

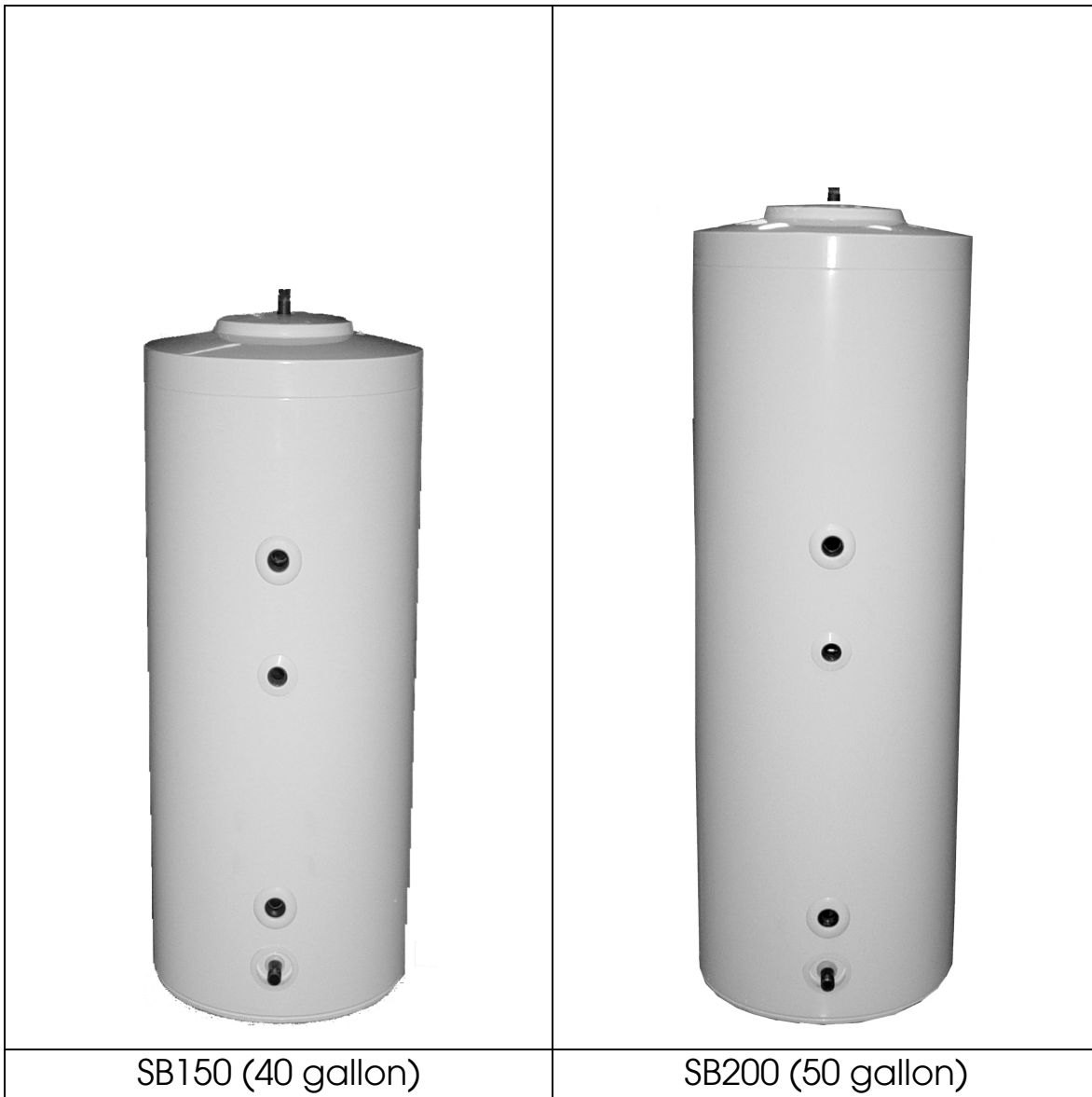
STIEBEL ELTRON

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SB 150, SB 200

Glass Lined Indirectly Fired Water Heaters With Single Heat Exchanger

INSTALLATION AND OPERATING INSTRUCTIONS



DANGER

- Water temperature over 125°F can cause severe burns instantly or death from scalds.
- Children, disabled and elderly are at highest risk of being scalded.
- Set the thermostat as low as practical. Settings the thermostat as low as possible will reduce the risk of scalding and reduce energy consumption.
- Feel water before showering or bathing.
- Special valves are available to provide anti-scald protection. Consult a licensed plumber or the local plumbing authority for more information.

If the temperature and pressure relief valve on the SB tank opens periodically, it may be due to thermal expansion in a closed water supply system. Consult a licensed plumber, the local plumbing authority, or the water supplier. Do not plug the Temperature and Pressure Relief Valve.

SB TANK PIPING WITH A "MIXING VALVE"

Usually, the maximum temperature of the outlet water will stay near the setting of the thermostat. In some cases, however, hot water usage patterns can cause the outlet water temperature to rise significantly above the control settings.

The temperature of water going to the fixtures may be more carefully controlled through the use of a mixing valve. This device blends a controlled amount of cold water with the hot water from the tank to provide a more constant temperature at the fixtures.

WARNING

There are no user serviceable parts on this product. Attempts to service this product by someone other than a licensed plumber or heating technician could void the warranty, cause property damage, personal injury or loss of life.

A mixing valve does not eliminate the risk of scalding:

- Set the thermostat as low as practical.
- Feel water before bathing or showering.
- If anti-scald or anti-chill protection is required, use devices specifically designed for such service. Install these devices in accordance with their manufacturer's instructions.

Install a new Temperature and Pressure Relief ("T & P") Valve in the tapping on the top of the tank marked "T&P VALVE". Failure to do so could result in property damage, personal injury or death.

- This Valve must comply with the Standard for Relief Valves and Automatic Gas Shutoff devices for Hot Water Supply Systems (ANSI Z21.22)
- No valve is to be placed between the T&P valve and the tank.
- Do not install valves, reducing couplings or other obstructions in the relief valve discharge line.
- Do not install a T&P valve with a pressure settings in excess of 150 PSI or a temperature setting in excess of 210°F
- Pipe the discharge line to a location where hot water discharge will not cause injury or damage.
- Do not run any portion of the discharge line through a location that will be exposed to freezing temperatures.
- Pipe the discharge line to allow complete drainage of both the discharge piping and the T&P valve.

Hydrogen gas can be produced in a hot water system that has not been used for a long period of time (generally two weeks or more). Hydrogen gas is extremely flammable. To prevent the possibility of injury under these conditions, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before you use any electrical appliance, which is connected to the hot water system. If hydrogen is present, there will probably be an unusual sound such as air escaping through the pipe as hot water begins to flow. There should be no smoking or open flame near the faucet at the time it is open.

I. Product description

The Stiebel Eltron SB series water heaters are indirectly fired designed to generate hot water in conjunction with a solar collector system or a gas, oil or pellet boiler using forced boiler water circulation. This indirect water heater consists of an enameled steel tank in which a smooth coil is located. A solar heated water/glycol mix or boiler water is pumped through the heat exchanger coil and heats the water in the tank. The SB series is not intended for use in heating any fluid other than water. It is also not intended for use in gravity hot water heating systems.

II. Specifications

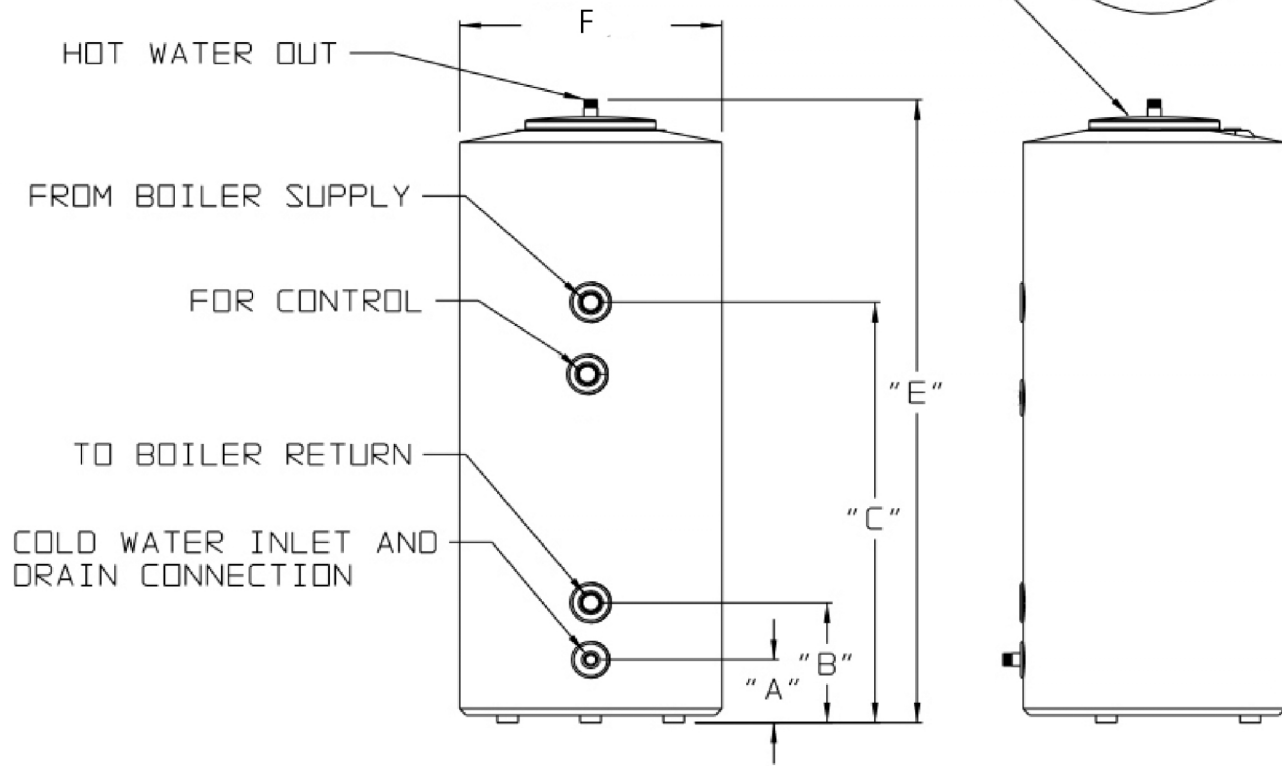
	SB TANK	
	SB 150	SB 200
First hour rating (gal/hr)*	192	225
Boiler water output (btu / hr)	103, 149	116, 094
Boiler water flow (gal / min)	8.0	8.0
Coil head loss (ft w.c.)	2.6	2.6
Coil surface (sq. ft / m2)	12.1 / 1.12	14.3 / 1.32
Tank volume (gal / l)	39.0 / 147.63	52 / 196.84
Net weight (lbs / kg)	190 / 86.18	226 / 102.5
Filled weight (lbs / kg)	523 / 237.2	658 / 298.4
Connections (NPT)		
Cool Drain	3/4 M	3/4 M
Boiler Supply	1 F	1 F
Boiler Return	1 F	1 F
Hot	3/4 M	3/4 M
Thermostat	3/4 F	3/4 F
Recirc	-	-
T&P Valve	3/4 F	3/4 F
Performance Specifications (I = B = R Certified Performance Ratings)		
First Hour Rating (Gal/hr)	192.4	225.1
Cont. Draw Rating (Gal/hr)	158.0	178.2
Standby Heat Loss (F/hr)	1.9	1.3
Min Boiler Output (BTU/hr)	103, 149	116, 094
Boiler Water Flow (Gal/min)	8.0	8.0

- *First Hour Ratings are based on 58F° inlet water, 135F° hot water, and 180F° boiler supply water
- F = Female thread
- M = Male thread

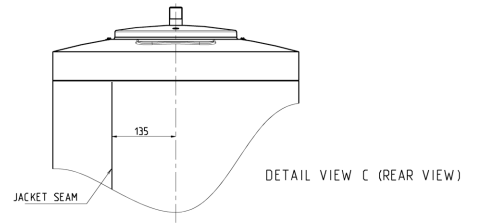
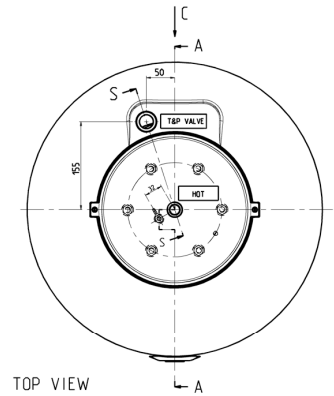
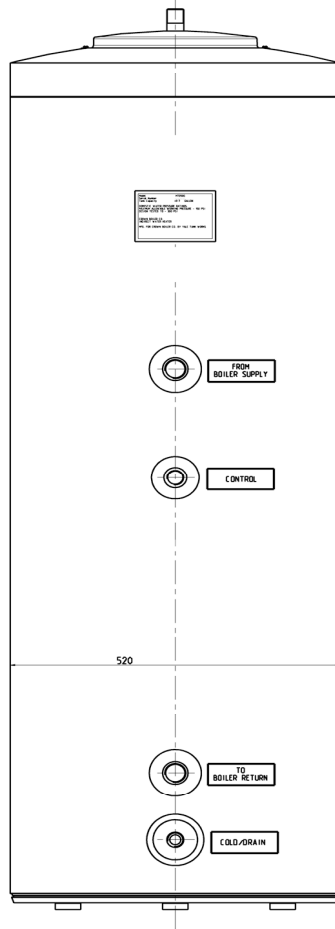
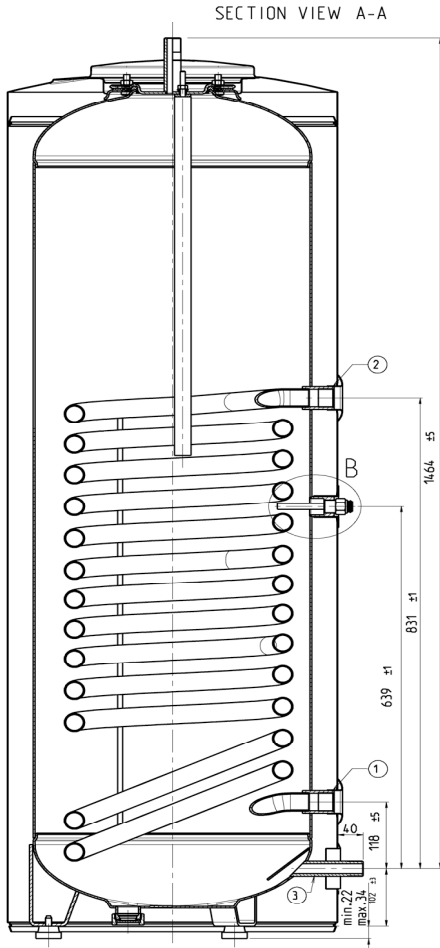
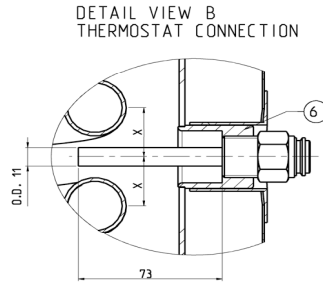
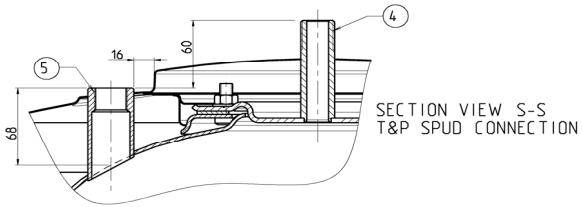
SB 150, SB 200

T & P VALVE CONNECTION

HAND HOLE (UNDER COVER)



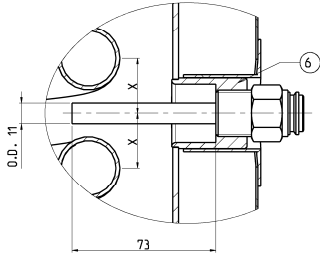
Dimensions (in/cm)	Model	
	SB 150	SB 200
A	5 1/8 / 13.02	5 1/8 / 13.02
B	9 3/4 / 24.76	9 3/4 / 24.76
C	34 / 86.36	37 7/8 / 96.20
D	-	-
E	50 1/2 / 128.27	62 3/4 / 159.38
F	20 1/2	20 1/2



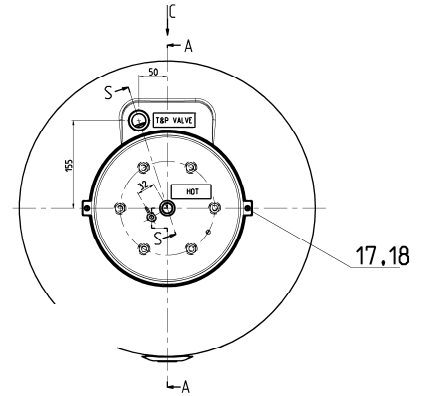
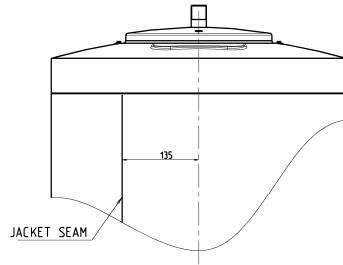
General Technical Information		
Net Contents	188 Ltr	
Technical Information Heat Exchanger		
Surface Heat Exchanger	1.33 m	
Technical Information Insulation		
Inner Insulation	40mm	Material: PU-Foam
Jacket Insulation	1.0mm	Material: Steel, Color: White
Way of Packaging	Carton Box / Shrink Wrap incl. Top and Bottom Locator	
Packaging Height	1650mm	
Packaging Width/Depth	600mm	Square

Item Nr.	Description	Dimensions	Comments:
Connections			
①	Heat Exchanger IN	1" NPT	Female Thread
②	Heat Exchanger OUT	1" NPT	Female Thread
③	Cold Water Inlet	" NPT	Male Thread
④	Hot Water Outlet	" NPT	Male Thread
⑤	T&P Connection	" NPT	Female Thread
⑥	Thermostat Connection	" NPT	Female Thread

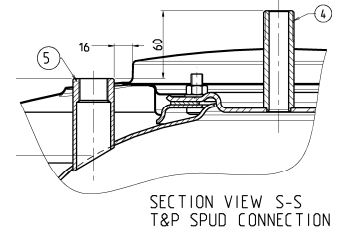
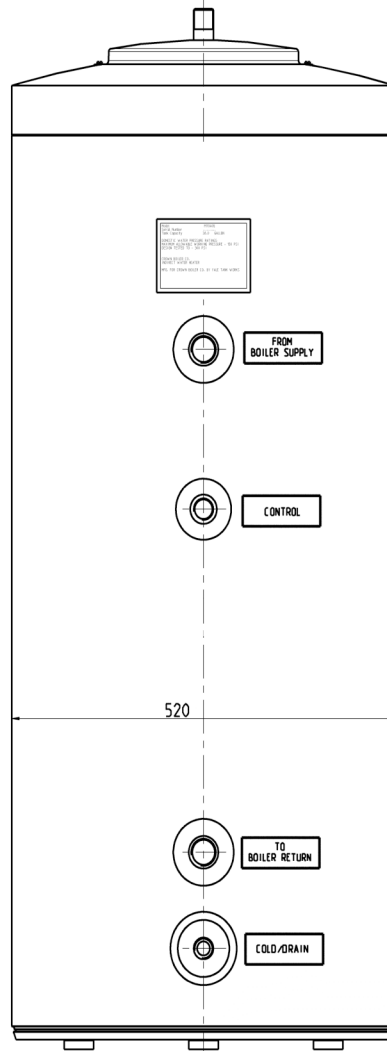
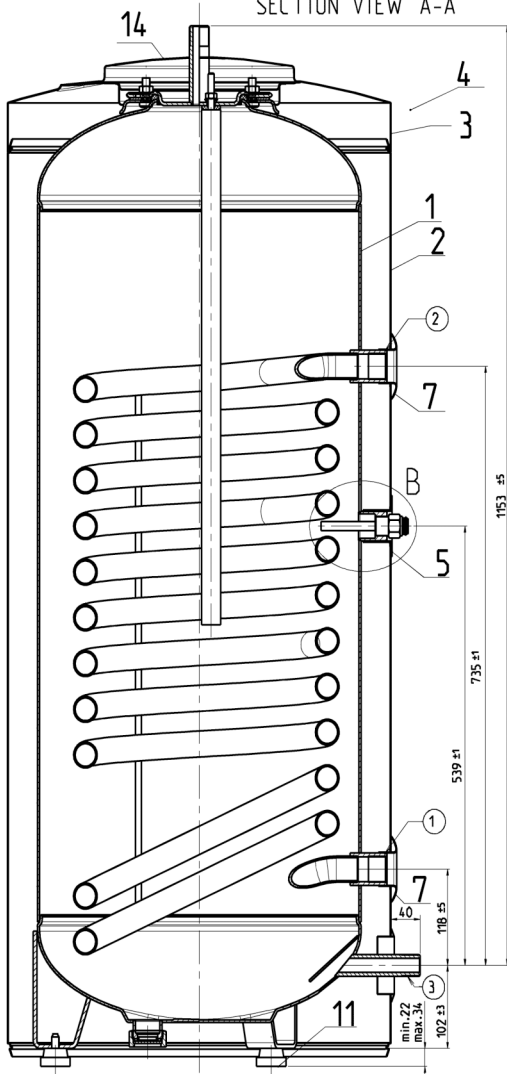
DETAIL VIEW B
THERMOSTAT CONNECTION



DETAIL VIEW C (REAR VIEW)



SECTION VIEW A-A



General Technical Information		
Net Contents	144 Ltr	
Technical Information Heat Exchanger		
Surface Heat Exchanger	1.12 m	
Technical Information Insulation		
Inner Insulation	40mm	Material: PU-Foam
Jacket Insulation	1,0mm	Material: Steel, Color: White
Material of Fabrication	Carbon Steel/Aluminum/Incl. Top and Bottom Covers	

Item Nr.	Description	Dimensions	Comments:
Connections			
①	Heat Exchanger IN	1" NPT	Female Thread
②	Heat Exchanger OUT	1" NPT	Female Thread
③	Cold Water Inlet	1" NPT	Male Thread
④	Hot Water Outlet	1" NPT	Male Thread
⑤	T&P Connection	1" MDT	Female Thread

MAINTENANCE

The SB series tank is an extremely simple device and as such requires very little maintenance. There are, however, several items that should be checked out on an annual or as needed basis to ensure a reliable supply of hot water:

- 1) On an annual basis, remove the jacket cover over the hand hole and make sure that the hand hole gasket is leak-tight. On the 40 and 50-gallon sizes, this hand hole is located on the top of the SB tank and is accessed by removing the two screws holding the cover to the top of the SB tank.
- 2) Make sure that the rest of the boiler and domestic water piping is free of leaks.
- 3) If there is an oil-lubricated circulator in the system, make sure that it is lubricated as called for by the circulator manufacturer.
- 4) The SB tank depends upon the boiler for source of heat and is therefore only as reliable as the boiler. Make sure that the boiler is maintained in accordance with the boiler manufacturer's instructions.
- 5) All SB tanks are equipped with a sacrificial anode rod. This anode rod helps to protect the SB tank from corrosion. This anode rod should be inspected periodically and replaced if more than half of the anode has been corroded away at any point in its length. The rate at which the anode rod will deteriorate will depend upon the quantity and chemistry of the water passing through the tank. In general, an annual inspection of the anode rod is appropriate.
- 6) On an annual basis, check the operation of the Temperature and Pressure Relief Valve by lifting the lever on the top of the valve and confirming that water is released.

IMPORTANT

For the anode rod to work properly it must be electrically bonded to the SB Tank. On the SB150 and SB200, this is done with two ground wires that bond the anode rod to the clean-out cover and the clean-out cover to the tank.

- Whenever the anode rod or clean out cover is serviced on the SB150 or SB200, be sure that these ground wires are reconnected.

Failure to follow these precautions could result in premature failure of the tank.

CAUTION

Stay away from the T&P Valve discharge piping when performing this check to avoid contact with hot water. Also make sure that water from the discharge will not damage property before performing this test.

WARRANTY

Stiebel Eltron warrants to the original owner that the SB Storage tank for solar hot water systems will be free from defects in workmanship and materials for a period of ten (10) years from the date of purchase.

Should the part(s) prove to be defective under normal use during this period, Stiebel Eltron, Inc. will be responsible for replacement of the defective part(s) only. Stiebel Eltron, Inc. will not be liable for any costs of transportation, removal, reinstallation, or any other labor or freight charges that may arise in connection with a warranty claim or any incidental or consequential expenses.

This warranty does not apply:

- to conditions resulting from a failed component or part that is not part of the solar storage tank
- to freeze damage
- to conditions resulting from misuse, abuse, neglect, accident, or alteration
- to conditions resulting from the introduction of harmful chemicals, caustic fluids, or liquids deleterious to copper tubing, including improperly applied or maintained heat transfer fluids
- to excessive pressure
- to conditions resulting from floods, earthquakes, winds, fire, lightning, or circumstances beyond the manufacturer's control
- to installation methods which do not conform to relevant national, state or local codes and ordinances, good industry practices or applicable manuals, diagrams, technical bulletins or written installation instructions; and, to applications other than medium temperature.

To obtain service under this warranty, the owner must first secure written authorization from Stiebel Eltron, Inc. The owner shall be required to show proof of purchase date, and to pay all transportation costs to return the defective part(s) for repair or replacement.