

AIR TO WATER
HEAT PUMPS
2019-2020

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+ 2ND GENERATION OF 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°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 60 °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 CO₂ 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+

2ND GENERATION OF AIR TO WATER
HEAT PUMPS

HEART OF YOUR HOME

More Advanced Technology for Heating of Water up to 60 °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



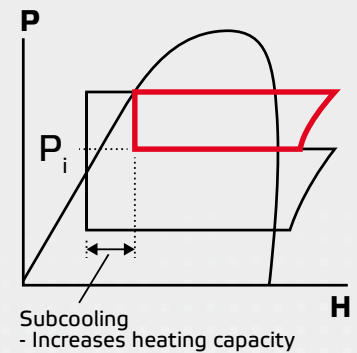
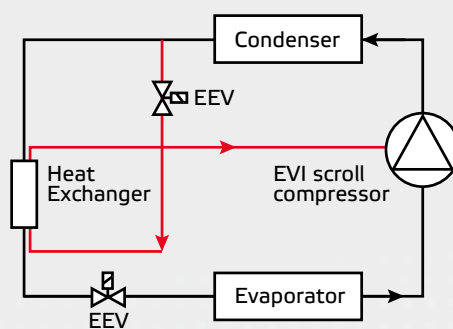
The vapour-injected scroll compressor cycle is similar to a two-stage compressor with interstage cooling, but is performed by using a single compressor.

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 UNIT

NEW

SHP-140ICA

STANDARD UNIT COMPOSITION

- Heating or cooling ceiling
- Possibility of modular connection up to 8 unit
- Outflow water temperature up to 60°C
- Intelligent Smart Sinclair controller and adjustment by a microprocessor
- LCD display of wire controller with JOG wheel
- Measuring of actual COP
- Copeland compressor with EVI technology specially designed for high water temperatures
- Wilo EC water pump installed inside
- Huba Control flow sensor
- 3kW bivalent electric heater inside the indoor unit
- Enhanced base frame reducing noise and vibrations
- Base frame and external panels made of galvanized powder coated steel
- 5 years warranty



Average 35°C
SCOP
4,08

INDOOR UNIT			SHP-140ICA
Temperature Outdoor Air / Outflow Water (°C) *	A10 / W35	Heating Capacity (kW)	15,29
		Power Input (kW)	3,16
		COP (t)	4,84
	A7 / W35	Heating Capacity (kW)	14,18
		Power Input (kW)	3,10
		COP (t)	4,57
	A2 / W35	Heating Capacity (kW)	8,79
		Power Input (kW)	2,30
		COP (t)	3,83
	A-7 / W35	Heating Capacity (kW)	10,11
		Power Input (kW)	3,01
		COP (t)	3,36
A-15 / W45	Heating Capacity (kW)	9,03	
	Power Input (kW)	3,98	
	COP (t)	2,27	
Energy Class / SCOP (average)	Low-temperature Application 35 °C	-	A++ / 4,08
	Medium-temperature Application 55 °C	-	A++ / 3,25
Technical Specifications	Power Supply	V / Ph / Hz	400 / 3 / 50
	Outdoor Temperature Range	°C	-20 ~ +40
	Temperature of Leaving Water	°C	+12 ~ +60
	Refrigerant (type / charge / t Eq. CO ₂)	kg	R407c / 7,5 / 13,31
	Electric Heater	kW	3,0
	Compressor QTY	-	1
	Compressor	Type	COPELAND EVI scroll
	Refrigerant Liquid Pipe	mm (inch)	12 (½)
	Refrigerant Gas Pipe	mm (inch)	19 (¾)
	Water Pipe Inlet / Outlet	-	DN 32 (¾)
	Sound pressure level at 1m	dB (A)	41
	Sound power Level	dB (A)	55,4
	Unit Dimension (W x D x H)	mm	597 x 596 x 991
	Net / Gross Weight	kg	176 / 184

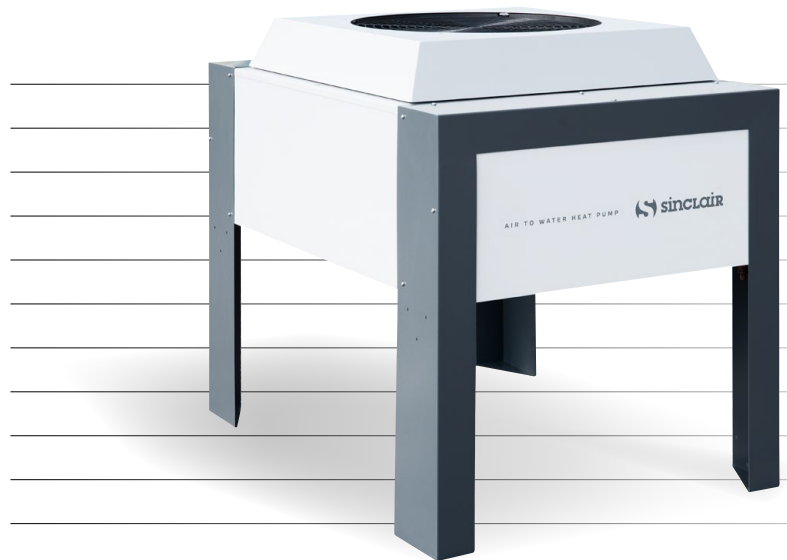
*Values were measured according to EN 14511-2:2014 / EHPA standards including.
The specification of products is subject to change based on further development of the units by the producer and can be changed without prior notice. Refer to rating label.
Contains fluorinated greenhouse gases covered by the Kyoto Protocol.
R407C (23% R32, 25% R125, 52% R134a), GWP of refrigerant used: 1774.

OUTDOOR UNIT

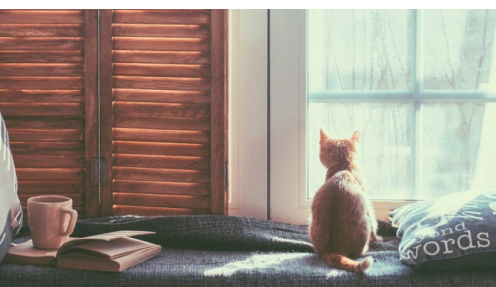
SHP-140ECA2

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
- New ventilator Ziehl-Abegg



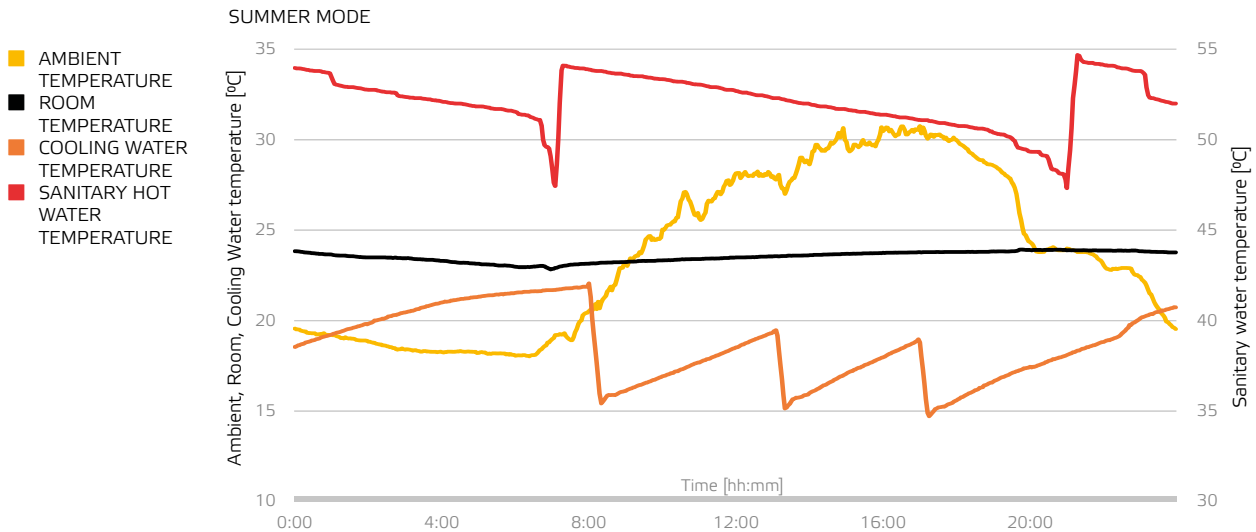
OUTDOOR UNIT		SHP-140ECA2
Power Supply	V / Ph / Hz	230 / 1 / 50 (from indoor unit)
Fan Quantity	pcs	1
Fan Power Input	W	91
Fan Direction	-	Vertical
Air Flow	m ³ / h	4500
Refrigeration Liquid Pipe	mm (inch)	12 (½)
Refrigeration Gas Pipe	mm (inch)	19 (¾)
Sound pressure level at 1m	dB (A)	45
Sound Power Level	dB (A)	60
Unit Dimension (W x D x H)	mm	1168 x 1066 x 1195
Net / Gross Weight	kg	96 / 103



OPERATING MODES

LARGE AREA CEILING, WALL OR UNDERFLOOR COOLING

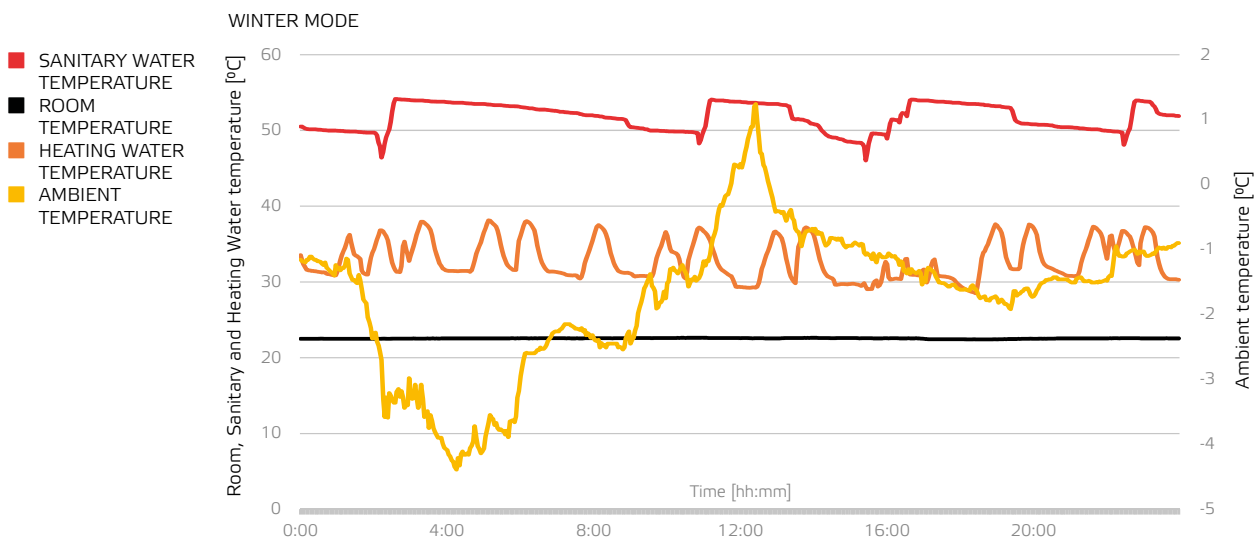
- Large area helps to achieve equal temperature anywhere in the room
- No need of additional heat exchangers
- Absence of indoor ventilators leads to not feeling draught anymore
- Energy efficiency rating EER≈4



Graph representing influence of ambient temperature to the indoor temperature. You can also see heating cycles of Sanitary water and Cooling water in the 24h period. Even in a hot summer day, our heat pump had to only start 3 times, which is really helpful in order to achieve higher lifespan of the device and lower cooling expenses.

HEATING

- Water heating up to 60 °C
- Suitable for ambient temperatures up to -20 °C
- Many heating modes to choose from
- Seasonal coefficient of performance 4,08 at W35
- Heating capacity 14 kW at A7/W35
- Optional external condenser for pool heating



REMOTE CONTROL



CONTROL OVER THE INTERNET

- Access from anywhere via the internet.
- Easy access through the web interface on 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 is a navigation bar with the Sinclair logo, the tagline "Quality strengthens partnerships", and buttons for "Heat pump management" and "Log Out". A search bar is also present.

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

- Current status of the heat pump:** A central dashboard showing a temperature graph with values 0,7°C and 24,3°C. It also displays various system parameters:
 - Low tariff: -- °C
 - Heating: 56,2°C
 - Solar panel: -- °C
 - Domestic hot water: 56,2°C
 - Radiator heating: 45,8°C
 - Floor heating: 27,3°C
- Basic operations:** A section with a home icon and the text "Basic heat pump operations." containing sub-items like "Basic operations" and "Comfort".
- Heating settings:** A section with a gear icon and the text "Basic heat pump settings." containing sub-items like "Temperature correction programs", "Equitherm curves", "Heating mode", and "Priorities".
- Other settings:** A section with a gear icon and the text "Advanced heat pump settings." containing sub-items like "Temperatures", "Min. DHW reserve", "Tariff", "Bivalence", and "Password change".
- Information:** A section with an information icon and the text "Information about heat pump." containing sub-items like "Tariffs info" and "Statistics".

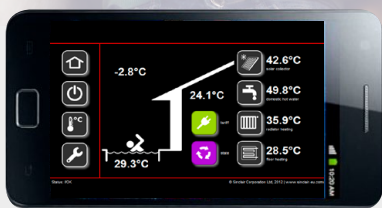
At the bottom of the interface, there is a blue footer with a "CONTACT US!" section, including a phone icon, the text "FREE INFOLINE +420 800 100 285", and a "WRITE TO US" button. Below this, there are links for "VENDOR", "CONDITIONS", and "CARRIER". The footer also contains the copyright notice "© 2014 SINCLAIR CORPORATION, Ltd." and the text "redakční systém".

REMOTE CONTROL



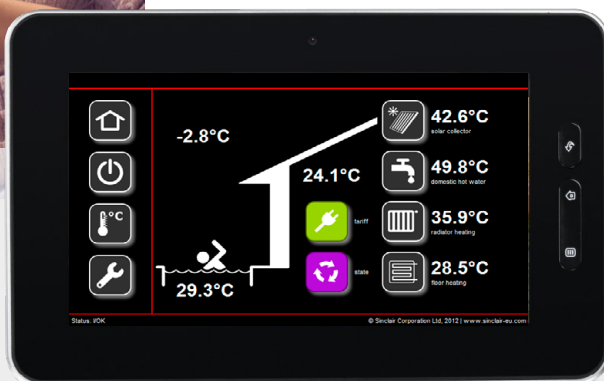
CONTROL ON THE LOCAL NETWORK

- 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)

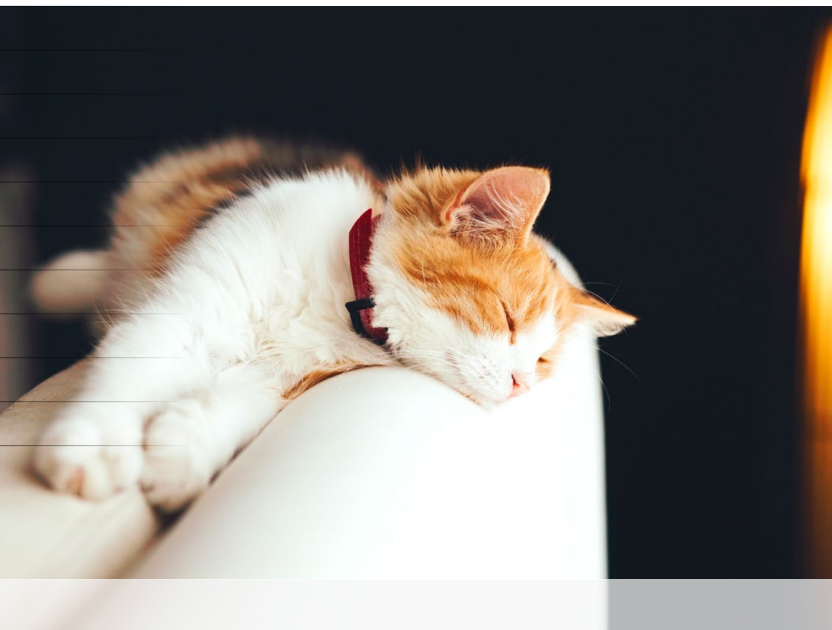


COMFORTABLE SETTINGS MENU

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



SMART SINCLAIR CONTROL SYSTEM

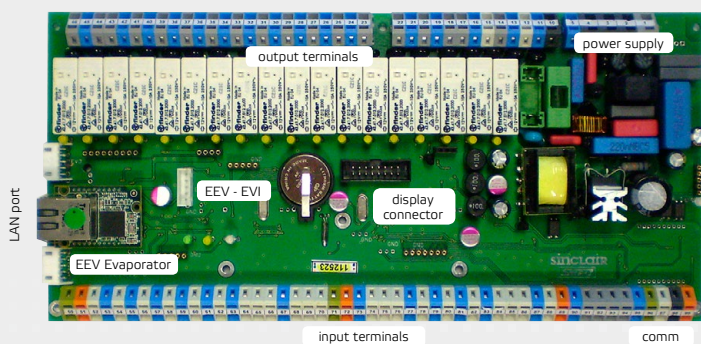


FEATURES

- 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)

WATER PIPING DIAGRAM

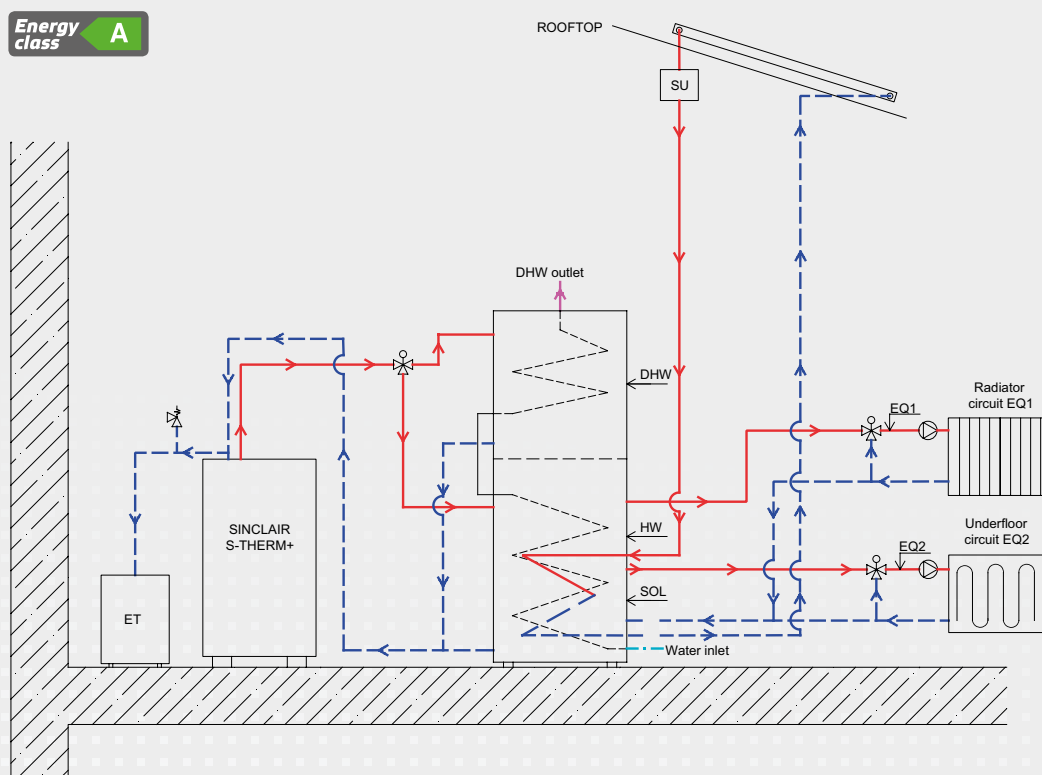
WITH COMBINED ACCUMULATION TANK

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 (ST-500MCS)
- 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 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



WATER PUMP ALPHA2



THREE-WAY VALVE ESBE



COOLING CANNOT BE USED IN THIS CONNECTION

WATER PIPING DIAGRAM

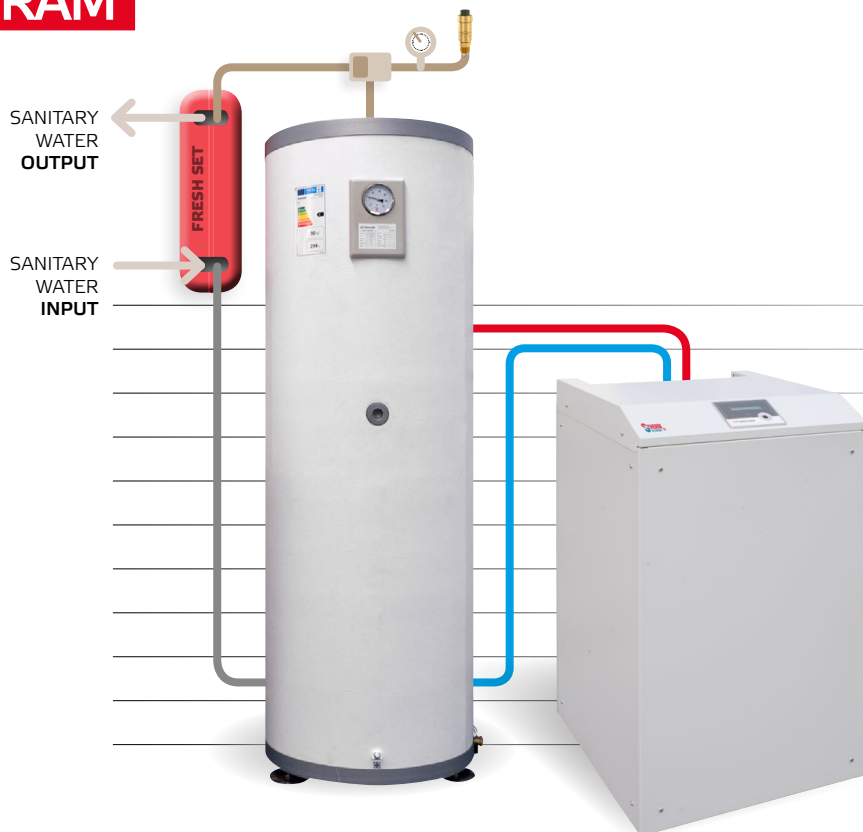
WITH FRESH SET

NEW

FRESH SET

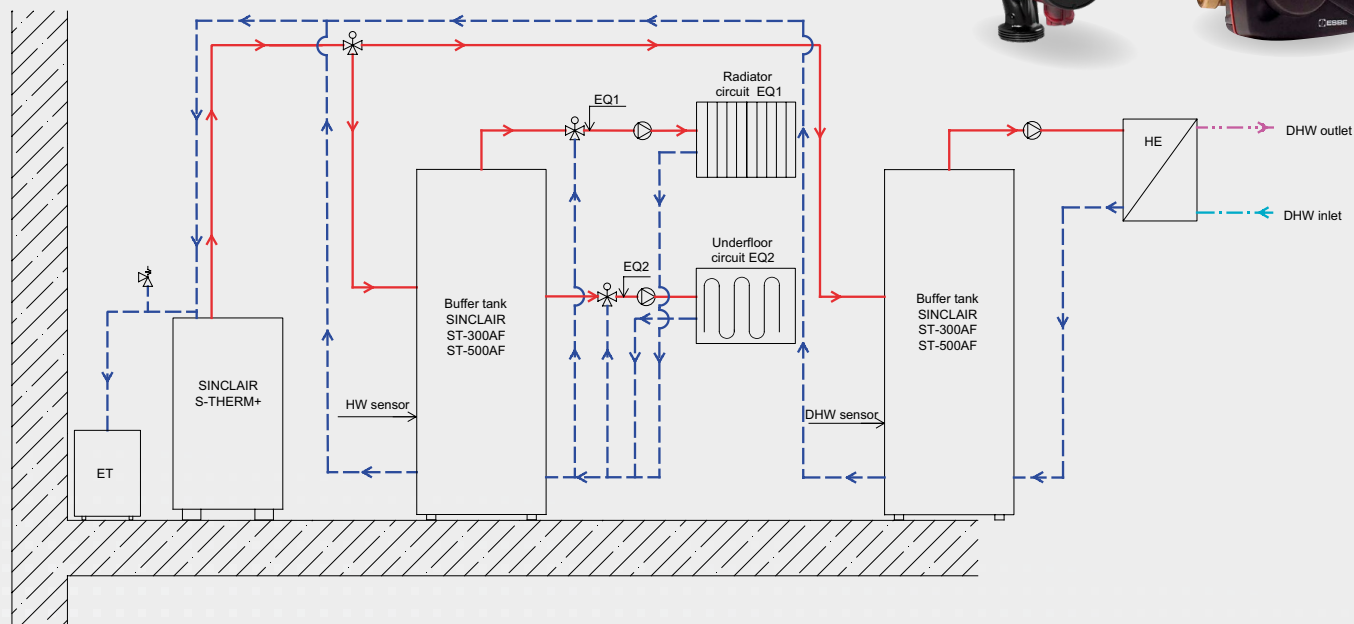
GENERAL PROPERTIES

- Combination with ST-300AF or ST-500AF
- Preparation of domestic hot water
- High efficient plate heat exchanger for continuous flow water heating
- Advantage of using of only one buffer tank
- Outlet water temperature up to 50 °C



THREE-WAY VALVE ESBE

WATER PUMP ALPHA2



WATER PIPING DIAGRAM

INDIRECT WATER HEATERS

INDIRECT WATER HEATERS ST-200D, ST-300D, ST-300DE, ST-400DE

- Cylindrical hot water tank made of stainless steel (ST-200D and ST-300D) or enamel (ST-300DE, ST-400DE)
- Compact, grey leatherette body with black plastic top cover
- 50 mm polyurethane foam insulation
- 2 years warranty

RECOMMENDED COMPONENTS

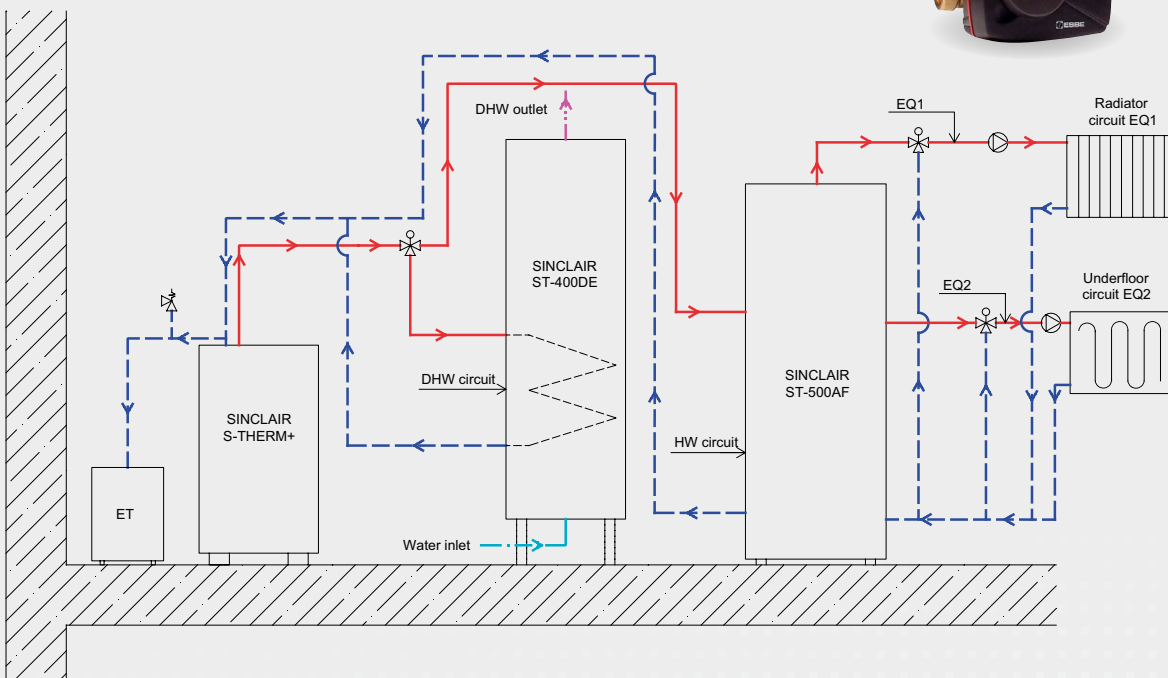
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- Circulator pump for water circulation in heating systems Grundfos Alpha2



THREE-WAY VALVE ESBE



WATER PUMP ALPHA2



CASCADE MODE

GENERAL PROPERTIES

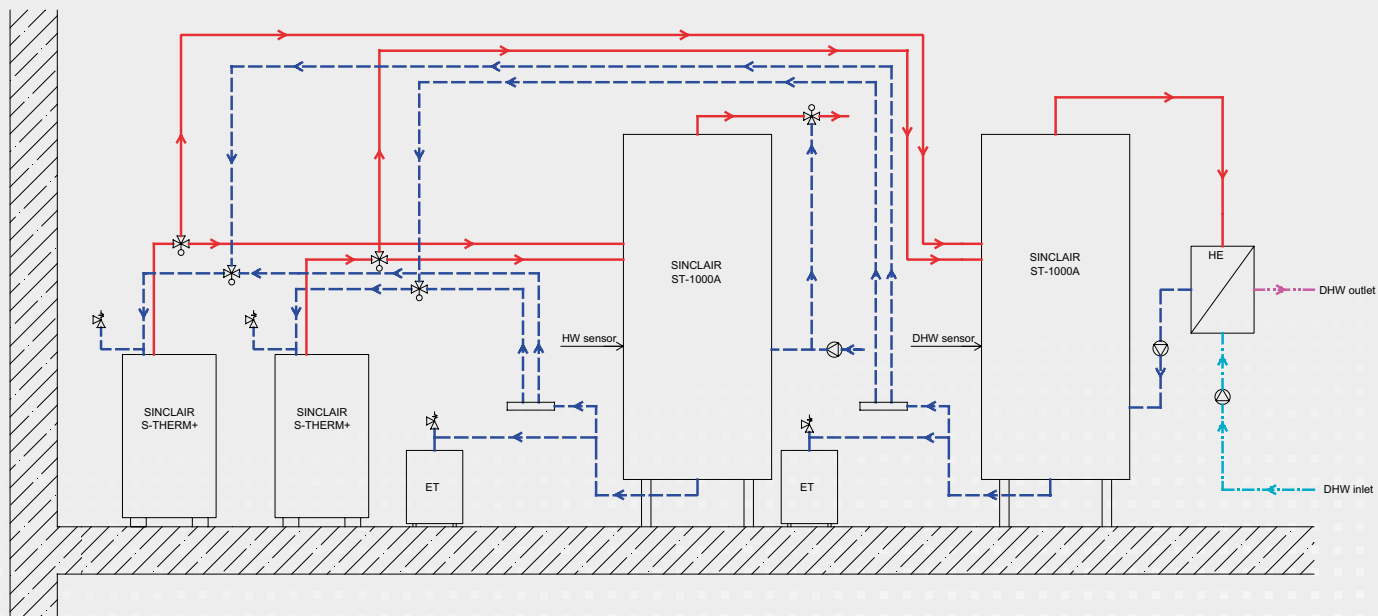
- Possibility to heat buildings with high heating requirements
- Convenient for heating residential or office buildings
- Standard software option no need for upgrades

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 1000 L volume designed for optimal heating of heating water
- Distributor connecting units to the storage tank



WATER PIPING DIAGRAM IN CASCADE MODE

OPTIONAL ACCESSORIES





ROOM THERMOSTAT SAU-1000

ROOM THERMOSTAT SAU-1000

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

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



S-THERM 3rd Gen
DC Inverter
Heat Pumps

HEART OF YOUR HOME

INDOOR UNIT (HYDROBOX)

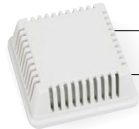
GSH-IRAD

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	°C	18~25
	Heating	°C	25~55
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 at 1m		dB (A)	24
Sound power Level		dB (A)	38
Dimensions	Outline (W x D x H)	mm	570 x 300 x 650
	Packaged (W x D x H)	mm	610 x 430 x 1010
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

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 at 1m		dB (A)	39		55	
	Sound power level		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 ₂	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" / 16,0			
	Dimensions (W x D x H)		mm	980 x 427 x 788		900 x 412 x 1345	
Net weight		kg	85		126		
Operating range		°C	-20~45				
Standard pipe length		m	5				
Max. pipe length		m	30				
Max. elevation		m	15				
Additional refrigerant		g/m	50				

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

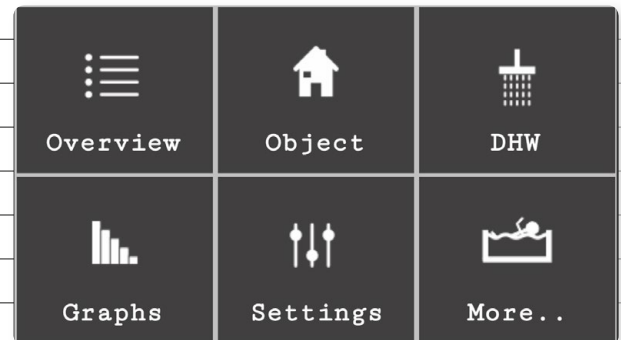
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Possibility of heat pump remote control

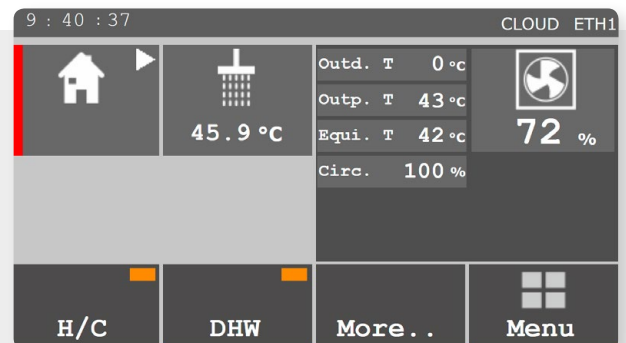
CONTROL OVER THE INTERNET

- Access from anywhere via the internet.
- Creating a new account is free of charge
- Interface is optimized for use on touch-screen devices



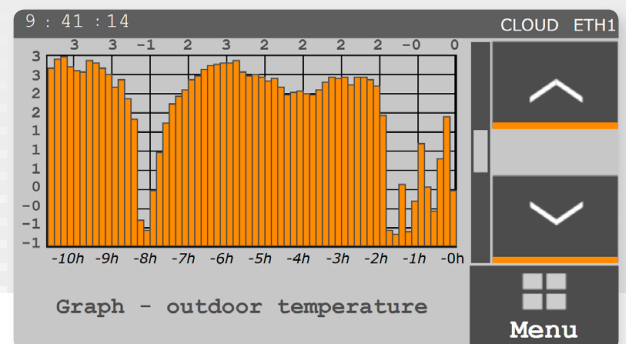
DISPLAYED INFORMATION

- Basic overview of the system (temperatures, electrical tariff, etc.)
- Overview of all system parameters
- Possibility to view statistics of heat pump



SETTING OPTIONS

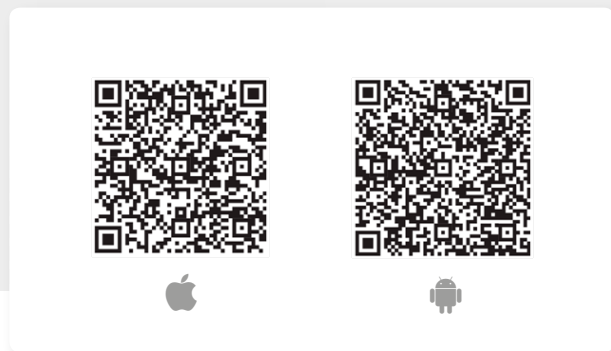
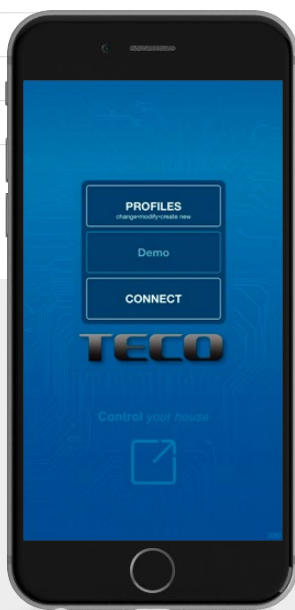
- Possibility to set all parameters as shown on the control panel of the unit
- User and service levels of the access



REMOTE CONTROL

CONTROL OVER SMARTPHONE

- Get full control via your smartphone or tablet with iFoxtrot
- Remote control of all settings without physical access to the device
- Access to heat pump service settings



APPLICATION FOR SMARTPHONES AND TABLETS FREE OF CHARGE

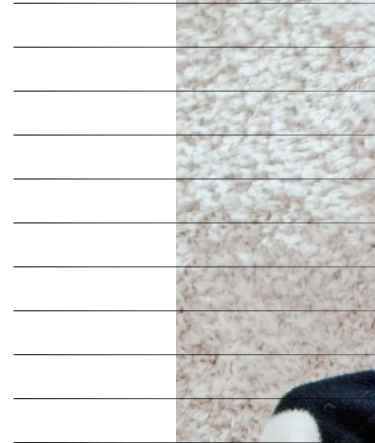
- Download iFoxtrot app free of charge
- for iOS
 - for Android

BASIC SYSTEM CONFIGURATION

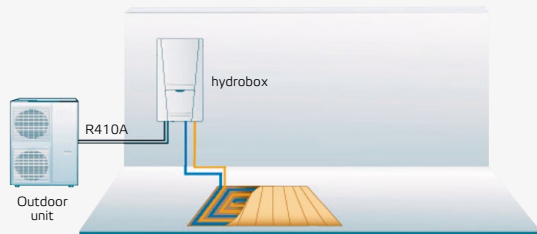


S-THERM 3RD GENERATION DC INVERTER AIR TO WATER HEAT PUMPS

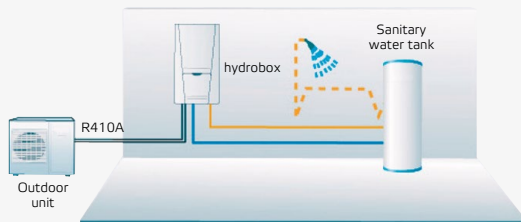
DC Inverter Air to Water Heat Pump is composed of outdoor unit, hydrobox (indoor unit) and optional water tank.



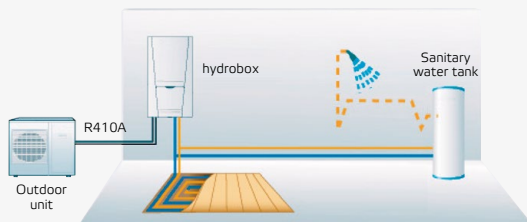
Heating / Cooling ceiling



Water heating



Heating / Cooling ceiling with water heating



OPERATION FUNCTIONS

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

COMBINATION EXAMPLES



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
- Weather-dependent heating mode
- 5 years warranty



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

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	
	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	
	Cooling (fan coils)	-	3,11	3,12	
EER2					
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	kg / t Eq. CO ₂	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	W	140	
	Water flow switch	Minimum flow	l / min		9,2
		Expansion tank	Volume	l	
	Maximum pressure		Bar		3
	Precharged pressure		Bar		1
	Electric heater	Mode	-		automatic
		Steps	-		2
		Capacity	kW		6
		Combination	kW		3+3
	Voltage / phase / frequency		V / Ph / Hz	210-240 / 1 / 50	380-415 / 3 / 50
		Heat exchanger	Type	-	plate
Quantity	-			1	
Safety valve	Pressure	bar		3	
	Sound pressure level at 1m	Heating	dB (A)	56	57
Cooling		dB (A)	53	54	
Sound power level		dB (A)	69	70	
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

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: -25 to 45 °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.

WATER HEATERS

NEW
 SWH-190IRE
 SWH-190IRES
 SWH-300IRE
 SWH-300IRES

FEATURES

- Environmentally friendly refrigerant R134a
- Two operation modes: economy, e-heater
- Outlet water temperature 38-60 °C
- Operation temperature range -20-43 °C
- Possibility of solar system connection (SWH-190IRES, SWH-300IRES)
- 50 mm polyurethane foam insulation



Model		SWH-190IRE		SWH-190IRES		SWH-300IRE		SWH-300IRES	
Mode		Economy	E-heater	Economy	E-heater	Economy	E-heater	Economy	E-heater
Operating temperature range	°C	-7-43	-20-43	-7-43	-20-43	-7-43	-20-43	-7-43	-20-43
Output water temperature	°C	38 °C ~ 70 °C		38 °C ~ 70 °C		38 °C ~ 70 °C		38 °C ~ 70 °C	
Power supply	V / Ph / Hz	220-240 / 1 / 50		220-240 / 1 / 50		220-240 / 1 / 50		220-240 / 1 / 50	
Water heating capacity	kW	1,62		1,62		2,3		2,3	
COP	-	3,86		3,86		4,34		4,34	
Max. power input	kW	2,1		2,1		2,25		2,25	
Max. current	A	22,2		22,2		33,7		33,7	
Energy class	-	A+		A+		A+		A+	
Unit dimension (D x H)	mm	ø610 x 1830		ø610 x 1830		ø700 x 1930		ø700 x 1930	
Package dimension (W x D x H)	mm	680x2070x680		680x2070x680		775x2200x745		775x2200x745	
Net weight	kg	142		142		163		163	
Sound pressure level at 1m	dB (A)	36,6		36,6		38,2		38,2	
Sound power level	dB (A)	51		51		53		53	
Refrigerant (type / charge / t Eq. CO ₂)	kg	R134a / 1,1 / 1,57		R134a / 1,1 / 1,57		R134a / 1,5 / 2,14		R134a / 1,5 / 2,14	
Tank design pressure	MPa	1,0		1,0		1,0		1,0	
Air flow volume	m ³ / h	270 / 230 / 182		270 / 230 / 182		414 / 355 / 312		414 / 355 / 312	
Water inlet pipe	inch	¾		¾		¾		¾	
Water outlet pipe	inch	¾		¾		¾		¾	
Solar water inlet pipe	inch	-		¾		-		¾	
Solar water outlet pipe	inch	-		¾		-		¾	
Solar pipe max. pressure	MPa	-		1		-		1	
Solar coil surface	m ²	-		1,1		-		1,3	
Soil coil material	-	-		enamel		-		enamel	
E-heater Capacity	kW	1,5		1,5		1,5		1,5	
Water tank volume	l	176		168		284		272	
Tank material	-	enamel		enamel		enamel		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.
 Hermetically sealed system.

SPLIT WATER HEATER

NEW

SWH-35ERA2 + SWH-200IRA2

FEATURES

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



OUTDOOR UNIT		SWH-35ERA2	
Heating Capacity	W	3500	
Rated Input Power (*)	W	833	
COP (*)	W / W	4,10	
COP DHW (**)	W / W	3,10	
Energy class (**)	-	A+	
Water Heating Energy Efficiency	-	130%	
Annual electricity consumption (average climate conditions)	kWh	795	
Maximum Input Power	W	2000+1500 (E-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	
Dimension (W x D x H)	Unit	mm	
	Package	mm	
		kg	
Gross / Net Weight	kg	44,5 / 38,5	
Sound pressure level at 1m	dB (A)	49	
Sound Power Level (***)	dB (A)	63	
Operating Range	°C	-25 ~ 45	
Standard pipe length	m	10	
Max. pipe length	m	20	
Max. elevation	m	5	
Additional refrigerant (over 10m pipe length)	g/m	22	

(*) 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.

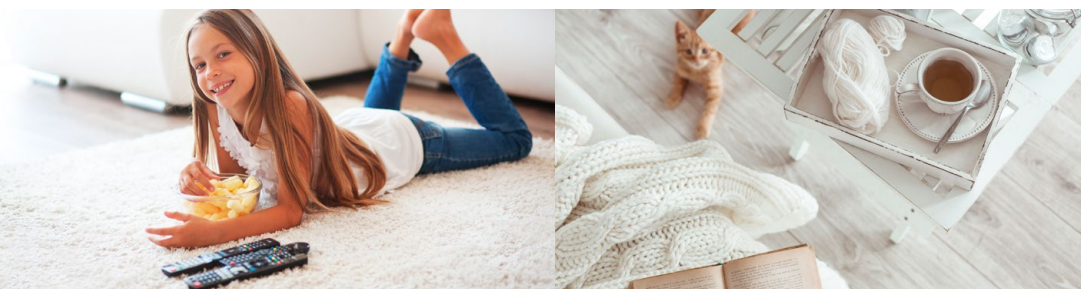
INDOOR UNIT		SWH-200IRA2	
Tank volume	l	185	
Power Supply to E-heater	V / Ph / Hz	220-240 / 1 / 50	
E-heater capacity	W	1500	
Dimension (W x D x H)	Unit	mm	
	Package	mm	
Gross / Net Weight	kg	88 / 75	
Pipe diameter (refrigerant)	Liquid pipe	mm	
	Gas pipe	mm	
Water Pipe Outlet	-	DN15	
Tank material	-	enamel	

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CONTENT

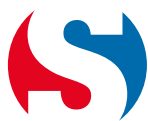
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HEART OF YOUR HOME



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HEAT PUMPS

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