

A woman with blonde hair tied in a bun is leaning over a white bathtub, gently washing a young girl's face with her hands covered in white soap suds. The girl is lying back in the water, looking up at the woman. The background shows a glass shower door and some green plants.

## AIR TO WATER HEAT PUMPS 2017-2018

HEART OF YOUR HOME



# Air To Water Heat Pumps

Nowadays, people are becoming increasingly focused on the costs of heating as well as on environmental issues. Traditional heating systems are less cost-efficient and are not environmentally friendly.

Thus, people are searching for new heating technology with higher efficiencies, low operation costs and eco-friendly features. Fortunately, this is possible with S-THERM+, S-THERM and SANITARY WATER HEATERS!

These are air to water heat pumps created for house and room heating, as well as for water heating.

## S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

S-THERM+ series air source heat pumps are specially designed for cold climates and to work in outside air temperatures of  $-20^{\circ}\text{C}$ . Its core philosophy is to solve the user's home heating requirements during winter and spring and provide cooling during a hot summer and autumn. High temperature EVI Scroll compressors are equipped with a vapour injection connection for Economizer Operation. Effective enhancement is accomplished by utilising a sub cooling circuit, it also increases heating capacity. The system is readily capable of reaching an outlet water temperature of  $65^{\circ}\text{C}$ .

## S-THERM DC INVERTER AIR TO WATER HEAT PUMPS

Adopting advanced heat pump technology, the S-THERM air source water heaters absorb natural heat energy from the ambient air and increases it for room heating. Not only does it satisfy room heating requirements, it also supplies domestic hot water. Besides, S-THERM can provide you a cooler environment in a hot summer. If you choose S-THERM, you will enjoy a comfortable environment at your home all year round. It is an all-in-one! S-THERM adopts eco-friendly refrigerant R410A, which is harmless to the ozone layer. Moreover, with advanced heat pump technology and powerful hardware, the efficiency of S-THERM has been improved, resulting in lower  $\text{CO}_2$  emissions. It is an eco-friendly product, which can reflect your awareness of social responsibility to the environment.

## SANITARY WATER HEATERS

Sinclair heat pumps for water heating take advantage of the heat pump principle with environmentally-friendly refrigerants. They save energy compared to commonly used sources for sanitary water heating. Due to its automatic antilegionella function, the water in the tank remains harmless and ready for use.





## S-THERM+ EVI Scroll Heat Pumps

HEART OF YOUR HOME



# More Advanced Technology for Heating of Water up to 65 °C

A heat pump absorbs energy from the surroundings and transfers it to heat the water. So the house could be warmed by pumping this warm water to an underfloor pipe heating system or radiators.

The indoor unit is designed for super low noise operation. All moving parts are set on a suspended base with the pipe system carefully designed and arranged to reduce vibration. The Inside of the cabinet is fully insulated. All this ensures that the unit operates stably and quietly

EVI COMPRESSOR SYSTEMS BENEFIT OVER STANDARD REFRIGERATION COMPRESSOR SYSTEMS OF EQUIVALENT CAPACITY DUE TO THE FOLLOWING:

## CAPACITY IMPROVEMENT

Since the added capacity achieved by enhanced subcooling provides a higher enthalpy gain across the evaporator, the compressor displacement required can be reduced by the percentage enthalpy gain for the same evaporator capacity.

## INCREASED COP

In a vapour-injected scroll compressor cycle, the efficiency is higher than in a conventional single-stage compressor delivering the same capacity. This is because the capacity increase from the extra subcooling is achieved from less input power. The vapour created in the sub-cooling process is then compressed only from the higher interstage pressure rather than from the lower suction pressure.



## BENEFITS OF EVI COMPRESSOR SYSTEM

### EVI SCROLL COMPRESSORS HAVE THE FOLLOWING FEATURES

- Higher volume efficiency
- Low noise level
- Reliability
- Easy construction solution
- Suitability for heat pumps



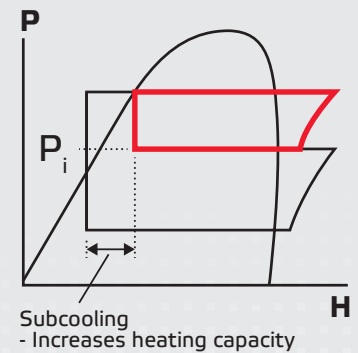
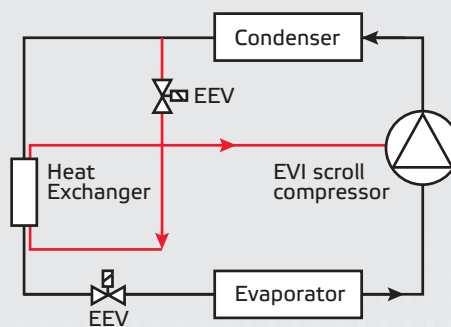
The vapour-injected scroll compressor cycle is similar to a two-stage compressor with interstage cooling, but is performed by using a single compressor.

The high phase is accomplished by extracting a portion of the condenser liquid and expanding it through an expansion valve into a counter flow brazed-plate heat exchanger acting as a subcooler.

The superheated vapour is then injected into an intermediate vapour injection port in the scroll compressor.

This additional subcooling increases the evaporator capacity by reducing its inlet enthalpy.

EVI SCROLL COMPRESSOR CYCLE





# INDOOR UNITS

SHP-140IRC  
SHP-180IRC



## STANDARD UNIT COMPOSITION

- New EVI compressor specially designed for high water temperature.
- Base frame and external panels made of galvanized powder coated steel.
- Wilo EC water pump installed inside.
- Copeland compressor with R407c refrigerant.
- Flow sensor for water flow protection.
- Fully sealed control box to IP60.
- Intelligent Smart Sinclair controller and adjustment by quick mind microprocessor.
- New lattice LCD display of wire controller with JOG wheel.
- 3kW bivalent electric heater inside the indoor unit.
- Danfoss soft starter.
- Outflow water temperature up to 65°C.
- 5 years warranty.

INDOOR UNIT			SHP-140IRC	SHP-180IRC
Temperature Outdoor Air / Outflow Water (°C) *	A10 / W35	Heating Capacity (kW)	15,55	17,88
		Power Input (kW)	3,28	3,90
		COP (-)	4,75	4,58
	A7 / W35	Heating Capacity (kW)	14,73	16,79
		Power Input (kW)	3,28	3,94
		COP (-)	4,49	4,26
	A2 / W35	Heating Capacity (kW)	11,38	13,27
		Power Input (kW)	3,06	3,77
		COP (-)	3,72	3,52
	A-7 / W35	Heating Capacity (kW)	10,30	11,09
		Power Input (kW)	3,17	3,85
		COP (-)	3,25	2,88
Technical Specifications	A-15 / W45	Heating Capacity (kW)	8,81	10,43
		Power Input (kW)	4,09	4,95
		COP (-)	2,16	2,11
	A20 / W35	Heating capacity (kW)	18,28	22,32
		Power input (kW)	3,28	3,83
		COP (-)	5,58	5,82
	A35 / W12	Cooling Capacity (kW)	10,90	12,50
		Power Input (kW)	3,41	4,46
		EER (-)	3,20	2,80
	Power Supply	V / Ph / Hz	400 / 3 / 50	400 / 3 / 50
	Outdoor Temperature Range	°C	-20 ~ +40	-20 ~ +40
	Temperature of Leaving Water	°C	+12 ~ +65	+12 ~ +65
	Refrigerant (type / charge / t Eq. CO <sub>2</sub> )	kg	R407c / 8,0 / 14,2	R407c / 9,5 / 16,9
	Electric Heater	kW	3,0	3,0
	Compressor QTY	-	1	1
	Compressor	Type	COPELAND EVI scroll	COPELAND EVI scroll
	Refrigerant Liquid pipe	mm (inch)	12 (1/2")	12 (1/2")
	Refrigerant Gas pipe	mm (inch)	22 (7/8")	22 (7/8")
	Water Pipe Inlet / Outlet	-	DN 25 (1")	DN 25 (1")
	Sound pressure level L <sub>pa</sub> at 1 m / 10 m	dB	51 / 31	51 / 31
	Net Dimensions	mm	602 x 638 x 1035	602 x 638 x 1035
	Net Weight	kg	159	150

\*Values were measured according to EN 14511-2:2012 / EHPA standards including

The specification of products is subject to change based on further development of the units by the producer and can be changed without prior notice. Refer to rating label.  
Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R407C (23% R32, 25% R125, 52% R134a), GWP of refrigerant used: 1774.



## OUTDOOR UNITS

SHP-140ERC  
SHP-180ERC

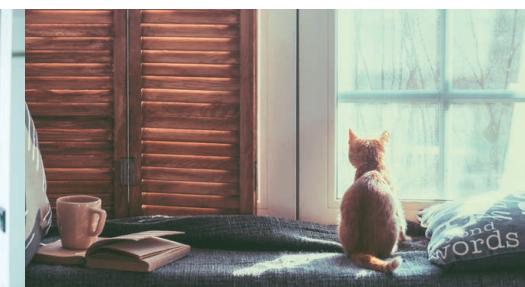


### STANDARD UNIT COMPOSITION

- Air / refrigerant heat exchanger (fins & coil) with hydrophylic coating.
- Electronic expansion valve.
- Automatic intelligent defrosting function.
- General testing and operational test carried out for every unit before package.
- Fan with EC motor.
- Anti-snow function.
- 5 years warranty.



OUTDOOR UNIT		SHP-140ERC	SHP-180ERC
Power supply	V / Ph / Hz	230 / 1 / 50 (from indoor unit)	
Fan Quantity	pcs	1	
Fan Power Input	W	182	
Fan Direction	-	Vertical	
Air Flow	m³ / h	4995	
Refrigeration Gas Pipe	mm (inch)	12 (1/2")	
Refrigeration Liquid Pipe	mm (inch)	22 (7/8")	
Sound pressure level L <sub>PA</sub> at 1 m / 10 m	dB	58,2 / 38,2	
Unit Dimension (L*W*H)	mm	1168 x 1063 x 1102	
Net Weight	kg	94	





## SMART SINCLAIR CONTROL SYSTEM

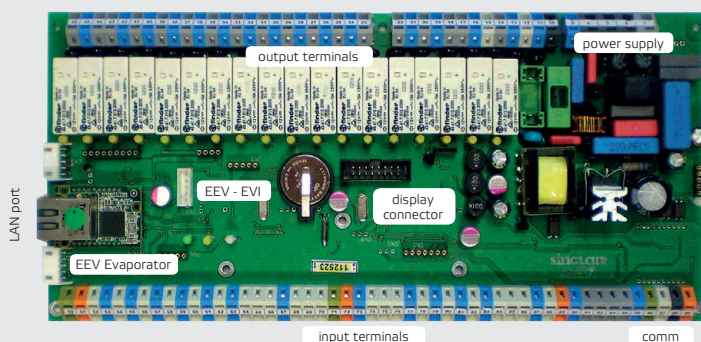


### FEATURES

- Controls the heating of two independent reservoirs (tank for sanitary water and tank for heating water)
- Control of two equitherm circuits heating (i.e. floor heating and radiator heating)
- Controlling of EVI system for high COP and capacity
- System is more economical by using load management
- System monitors power input to prevent damage by wrong connection, over or under voltage
- Controls defrost mode depending on time, temperature and outdoor weather
- Automatic alarm and error reports



INDOOR UNIT  
CONTROL PANEL



### CONTROL AND COMMUNICATION OPTIONS

#### Standard

- Built-in LCD panel and JOG wheel
- USB port (universal serial bus)
- Industrial communication standard line RS485
- Long-distance monitoring via internet and remote access from the service center
- Using your PC- ethernet connection (via LAN / WAN) - tablet, smart phone

#### Optional

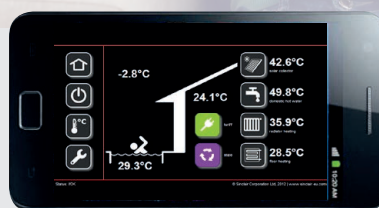
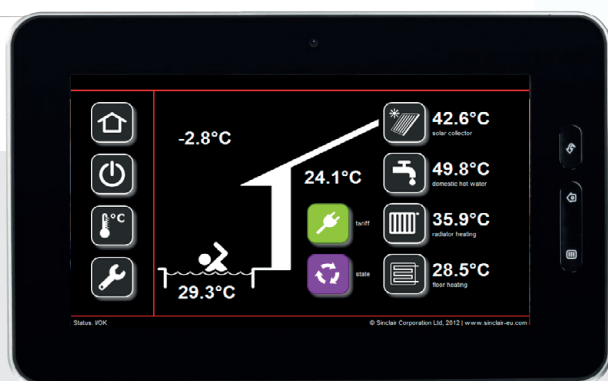
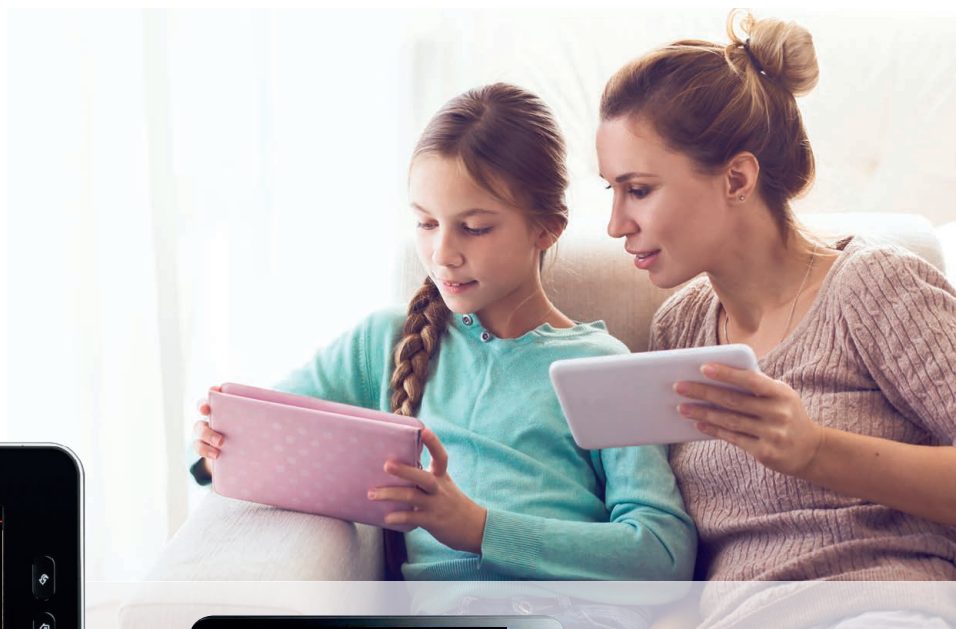
- Using your mobile phone GSM (by calling or SMS)



## REMOTE CONTROL

### CONTROL ON THE LOCAL NETWORK

- Comfort control with tablet or PC
- User-friendly interface
- Well-arranged display and quick orientation in menus
- Simple setup
- Quick access to basic information about the system



### BASIC INFORMATION WINDOW

- Overview of basic temperatures
- Indication of operating mode and load management
- Icon to enter the menu (home, heat pump control, temperature, settings)

### COMFORTABLE SETTINGS MENU

- Adjustment of temperatures
- Priorities
- Runtime parameters
- Equitherm
- LAN, GSM
- Remote monitoring
- Language





## REMOTE CONTROL



### CONTROL OVER THE INTERNET

- Access from anywhere via the internet.
- Easy access through the web interface on [www.sinclairheatpumps.eu](http://www.sinclairheatpumps.eu)
- Founding of account and service of account is free of charge
- Interactive interface (equitherm curve shows actuals set temperatures)
- Interface is optimized for use on touch-screen devices

### DISPLAYED INFORMATION

- Basic overview of the system (temperatures, electrical tariff, etc.)
- Currently set values for each item
- Possibility to view statistics of heat pump

### OPTIONS

- Possibility to set all parameters as shown on the control panel of the unit
- User and service levels of the access

The screenshot displays the Sinclair Heat Pumps web interface. At the top, there's a header with the Sinclair logo, the tagline "Quality strengthens partnerships", and navigation links for "Heat pump management" and "Log Out". A language dropdown is set to "English", and there's a search bar.

The main content area is titled "User Menu" and contains several sections:

- Current status of the heat pump:** Shows a graph with a sun icon and temperatures 0,7°C and 24,3°C. It also displays "Low tariff" and "Heating" status with icons for Solar panel, Domestic hot water, Radiator heating, and Floor heating.
- Basic operations:** A sidebar menu with options for "Basic operations" and "Comfort".
- Heating settings:** A section for "Basic heat pump settings" with options for "Temperature correction programs", "Equitherm curves", "Heating mode", and "Priorities".
- Other settings:** A section for "Advanced heat pump settings" with options for "Temperatures", "Min. DHW reserve", "Tariff", "Bivalence", and "Password change".
- Information:** A section for "Information about heat pump" with options for "Tariffs info" and "Statistics".

At the bottom, there's a blue footer with a "CONTACT US!" section, a phone icon, and the text "FREE INFOLINE +420 800 100 285". There's also a "WRITE TO US" button. The footer includes the text "© 2014 SINCLAIR CORPORATION, Ltd." and "redakční systém".



## WATER PIPING DIAGRAM

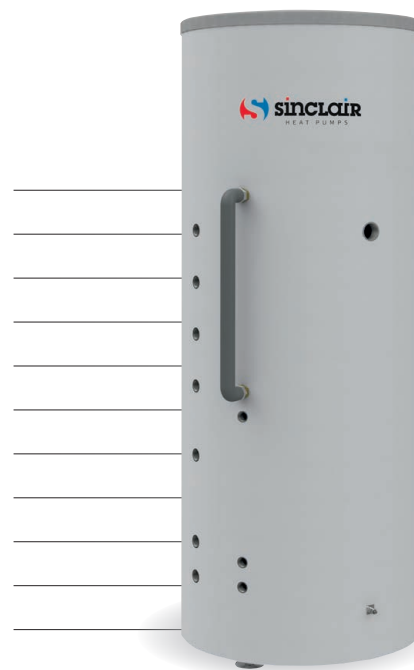
WITH COMBINED ACCUMULATION TANK

### COMBINED BUFFER TANK ST-500MCS, ST-500MC

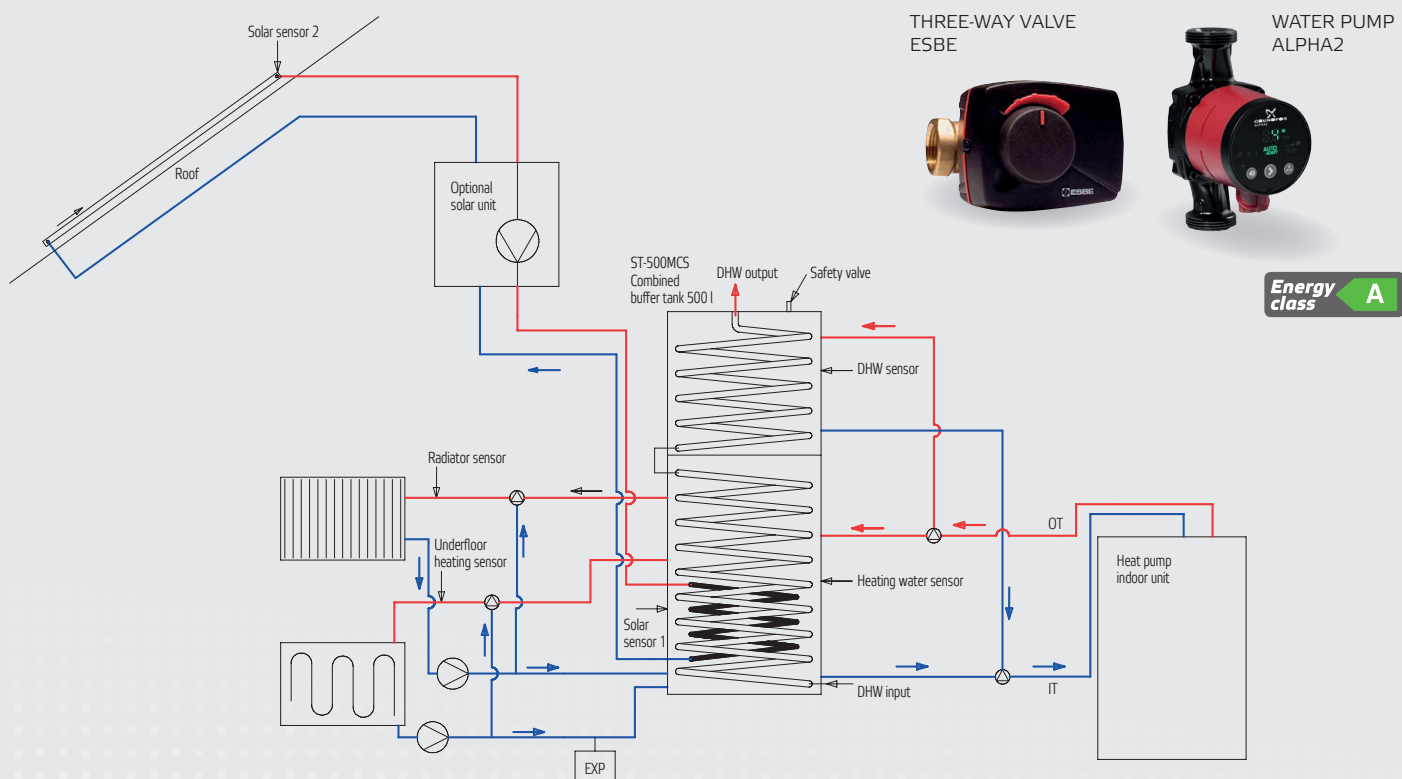
- Steel storage tank of 500 liters with stainless steel heat exchanger
- DHW flow heater
- Possibility of connecting to solar heating
- Compact, grey leatherette body with black plastic top cover
- 50mm polyurethane foam insulation
- 2 years warranty

### RECOMMENDED COMPONENTS

- Three-way valves for switching between the upper 1/3 tank for DHW and the lower 2/3 tanks for heating circuit ESBE series VRG 131 / 132 with electronic control type ESBE Series 641 (running time 30 seconds)
- Three-way valves for equithermal control of the temperature in the radiators or underfloor heating system with electronic control type ESBE Series 671 (running time 240 seconds)
- Circulator pump for water circulation in heating systems Grundfos Alpha2



ST-500MCS



COOLING CANNOT BE USED IN THIS CONNECTION



## WATER PIPING DIAGRAM

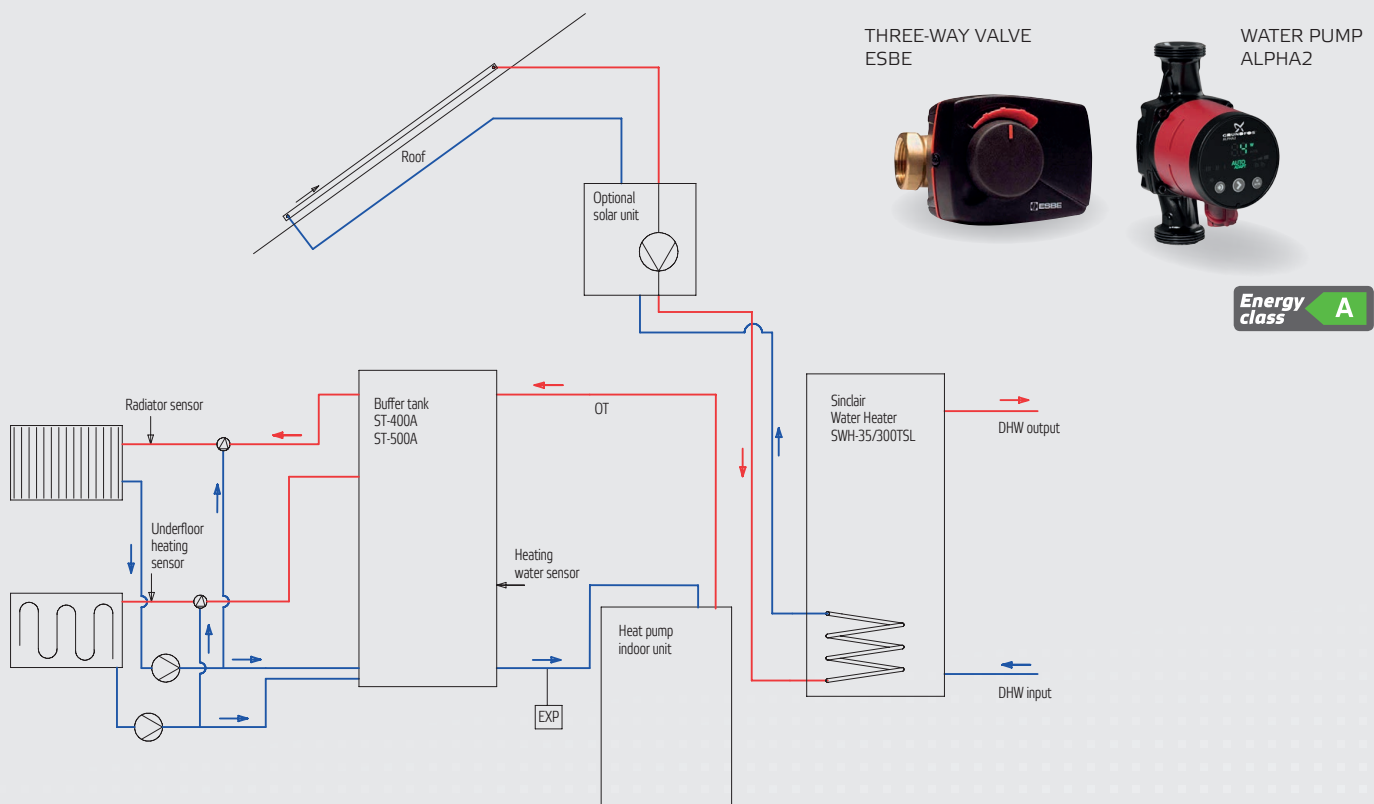
WITH SINCLAIR WATER HEATER

### BUFFER TANK ST-400A, ST-500A

- Simple storage tank of 400 or 500 litres
- Compact, grey leatherette body with black plastic top cover
- 50 mm polyurethane foam insulation
- 2 years warranty

### RECOMMENDED COMPONENTS

- Three-way valves for equithermal control of the temperature in the radiators or underfloor heating system with electronic control type ESBE Series 671 (running time 240 seconds)
- Circulator pump for water circulation in heating systems Grundfos Alpha2



FAN COIL UNIT MAY BE USED IN COOLING MODE IN THIS CONNECTION



## WATER PIPING DIAGRAM

### INDIRECT WATER HEATERS

#### INDIRECT WATER HEATERS ST-200D, ST-300D

- Cylindrical hot water tank
- Compact, grey leatherette body with black plastic top cover
- 50 mm polyurethane foam insulation
- 2 years warranty

#### RECOMMENDED COMPONENTS

- Three-way valves for switching between the tank for DHW and buffer tank ESB E series VRG 131 / 132 with electronic control type ESB E Series 641 (running time 30 seconds)
- Three-way valves for equithermal control of the temperature in the radiators or underfloor heating system with electronic control type ESB E Series 671 (running time 240 seconds)
- Circulator pump for water circulation in heating systems Grundfos Alpha2

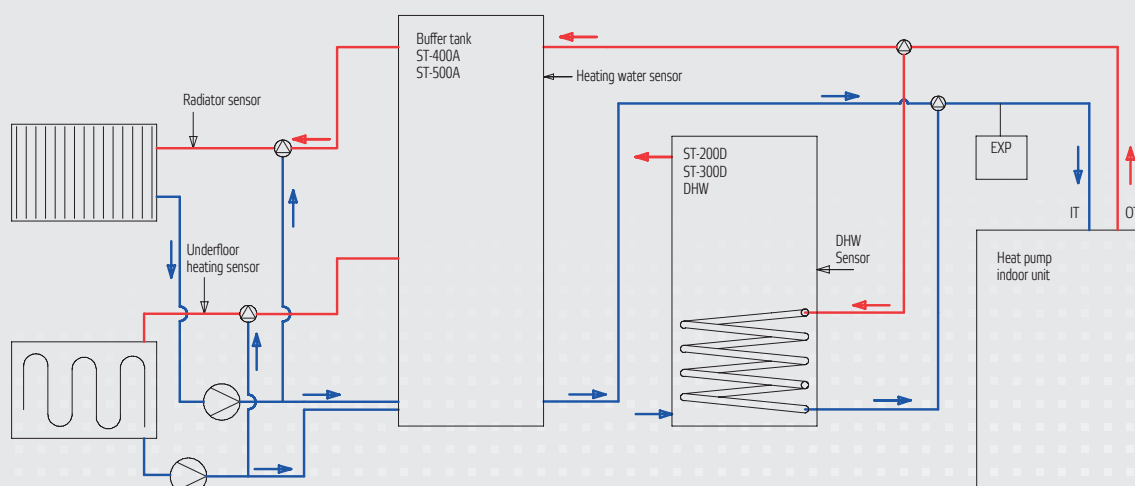


THREE-WAY VALVE  
ESBE

WATER PUMP  
ALPHA2



Energy  
class **A**



FAN COIL UNIT MAY BE USED IN COOLING MODE IN THIS CONNECTION



## CASCADE MODE



### GENERAL PROPERTIES

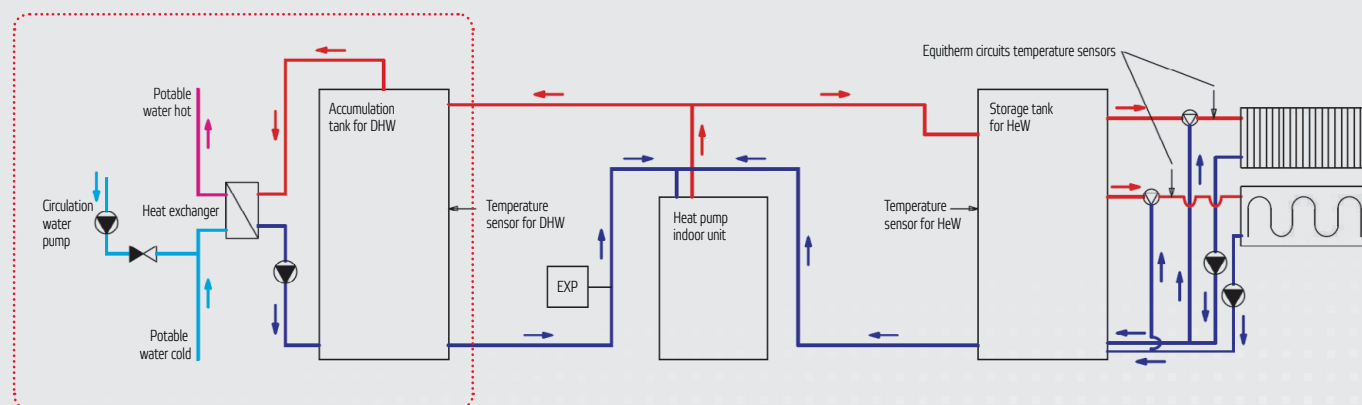
- Possibility to heat buildings with high heating requirements
- Convenient for heating residential or office buildings
- Standard software option no need for upgrades

### CONTROL SYSTEM

- Master and slave connection, one unit controls others
- Eight units can be connected together in one cascade (up to 144 kW)
- Alternating units increase lifespan of units
- Some of the units can heat the hot water while others can provide the water for heating

### SPECIAL ACCESSORIES FOR CASCADES

- Station for instantaneous heating of domestic hot water (fresh station)
- Storage tank with 1000L volume designed for optimal heating of heating water
- Distributor connecting units to the storage tank



WATER PIPING DIAGRAM WITH FRESH STATION FOR DHW



## OPTIONAL ACCESSORIES



### ROOM THERMOSTAT SAU-1000

- Easy to use thanks to location in room
- Modification of requested temperature by  $\pm 4$  °C
- Easy installation with 3-core cable



ROOM  
THERMOSTAT  
SAU-1000

### OUTDOOR UNIT COVER ZG6009

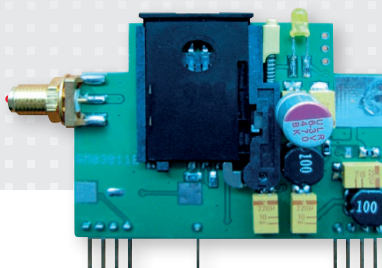
- Protective cover for outdoor unit
- Reduces the amount of leaves falling into the evaporator
- Prevents the ingress of water and rain into the evaporator



OUTDOOR UNIT  
COVER ZG6009

### GSM MODULE SHP-GSM

- Possibility of controlling the unit through a gsm network
- Information about status of unit and main temperatures
- Switching the modes on and off
- SMA connector for antenna
- Standard accessories (included in package) are battery and antenna



GSM MODULE  
SHP-GSM







A woman with dark hair tied back is sitting in a large, round, light-colored rattan chair. She is wearing a beige cable-knit sweater and light-colored pants. She is looking down at something in her hands. The chair is positioned in front of a large window with sheer white curtains. Sunlight is streaming through the window, creating a warm, bright atmosphere. The chair has thick, light-colored cushions. The floor is made of light-colored wood, and there is a white shaggy rug under the chair.

## S-THERM 3<sup>rd</sup> Gen DC Inverter Heat Pumps

HEART OF YOUR HOME



# Basic System Configuration

## S-THERM 3<sup>RD</sup> GENERATION DC INVERTER AIR TO WATER HEAT PUMPS

DC Inverter Air to Water Heat Pump is composed of outdoor unit, hydrobox (indoor unit) and optional water tank.

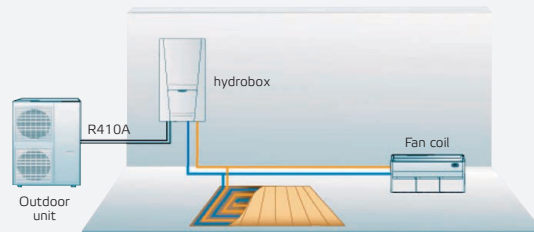
### OPERATION FUNCTIONS

- Cooling & heating
- Water heating
- Cooling + water heating
- Heating + water heating
- Emergency mode
- Quick water heating
- Holiday mode
- Forced operation mode
- Silent mode
- Disinfection mode
- Water-dependent heating mode

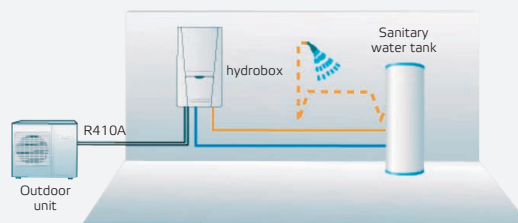


### COMBINATION EXAMPLES

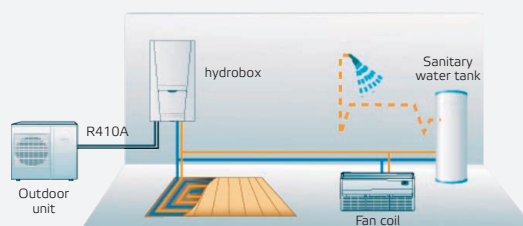
#### Heating / cooling



#### Water heating



#### Heating / cooling with water heating





# INDOOR UNIT (HYDROBOX)

NEW

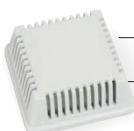
## GSH-IRAD

### FEATURES

- Compact and modern design
- Adopts high efficiency plate heat exchanger
- User friendly control panel
- Easy installation and maintenance
- Safe and reliable
- 5 years warranty



TCGSH - INDOOR TEMPERATURE SENSOR (OPTIONAL)



Model			GSH-IRAD
Power supply		V / Ph / Hz	380-415 / 3 / 50
Connecting pipe (refrigerant)	Gas	inch / mm	5/8" / 16,0
	Liquid	inch / mm	3/8" / 9,5
Connecting pipe (water)	Water inlet	inch	G1
	Water outlet	inch	G1
Safety valve		Bar	2,5
Leaving Water Temperature	Cooling (Fan coil unit)	°C	7~25
	Cooling (Floor cooling)	°C	18~25
	Heating (Fan coil unit)	°C	25~55 (High Temperature Cycle)
	Heating (Floor heating)	°C	25~45 (Low Temperature Cycle)
Main components	Pump	Type	-
		Speed	-
		Power input	W
	Expansion Vessel	Volume	l
		Water Pressure (Max)	Bar
		Water Pressure (Pre)	Bar
	Electric heater	Operation	-
		Capacity	kW
		Combination	-
		Power input	V / Ph / Hz
	Heat Exchanger	Type	-
		Quantity	-
Sound Pressure Level		dB (A)	42
Dimensions	Outline (W x D x H)	mm	570 x 650 x 300
	Packaged (W x D x H)	mm	610 x 1010 x 430
Weight	Net	kg	64
	Gross	kg	65
Indoor temperature sensor (optional)		-	TCGSH

The specification of products is subject to change based on further development of the units by the producer and can be changed without prior notice. Refer to rating label.  
Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R410A (50% HFC-32, 50% HFC-125), GWP of refrigerant used: 2088.



## OUTDOOR UNITS

NEW

GSH-70ERAD  
GSH-90ERAD  
GSH-110ERAD  
GSH-130ERAD

### FEATURES

- High efficiency and energy saving
- Comfortable
- Intelligent control
- PFC control technology
- BLDC motor control technology
- 5 years warranty



Model				GSH-70ERAD		GSH-90ERAD		GSH-110ERAD		GSH-130ERAD			
Voltage / Frequency				V / Ph / Hz		220-240 / 1 / 50				380-415 / 3 / 50			
Temperature conditions: ambient air / outlet water (°C)	A7 / W35	Heating Capacity	kW	6,65		8,53		10,50		13,49			
		Power Input	kW	1,60		1,99		2,49		3,22			
		COP	-	4,15		4,27		4,22		4,19			
	A2 / W35	Heating Capacity	kW	4,92		6,88		8,30		9,09			
		Power Input	kW	1,46		2,02		2,51		2,75			
		COP	-	3,38		3,41		3,31		3,31			
	A-7 / W35	Heating Capacity	kW	3,90		5,20		7,20		8,20			
		Power Input	kW	1,70		2,36		2,88		3,73			
		COP	-	2,30		2,20		2,50		2,20			
Technical parameters	Sound pressure level	Max	dB (A)	53				70					
	Energy class	Space heating (55 °C / 35 °C)		A+ / A++		A+ / A++		A+ / A+		A+ / A+			
		Water heating		A		A		A		A			
	Refrigerant	Type		R410A									
		Charge	kg / t Eq. CO <sub>2</sub>	3,5 / 7,3				5,3 / 11,1					
	Sanitary water temperature		°C	40-80									
	Outer diameter	Liquid pipe	inch / mm	3/8" / 9,5									
		Gas pipe	inch / mm	1/2" / 16,0									
	Dimensions (W x D x H)		mm	980 x 427 x 847					900 x 412 x 1345				
Net weight		kg	85					126					
Operating range		°C	-20-45										

\*Values were measured according to EN 14511-2:2012

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S-Therm Monoblock

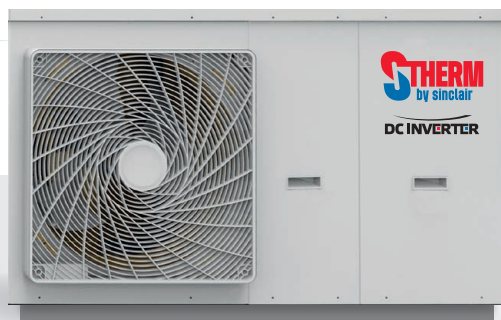
HEART OF YOUR HOME



# S-Therm Monoblock DC Inverter Heat Pumps

## ALL-IN-ONE DEVICE

- Cooling & heating
- Water heating
- Cooling + water heating
- Heating + water heating
- Emergency mode
- Quick water heating
- Holiday mode
- Forced operation mode
- Disinfection mode
- Water-dependent heating mode



## EASY CONTROL

Wired controller can be placed inside the building. Controller is user friendly and easy to operate.

## TWO STAGE ROTARY COMPRESSOR

New two-stage compressor with inverter achieves high efficiency even at low temperatures. On the other hand at high temperatures it can lower its speed to prevent cycling of the unit.

## MONOBLOCK DESIGN

Due to the monoblock design of the unit installation is very easy. You can simply connect unit to the electricity and to heating system and it is done. Because of this installation costs are lower than for split units.

## WATER PUMP WITH REGULATED SPEED

In this unit WILO water pump with regulated speed is used. Because of this heat pump can keep requested temperature difference between inlet and outlet water. This water pump has also high efficiency and meets all requirements for energy efficiency.

## EC FAN MOTOR

Unit is equipped with EC fan motor (motors) with high efficiency. Speed of the fan is regulated according to the refrigerant pressure. Due to this type of control high efficiency of the system is achieved in various conditions.

## EXPANSION VALVES CONTROL BASED ON REFRIGERANT PRESSURE

Electronic expansion valves which provide better regulation than thermostatic expansion valves are used in the unit. Valve opening is based on information from sensors in refrigerant circuit to provide optimal capacity and efficiency of the unit.



# MONOBLOCK UNITS

NEW

## SMH-100IRA SMH-140IRA

Model			SMH-100IRA	SMH-140IRA
Capacity1	Heating (underfloor)	kW	9,5	14,2
	Cooling (underfloor)	kW	9,8	14,5
Power input1	Heating (underfloor)	kW	2,2	3,35
	Cooling (underfloor)	kW	2,5	3,70
COP1	Heating (underfloor)	-	4,3	4,24
EER1	Cooling (underfloor)	-	3,92	3,92
Capacity2	Heating (fan coils, radiators)	kW	9,5	13,0
	Cooling (fan coils)	kW	7,4	10,3
Power input2	Heating (fan coils, radiators)	kW	2,69	3,60
	Cooling (fan coils)	kW	2,38	3,3
COP2	Heating (fan coils, radiators)	-	3,53	3,61
EER2	Cooling (fan coils)	-	3,11	3,12
Energy class		-	A+	A+
SCOP		-	3,7	4,3
Voltage / phase / frequency		V / Ph / Hz	210-240 / 1 / 50	380-415 / 3 / 50
Max. power input (without e-heater)	Heating	kW	3,1	4,3
	Cooling	kW	4,0	4,8
Max. current (without e-heater)	Heating	A	14,0	8,1
	Cooling	A	16,5	8,9
Refrigerant	Type	-	R410A	R410A
	Charge	-	3,5 / 7,3	4,0 / 8,4
Water pipes	Inlet	mm	DN25	
	Outlet	mm	DN25	
Water temperatures range	Heating	°C	25~60	
	Cooling	°C	7~25	
Main components	Water pump	Number of speeds	externally controlled	
		Power input	140	
	Water flow switch	Minimum flow	9,2	
	Expansion tank	Volume	10	
		Maximum pressure	3	
		Precharged pressure	1	
	Electric heater	Mode	automatic	
		Steps	2	
		Capacity	6	
		Combination	3+3	
		Voltage / phase / frequency	210-240 / 1 / 50	380-415 / 3 / 50
	Heat exchanger	Type	plate	
		Quantity	1	
	Safety valve	Pressure	3	
Sound pressure level LpA	Heating	dB	56	57
	Cooling	dB	53	54
Unit dimensions	W*D*H	mm	1390 x 412 x 890	1350 x 384 x 1438
Package dimension	W*D*H	mm	1463 x 428 x 1020	1440 x 430 x 1500
Weight	Net / Gross	kg	148 / 161	205 / 220
Operating temperature range	Cooling	°C	10~48	10~48
	Heating	°C	-20~35	-20~35
	Water Heating	°C	-20~45	-20~45

### 1 Capacities and power inputs are based on the following conditions:

Cooling conditions:  
 Indoor Water Temperature 23°C / 18°C;  
 Outdoor Air Temperature 35°CDB / 24°CWB  
 Heating conditions:  
 Indoor Water Temperature 30°C / 35°C  
 Outdoor Air Temperature 7°CDB / 6°CWB

### 2 Capacities and power inputs are based on the following conditions:

Cooling conditions:  
 Indoor Water Temperature 12°C / 7°C;  
 Outdoor Air Temperature 35°CDB / 24°CWB  
 Heating conditions:  
 Indoor Water Temperature 40°C / 45°C;  
 Outdoor Air Temperature 7°CDB / 6°CWB

The specification of products is subject to change based on further development of the units by the producer and can be changed without prior notice. Refer to rating label.  
 Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R410A (50% HFC-32, 50% HFC-125), GWP of refrigerant used: 2088.







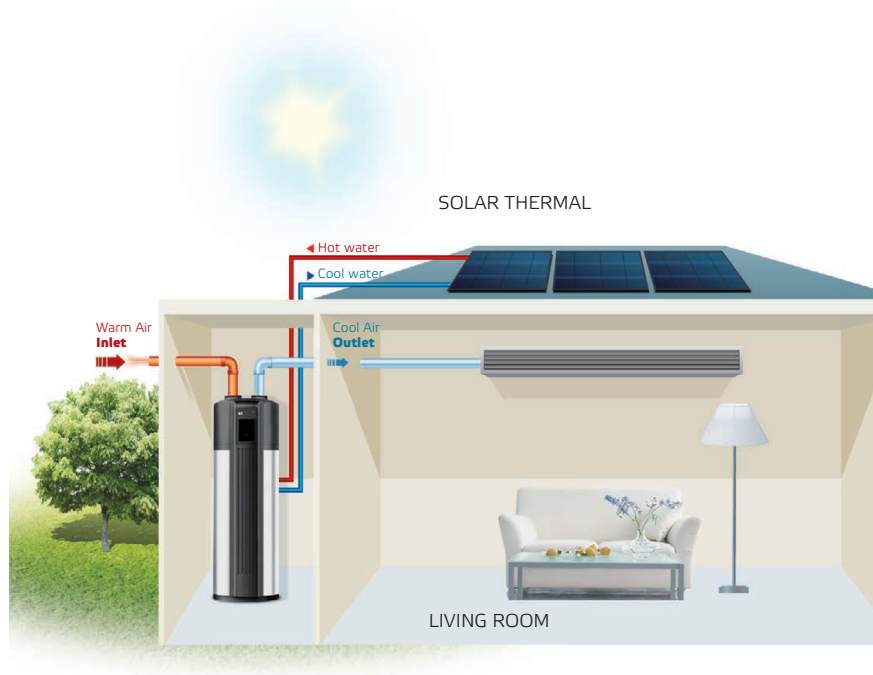


## Sanitary Water Heaters

HEART OF YOUR HOME



# Sanitary Water Heaters



## ADVANTAGE OF HEAT PUMPS

SINCLAIR heat pumps for water heating take the advantage of heat pump principle with environmentally-friendly R134a refrigerant. It saves energy compared to commonly used sources of sanitary water heating.

Due to its automatic antilegionella function, the water in the tank remains harmless and ready for use.

### DINING ROOM



### CELLAR

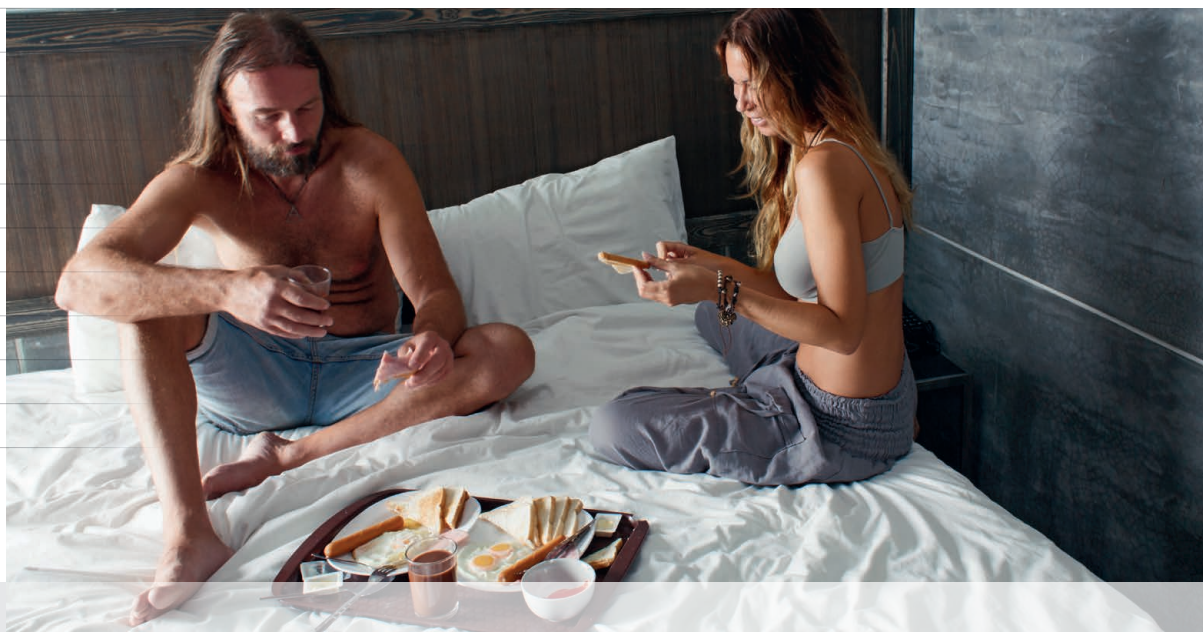


### STORAGE ROOM





## FEATURES



### SAFETY

Complete insulation between water and electricity. No potential electric shock problem. No fuel pipes and storage, no potential danger from oil leakage, fire, explosion etc.

### HIGH EFFICIENCY

Adopts heat pump principle, which absorbs heat from outdoor air and produces hot water, thermal efficiency can be up to 450%.

### ENERGY SAVING

Lower power consumption compared to traditional systems.

### WEATHER INDEPENDENT

Ambient temp: -30 to 43°C, not affected by night-time temperatures, overcast sky, rain and snow.

### AUTOMATIC CONTROL

Automatic start-up and shutdown, automatic defrosting without any attention.

### ENVIRONMENTALLY FRIENDLY

No discharge of toxic gas. No pollution of the atmosphere or environment.

### EASY TO OPERATE

User-friendly LCD display for easy interaction.

### EASY FOR INSTALLATION AND MAINTENANCE

Just need to connect water pipes.



# Effective Water Heating

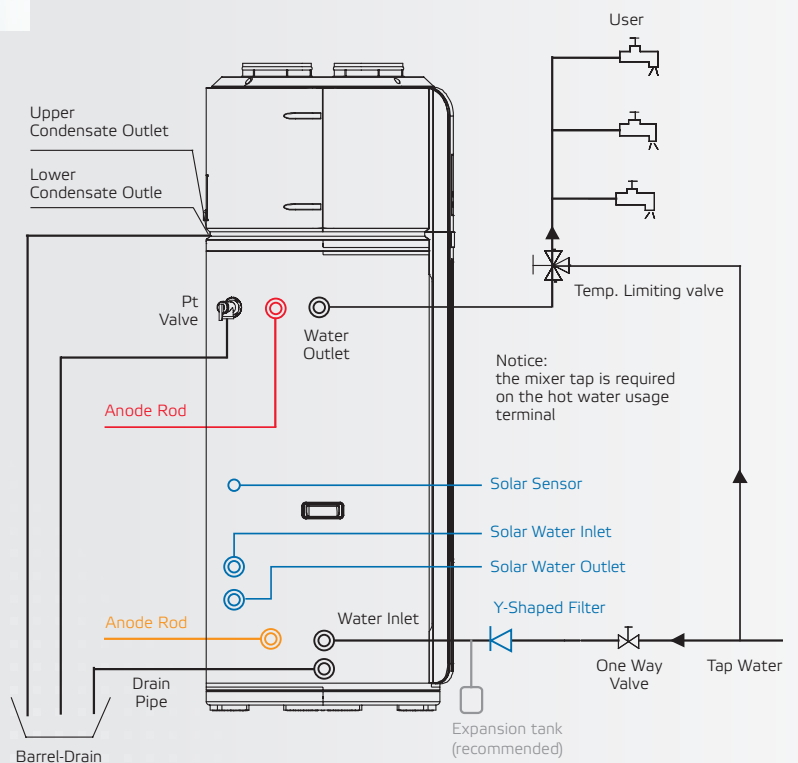


## FEATURES

- No cross contamination potential, refrigerant coil is wrapped around the outside of the tank and insulated
- High efficiency
- Possible installation inside or outside
- Closed refrigerant circuit, easy for installation
- Automatic weekly anti-legionella function
- Multi protection (PT valve, double high water temp. protection switches)
- Thermal expansion valve
- Built-in heat exchanger, compatible with solar thermal or boilers (optional)
- Four-way valve for automatic defrosting

- SWH-15/190T2
- SWH-35/300TSL
- SHW-35/300TL2

SWH-15/190T2 - anode rod is under front cover



SCHEME IS ILLUSTRATIVE ONLY. DIMENSIONS MAY DIFFER BY MODEL.



# WATER HEATERS

SWH-35-300TSL  
SWH-35/300TL2  
SWH-15/190T2

- Water tank volume 190 liters or 300 liters
- Environmentally friendly refrigerant R134a
- Two operation modes: economy, e-heater
- Stainless steel solar heat exchanger
- Outlet water temperature 38-60 °C
- Operation temperature range -30-43 °C
- 3 years warranty



Model		SWH-15/190T2		SWH-35 / 300TSL		SWH-35/300TL2	
Running mode power input		Economy	E-heater	Economy	E-heater	Economy	E-heater
Running ambient temp.	°C	-7~43	-20~43	-7~43	-30~43	-7~43	-20~43
Output water Temp.	°C	Default: 60°C, 38°C ~70°C		Default: 55°C, 38°C ~60°C		Default: 55°C, 38°C ~65°C	
Power supply	V / Ph / Hz	220-240 / 1 / 50		220-240 / 1 / 50		220-240 / 1 / 50	
Storage size	L	180		300		280	
Water heating Capacity	kW	1,5	3,2	3,0	3,0	3,0	3,0
COP	-	3,8	1,0	3,6	1,0	3,83	3,83
Max. power input	kW	3,9		4,3		4,3	
Max. current	A	16		5,7		13,0	
Energy class	-	A		A		A	
Dimension (DxH)	mm	φ560 x 1760		φ650 x 1920		φ650 x 1920	
Net weight	kg	107		123		145,5	
Sound pressure level L <sub>pa</sub>	dB	41,2		48		45	
Refrigerant (type / charge / t Eq. CO <sub>2</sub> )	kg	R134a / 1,0 / 1,43		R134a / 1,2 / 1,72		R134a / 1,2 / 1,72	
Refrigerant design pressure	MPa	3,0 / 1,2		3,0 / 1,3		3,0 / 1,2	
Tank design pressure	MPa	1,0		1,0		1,0	
Air flow volume	m <sup>3</sup> / h	270 / 230 / 182		414 / 355 / 312		414 / 355 / 312	
Water inlet pipe	mm	DN20		DN20		DN20	
Water outlet pipe	mm	DN20		DN20		DN20	
Solar water inlet pipe	mm	-		DN20		-	
Solar water outlet pipe	mm	-		DN20		-	
Solar pipe max. pressure	MPa	-		0,7		-	
E-heater Capacity	kW	3,0		3,0		3,2	
Hot water yield	m <sup>3</sup> / h	0,043	0,086	0,086		0,086	
Tank material	-	enamel		stainless steel		enamel	

1. The test conditions: outdoor temp. 15 / 12°C (DB / WB), inlet water temp. 15°C, outlet water temp. 45°C.

2. The specification may be changed for product improvement, please refer to the nameplate.

The specification of products is subject to change based on further development of the units by the producer and can be changed without prior notice. Refer to rating label.

Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R134a (100% HFC-134a), GWP of refrigerant used: 1430.



# SPLIT WATER HEATER

NEW

## SWH-35ERA + SWH-200IRA

### FEATURES

- No cross contamination potential, refrigerant coil is wrapped around the outside of the tank and insulated.
- High efficiency



OUTDOOR UNIT			SWH-35ERA
Heating Capacity	W		3500
Rated Input Power (*)	W		850
COP (*)	W / W		4,10
COP DHW (**)	W / W		3,17
Energy class (**)	-		A
Water Heating Energy Efficiency	-		129%
Annual electricity consumption (average climate conditions)	kWh		795
Maximum Input Power	W		1500+1500 (Electric Heater)
Outlet Water Temperature	°C		Default: 55 °C, 35 °C-55 °C
Power Supply	V / Ph / Hz		220-240 / 1 / 50
Insulation Level	-		I
Protection of Ingression	-		IPX4
Refrigerant	Type	-	R410A
	Charge	kg	1,40 / 2,9
Dimension (w x h x d)	mm		842 x 320 x 591
Package dimension (w x h x d)	mm		941 x 371 x 660
Gross / Net Weight	kg		44,5 / 38,5
Sound Power Level (***)	dB (A)		63
Operating Range	°C		-25 ~ 45

(\*) Value obtained with the following conditions: Outdoor temperature: 20°C DB / 15°C WB; Water tank temperature (start / end): 15°C / 55°C.

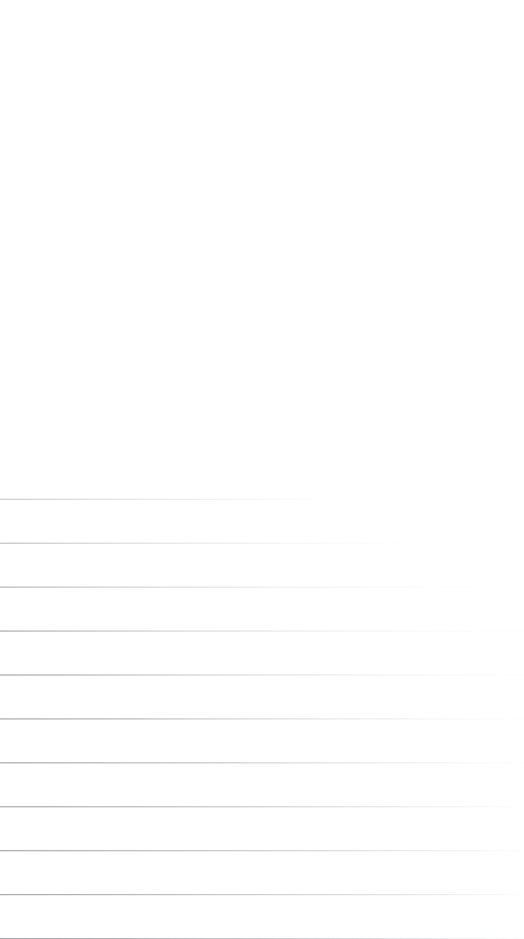
(\*\*) Value obtained with an air temperature of 7°C and a water inlet at 10°C, as per EN16147-2011, (EU) No 814 / 2013.

(\*\*\*) Value obtained as per EN 12102-2008.

INDOOR UNIT			SWH-200IRA
Volume	l		185
Power Supply to E-heater	V / Ph / Hz		220-240 / 1 / 50
E-heater Capacity	W		1500
Dimension (w x h x d)	mm		545 x 545 x 1919
Net Weight	kg		52
Pipe diameter	Liquid pipe	mm	6,0
	Gas pipe	mm	9,5
Water Pipe Outlet	-		DN15
Tank material	-		stainless steel

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Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R410A (50% HFC-32, 50% HFC-125), GWP of refrigerant used: 2088.





# CONTENT

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HEART OF YOUR HOME



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