.84 – 30.12
Cooling	Capacity	kW	4.55 - 17.20
	Input Power	kW	1.85 - 7.31
	Input Current	A	8.47 - 32.1
SCOP (Water Temp. At 35°C)		kWh / kWh	4.83
SCOP (Water Temp. At 55°C)		kWh / kWh	3.84
Rated Input Power		kW	7.5
Rated Input Current		A	35.0
Refrigerant Type/Charge/GWP		... / kg	R290 / 1.4 / 3
CO <sub>2</sub> Equivalent		/	0.0042t
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	G1-1/4
Rated Water Flow		m <sup>3</sup> / h	3.1
Water Pressure Drop		kPa	55
Min/Max water pressure		MPa	0.1 / 0.3
Noise Level		dB(A)	55
Net Dimensions ( L×W×H )		mm	1187×488×1456
Net Weight		kg	184
Rated Test Conditions: Heating <sup>1</sup> : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 30°C/35°C Heating <sup>2</sup> : 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			
   			

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Appendix II Marking plate

Nameplate			
<b>Model: <u>BLN-018TC3</u></b>			
<b>Air Source Heat Pump</b>			
Model		BLN-018TC3	
Power Supply		380-415V / 3N~ / 50Hz	
Heating <sup>1</sup>	Capacity	kW	7.24 – 21.90
	Input Power	kW	1.50 – 5.88
	Input Current	A	2.82 – 9.16
Heating <sup>2</sup>	Capacity	kW	6.36 – 19.45
	Input Power	kW	2.15 – 6.85
	Input Current	A	3.71 – 10.60
Cooling	Capacity	kW	4.55 – 17.20
	Input Power	kW	1.85 – 7.31
	Input Current	A	2.99 – 11.26
SCOP (Water Temp. At 35°C)		kWh / kWh	4.84
SCOP (Water Temp. At 55°C)		kWh / kWh	3.85
Rated Input Power		kW	10.5
Rated Input Current		A	17.0
Refrigerant Type/Charge/GWP		... / kg	R290 / 1.4 / 3
CO <sub>2</sub> Equivalent		/	0.0042t
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	G1-1/4
Rated Water Flow		m <sup>3</sup> / h	3.1
Water Pressure Drop		kPa	55
Min/Max water pressure		MPa	0.1 / 0.3
Noise Level		dB(A)	55
Net Dimensions ( L×W×H )		mm	1187×488×1456
Net Weight		kg	184
Rated Test Conditions: Heating <sup>1</sup> : Ambient Temp 7°C/6°C(DB/WB), Water-In/Out Temp 30°C/35°C Heating <sup>2</sup> : 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			
   			

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**Appendix III photo documentaiton**

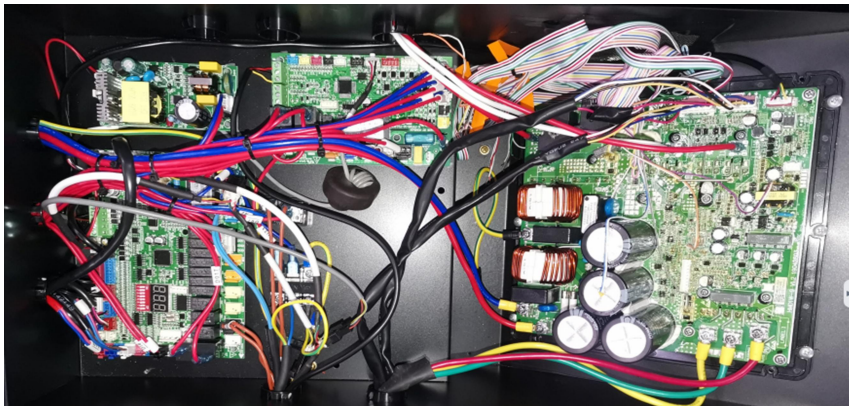
Details of:	Overall view for BLN-018TC1
<p><b>View:</b></p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Details of:	Compressor for BLN-018TC1
<p><b>View:</b></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>	

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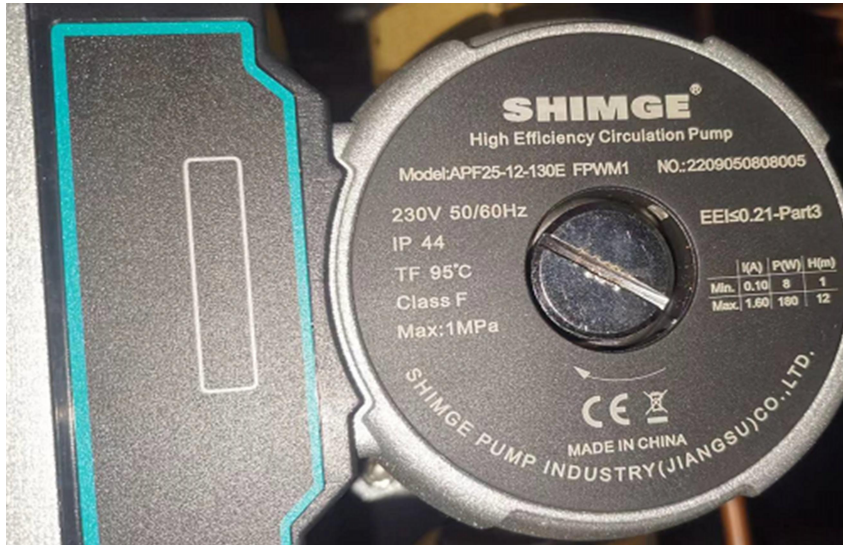
Appendix III photo documentaiton


Details of:	Fan Motor for BLN-018TC1
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:	Main Control Board for BLN-018TC1
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	

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Appendix III photo documentaiton


Details of:	Water Pump for BLN-018TC1
<p><b>View:</b></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:	Overall view for BLN-018TC3
<p><b>View:</b></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>	

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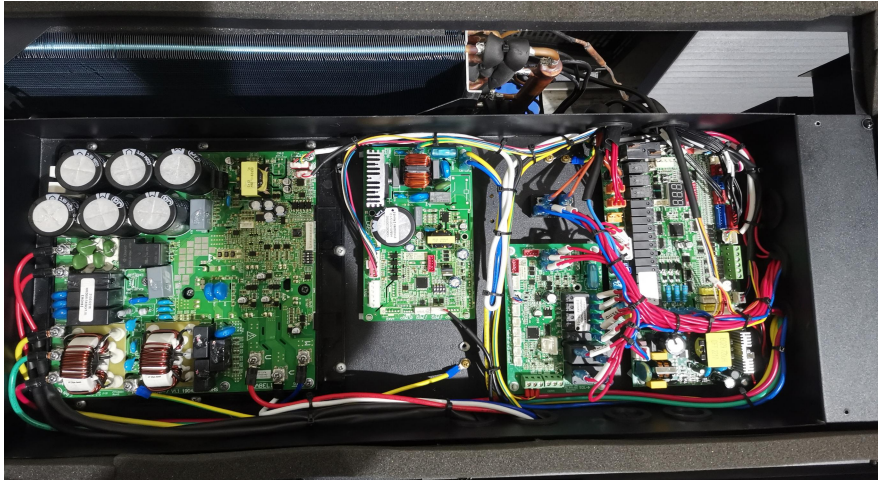
Appendix III photo documentaiton

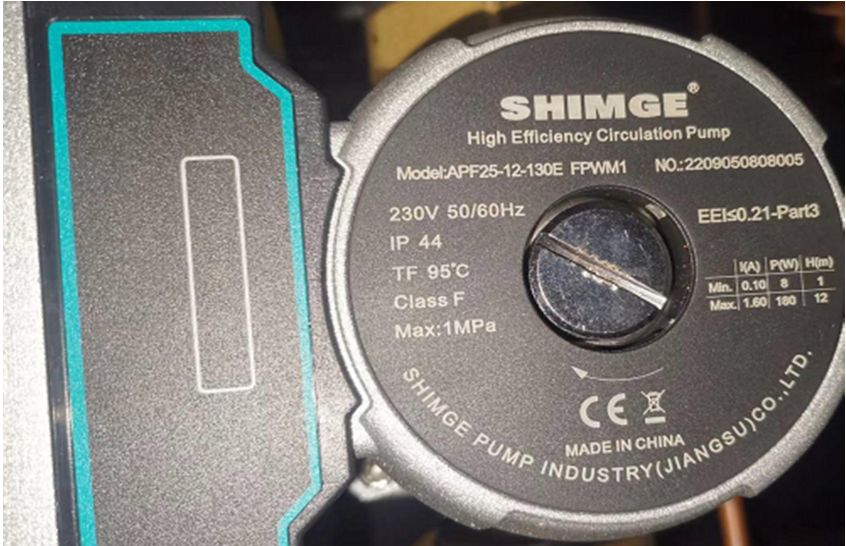
Details of:	Compressor for BLN-018TC3
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Fan Motor for BLN-018TC3
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	

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Appendix III photo documentaiton

Details of:	Main Control Board for BLN-018TC3
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:	Water Pump for BLN-018TC3
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	

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**Appendix IV Construction data form**

Model: <b>BLN-018TC1</b>		
Part		Technical data
1. Compressor		
	Manufacture:	SHANGHAI HIGHLY ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP32900VSKTQ9JK
	Rated capacity:	4330W
	Serial-number:	W82N1E02H3QB
	Specification:	DC221V; R290
2. Condenser		
	Manufacture:	Danfoss (Hangzhou) Plate Heat Exchanger Co. , Ltd.
	Type:	C62L-EZ-J-50
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	524mm*117mm*102mm
3. Evaporator		
	Manufacture:	Guangzhou AOTAI Refrigeration Equipment Co., LTD.
	Type:	DKLNSC-018PN9A1-LQ-1
	Heat exchanger:	Finned heat exchanger
	Dimension(mm):	820mm*347mm*1400mm
4. Fan motor		
	Manufacture:	Jiangmen LT Motor Co.,Ltd.
	Type:	RD85HA
	Fan type:	3 blade
	Specification:	DC310V; 85W; 850r/min
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:	APF25-12-130E FPWM1
	Specification:	input power: 180W; L=130mm; G1.5"

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**Appendix IV Construction data form**

Model: <b>BLN-018TC3</b>		
Part	Technical data	
1. Compressor		
	Manufacture:	SHANGHAI HIGHLY ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP32900VSKTQ9JK
	Rated capacity:	4330W
	Serial-number:	W82N1E02H3QB
	Specification:	DC221V; R290
2. Condenser		
	Manufacture:	Danfoss (Hangzhou) Plate Heat Exchanger Co. , Ltd.
	Type:	C62L-EZ-J-50
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	524mm*117mm*102mm
3. Evaporator		
	Manufacture:	Guangzhou AOTAI Refrigeration Equipment Co., LTD.
	Type:	DKLNSC-018PN9A1-LQ-1
	Heat exchanger:	Finned heat exchanger
	Dimension(mm):	820mm*347mm*1400mm
4. Fan motor		
	Manufacture:	Jiangmen LT Motor Co.,Ltd.
	Type:	RD85HA
	Fan type:	3 blade
	Specification:	DC310V; 85W
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:	APF25-12-130E FPWM1
	Specification:	input power: 180W; L=130mm; G1.5"

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**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 --