

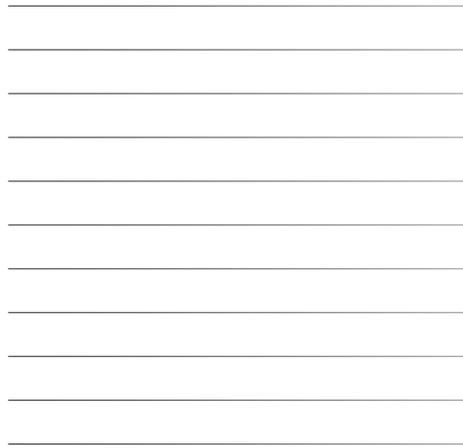


AIR TO WATER  
HEAT PUMPS  
2020-2021

HEART OF YOUR HOME



**SINCLAIR**  
HEAT PUMPS



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# 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  $-20^{\circ}\text{C}$ . 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  $60^{\circ}\text{C}$ .

## SPLIT 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. It is an eco-friendly product, which can reflect your awareness of social responsibility to the environment.

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

S-THERM monoblock heat pumps are the right option for anyone, who isn't holding F-gas certificate just yet. Ecological refrigerant R32 in combination with inverter compressor and additional subcooling heat exchanger will ensure economic and environmental friendly operation.

## 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+

2<sup>ND</sup> 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



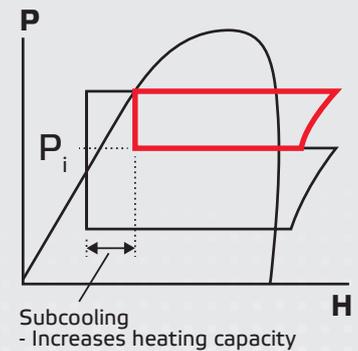
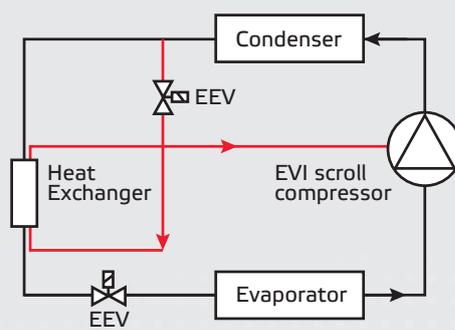
The vapour-injected scroll compressor cycle is similar to a two-stage compressor with interstage cooling, but is performed by using a single compressor.

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 SHP-180ICA

### STANDARD UNIT COMPOSITION

- Heating or cooling ceiling
- Possibility of modular connection up to 8 unit
- Outlet 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**

 **MADE IN  
CZECH REPUBLIC**

INDOOR UNIT			SHP-140ICA	SHP-180ICA
Temperature Outdoor Air / Outlet Water (°C) *	A7 / W35	Heating Capacity (kW)	14,18	18,43
		Power Input (kW)	3,1	4,53
		COP (t)	4,57	4,07
	A2 / W35	Heating Capacity (kW)	10,97	15,43
		Power Input (kW)	3,05	4,40
		COP (t)	3,6	3,51
	A-7 / W35	Heating Capacity (kW)	8,59	13,08
		Power Input (kW)	2,94	4,32
		COP (t)	2,92	3,03
	A-10 / W35	Heating Capacity (kW)	8,99	12,95
		Power Input (kW)	2,98	4,69
		COP (t)	3,01	2,76
Energy Class / SCOP (average)	Low-temperature Application 35 °C	-	A++/4.08	A++/3.85
	Medium-temperature Application 55 °C	-	A++/3.25	A+/3.06
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 <sub>2</sub> )	kg	R407c/7.5/13.31	R407c/8.0/14.20
	Electric Heater	kW	3	
	Compressor QTY	-	1	
	Compressor	Type	COPELAND EVI Scroll	
	Refrigerant Liquid Pipe	mm (inch)	12 (1/2")	16 (5/8")
	Refrigerant Gas Pipe	mm (inch)	19 (3/4")	28 (9/8")
	Water Pipe Inlet / Outlet	-	DN32 (5/4")	
	Sound pressure level at 1m	dB (A)	42,2	45,4
	Sound power Level	dB (A)	55,4	58,6
	Unit Dimension (W x D x H)	mm	597x596x991	597x596x991
Net / Gross Weight	kg	176/184	180/186	

\*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

NEW

## SHP-140ECA2 SHP-180ECA2

### 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
- New ventilator Ziehl-Abegg
- 5 years warranty



 MADE IN CZECH REPUBLIC

OUTDOOR UNIT		SHP-140ECA2	SHP-180ECA2
Power Supply	V / Ph / Hz	from indoor unit	from indoor unit
Fan Quantity	pcs	1	1
Fan Power Input	W	91	91
Fan Direction	-	Vertical	Vertical
Air Flow	m <sup>3</sup> / h	4500	4500
Refrigeration Liquid Pipe	mm (inch)	12 (½)	16 (¾)
Refrigeration Gas Pipe	mm (inch)	19 (¾)	28 (1 ¼)
Sound pressure level at 1m	dB	43,9	54,8
Unit Dimension (W x D x H)	mm	1298x987x1195	1298x987x1195
Net / Gross Weight	kg	87/119	87/119



# OPERATING MODES

## LARGE AREA CEILING, WALL OR UNDERFLOOR COOLING

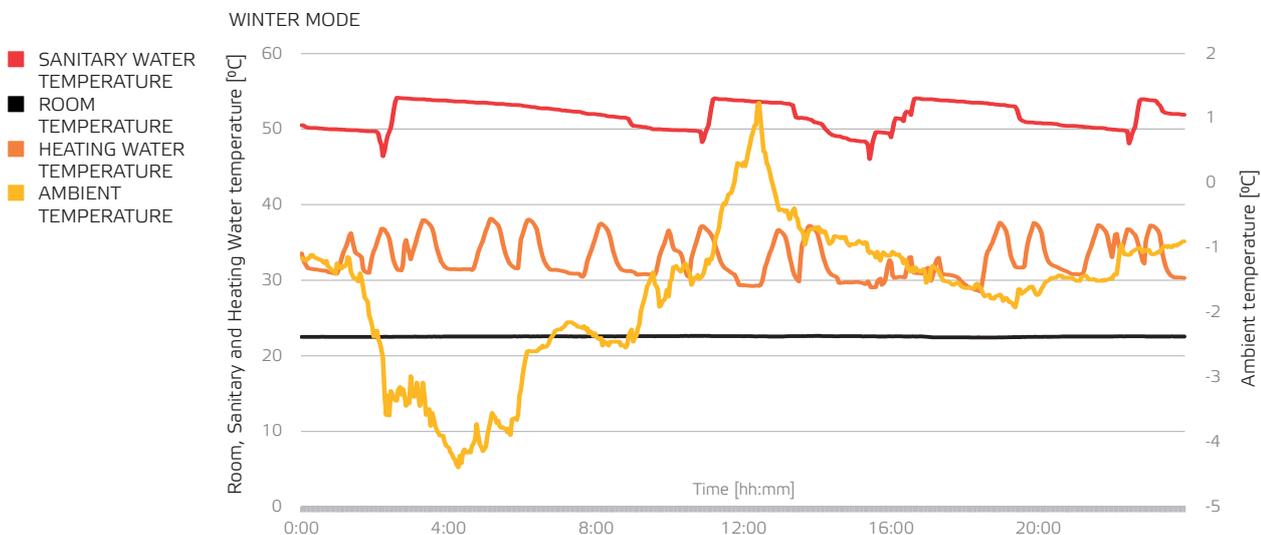
- Large area helps to achieve equal temperature anywhere in the room
- No need of additional heat exchangers
- Absence of indoor ventilators leads to not feeling draught anymore
- Energy efficiency rating EER≈4



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](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 shows 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 for "Basic heat pump operations" with sub-items: "Basic operations" and "Comfort".
- Heating settings:** "Basic heat pump settings" including:
  - Temperature correction programs
  - Equitherm curves
  - Heating mode
  - Priorities
- Other settings:** "Advanced heat pump settings" including:
  - Temperatures
  - Min. DHW reserve
  - Tariff
  - Bivalence
  - Password change
- Information:** "Information about heat pump" including:
  - Tariffs info
  - Statistics

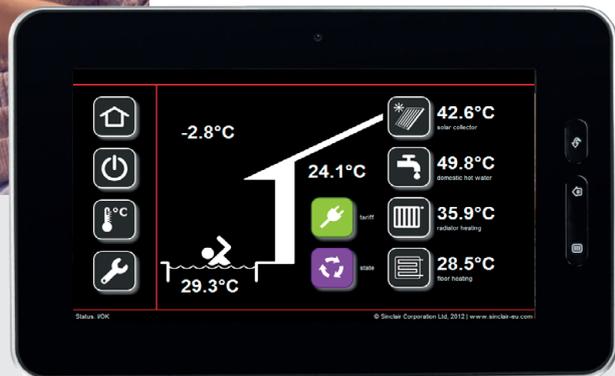
At the bottom of the interface, there is a blue footer with a "CONTACT US!" section, a phone icon, the text "FREE INFOLINE +420 800 100 285", and a "WRITE TO US" button. Below this, there are links for "VENDOR", "CONDITIONS", and "CARRIER". The footer also contains the copyright notice "© 2014 SINCLAIR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

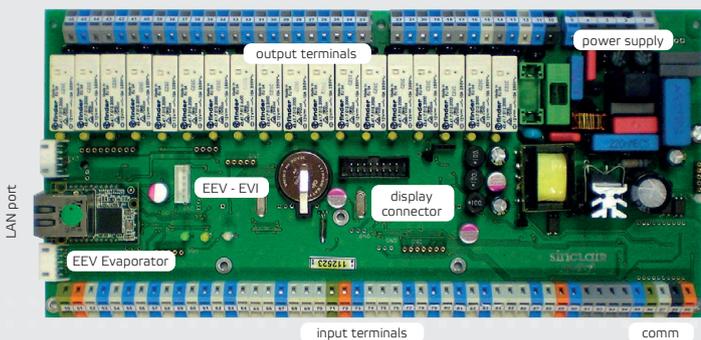


## FEATURES

- 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)

# POSSIBILITIES OF S-THERM+ CONNECTION



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## VARIOUS OPTIONS OF CONNECTING

S-THERM+ heat pumps offer various options of connecting to the heating system, however buffer tank is needed in every single case to achieve better regulation and enhance lifespan of compressor.



# WATER PIPING DIAGRAM

WITH FRESH SET

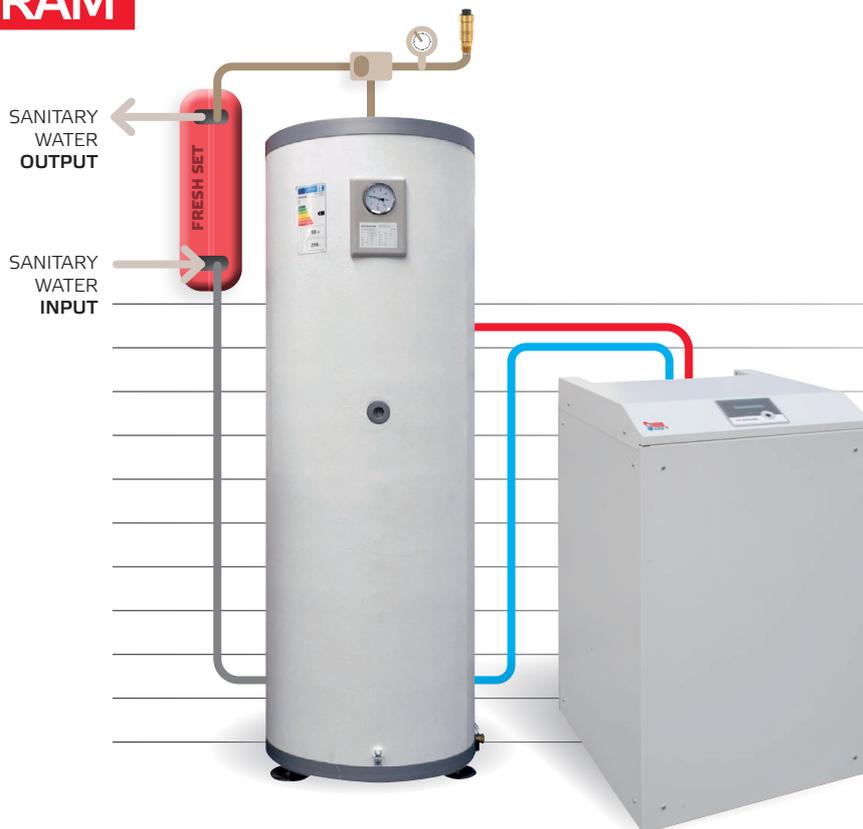
## FRESH SET

### GENERAL PROPERTIES

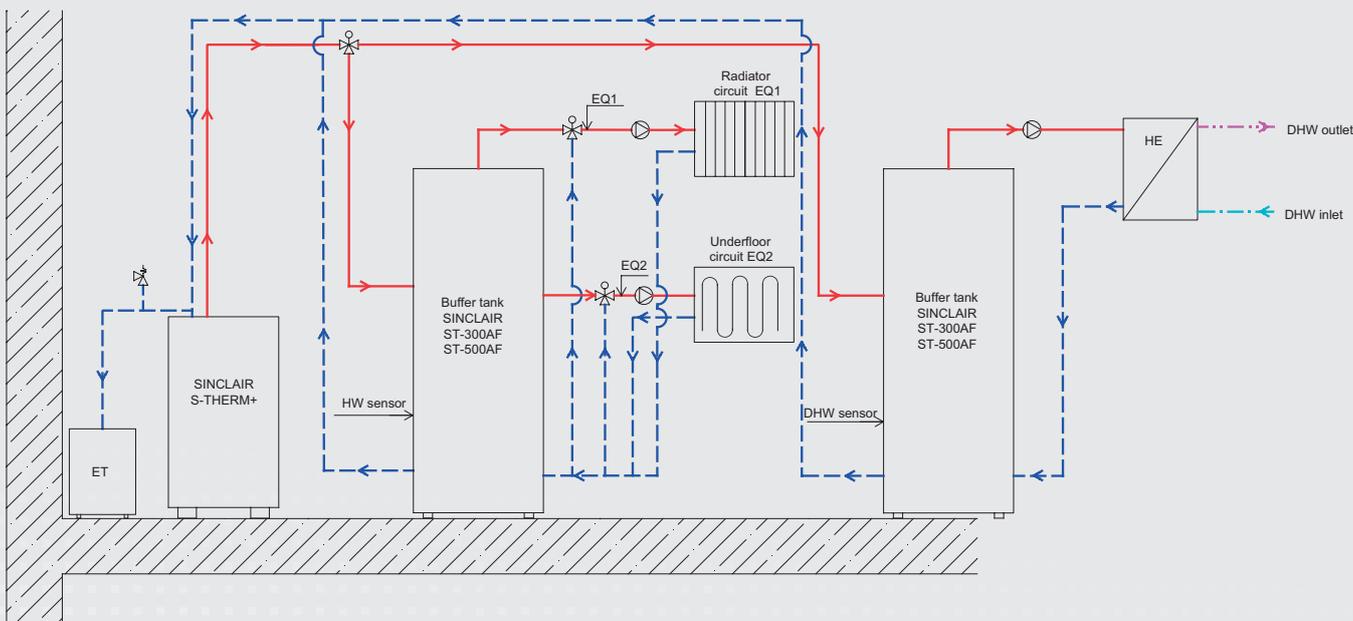
- Combination with ST-300AF or ST-500AF
- Preparation of domestic hot water
- High efficient plate heat exchanger for continuous flow water heating
- Advantage of using only one buffer tank
- Outlet water temperature up to 50 °C

### PACKAGE:

- Insulated heat exchanger SWEP
- Water pump WILO
- Flowmeter HUBA
- Manometer
- Automatic purge valve
- Connection pipes between heat exchanger and tank



NOTE: EXPANSION TANK, SAFETY VALVE, THREE WAY VALVES AND WATER PUMPS DISTRIBUTING WATER FROM WATER TANKS TO HEATING SYSTEM AREN'T PART OF THE PACKAGE.



# WATER PIPING DIAGRAM

## INDIRECT WATER HEATERS

### INDIRECT WATER HEATERS ST-300DE, ST-400DE

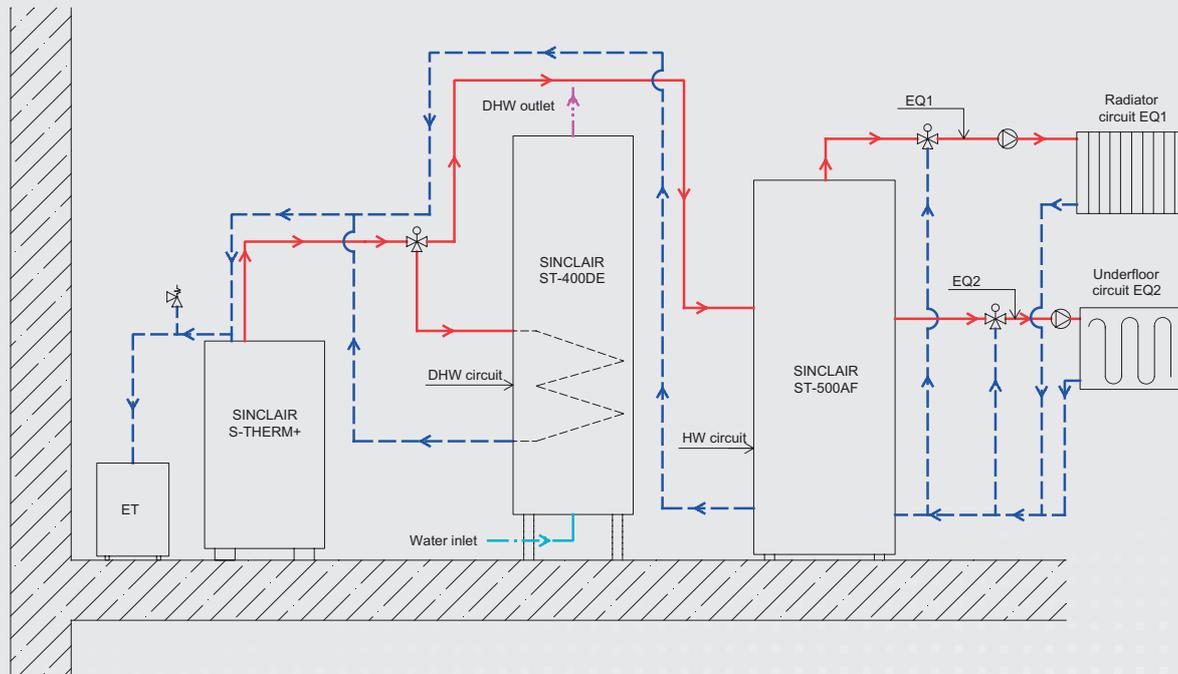
- Cylindrical hot water tank with enamelled internal surface 300l or 400l volume
- Compact, grey leatherette body with black plastic top cover
- 50mm polyurethane foam insulation
- 2 years warranty

### RECOMMENDED COMPONENTS

- Three-way valves for switching between the tank for DHW and buffer tank 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



NOTE: EXPANSION TANK, SAFETY VALVE, THREE WAY VALVES AND WATER PUMPS DISTRIBUTING WATER FROM WATER TANKS TO HEATING SYSTEM AREN'T PART OF THE PACKAGE.



# 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

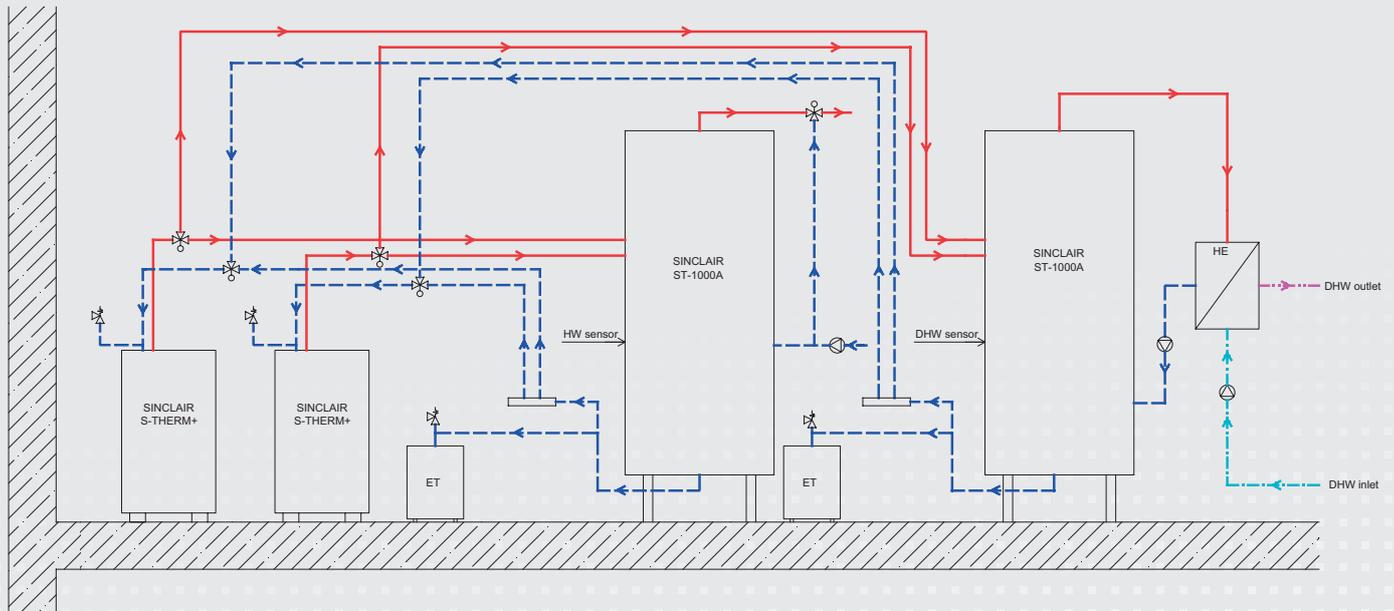
- Master and slave connection, one unit controls others
- Eight units can be connected together in one cascade (up to 144 kW)
- Alternating units increase lifespan of units
- Some of the units can heat the hot water while others can provide the water for heating

## 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

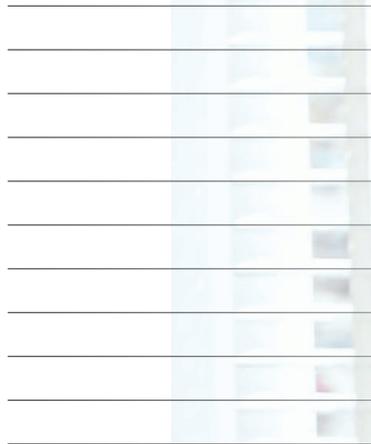


NOTE: EXPANSION TANK, SAFETY VALVE, THREE WAY VALVES AND WATER PUMPS DISTRIBUTING WATER FROM WATER TANKS TO HEATING SYSTEM AREN'T PART OF THE PACKAGE.



WATER PIPING DIAGRAM IN CASCADE MODE

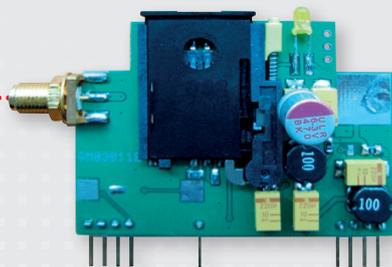
## OPTIONAL ACCESSORIES



ROOM THERMOSTAT SAU-1000

### ROOM THERMOSTAT SAU-1000

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



GSM MODULE SHP-GSM

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

HEART OF YOUR HOME

## INDOOR UNIT (HYDROBOX)

NEW

### GSH-IRADA

#### FEATURES

- Adopts high efficiency plate heat exchanger
- Easy installation and maintenance
- Safe and reliable
- 5 years warranty
- Inovated design
- Compact shape

#### PACKAGE:

- Communication module SCMI-03
- Three way valve
- Auxiliary electric heater
- PWM controlled water pump
- Flowmeter



Model			GSH-IRADA
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	1"
	Water outlet	inch	1"
Safety valve		Bar	2,5
Leaving Water Temperature	Cooling	°C	5-25
	Heating	°C	25-55
Main components	Pump	Type	-
		Speed	Automatic
		Power input	W
	Electric heater	Operation	-
		Capacity	kW
		Combination	-
		Power input	V / Ph / Hz
Heat Exchanger	Type	-	
	Quantity	-	
Sound pressure level at 1m		dB (A)	42
Dimensions	Outline (W x D x H)	mm	555 x 600 x 190
	Packaged (W x D x H)	mm	620 x 880 x 350
Weight	Net	kg	44
	Gross	kg	47

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.

## 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	Acoustic pressure level in 1m	Max	dB (A)	54		57	
	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 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

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.

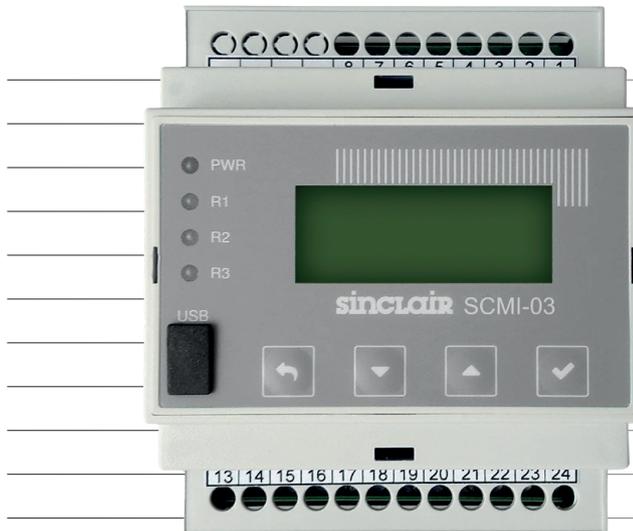
# COMMUNICATION MODULE

NEW

## SCMI-03

### FEATURES

- New communication module for controlling outdoor units GSH-ERAD, and components of water circuit
- Control and regulation of water circuit components (PWM water pump, electric heater, three-way valve, flowmeter)
- Possibility of making your own hydrobox based on this module
- Electricity tariff recognition and control
- Wide possibilities of settings
- Control via module itself or USB communicator software
- DIN ledge fixing
- 3 relays to control:
  - switching between heating and DHW
  - controlling of auxiliary electrical water heater
  - controlling of auxiliary electrical DHW heater located in the DHW tank
  - error signalization



 **MADE IN CZECH REPUBLIC**

COMMUNICATION MODULE		
Power supply	V/Hz	230 / 50 +10%
Max. power input	VA	10
Dimensions (W x D x H)	mm	70 x 58 x 90
Package dimensions (W x D x H)	mm	120 x 100 x 80
Weight netto/brutto	kg	0,21/0,35
Storage temperature	°C	-25 - 70
Operating temperature	°C	0 - 60
Outputs		3x relay 230V/2A (3, 4, 5, 6, 7, 8)
		1x communication with outdoor unit on RS485 (23, 24)
		1x PWM output 10V (11, 12)
		1x +5V output for flowmeter
Inputs		1x power supply 230V/50Hz (1, 2)
		4x input for temperature sensors (13, 14, 15, 16, 17, 18, 19)
		1x input for electricity tariff (21, 22)
		1x digital input for flowmeter (20)
		1x USB mini-B for USB Communicator



# SOFTWARE FOR CONTROLLING SCMI MODULES

## USB COMMUNICATOR

### FEATURES

- Software developed for controlling SCMI modules via computer
- Connection via mini USB cable
- Intuitive interface
- Possibility to adjust defrost conditions according to specific situation



The screenshot shows the USBCommunicator software interface for the SCMI-03 Sinclair driver. The interface is divided into several sections:

- Operation:** Mode: Heating fix temp, Temperature: 35.0 °C, Comfort: 0.0 °C.
- DHW:** Is OFF, Start temperature: 42 °C, Stop temperature: 55 °C, Max compressor speed: 80 %.
- Attenuation tables:** OFF, Daily, Weekly. Program daily table with columns Time and Cor.
- Bivalence:** Ambient temp below: -3 °C, Comp. speed below max. by: -1 %.
- RTC:** Sync with PC button.
- Display:** Idle time: 30 sec, Glow and Contrast sliders.
- Errors log:** Empty log area with a Delete all errors button.

Buttons for Read and Write are located at the bottom of the window.

The screenshot shows the USBCommunicator software interface for the SCMI-03 Sinclair driver, displaying advanced settings:

- Defrost:** Offset: 0.0 °C, Period: 25 min, Length: 12 min.
- Relays:** Relay 1: Electric DHV, Relay 2: Bivalence, Relay 3: DHW routing.
- Protection:** Min water outlet temp: 14.0 °C, Max water outlet temp: 54.0 °C, Min water flow: 8.0 l/m.
- Other settings:** Service password: 000000.
- Heating circuit:** Requested water temp delta: 5 °C, Water pump min speed: 30 %, Water pump max speed: 30 %, Regulation period: 10 sec, P constant: 100, D constant: 10, Overheat time: 0.1 min, Overheat value: 1.0 °C, Min. pause: 0.1 min, El. tariff influence: bival. OFF.

Buttons for Read and Write are located at the bottom of the window.





S-THERM 4<sup>th</sup> Gen  
DC Inverter  
Heat Pumps

HEART OF YOUR HOME

# INDOOR UNIT (HYDROBOX)

NEW

GSH-60IRB  
GSH-80IRB  
GSH-100IRB

## FEATURES

- Touch display
- Adopts high efficiency plate heat exchanger
- Remote control via Ewpe Smart app
- Possibility of cooling to fan-coil units
- 5 years warranty



Model			GSH-60IRB	GSH-80IRB	GSH-100IRB	
Power supply		V / Ph / Hz		220-240/1/50		
Connecting pipe (refrigerant)	Gas	inch / mm		1/2" / 12.0		
	Liquid	inch / mm		1/4" / 6.0		
Connecting pipe (water)	Inlet	inch		1"		
	Outlet					
Safety valve		bar		3		
Leaving water temperature	Cooling	°C		7-25		
	Heating	°C		25-60		
Main components	Water pump	Type	-	Inverter		
		Speed	-	Automatic		
		Max. power	W		75	
	Expansion tank	Volume	l		10	
		Max pressure	bar		3	
		Pressure	bar		1	
	Auxiliary electric heater	Mode	-		Automatic	
		Capacity	kW	3		6
		Combination	-	1.5 + 1.5		3+3
		Power supply	V / Ph / Hz		220-240/1/50	
Heat exchanger	Type	-		Braze plate		
	Amount	-		1		
Level of acoustic pressure in 1m		dB (A)		29		
Dimensions	Outline (w x d x h)	mm		460 x 318 x 860		
	Packaged (w x d x h)	mm		565 x 375 x 1130		
Weight	Net	kg		62		
	Gross	kg		71		

# INDOOR UNIT ALL IN ONE

NEW

GSH-60TRB  
GSH-80TRB  
GSH-100TRB

## FEATURES

- 185 l integrated hot water tank
- Touch display
- High effective heat exchanger
- Possibility of remote control using the Ewpe Smart application
- Possibility of cooling into the fan coil units
- 5 years warranty



Model			V / Ph / Hz	GSH-60TRB	GSH-80TRB	GSH-100TRB	
Power supply					220-240/1/50		
Connecting pipe(refrigerant)		Gas	inch / mm		1/2" / 12.0		
		liquid			1/4" / 6.0		
Connecting pipe(water)		Inlet	inch		1"		
		Outlet					
Safety valve			bar		3		
Leaving water temperature		Cooling	°C		7-25		
		Heating	°C		25-60		
Main components	Water pump	Type	-		PWM		
		Speed	-		Automatic regulation		
		Max. power	W		75		
	Hot water tank	Volume	l		185		
		EL heater	kW		3		
	Expansion tank	Volume	l		10		
		Max pressure	bar		3		
		pressure	bar		1		
	Auxiliary electric heater	Mode	-		Automatic		
		Capacity	kW		3	6	
		Combination	-		1.5 + 1.5	3+3	
		Power supply	V / Ph / Hz			220-240/1/50	
Heat exchanger	Type	-		Braze plate			
	Amount	-		1			
Level of acoustic pressure in 1m			dB (A)		29		
Dimensions		Outline (w x d x h)	mm		600 x 600 x 1756		
		Packaged (S x h x v)	mm		680 x 680 x 1850		
Weight		Netto	kg		210		
		Brutto	kg		233		

# OUTDOOR UNITS

NEW

GSH-60ERB  
GSH-80ERB  
GSH-100ERB

## FEATURES

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



Model				GSH-60ERB	GSH-80ERB	GSH-100ERB
Power supply		V / Ph / Hz		220-240/1/50		
Temperature: ambient air/ water outlet (°C) *	A7 / W35	Heating capacity	KW	6	8	9,5
		Power	KW	1,2	1,7	2,1
		COP	-	5	4,7	4,6
Technical parameters	Level of acoustic pressure	Max	dB (A)	55		
		SCOP	Heating (55 °C / 35 °C)	-	3.26/4.54	3.3/4.6
	Refrigerant	Type	-	R32		
		Amount	kg	1	1,6	
	Domestic hot water temperature			°C		
	Refrigerant pipes	Gas	inch / mm	1/2" / 12.0		
		Liquid	inch / mm	1/4" / 6.0		
	Weight netto			kg	55	82
Operating temperature range					°C	
Standard pipe length					m	
Max. pipe length			m		20	
Max. elevation					m	
Additional refrigeration					g/m	

Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R32 (100% HFC-32), GWP of refrigerant used: 675.

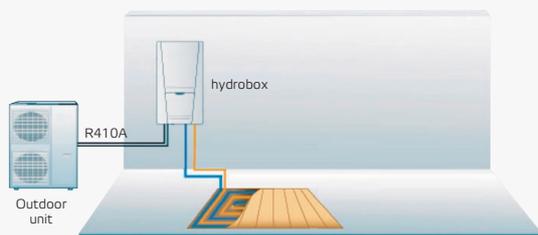


# BASIC SYSTEM CONFIGURATION

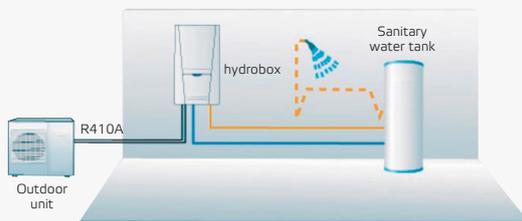
## COMBINATION EXAMPLES

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

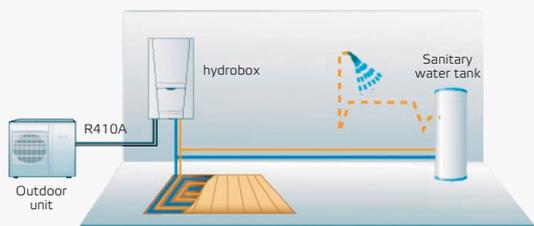
### HEATING / COOLING CEILING



### WATER HEATING



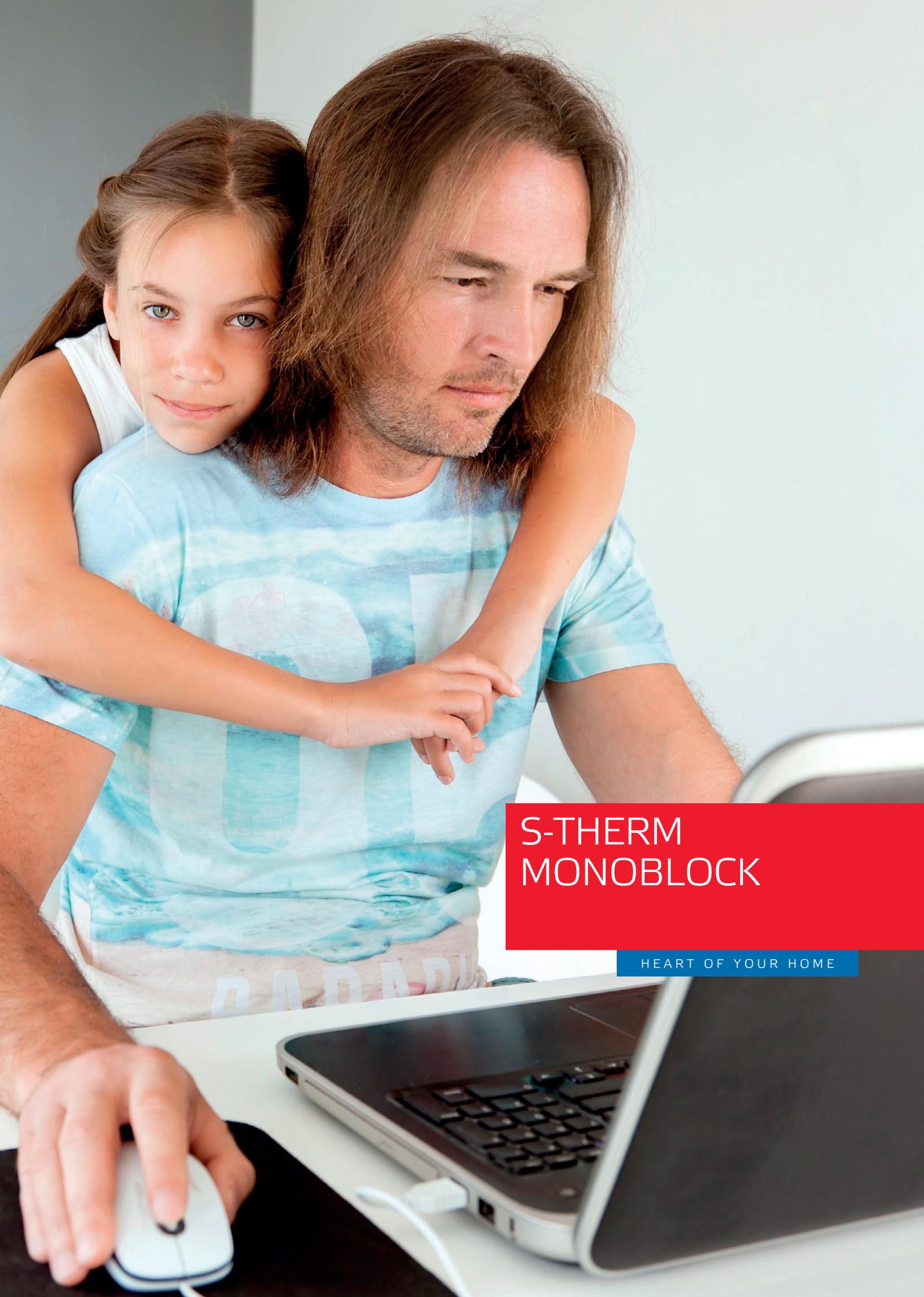
### HEATING / COOLING CEILING WITH WATER HEATING



## 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





S-THERM  
MONOBLOCK

HEART OF YOUR HOME

# S-THERM Monoblock DC Inverter Heat Pumps

NEW

SMH-60IRB  
SMH-100IRB, SMH-160IRB

## ALL-IN-ONE DEVICE

- Heating or cooling
- Water heating
- Cooling + water heating
- Heating + water heating
- Emergency mode
- Quick water heating
- Holiday mode
- Disinfection mode
- Weather-dependent heating mode
- 5 years warranty



ECOLOGICAL REFRIGERANT R32



## TOUCH DISPLAY

Touch 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 subcooling plate heat exchanger and 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.

## CONTROL VIA MOBILE APPLICATION

Possibility to control the unit remotely with application EWPE Smart

# MONOBLOCK UNITS

NEW

## SMH-60IRB SMH-100IRB, SMH-160IRB

Model			SMH-60IRB	SMH-100IRB	SMH-160IRB	
Capacity1	Heating (underfloor)	kW	6	10	15,5	
	Cooling (underfloor)	kW	5,8	8,8	14,5	
Power input 1	Heating (underfloor)	kW	1,2	2,15	3,6	
	Cooling (underfloor)	kW	1,32	1,96	3,8	
COP1	Heating (underfloor)	-	5	4,65	4,35	
EER1	Cooling (underfloor)	-	4,4	4,5	4	
Capacity2	Heating (fan coils,radiators)	kW	6	10	15,5	
	Cooling (fan coils,radiators)	kW	4	7,8	13	
Power input 2	Heating (fan coils,radiators)	kW	1,56	2,67	4,7	
	Cooling (fan coils,radiators)	kW	1,27	2,48	4,73	
COP2	Heating (fan coils,radiators)	-	3,85	3,75	3,55	
EER2	Cooling (fan coils)	-	3,15	3,15	2,9	
Energy class		-	A+++	A+++	A++	
SCOP		-	4,7	4,5	4,225	
Voltage/phase/frequency		V/Ph/Hz	220-240/1/50		380-415/3/50	
Max. power input		kW	2,4	5,95	7,197	
Max. current		A	10,4	26,1	11,2	
Refrigerant	Type	-	R32			
	Charge	kg	0,87	2,2		
Water pipes	Inlet	mm	DN25			
	Outlet	mm	DN25			
Water temperatures range	Heating	°C	20-60			
	Cooling	°C	7-25			
Main components	Water pump	Max water flow	m <sup>3</sup> /h	3,5		
		Power input	W	75		
	Water flow switch	Minimum flow	l/min	0,6		
		Expansion tank	Volume	l	3	
	Maximum pressure		Bar	2,8		
	Precharged pressure		Bar	1,5		
	Electric heater	Mode	-	-	-	-
		Steps	-	-	-	-
		Capacity	kW	-	-	-
		Combination	kW	-	-	-
		Voltage/phase/frequency	V/Ph/Hz	-	-	-
	Heat exchanger	Type	-	plate		
		Quantity	-	1		
	Safety valve	Pressure	bar	3		
Sound pressure level LpA		Heating	dB	58	61	
	Cooling	dB	56	59		
Unit dimensions	W*D*H	mm	1150*345*758		1200*460*878	
Package dimension	W*D*H	mm	1258*488*1020		1288*588*1020	
Weight	Net/Gross	kg	96/109		151/166	
Operating temperature range	Cooling	°C	10-48			
	Heating	°C	-25-35			
	Water heating	°C	-25-45			

### 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. R32 (one compound refrigerant HFC), GWP of refrigerant used: 675.





# 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(S) SWH-300IRE(S)

### 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
- Volumes of 176l and 284l



Model		SWH-190IRE(S)		SWH-300IRE(S)	
Mode		Economy	E-heater	Economy	E-heater
Operating temperature range	°C	-7 ~ 43	-20 ~ 43	-7 ~ 43	-20 ~ 43
Output water temperature	°C	38 ~ 70			
Power supply	V / Ph / Hz	220-240 / 1 / 50			
Water heating capacity	kW	1,62		2,3	
COP	-	3,86		4,34	
Max. power input	kW	2,1		2,25	
Max. current	A	22,2		33,7	
Energy class	-	A+		A+	
Unit dimension (D x H)	mm	Ø610 x 1830		Ø700 x 1930	
Package dimension (W x D x H)	mm	680 x 2070 x 680		775 x 2200 x 745	
Net weight	kg	142		163	
Sound pressure level at 1m	dB (A)	36,6		38,2	
Refrigerant (type / charge / t Eq. CO2)	kg	R134a / 1,1 / 1,57		R134a / 1,5 / 2.14	
Tank design pressure	Mpa			1,0	
Air flow volume	m³ / h	270 / 230 / 182		414 / 355 / 312	
Water inlet pipe	inch				
Water outlet pipe	inch			¾	
Solar water inlet pipe	inch				
Solar water outlet pipe	inch				
Solar pipe max. pressure	Mpa			1	
Solar coil surface	m²	1,1		1,3	
Solar coil material	-			enamel	
E-heater Capacity	kW	1,5		1,5	
Water tank volume	l	168L (S) / 176L		272L (S) / 284L	
Tank material	-			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
- Tank volume 185 l
- 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 / t Eq. CO <sub>2</sub>	1,40 / 2,9
Dimension (W x D x H)	Unit	mm	842 x 320 x 591
	Package	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
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.

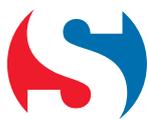
INDOOR UNIT			SWH-200IRA2
Tank volume	l		185
Power Supply to E-heater	V / Ph / Hz		220-240 / 1 / 50
E-heater capacity	W		1500
Dimension (W x D x H)	Unit	mm	462 x 462 x 1944
	Package	mm	583 x 583 x 2045
Gross / Net Weight	kg		75 / 88
Pipe diameter (refrigerant)	Liquid pipe	mm	6,0
	Gas pipe	mm	9,5
Water Pipe Outlet	mm		DN15
Tank material	-		enamel

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.





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**SINCLAIR**  
HEAT PUMPS

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ASOCIACE  
CZECH PRO VYUŽITÍ  
HEAT PUMP TEPELNÝCH ČERPADEL  
ASSOCIATION