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 -20ºC. 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 65ºC.

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+ EVI Scroll Heat Pumps
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.

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

**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.
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 COMPRESSORS HAVE THE FOLLOWING FEATURES**

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

---

**EVI SCROLL COMPRESSOR CYCLE**

- Subcooling - Increases heating capacity
**S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS**

**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**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Outdoor Air / Outflow Water (°C)</th>
<th><strong>A10 / W35</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Capacity (kW)</td>
<td>15.55</td>
<td>17.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Input (kW)</td>
<td>3.28</td>
<td>3.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COP (-)</td>
<td>4.75</td>
<td>4.58</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th><strong>A7 / W85</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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</thead>
<tbody>
<tr>
<td>Heating Capacity (kW)</td>
<td>14.73</td>
<td>16.79</td>
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<tr>
<td>Power Input (kW)</td>
<td>3.28</td>
<td>3.94</td>
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<tr>
<td>COP (-)</td>
<td>4.49</td>
<td>4.24</td>
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<table>
<thead>
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<th><strong>A2 / W85</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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<tr>
<td>Heating Capacity (kW)</td>
<td>11.88</td>
<td>13.27</td>
</tr>
<tr>
<td>Power Input (kW)</td>
<td>3.06</td>
<td>3.77</td>
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<td>COP (-)</td>
<td>3.72</td>
<td>3.52</td>
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<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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<tr>
<td>Heating Capacity (kW)</td>
<td>10.30</td>
<td>11.09</td>
</tr>
<tr>
<td>Power Input (kW)</td>
<td>3.17</td>
<td>3.85</td>
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<tr>
<td>COP (-)</td>
<td>3.25</td>
<td>2.88</td>
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</table>

<table>
<thead>
<tr>
<th><strong>A-15 / W85</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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</thead>
<tbody>
<tr>
<td>Heating Capacity (kW)</td>
<td>8.01</td>
<td>10.43</td>
</tr>
<tr>
<td>Power Input (kW)</td>
<td>4.09</td>
<td>4.95</td>
</tr>
<tr>
<td>COP (-)</td>
<td>2.16</td>
<td>2.11</td>
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</table>

<table>
<thead>
<tr>
<th><strong>A20 / W85</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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</thead>
<tbody>
<tr>
<td>Heating Capacity (kW)</td>
<td>18.28</td>
<td>22.32</td>
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<tr>
<td>Power Input (kW)</td>
<td>3.28</td>
<td>3.83</td>
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<td>COP (-)</td>
<td>5.58</td>
<td>5.82</td>
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</tbody>
</table>

<table>
<thead>
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<th><strong>A35 / W12</strong></th>
<th>SHP-140IRC</th>
<th>SHP-180IRC</th>
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</thead>
<tbody>
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<td>Heating Capacity (kW)</td>
<td>10.90</td>
<td>12.50</td>
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<tr>
<td>Power Input (kW)</td>
<td>3.41</td>
<td>4.46</td>
</tr>
<tr>
<td>COP (-)</td>
<td>3.20</td>
<td>2.80</td>
</tr>
</tbody>
</table>

**Technical Specifications**

- **Power Supply**  
  V / Ph / Hz  
  400 / 3 / 50  
  400 / 3 / 50

- **Outdoor Temperature Range**  
  °C  
  +20 ~ +40

- **Temperature of Leaving Water**  
  °C  
  +12 ~ +16

- **Refrigerant (type / charge / t Eq. CO₂)**  
  kg  
  440°C / 8.0 / 14.2  
  440°C / 9.5 / 16.9

- **Electric Heater kW**  
  3.0  
  3.0

- **Compressor QTY**  
  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 (5/8")  
  22 (5/8")

- **Water Pipe Inlet / Outlet**  
  DN 25 (1")  
  DN 25 (1")

- **Sound pressure level LpA at 1 m / 10 m dB**  
  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: 840°C (25% R32, 25% R125, 52% R134a), GWP of refrigerant used: 1774.
S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

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.

<table>
<thead>
<tr>
<th>OUTDOOR UNIT</th>
<th>SHP-140ERC</th>
<th>SHP-180ERC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>V / Ph / Hz</td>
<td>230 / 1 / 50 [from indoor unit]</td>
</tr>
<tr>
<td>Fan Quantity</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Fan Power Input</td>
<td>W</td>
<td>182</td>
</tr>
<tr>
<td>Fan Direction</td>
<td></td>
<td>Vertical</td>
</tr>
<tr>
<td>Air Flow</td>
<td>m³/h</td>
<td>4995</td>
</tr>
<tr>
<td>Refrigeration Gas Pipe</td>
<td>mm (inch)</td>
<td>13 (1/2)</td>
</tr>
<tr>
<td>Refrigeration Liquid Pipe</td>
<td>mm (inch)</td>
<td>11 (7/8)</td>
</tr>
<tr>
<td>Sound pressure level LpA at 1 m / 10 m</td>
<td>dB</td>
<td>58,2 / 48,2</td>
</tr>
<tr>
<td>Unit Dimension (L<em>W</em>H)</td>
<td>mm</td>
<td>1168 x 1063 x 1102</td>
</tr>
<tr>
<td>Net Weight</td>
<td>kg</td>
<td>94</td>
</tr>
</tbody>
</table>
S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

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

S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

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.

CONTACT US!
FREE INFOLINE 423-306-100-295
WRITE TO US

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S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

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
- 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

COOLING CANNOT BE USED IN THIS CONNECTION
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
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 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
S-THERM+ EVI SCROLL AIR TO WATER HEAT PUMPS

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 ±4 °C
- Easy installation with 3-core cable

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

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
Basic System Configuration

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

DC Inverter Air to Water Heat Pump is composed of outdoor unit, hyrdobox (indoor unit) and optional water tank.
SINCLAIR AIR TO WATER HEAT PUMPS 2017-2018

S-THERM 3RD GEN SPLIT DC INVERTER HEAT PUMPS

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)

<table>
<thead>
<tr>
<th>Model</th>
<th>GSH-IRAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>V / Ph / Hz</td>
</tr>
<tr>
<td>Connecting pipe (refrigerant)</td>
<td>Gas inch / mm</td>
</tr>
<tr>
<td>Connecting pipe (water)</td>
<td>Water inlet inch</td>
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<tr>
<td>Safety valve</td>
<td>Bar</td>
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<tr>
<td>Leaving Water Temperature</td>
<td>Cooling (Fan coil unit) °C</td>
</tr>
<tr>
<td></td>
<td>Cooling (Floor cooling) °C</td>
</tr>
<tr>
<td></td>
<td>Heating (Fan coil unit) °C</td>
</tr>
<tr>
<td></td>
<td>Heating (Floor heating) °C</td>
</tr>
<tr>
<td>Main components</td>
<td>Pump Type</td>
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<tr>
<td></td>
<td>Speed</td>
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<tr>
<td></td>
<td>Power input W</td>
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<tr>
<td>Expansion Valve</td>
<td>Volume l</td>
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<td></td>
<td>Water Pressure (Max) Bar</td>
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<tr>
<td></td>
<td>Water Pressure (Pre) Bar</td>
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<tr>
<td>Electric heater</td>
<td>Operation</td>
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<tr>
<td></td>
<td>Capacity kW</td>
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<tr>
<td></td>
<td>Combination</td>
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<tr>
<td></td>
<td>Power input V / Ph / Hz</td>
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<tr>
<td>Heat Exchanger</td>
<td>Type</td>
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<tr>
<td></td>
<td>Quantity</td>
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<tr>
<td>Sound Pressure Level</td>
<td>db (A)</td>
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<tr>
<td>Dimensions</td>
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<td></td>
<td>Packaged (W x D x H) mm</td>
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<tr>
<td>Weight</td>
<td>Net kg</td>
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<td>Gross kg</td>
</tr>
<tr>
<td>Indoor temperature sensor (optional)</td>
<td>TCGSH</td>
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</tbody>
</table>

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.
**S-THERM 3rd GEN SPLIT DC INVERTER HEAT PUMPS**

**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

---

### Technical parameters

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage / Frequency</th>
<th>GSH-70ERAD</th>
<th>GSH-90ERAD</th>
<th>GSH-110ERAD</th>
<th>GSH-130ERAD</th>
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<tbody>
<tr>
<td></td>
<td>V / Ph / Hz</td>
<td>220 / 1 / 50</td>
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<td>380 / 3 / 50</td>
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<td></td>
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<td>8.53</td>
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</tr>
<tr>
<td></td>
<td>CDP</td>
<td>4.15</td>
<td>4.27</td>
<td>4.22</td>
<td>4.19</td>
</tr>
</tbody>
</table>

#### Sound pressure level (Max dB [A])

- A7 / W35: 53
- A7 / W35: 53
- A7 / W35: 53
- A7 / W35: 53

#### Energy class

- Space heating (55 °C / 35 °C)
  - A+ / A++
  - A+ / A++
  - A+ / A++
- Water heating
  - A
  - A
  - A

**Refrigerant**

- Type: R410A

**Sanitary water temperature (°C)**

- 55 / 33
- 55 / 33
- 55 / 33

**Dimensions (W x D x H) mm**

- 980 x 427 x 847
- 980 x 412 x 1345

**Net weight (kg)**

- 85
- 85
- 85

**Operating range (°C)**

- -20~45
- -20~45
- -20~45

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*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 fluonated greenhouse gases covered by the Kyoto Protocol (HFC-32, 50%, HFC-125, 50%). GWP of refrigerant used: 2088.
S-Therm Monoblock

HEART OF YOUR HOME
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.

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.
### SMH-100IRA

<table>
<thead>
<tr>
<th>Model</th>
<th>SMH-100IRA</th>
<th>SMH-140IRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity1</td>
<td>Heating (underfloor) kW</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>Cooling (underfloor) kW</td>
<td>9.8</td>
</tr>
<tr>
<td>Power input1</td>
<td>Heating (underfloor) kW</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Cooling (underfloor) kW</td>
<td>2.5</td>
</tr>
<tr>
<td>COP1</td>
<td>Heating (underfloor)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Cooling (underfloor)</td>
<td>-</td>
</tr>
<tr>
<td>Capacity2</td>
<td>Heating (fan coils, radiation) kW</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>Cooling (fan coils) kW</td>
<td>7.4</td>
</tr>
<tr>
<td>Power input2</td>
<td>Heating (fan coils, radiation) kW</td>
<td>2.69</td>
</tr>
<tr>
<td></td>
<td>Cooling (fan coils) kW</td>
<td>2.38</td>
</tr>
<tr>
<td>EER2</td>
<td>Heating (fan coils)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Cooling (fan coils)</td>
<td>-</td>
</tr>
<tr>
<td>Energy class</td>
<td>A+</td>
<td>A+</td>
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<tr>
<td>SCOP</td>
<td>3,7</td>
<td>4,4</td>
</tr>
<tr>
<td>Voltage / phase / frequency</td>
<td>V / Ph / Hz</td>
<td>210-240 / 1 / 50</td>
</tr>
<tr>
<td>Max. power input (without e-heater)</td>
<td>Heating kW</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Cooling kW</td>
<td>4.0</td>
</tr>
<tr>
<td>Max. current (without e-heater)</td>
<td>Heating A</td>
<td>14.0</td>
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<tr>
<td></td>
<td>Cooling A</td>
<td>16.5</td>
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<tr>
<td>Refrigerant</td>
<td>R410A</td>
<td>R410A</td>
</tr>
<tr>
<td>Charge</td>
<td>3.5 / 7.3</td>
<td>4.0 / 8.4</td>
</tr>
<tr>
<td>Water pipes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inlet mm</td>
<td>DN25</td>
</tr>
<tr>
<td></td>
<td>Outlet mm</td>
<td>DN25</td>
</tr>
<tr>
<td>Water temperatures range</td>
<td>Heating °C</td>
<td>25-60</td>
</tr>
<tr>
<td></td>
<td>Cooling °C</td>
<td>7-25</td>
</tr>
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</table>

### Main components

<table>
<thead>
<tr>
<th>Water pump</th>
<th>Number of speeds</th>
<th>Water flow W</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>140</td>
</tr>
<tr>
<td>Water flow switch</td>
<td>Minimum flow l / min</td>
<td>9.2</td>
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<tr>
<td>Expansion tank</td>
<td>Volume l</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Maximum pressure Bar</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Precharged pressure Bar</td>
<td>1</td>
</tr>
<tr>
<td>Electric heater</td>
<td>Mode</td>
<td>automatic</td>
</tr>
<tr>
<td></td>
<td>Steps</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Capacity kW</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Combination kW</td>
<td>3.0</td>
</tr>
<tr>
<td>Voltage / phase / frequency</td>
<td>V / Ph / Hz</td>
<td>210-240 / 1 / 50</td>
</tr>
<tr>
<td>Heat exchanger</td>
<td>Type</td>
<td>plate</td>
</tr>
<tr>
<td></td>
<td>Quantity</td>
<td>1</td>
</tr>
<tr>
<td>Safety valve</td>
<td>Pressure bar</td>
<td>3</td>
</tr>
</tbody>
</table>

### Sound pressure level LpA

| Heating dB | 56 |
|           | 57 |
| Cooling dB | 53 |
|           | 54 |

### Unit dimensions

- W/D/H mm: 1390 x 432 x 680 / 1750 x 388 x 1448
- Package dimension (length x width x height): 1463 x 538 x 1020 / 1440 x 430 x 1500
- Weight kg: 148 / 161 / 205 / 220
- Operating temperature range
  - Heating °C: 20-45
  - Cooling °C: 10-48

---

1 Capacities and power inputs are based on the following conditions:
- Indoor Water Temperature 23°C / 18°C
- Outdoor Air Temperature 35°C/24°C
- Indoor Water Temperature 30°C / 25°C
- Outdoor Air Temperature 7°C/6°C

2 Capacities and power inputs are based on the following conditions:
- Indoor Water Temperature 12°C / 7°C
- Outdoor Air Temperature 35°C/24°C
- Indoor Water Temperature 40°C / 45°C
- Outdoor Air Temperature 7°C/6°C

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
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.
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

SCHEME IS ILLUSTRATIVE ONLY. DIMENSIONS MAY DIFFER BY MODEL.
SWH-35-300TSL  
SWH-35/300TSL  
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

---

**SANITARY WATER HEATERS**

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

- Model
- Running mode power input
- Running ambient temp. °C
- Output water Temp. °C
- Power supply V / Ph / Hz
- Storage size L
- Water heating Capacity kW
- COP
- Max. power input kW
- Max. current A
- Energy class
- Dimension (DxH) mm
- Net weight kg
- Sound pressure level LpA dB
- Refrigerant (type / charge / t Eq. CO2) kg
- Refrigerant design pressure MPa
- Tank design pressure MPa
- Air flow volume m³ / h
- Water inlet pipe mm
- Water outlet pipe mm
- Solar water inlet pipe mm
- Solar water outlet pipe mm
- Solar pipe max. pressure MPa
- E-heater Capacity kW
- Hot water yield m³ / h
- Tank material

<table>
<thead>
<tr>
<th>Model</th>
<th>SWH-15/190T2</th>
<th>SWH-35/300TSL</th>
<th>SWH-35/300TSL</th>
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</thead>
<tbody>
<tr>
<td>Running mode power input</td>
<td>Economy</td>
<td>E-heater</td>
<td>Economy</td>
</tr>
<tr>
<td>Running ambient temp. °C</td>
<td>-7~43</td>
<td>-20~43</td>
<td>-7~43</td>
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<tr>
<td>Output water Temp. °C</td>
<td>-7~43</td>
<td>-30~43</td>
<td>-7~43</td>
</tr>
<tr>
<td>Power supply V / Ph / Hz</td>
<td>220/240 / 1 / 50</td>
<td>220/240 / 1 / 50</td>
<td>220/240 / 1 / 50</td>
</tr>
<tr>
<td>Storage size L</td>
<td>180</td>
<td>300</td>
<td>280</td>
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<tr>
<td>Water heating Capacity kW</td>
<td>1,5</td>
<td>3,2</td>
<td>3,0</td>
</tr>
<tr>
<td>COP</td>
<td>3,0</td>
<td>1,0</td>
<td>3,6</td>
</tr>
<tr>
<td>Max. power input kW</td>
<td>3,9</td>
<td>4,3</td>
<td>4,3</td>
</tr>
<tr>
<td>Max. current A</td>
<td>16</td>
<td>5,7</td>
<td>13,0</td>
</tr>
<tr>
<td>Energy class</td>
<td>-</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Dimension (DxH) mm</td>
<td>ø560 x 1760</td>
<td>ø650 x 1920</td>
<td>ø650 x 1920</td>
</tr>
<tr>
<td>Net weight kg</td>
<td>107</td>
<td>123</td>
<td>145,5</td>
</tr>
<tr>
<td>Sound pressure level LpA dB</td>
<td>41,2</td>
<td>48</td>
<td>45</td>
</tr>
<tr>
<td>Refrigerant (type / charge / t Eq. CO2) kg</td>
<td>R134a / 1,0 / 1,43</td>
<td>R134a / 1,2 / 1,72</td>
<td>R134a / 1,2 / 1,72</td>
</tr>
<tr>
<td>Refrigerant design pressure MPa</td>
<td>3,0 / 1,2</td>
<td>3,0 / 1,3</td>
<td>3,0 / 1,2</td>
</tr>
<tr>
<td>Tank design pressure MPa</td>
<td>1,0</td>
<td>1,0</td>
<td>1,0</td>
</tr>
<tr>
<td>Air flow volume m³ / h</td>
<td>270 / 230 / 182</td>
<td>414 / 355 / 312</td>
<td>414 / 355 / 312</td>
</tr>
<tr>
<td>Water inlet pipe mm</td>
<td>DN20</td>
<td>DN20</td>
<td>DN20</td>
</tr>
<tr>
<td>Water outlet pipe mm</td>
<td>DN20</td>
<td>DN20</td>
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<tr>
<td>Solar water inlet pipe mm</td>
<td>-</td>
<td>DN20</td>
<td>-</td>
</tr>
<tr>
<td>Solar water outlet pipe mm</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Solar pipe max. pressure MPa</td>
<td>-</td>
<td>0,7</td>
<td>-</td>
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<tr>
<td>E-heater Capacity kW</td>
<td>3,0</td>
<td>3,0</td>
<td>3,0</td>
</tr>
<tr>
<td>Hot water yield m³ / h</td>
<td>0,043</td>
<td>0,086</td>
<td>0,086</td>
</tr>
<tr>
<td>Tank material</td>
<td>enamel</td>
<td>stainless steel</td>
<td>enamel</td>
</tr>
</tbody>
</table>

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.
3. 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.
4. Contains fluorinated greenhouse gases covered by the Kyoto Protocol. R134a (100% HFC-134a), GWP of refrigerant used: 1430.
NEW
SWH-35ERA + SWH-200IRA

FEATURES

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

**SPLITT WATER HEATER**

OUTDOOR UNIT

<table>
<thead>
<tr>
<th>Feature/Specification</th>
<th>SWH-35ERA</th>
</tr>
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<tbody>
<tr>
<td>Heating Capacity</td>
<td>W</td>
</tr>
<tr>
<td>Rated Input Power (*)</td>
<td>W</td>
</tr>
<tr>
<td>COP (*)</td>
<td>3.17</td>
</tr>
<tr>
<td>COP DhW (**)</td>
<td>3.17</td>
</tr>
<tr>
<td>Energy class (**)</td>
<td>A</td>
</tr>
<tr>
<td>Water Heating Energy Efficiency</td>
<td>1.29%</td>
</tr>
<tr>
<td>Annual electricity consumption (average climate conditions)</td>
<td>kWh</td>
</tr>
<tr>
<td>Minimum Input Power</td>
<td>W</td>
</tr>
<tr>
<td>Outlet Water T temperature</td>
<td>°C</td>
</tr>
<tr>
<td>Power Supply</td>
<td>V / Ph / Hz</td>
</tr>
<tr>
<td>Insulation Level</td>
<td>1</td>
</tr>
<tr>
<td>Protection of Ingression</td>
<td>1 PKA</td>
</tr>
<tr>
<td>Refrigerant Type</td>
<td>R410A</td>
</tr>
<tr>
<td>Charge kg</td>
<td>1.30 / 2.9</td>
</tr>
<tr>
<td>Dimension (w x h x d)</td>
<td>mm</td>
</tr>
<tr>
<td>Package dimension (w x h x d)</td>
<td>mm</td>
</tr>
<tr>
<td>Gross / Net Weight kg</td>
<td>44.5 / 38.5</td>
</tr>
<tr>
<td>Sound Power Level (**)</td>
<td>dB (A)</td>
</tr>
<tr>
<td>Operating Range °C</td>
<td>-25 ~ 45</td>
</tr>
</tbody>
</table>

(*) 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.

**NEW**

OUTDOOR UNIT

<table>
<thead>
<tr>
<th>Feature/Specification</th>
<th>SWH-200IRA</th>
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<tbody>
<tr>
<td>Volume l</td>
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<tr>
<td>Power Supply to E-heater</td>
<td>V / Ph / Hz</td>
</tr>
<tr>
<td>E-heater Capacity W</td>
<td>1500</td>
</tr>
<tr>
<td>Dimension (w x h x d)</td>
<td>mm</td>
</tr>
<tr>
<td>Gross / Net Weight kg</td>
<td>52</td>
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<tr>
<td>Liquid pipe mm</td>
<td>6.0</td>
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<td>Gas pipe mm</td>
<td>9.5</td>
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<tr>
<td>Water Pipe Outlet</td>
<td>DN15</td>
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<tr>
<td>Tank material</td>
<td>stainless steel</td>
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</tbody>
</table>

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HEART OF YOUR HOME

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