

Air to Water Heat Pump



Solair Thermal R290 Series



High Performance

- Integrated with PV and ESS to maximize green energy self-consumption
- SCOP level: A+++
- Maximum leaving water temperature of 80°C



Eco-Friendly

- R290 natural refrigerant, low GWP and a low-carbon lifestyle
- Extremely quiet operation with low noise level



Flexibility

- Available in 5 capacity sizes (8 to 16 kW), suitable for renovations and large new buildings
- Highly interoperable, SG ready, Modbus TCP/RTU supported
- Heating + Cooling + Domestic Hot Water (DHW)



Intelligent Control

- Smart App control supports remote monitoring, operation, and OTA updates
- Brushless DC motor enables stepless speed regulation

Power supply		220 ~ 240 V / 1N~ / 50 Hz					380 ~ 415 V / 3N~ / 50 Hz				
Heating (A: 7/6°C W: 30/35°C)	Capacity	8.5 kW	10 kW	12.5 kW	14 kW	15.5 kW	8.5 kW	10 kW	12.5 kW	14kW	15.5 kW
	Rated input power	1.65 kW	2.02 kW	2.55 kW	2.95 kW	3.41 kW	1.65 kW	2.02 kW	2.55 kW	2.95 kW	3.41 kW
	COP	5.15	4.95	4.90	4.75	4.55	5.15	4.95	4.90	4.75	4.55
Heating (A: 7/6°C W: 47/55°C)	Capacity	8kW	10 kW	12 kW	14 kW	16 kW	8 kW	10 kW	12 kW	14 kW	16 kW
	Rated input power	2.32 kW	3.08 kW	3.69 kW	4.44 kW	5.16 kW	2.32 kW	3.08 kW	3.69 kW	4.44 kW	5.16 kW
	COP	3.45	3.25	3.25	3.15	3.1	3.45	3.25	3.25	3.15	3.1
Cooling (A: 35°C W: 23/18°C)	Capacity	8.5 kW	10 kW	12 kW	14 kW	15.5 kW	8.5 kW	10 kW	12 kW	14 kW	15.5 kW
	Rated input power	1.63	2.13 kW	2.55 kW	3.11 kW	3.56 kW	1.63 kW	2.13 kW	2.55 kW	3.11 kW	3.56 kW
	EER	5.20	4.70	4.70	4.50	4.35	5.20	4.70	4.70	4.50	4.35
Cooling (A: 35°C W: 12/7°C)	Capacity	8 kW	9kW	12 kW	13 kW	14 kW	8 kW	9 kW	12 kW	13 kW	14 kW
	Rated input power	2.35 kW	2.81 kW	3.87 kW	4.26 kW	5.09 kW	2.35 kW	2.81 kW	3.87 kW	4.26 kW	5.09 kW
	EER	3.40	3.20	3.10	3.05	2.75	3.40	3.20	3.10	3.05	2.75
Seasonal space heating energy efficiency class ^①	LWT at 35°C	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55°C	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
SCOP ^②	LWT at 35°C	5.44	5.30	5.07	4.94	4.90	5.44	5.30	5.07	4.94	4.90
	LWT at 55°C	4.12	4.07	3.89	3.84	3.83	4.12	4.07	3.89	3.84	3.83
Compressor	Type	Rotary DC inverter									
Outdoor fan	Motor type	Brushless DC motor									
	Number of fans	1									
Throttle type		Electronic expansion valve									
Air side heat exchanger	Type	Finned tube									
Water side heat exchanger	Type	Plate type									
Refrigerant	Type/GWP	R290/3									
	Charged volume	1.2 kg	1.2 kg	1.5 kg	1.5 kg	1.5 kg	1.2 kg	1.2 kg	1.5 kg	1.5 kg	1.5 kg
CO2 Equivalent	0.0036 t	0.0036 t	0.0045 t	0.0045 t	0.0045 t	0.0036 t	0.0036 t	0.0045 t	0.0045 t	0.0045 t	
Sound power level ^③	49 dB(A)	49 dB(A)	51 dB(A)	52 dB(A)	52 dB(A)	49 dB(A)	49 dB(A)	51 dB(A)	52 dB(A)	52 dB(A)	
Sound pressure level at 1m ^④	35 dB(A)	35 dB(A)	37 dB(A)	38 dB(A)	38 dB(A)	35 dB(A)	35 dB(A)	37 dB(A)	38 dB(A)	38 dB(A)	
Sound pressure level at 3m ^⑤	32 dB(A)	32 dB(A)	34 dB(A)	35 dB(A)	35 dB(A)	32 dB(A)	32 dB(A)	34 dB(A)	35 dB(A)	35 dB(A)	
Dimensions(W x H x D)		1310 x 1050 x 465 mm									
Weight	140kg	140kg	154kg	154kg	154kg	151kg	151kg	165kg	165kg	165kg	
Piping connection		G 1-1/4"									
Operation range	Heating	-25 ~ 35 °C									
	Cooling	5 ~ 48 °C									
	DHW	-25 ~ 46 °C									
Water outlet	Heating	25~80 °C									
	Cooling	5~25 °C									
	DHW	25~70 °C									

① Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02

② Seasonal space heating energy efficiency class tests in average climate conditions

③ Sound power level test condition: EN12102-1

④ Sound pressure level at 1m is the maximum value tested under the condition of A7W55

⑤ Sound pressure level at 3m is the maximum value tested under the condition of A7W55

Indoor Unit



STN1-C01



STN1/3-C02



STN1/3-C03

Component	Control Unit	Hydraulic Unit	Hydraulic Integrated Unit
Indoor unit control board	●	●	●
4 inch touch panel	●	●	●
Back up heater		●	●
Expansion tank (8L)		●	●
Solenoid three way valve		●	●
190L hot water tank			●
Hot water tank expansion tank (18L)			●
Hot water tank circulation pump			●
Check valve			●
Application Scenario	Suitable for households with existing or self-installed hydraulic circuits and domestic hot water tanks.	Suitable for households with existing or self installed domestic hot water tanks	Ideal for new installations or households requiring an upgrade in domestic hot water tank capacity

Control Unit

STN1-C01

Power Supply	220 ~ 240 V / 1N~ / 50 Hz
Rated Current	0.1 A
User Interface	4 inch high-resolution touch panel
Communication	WiFi/Ethernet/RS485
Installation	Wall mounting
Sound power level ^①	30 dB(A)
Sound pressure level ^②	16 dB(A)
Dimensions(W x H x D)	340 x 400 x 80 mm
Weight	6.5 kg

Hydraulic Unit

STN1-C02

STN3-C02

Power Supply	220~240 V / 1N~ / 50 Hz	380 ~ 415 V / 3N~ / 50 Hz
Rated Current	39.5 A	13.5 A
User Interface	4 inch high-resolution touch panel	
Communication	WiFi / Ethernet / RS485	
Back up heater	Capacity combination	3.0 kW + 6.0 kW
	Power supply	220~240 V / 1N~ / 50 Hz
	Rated running current	39.5 A
Expansion tank size ^③	8L	
Piping connections (water) ^④	(G1") / (G1-1/4")	
Recommend circuit breaker	60 A	20 A
Installation	Wall mounting	
Sound power level ^①	33 dB(A)	
Sound pressure level ^②	19 dB(A)	
Dimensions(WxHxD)	420 x 700 x 265 mm	
Weight(Empty)	33 kg	

① Sound power level test condition: EN12102-1

② Sound pressure level is tested under the condition of A7W55

③ The 18L expansion tank is for the DHW, while the 8L one is for the floor heating side

④ G1 connects to indoor water pipe, G1-1/4 connects to outdoor unit water outlet&inlet

Hydraulic Integrated Unit

STN1-C03

STN3-C03

Power Supply	220 ~ 240 V / 1N~ / 50 Hz		380 ~ 415 V / 3N~ / 50 Hz	
Rated Current	52.3 A		17.5 A	
User Interface	4 inch high-resolution touch panel			
Communication	WiFi / Ethernet / RS485			
Back up heater	Capacity combination	3.0 kW + 6.0 kW		
	Power supply	220~240 V / 1N~ / 50 Hz		380 ~ 415 V / 3N~ / 50 Hz
	Rated running current	39.5 A		13.1 A
Expansion tank size ^④	18 L+8 L			
DHW tank size	190 L			
Piping connections (water) ^③	(G1") / (G1-1/4")			
Recommend circuit breaker	80 A		25 A	
Installation	Floor stand			
Sound power level ^①	33 dB(A)			
Sound pressure level ^②	19 dB(A)			
Dimensions(W x H x D)	595 x 1875 x 700 mm			
Weight(empty)	186 kg			

① Sound power level test condition: EN12102-1

② Sound pressure level is tested under the condition of A7W55

③ The 18L expansion tank is for the DHW, while the 8L one is for the floor heating side

④ G1 connects to indoor water pipe, G1-1/4 connects to outdoor unit water outlet&inlet

Solution Diagram

