Heat Pump Water Heater

SAN CO2
Hot water, naturally.
The Sanden SANCO₂ Heat Pump Water Heater is a highly energy efficient alternative to traditional electric or gas water heaters. It absorbs heat from the outside air to heat water – saving energy, saving money and reducing greenhouse gas emissions.

**Superior Features**

**ENERGY EFFICIENT**
- 4x more efficient than traditional electric water heaters
- Allows use of off-peak power

**HIGH PERFORMANCE**
- Greater first hour rating than all heat pump water heaters
- Faster recovery after hot water draw

**SUPERIOR QUALITY**
- Corrosion-resistant stainless steel tank
- 3-year labor, 10-year parts heat pump warranty; 15-year tank warranty

**EXTENDED OPERATING RANGE**
- Hot water production down to -20°F & below
- Up to 175°F delivered hot water temperature
- No need for a back up electric element in the storage tank

**LOW-PROFILE DESIGN**
- Whisper-quiet noise level (37dB)
- Slimline heat pump design for a reduced footprint

**TANK SIZE OPTIONS**
- Two sizes to best fit your hot water needs

<table>
<thead>
<tr>
<th>43 Gallon Tank</th>
<th>83 Gallon Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-Gallon first hour delivery</td>
<td>109-Gallon first hour delivery</td>
</tr>
</tbody>
</table>

- 2 to 4 People
- 5+ People
Minimal Impact on Global Warming

UNIQUE OZONE-FRIENDLY CO₂ REFRIGERANT

Heat pump water heaters commonly use synthetic refrigerants, such as R410A or R134A. Although these refrigerants do not deplete the ozone layer, they can have a significant impact on global warming. The CO₂ refrigerant uniquely used in the SANCO₂ system has an extremely low Global Warming Potential*, and CO₂, a natural refrigerant, does not deplete the ozone layer.

*Global Warming Potential (GWP) is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming. It is a relative scale which compares the gas in question to that of the same mass of carbon dioxide (whose GWP is equal to 1).

Global Warming Potential* by refrigerant type per 100 years

- R410a: 2,088
- R134a: 1,430
- CO₂: 1

Easy Installation

FLEXIBLE 2-PIECE SYSTEM

The tank is installed indoors and the heat pump outdoors (up to 50 feet away) with only water piping connections required between the two. This flexible SANCO₂ design offers several advantages including maintaining comfortable indoor air temperatures (unlike conventional heat pump water heaters that ‘scavenge’ heat from the indoor air), along with reducing in-home noise.

Energy Bill Comparison with traditional water heaters

- Electric Water Heater (Indoor installation): $4
- Conventional HP Water Heater (Garage installation): $3
- SANCO₂ (Outdoor installation): $2

Ultra High Efficiency Reduces Energy Bills

USES OVER 70% LESS ELECTRICITY

The SANCO₂ system uses an inverter-type compressor, DC fan motor and pump. Our design minimizes energy consumption, maximizes water-heating capacity, and allows for faster recovery, resulting in significantly lower operating costs than electric-resistance storage water heaters or conventional heat pump water heaters.

Field testing data in cold climate (Northwest)
Reference: Washington State University presentation by Ken Eklund available at www.sandenwaterheater.com
Electricity price: 12.73 cents per kwh (EIA Residential October 2015)
SANCO2 GEN3 Specifications

Heat Pump

Outdoor Unit (Heat Pump) Model No. GS3-45HPA-US

Performance

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Uniform Energy Factor</td>
<td>2.85</td>
<td>3.34</td>
<td>3.23</td>
</tr>
<tr>
<td>First Hour Rating</td>
<td>65 gallons</td>
<td>109 gallons</td>
<td>130 gallons</td>
</tr>
</tbody>
</table>

Specifications

- Water Temperature Setting: 130°F to 175°F
- Ambient Air Operating Temperature: -20°F to +110°F
- Heat Pump Capacity: 15,400 Btu/h
- Heat Pump Capacity: 4.5 kW
- Refrigerant Type: R744 (CO₂)
- Compressor Type: Inverter
- Power Voltage: 208/230v – 1Ph – 60Hz
- Breaker Size: 15 Amps
- MCA: 13 Amps
- Outdoor Operating Noise Level: 37 dB
- Weight: 106 lbs
- Pipe Size (Tank to Heat Pump): ½" (Hot & Cold)
- Max Length Inc Vertical: 50 ft
- Max Vertical Separation: 16 ft
- Max Water Pressure: 95 Psig

Stainless Steel Storage Tank

Tank Model No: SAN-43SSQA0A, GAUS-315EQTD, SAN-83SSQA0A, SAN-119GLBK*

<table>
<thead>
<tr>
<th>Specification</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (inches)</td>
<td>38-½&quot;</td>
<td>58-½&quot;</td>
<td>68-½&quot;</td>
<td>63-½&quot;</td>
<td></td>
<td></td>
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<tr>
<td>Hot Water Outlet &amp; PR Valve (inches)</td>
<td>29-½&quot;</td>
<td>49-½&quot;</td>
<td>60-½&quot;</td>
<td>56&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Pump Return (inches)</td>
<td>29-½&quot;</td>
<td>49-½&quot;</td>
<td>60-½&quot;</td>
<td>56&quot;</td>
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<td></td>
</tr>
<tr>
<td>Sensor Port (inches)</td>
<td>9-½&quot;</td>
<td>37&quot;</td>
<td>40-½&quot;</td>
<td>38 ½&quot;</td>
<td></td>
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</tr>
<tr>
<td>Cold Water Inlet / Cold Water to HP (inches)</td>
<td>8-½&quot;</td>
<td>7-½&quot;</td>
<td>8-½&quot;</td>
<td>4&quot;</td>
<td></td>
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<tr>
<td>Diameter (inches)</td>
<td>24-½&quot;</td>
<td>26-½&quot;</td>
<td>24-½&quot;</td>
<td>28&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (lbs)</td>
<td>88 lbs</td>
<td>154 lbs</td>
<td>115 lbs</td>
<td>345 lbs</td>
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<td></td>
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<tr>
<td>Tank Capacity (gallons)</td>
<td>43 gallons</td>
<td>83 gallons</td>
<td>83 gallons</td>
<td>119 gallons</td>
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<tr>
<td>Warranty</td>
<td>15 years</td>
<td>15 years</td>
<td>15 years</td>
<td>10 years*</td>
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</tbody>
</table>

Connection Sizes

- Cold Water Inlet: ½" NPT
- Hot Water Outlet: ½" NPT
- Cold Water to Heat Pump: ½" NPT
- Hot Water Return from Heat Pump: ½" NPT
- Pressure Relief Valve Setting (Psig): 125 Psig

*SAN-119GLBK tank is a glass-lined steel tank with a 10 year warranty.

Note: Materials and specifications are subject to change without notice.

For more information, please call 1-844-SANDCO2 or email info@sandenwaterheater.com.