Indirect & Solar Storage Tanks for Domestic Hot Water

DHW Tanks
FOR ALL SOLAR, GEOTHERMAL OR HYDRONIC APPLICATIONS

› Heavy Gauge Steel With Porcelain Enamel Coating
› Superb Quality Results In Long Service Life
   Backed By A Lifetime Warranty
› Sacrificial Anode Rod
› Up To 3” R-21 Urethane Foam Insulation
   For Low Standby Heat Loss
› Large Clean-Out Port For Ease Of Maintenance

800.582.8423
www.stiebel-eltron-usa.com
### Single Heat Exchanger with Electric Element

**DHW Tank Model** | SB 300 E | SB 400 E
---|---|---
Part number | 234110 | 234111

### CONTENTS

| | SB 300 E | SB 400 E |
---|---|---|
**Storage capacity** | 79.3 gal (300 l) | 105.6 gal (400 l) |
**Heat exchanger volume** | 2.4 gal (9.5 l) | 2.9 gal (11.1 l) |
**Surface area of heat exchanger** | 16.1 ft² (1.5 m²) | 20.6 ft² (1.9 m²) |
**Working pressure** | 145 psi (10 bar) | 145 psi (10 bar) |
**Max. pressure of boiler loop** | 145 psi (10 bar) | 145 psi (10 bar) |

### HEATING ELEMENT

| | SB 300 E | SB 400 E |
---|---|---|
**Heating element voltage** | 220 – 240 V, 60 Hz | 220 – 240 V, 60 Hz |
**Heating capacity** | 10,239 Btu/hr (3.0 kW) | 10,239 Btu/hr (3.0 kW) |
**Rated current** | 12.5 A | 12.5 A |
**Required circuit breaker** | 20 A | 20 A |
**Heating element** | Ceramic dome element | Ceramic dome element |
**Temperature control** | Knob with °F & °C scale under heating element cover | Knob with °F & °C scale under heating element cover |
**Set range of thermostat** | 86 – 167 °F (30 – 75 °C) | 86 – 167 °F (30 – 75 °C) |

### OTHER

| | SB 300 E | SB 400 E |
---|---|---|
**Cold/hot water connection** | 1˝ male NPT | 1˝ male NPT |
**Heat exchanger & auxiliary connections** | 1˝ female NPT | 1˝ female NPT |

### PERFORMANCE DATA

| | SB 300 E | SB 400 E |
---|---|---|
**Standby losses in 24 hours** | 2.8 kW (9,553 Btu) | 3.0 kW (10,236 Btu) |
**Pressure drop at 4.4 gpm** | 3.7 ft. head (11 kPa) | 4.0 ft. head (12 kPa) |
**Heat exchanger power rating** | 165,000 Btu/hr (48.4 kW) | 183,000 Btu/hr (53.7 kW) |
**Inlet 50°F, 140°F Outlet** | * | * |
**Recovery rate (maximum input)** | 234 gal/hr (885 l/hr) | 258 gal/hr (976 l/hr) |
**Recovery rate (electric element only)** | 13.7 gal/hr (51.8 l/hr) | 13.7 gal/hr (51.8 l/hr) |

### WEIGHTS & DIMENSIONS

| | SB 300 E | SB 400 E |
---|---|---|
**Tank weight empty** | 355 lb (161 kg) | 432 lb (196 kg) |
**Tank weight full** | 1,051 lb (477 kg) | 1,366 lb (619 kg) |
**Height** | 61 5/6˝ (1552 mm) | 60 13/16˝ (1544 mm) |
**Diameter** | 25 1/4˝ (650 mm) | 29 1/2˝ (750 mm) |
**Insulation thickness** | 2˝ (50 mm) | 2˝ (50 mm) |
**Diameter without insulation** | 21 5/8˝ (550 mm) | 25 1/8˝ (650 mm) |
Single Heat Exchanger

**SBB 300 S**
- **Hot water outlet**
- **Recirculation port**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**SBB 300 Plus, SBB 400 Plus, SBB 600 Plus**
- **Hot water outlet**
- **Recirculation port**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Temperature sensor well (upper coil)**
- **Foam insulation**
- **Temperature sensor well (lower coil)**
- **Clean-out port**
- **Cold water inlet**

**PERFORMANCE DATA**
- **Cold/hot water connection**: 1˝ male BSPP, with sweat
- **Continued draw data based on 167°F (75°C) heat input / 113°F (45°C) DHW output / 50°F (10°C) cold water input**
- **Continuous Draw (Lower Coil)**
  - **Flow Rate**: 346.9 gal/hr / 1,313 l/hr
  - **Output**: 242,393 Btu (71 kW)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 642 Btu/hr (1.9 kWh)

**OTHER**
- **Thickness of insulation**: 3˝ (75 mm)
- **Exchanger coil (solar or boiler)**
- **Clean-out port**
- **Spare port**
- **Temperature sensor port (feed)* (solar)**
- **Heat exchanger port (return)**
- **Clean-out port (upper)**
- **Heat exchanger port (return)**
- **Thermometer well**
- **Min. temp. upper loop**: N/A
- **Max. temp. lower loop**: 206 °F (100 °C)
- **Continuous draw (Upper Coil)**
  - **Flow Rate**: 285.6 gal/hr (1,081 l/hr)
  - **Output**: 164,049 Btu (48 kW)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 544 Btu/hr (1.6 kWh)

**DUAL HEAT EXCHANGER**

**SBB 300 S**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**SBB 300 Plus, SBB 400 Plus, SBB 600 Plus**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**PERFORMANCE DATA**
- **Cold/hot water connection**: 1˝ female male BSPP, with sweat adaptor to 1˝ copper pipe
- **HX/Aux. connections**: 1˝ male BSPP, with sweat adapter to 1˝ copper pipe
- **Continuous Draw (Lower Coil)**
  - **Flow Rate**: 212.4 gal/hr (804 l/hr)
  - **Output**: 111,680 Btu (33 kW)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 222 Btu/hr (0.7 kWh)

**OTHER**
- **Exchanger coil (solar or boiler)**
- **Clean-out port**
- **Spare port**
- **Temperature sensor port (feed)* (solar)**
- **Heat exchanger port (return)**
- **Clean-out port (upper)**
- **Heat exchanger port (return)**
- **Thermometer well**
- **Min. temp. upper loop**: N/A
- **Max. temp. lower loop**: 206 °F (100 °C)
- **Continuous draw (Upper Coil)**
  - **Flow Rate**: 232.5 gal/hr (872 l/hr)
  - **Output**: 170,168 Btu (49 kW)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 322 Btu/hr (1.0 kWh)

**DUAL HEAT EXCHANGER**

**SBB 300 S**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**SBB 300 Plus, SBB 400 Plus, SBB 600 Plus**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**PERFORMANCE DATA**
- **Cold/hot water connection**: 1˝ female male BSPP, with sweat adapter to 1˝ copper pipe
- **HX/Aux. connections**: 1˝ female BSPP, with sweat adapter to 1˝ copper pipe
- **Continuous Draw (Lower Coil)**
  - **Flow Rate**: 232.5 gal/hr (872 l/hr)
  - **Output**: 170,168 Btu (49 kW)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 322 Btu/hr (1.0 kWh)

**OTHER**
- **Exchanger coil (solar or boiler)**
- **Clean-out port**
- **Spare port**
- **Temperature sensor port (feed)* (solar)**
- **Heat exchanger port (return)**
- **Clean-out port (upper)**
- **Heat exchanger port (return)**
- **Thermometer well**
- **Min. temp. upper loop**: N/A
- **Max. temp. lower loop**: 206 °F (100 °C)
- **Continuous draw (Upper Coil)**
  - **Flow Rate**: 285.6 gal/hr (1,081 l/hr)
  - **Output**: 131,515 Btu (39 kW)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 544 Btu/hr (1.6 kWh)

**DUAL HEAT EXCHANGER**

**SBB 300 S**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**SBB 300 Plus, SBB 400 Plus, SBB 600 Plus**
- **Cold water inlet**
- **Sacrificial anode indicator**
- **Thermometer well**
- **Foam insulation**
- **Well for temperature sensor (solar)**
- **Clean-out port**
- **Cold water inlet**

**PERFORMANCE DATA**
- **Cold/hot water connection**: 1˝ female male BSPP, with sweat adapter to 1˝ copper pipe
- **HX/Aux. connections**: 1˝ female BSPP, with sweat adapter to 1˝ copper pipe
- **Continuous Draw (Lower Coil)**
  - **Flow Rate**: 232.5 gal/hr (872 l/hr)
  - **Output**: 170,168 Btu (49 kW)
  - **Max. temp. lower loop**: 266 °F (130 °C)
  - **Max. temp. upper loop**: 266 °F (130 °C)
  - **Max. pressure of boiler loop**: 150 psi (10 bar)
  - **Working pressure**: 150 psi (10 bar)
  - **Standby losses in 24 hours**: 322 Btu/hr (1.0 kWh)

**OTHER**
- **Exchanger coil (solar or boiler)**
- **Clean-out port**
- **Spare port**
- **Temperature sensor port (feed)* (solar)**
- **Heat exchanger port (return)**
- **Clean-out port (upper)**
- **Heat exchanger port (return)**
- **Thermometer well**
- **Min. temp. upper loop**: N/A
- **Max. temp. lower loop**: 206 °F (100 °C)
Stiebel Eltron SBB and SB-E tanks and heat exchangers are warranted against material defects for 10 years, excluding the sacrificial anode. See warranty for complete details.

Engineering & Manufacturing Excellence
Over 90 Years Of German Technology

All Stiebel Eltron SBB/ SB-E series tanks are made in our factories in Germany and Slovakia. They can be used in residential or commercial installations as indirectly-fired domestic hot water storage tanks in conjunction with any type of boiler, geothermal, or solar hot water application.

The vessels and heat exchangers in SBB/SB-E tanks are made from heavy gauge steel. All surfaces in contact with domestic hot water receive a thick porcelain enamel coating after shot-peening to clean the steel surface. In addition, vessel exteriors receive a light porcelain coating. Up to three inches of urethane foam insulation ensures that hot water stays hot, and standby heat loss is minimized. All SBB/SB-E tanks come with heavy-duty sacrificial anodes and visible anode wear indicators. SBB/SB-E tanks are also fitted with an extra-large clean-out port for ease of maintenance.

Stiebel Eltron SBB series tanks are equipped with either one or two large-bore heat exchangers, designed to maximize heat transfer. For solar thermal applications, an SBB tank can be used with an external backup heater, or an SB-E tank with its integral electric element can be used. Dual heat exchanger models are typically used in solar thermal applications by connecting the lower coil to the collector array, and the upper coil connected to any type of boiler for backup heat input or as a takeoff for a radiant heating loop.
1924

**Sometimes a “little thing” leads to a whole lot more**

Dr. Theodor Stiebel designed the first coil immersion heater and founded “ELTRON Dr. Theodor Stiebel” in 1924 in a small workshop on Reichenberger Strasse in Berlin, Germany.

Since then, Stiebel Eltron has manufactured 20 million tankless electric water heaters, holds hundreds of patents, has won more than fifty design awards, and continues to stay at the forefront of water heating technology.

2020

**Continuing to lead innovation in energy efficiency**

One of the first manufacturers to develop and manufacture heat pumps and solar thermal water heating, Stiebel Eltron has been a technological leader in renewable energy since 1976.

Today Stiebel Eltron is the heat pump market leader in Germany, and continues creating innovative, energy efficient products for the homes of the future.

**Stiebel Eltron Family of Energy Saving Water Heating Products**

- **TANKLESS HOT WATER**
  - Efficient tankless electric water heaters
  - Point-of-use Tankless
  - Whole House Tankless

- **RENEWABLE ENERGY**
  - Complete Solar Hot Water Components
  - Solar Thermal & Heat Pump Water Heaters

**Distributed by:**

Stiebel Eltron has been a world leader in the development of advanced water heating technology for more than 90 years. Our pursuit of engineering excellence and high-quality manufacturing results in products fulfilling the highest expectations of performance and reliability. They are... **Simply the Best.**