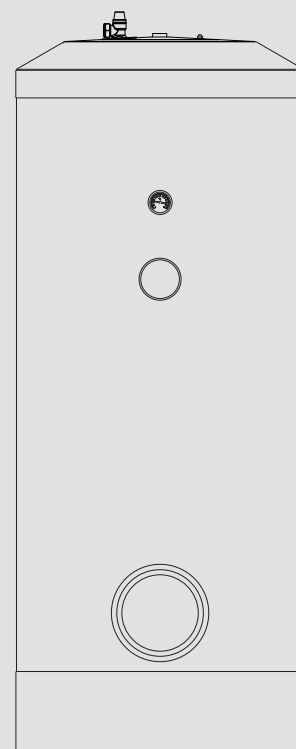


OPERATION AND INSTALLATION

Floorstanding DHW cylinder

- » SBB 301 WP (GB)
- » SBB 302 WP (GB)
- » SBB 401 WP SOL (GB)
- » SBB 501 WP SOL (GB)



STIEBEL ELTRON

OPERATION

1. General information	2
1.1 Further applicable documents	2
1.2 Safety instructions	2
1.3 Other symbols in this documentation	3
1.4 Units of measurement	3
2. Safety	3
2.1 Intended use	3
2.2 Safety instructions	3
2.3 Test symbols	3
3. Appliance description	3
4. Cleaning, care and maintenance	4
4.1 Signal anode consumption indicator	4
4.2 Scaling	4
5. Troubleshooting	4

INSTALLATION

6. Safety	4
6.1 General safety instructions	4
6.2 Regulations, standards and instructions	4
6.3 Water installation	4
7. Appliance description	5
7.1 Standard delivery	5
7.2 Accessories	5
8. Preparations	5
8.1 Installation site	5
8.2 Transport	6
9. Preparing for installation	6
9.1 Removing / fitting the cylinder casing	6
9.2 Checking the signal anode	6
9.3 Heating installation	6
9.4 Fitting the water connection and the safety assembly	7
9.5 Fitting the thermometer and DHW sensor	7
9.6 Connecting the high limit safety cut-out	8
10. Commissioning	8
10.1 Appliance handover	9
11. Shutting down	9
12. Troubleshooting	9
13. Maintenance	9
13.1 Checking the safety valve	9
13.2 Draining the appliance	9
13.3 Replacing the signal anode	9
13.4 Cleaning and descaling the appliance	9
13.5 Resetting the high limit safety cut-out	9
14. Specification	10
14.1 Dimensions and connections	10
14.2 Heat sources	14
14.3 Hydraulic diagram	15
14.4 Wiring diagram	15
14.5 Details on energy consumption	16
14.6 Data table	16

GUARANTEE

ENVIRONMENT AND RECYCLING

OPERATION

1. General information

The chapter “Operation” is intended for appliance users and heating contractors.

The chapter “Installation” is intended for heating contractors.



Note

Read these instructions carefully before using the appliance and retain them for future reference. Pass on the instructions to a new user if required.

1.1 Further applicable documents

- Heat source operating and installation instructions
- Solar controller operating and installation instructions

1.2 Safety instructions

1.2.1 Structure of safety instructions



KEYWORD Type of risk

Here, possible consequences are listed that may result from failure to observe the safety instructions.

► Steps to prevent the risk are listed.

1.2.2 Symbols, type of risk

Symbol	Type of risk
	Injury
	Electrocution
	Burns (burns, scalding)

1.2.3 Keywords

KEYWORD	Meaning
DANGER	Failure to observe this information will result in serious injury or death.
WARNING	Failure to observe this information may result in serious injury or death.
CAUTION	Failure to observe this information may result in non-serious or minor injury.

OPERATION

Safety

1.3 Other symbols in this documentation

**Note**

General information is identified by the symbol shown on the left.

► Read these texts carefully.

Symbol	Meaning
	Material losses (appliance, consequential, environment)
	Appliance disposal

► This symbol indicates that you have to do something. The action you need to take is described step by step.

1.4 Units of measurement

**Note**

All measurements are given in mm unless stated otherwise.

2. Safety

2.1 Intended use

The appliance is specifically designed for heating DHW with heat pumps.

This appliance is designed for domestic use. It can be used safely by untrained persons. The appliance can also be used in a non-domestic environment, e.g. in a small business, as long as it is used in the same way.

SBB WP (GB) | SBB WP SOL (GB) must only be connected to specified heat pumps and solar pump assemblies. (see chapter “Specification / Heat sources”).

Any other use beyond that described shall be deemed inappropriate. Observation of these instructions is also part of the correct use of this appliance. Any modifications or conversions to the appliance void all warranty rights.

2.2 Safety instructions

**WARNING Burns**

There is a risk of scalding at outlet temperatures in excess of 43 °C.

**WARNING Injury**

The appliance may be used by children aged 8 and up and persons with reduced physical, sensory or mental capabilities or a lack of experience provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the resulting risks. Children must never play with the appliance. Children must never clean the appliance or perform user maintenance unless they are supervised.

**Note**

The appliance is under pressure. During the heating process, expansion water will drip from the expansion valve or the T&P valve into the tundish. If water continues to drip when heating is completed, please inform your heating contractor.

2.3 Test symbols

See type plate on the appliance.

3. Appliance description

The heat from the heat pump’s heating water is transferred to the DHW by smooth-tube indirect coil.

The internal steel cylinder is coated in “anticor®” enamel and is equipped with a thermometer and a signal anode. The anode with consumption indicator protects the internal cylinder from corrosion.

SBB 401 WP SOL (GB) | SBB 501 WP SOL (GB)

These appliances are also equipped with a second indirect coil for DHW heating with solar energy.

4. Cleaning, care and maintenance

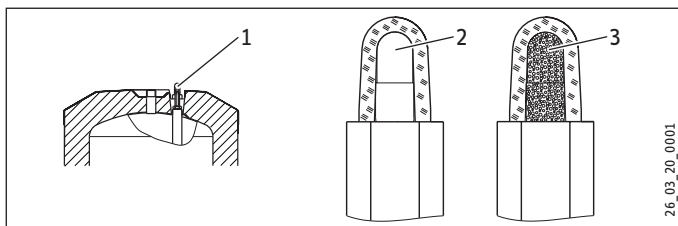
- ▶ Have the function of the safety assembly and electrical safety of the fitted accessories regularly checked by a qualified contractor.
- ▶ Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the appliance.

4.1 Signal anode consumption indicator



Material losses

If the consumption indicator changes colour from white to red, have the signal anode checked by a heating contractor and if necessary replaced.



- 1 Signal anode consumption indicator
- 2 white = anode OK
- 3 Red = check by heating contractor required

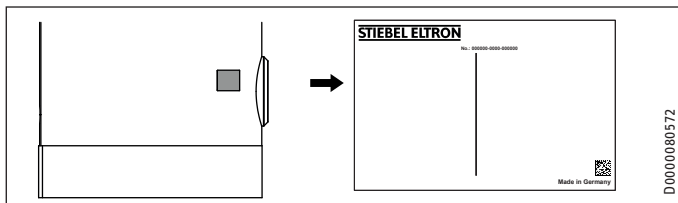
4.2 Scaling

- ▶ Almost every type of water deposits limescale at high temperatures. This settles inside the appliance and affects both the performance and service life. If a flanged immersion heater is installed, the heating elements must be descaled from time to time. A heating contractor who knows the local water quality will tell you when the next service is due.
- ▶ Check the taps/valves regularly. You can remove limescale deposits at the tap outlets using commercially available descaling agents.

5. Troubleshooting

Telephone your contractor.

To facilitate and speed up your enquiry, please provide the serial number from the type plate (000000-0000-000000):



INSTALLATION

6. Safety

Only a qualified contractor should carry out installation, commissioning, maintenance and repair of the appliance.

6.1 General safety instructions

We guarantee trouble-free operation and operational reliability only if the original accessories and spare parts intended for the appliance are used.

6.2 Regulations, standards and instructions



Note

Observe all applicable national and regional regulations and instructions.

6.3 Water installation

6.3.1 Cold water line

Steel or copper pipes or plastic pipework are approved materials.

A safety valve is required.

6.3.2 DHW line

Copper, stainless steel or plastic pipework are approved materials.



Material losses

If a flanged immersion heater is fitted and plastic pipework systems are used at the same time, observe the maximum permissible temperature / the maximum permissible pressure in chapter "Specification / Data table".

Operate the appliance only with pressure-tested taps and valves.

7. Appliance description

7.1 Standard delivery

Delivered with the appliance:

- Cold water inlet pipe with flat gasket
- Adhesive rosettes for connecting lines
- Adjustable feet
- Fixing straps with closure element
- Thermometer (in its delivered condition located in the DHW outlet)
- Safety assembly (with pressure reducing valve, non return valve and safety relief valve)
- Expansion vessel 24 litre
- Bracket
- Tundish

SBB 401 WP SOL (GB) | SBB 501 WP SOL (GB):

- Connecting cable for high limit safety cut-out

7.2 Accessories

If it is not possible to fit an anode rod from above, install a segmented signal anode.

Flanged immersion heaters and electric booster heaters are available as accessories.

Only the following accessories should be used:

- Flanged immersion heater: FCR 21/60 (part number 071330)
- Electric booster heater: BGC/45 (part number 075115)
- Corrugated connection pipe with union nut and threaded end for optional linking of the lower and upper indirect coils: WRV 32 (part number 232628)

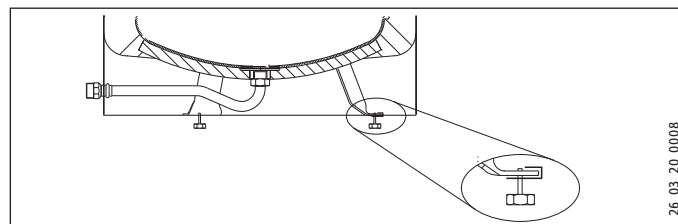
SBB WP (GB) | SBB WP SOL (GB) must only be connected to specified heat pumps and solar pump assemblies. (see chapter "Specification / Heat sources").

8. Preparations

8.1 Installation site

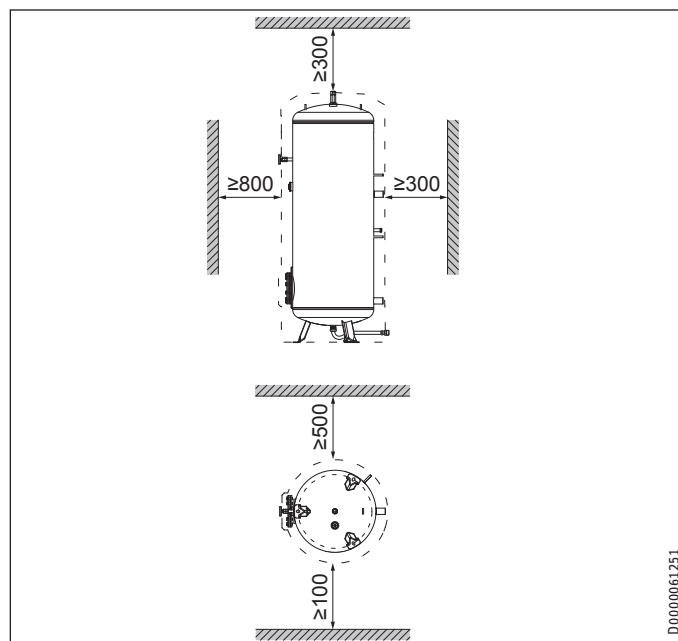
Always install the appliance in a room free from the risk of frost and near the draw-off point.

Ensure the floor offers sufficient stability (see chapter "Specification / Data table" for weight).



- Use the adjustable feet to compensate for any unevenness in the floor.

Minimum clearances



- Maintain the minimum clearances.

INSTALLATION

Preparing for installation

8.2 Transport

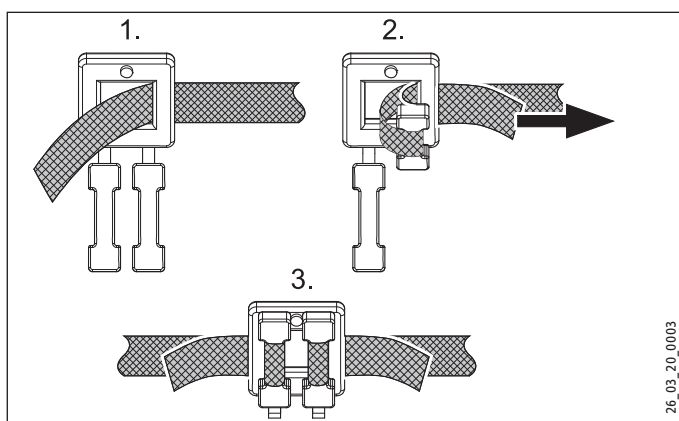


Material losses

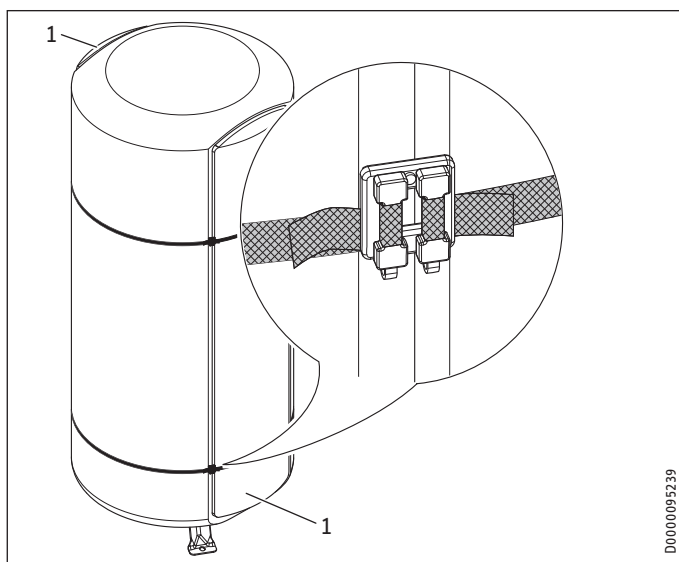
We recommend removing the cylinder casing for transportation to the installation location to prevent it from becoming dirty or damaged.

SBB 501 WP SOL (GB)

- ▶ Both side insulation sections can be removed for transportation in tight spaces. To do this, remove the cylinder casing.



- ▶ Use the fixing straps to refit the thermal insulation sections after transportation.



1 Side thermal insulation section

- ▶ Ensure that the closures are in the joint between a side thermal insulation section and the thermal insulation of the cylinder.

9. Preparing for installation

9.1 Removing / fitting the cylinder casing



Note

Open or remove the cylinder casing before fitting the high limit safety cut-out and DHW circulation/indirect coil lines.

Fit the cylinder casing before fitting a flanged immersion heater.

The plinth trim should be fitted after the tightness check.

9.2 Checking the signal anode



Material losses

The appliance must not be operated without a consumption indicator or with a damaged one, otherwise water will leak out once the anode is depleted.

9.3 Heating installation

The connected heat source must not exceed a maximum flow temperature of 60 °C or must, alternatively, be equipped with a high limit safety cut-out. You may also install a motorised valve that interrupts the cylinder heating by the heat source.

- ▶ Flush the indirect coils with water before connecting the heating water pipes.

9.3.1 Water quality, solar circuit

A glycol/water mixture of up to 60 % is permitted for the indirect coil in the solar circuit if only dezincification-resistant metals, glycol-resistant gaskets and diaphragm expansion vessels suitable for glycol are used throughout the installation.

9.3.2 Oxygen diffusion



Material losses

Avoid open heating systems and plastic pipes in under-floor heating systems which are permeable to oxygen.

In underfloor heating systems with plastic pipes that are permeable to oxygen and in open vented heating systems, oxygen diffusion may lead to corrosion on the steel components of the heating system (e.g. on the indirect coil of the DHW cylinder, on buffer cylinders, steel heating elements or steel pipes).



Material losses

The products of corrosion (e.g. rusty sludge) can settle in the heating system components and can result in a lower output or fault shutdowns due to reduced cross-sections.

9.3.3 Solar installation

The circuit must include an air-vent, a check valve and an expansion vessel. The check valve is not required if you are utilising a Solar compact installation.

- ▶ Flush the solar indirect coil with water before connecting the solar circuit.

Preparing for installation

9.3.4 SBB 401 WP SOL (GB) | SBB 501 WP SOL (GB) without solar installation

- ▶ Connect both indirect coils to the “heat pump heating return” and “solar flow” connections (see chapter “Specification / Dimensions and connections”).

9.4 Fitting the water connection and the safety assembly



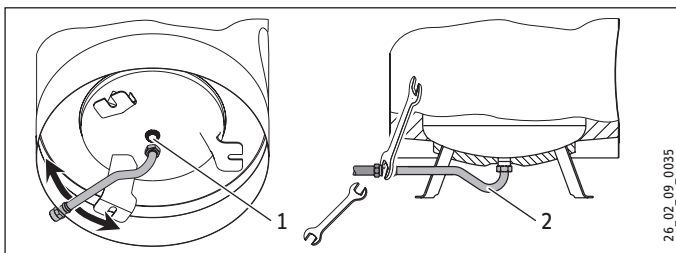
Note

Carry out all water connection and installation work in accordance with regulations.

- ▶ Flush the line thoroughly.

The max. permissible pressure must not be exceeded (see chapter “Specification / Data table”).

- ▶ Install a type-tested safety valve in the cold water supply line. Please note that, depending on the static pressure, you may also need a pressure reducing valve.



- 1 Cold water connection
- 2 Cold water inlet pipe

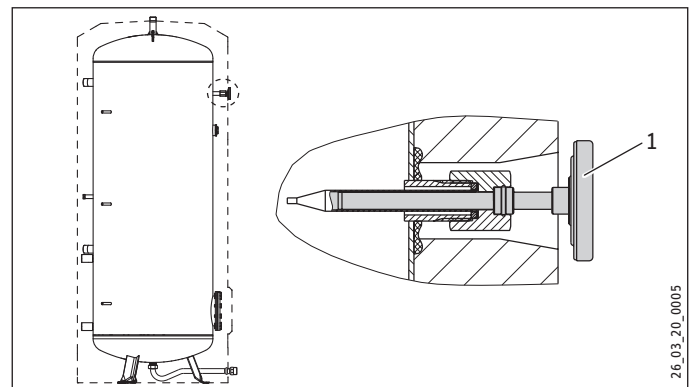
- ▶ Connect the cold water supply directly to the cylinder or with the connecting pipe routed between the cylinder feet.
- ▶ During fitting, counterhold the fitting with an open-ended spanner (size 36).
- ▶ Check the rigidity of the connecting pipe and secure it further if required.

See chapter “Specification / Hydraulic diagram” for general arrangement in schematic form. You can fit the safety assembly in various positions to suit the space available but it must be placed in the same order as shown. The safety assembly provided in the pack is fitted to the cold water supply with the exception of the T&P valve which is fitted at the top of the DHW cylinder. DHW cylinder relief valve connections should not be used for other purpose. No valve should be fitted between the expansion valve and the DHW cylinder.

- ▶ To obtain a balanced water pressure in the cold water and DHW lines, position the cold water outlet directly on the outlet side of the pressure reducing valve.
- ▶ The expansion valve should not respond under normal operating conditions as the expansion vessel will accommodate the water as it expands during the heating process.
- ▶ If a secondary return circuit is used then an additional expansion vessel may be required.

- ▶ Run the expansion valve outlet and that of the T&P valve to a drain via a tundish. The purpose of the tundish is to let water be seen should these valves respond. The outlet pipe should not exceed 9 metres in length without forming an air break, i.e. tundish. The pipe must fall continuously throughout its length with no additional 90° bends. It must be heat resistant and discharge to a safe visible position away from any electrical devices. The pipe diameter must not be smaller than the valve outlet. The two discharge pipes can be joined together at the point of discharge into a single tundish if required.
- ▶ Size the drain so that water can drain off unimpeded when the safety valve is fully opened. The blow-off aperture of the safety valve must remain open towards the atmosphere.
- ▶ Fit the blow-off line of the safety assembly with a constant slope.
- ▶ Observe the information in the installation instructions of the safety assembly.
- ▶ Install the expansion vessel.
- ▶ Adjust the pre-charge pressure. The pre-charge pressure should be set to approximately 0.02 MPa below the pressure reducing valve setting.

9.5 Fitting the thermometer and DHW sensor



1 Thermometer

- ▶ Insert the thermometer as far as it will go and align it.
- ▶ Insert the DHW sensor into the upper “Sensor heat pump DHW” sensor well (recommended position for energy saving). For higher levels of DHW convenience, you can alternatively insert the DHW sensor into the lower “Sensor heat pump DHW optional” sensor well (higher energy demand).

INSTALLATION

Commissioning

9.6 Connecting the high limit safety cut-out

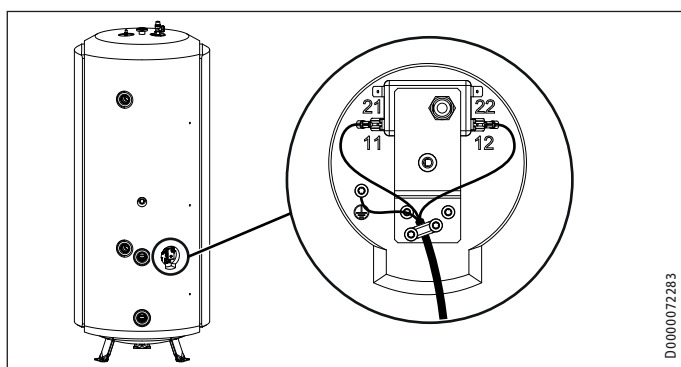


WARNING Electrocution
Carry out all electrical connection and installation work in accordance with relevant regulations.
Before any work on the appliance, disconnect all poles from the power supply.



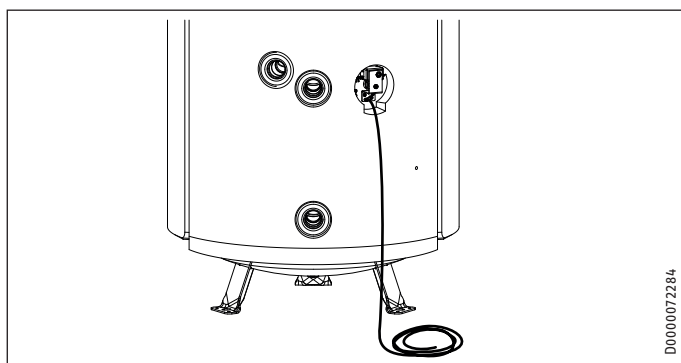
Note
Observe the operating and installation instructions of the solar control unit

SBB 401 WP SOL (GB) | SBB 501 WP SOL (GB)



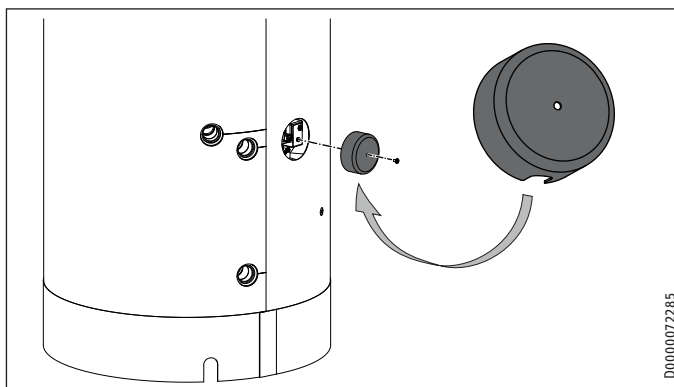
D0000072283

- ▶ Connect the high limit safety cut-out securely to the solar controller (connecting cable included with standard delivery). Observe the solar circuit pump connection.
- ▶ Connect the high limit safety cut-out between the solar controller and the solar circuit pump (see chapter “Specification / Wiring diagram”).



D0000072284

- ▶ Route the high limit safety cut-out connecting cable as shown.



D0000072285

- ▶ Refit the cylinder casing (see chapter “Removing / fitting the cylinder casing”).
- ▶ Fit the cap of the high limit safety cut-out with the gap for the connecting cable at the bottom.

10. Commissioning



Note
Some fluxes used to solder pipes and fittings need to be flushed out with hot water. Where this is the case the cylinder should be heated to its normal operating temperature and all pipe work flushed with hot water to ensure all flux and debris is removed from the system.

DHW system

- ▶ Open all taps.
- ▶ Open the shut-off valve in the cold water feed line. Allow the system to fill and flush out all flux and debris from the installation.
- ▶ Close all taps.
- ▶ Open a downstream draw-off point until the appliance has filled up and the pipes are free of air.
- ▶ Check the function of the fitted accessories.
- ▶ Check the function of the safety assembly.
- ▶ Check that the DHW temperature on the heat pump control unit is displayed correctly.

Heating system

For protection of drinking water, filling the heating system should be undertaken via drain and fill valve in compliance with the UK Water Supply (Water Fittings) Regulations 1999, Section 8 G24.

- ▶ Observe the operating and installation instructions of the heat pump.
- ▶ Vent the indirect coils after filling the heat pump system.

Solar system

- ▶ Observe the operating and installation instructions of the solar pump assembly.
- ▶ Vent the indirect coils after filling the solar system.

INSTALLATION

Shutting down

10.1 Appliance handover

- ▶ Explain the appliance function to users and familiarise them with its operation.
- ▶ Make users aware of potential dangers, especially the risk of scalding.
- ▶ Hand over these instructions.

11. Shutting down

- ▶ Disconnect the appliance from the mains at the MCB/fuse in the fuse box.
- ▶ Drain the appliance. See chapter “Maintenance / Draining the appliance”.

12. Troubleshooting

Fault	Cause	Remedy
The expansion valve or the T&P valve drips.	The valve seat is contaminated.	Clean the valve seat.

13. Maintenance



WARNING Electrocutation
Carry out all electrical connection and installation work in accordance with relevant regulations.

If you need to drain the appliance, observe chapter “Draining the appliance”.

13.1 Checking the safety valve

- ▶ Regularly vent the expansion valve on the safety assembly until a full water jet is discharged.
- ▶ Close the expansion valve when the check is complete.
- ▶ Check the T&P valve for tightness.

13.2 Draining the appliance



WARNING Burns
Hot water may escape during the draining process.

If the cylinder needs to be drained for maintenance or to protect the whole installation when there is a risk of frost, proceed as follows:

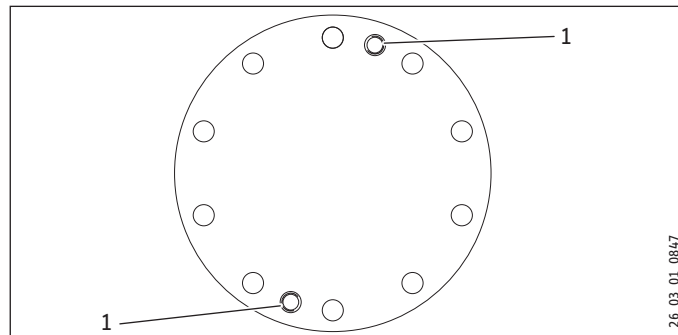
- ▶ Close the shut-off valve in the cold water line.
- ▶ Open the hot water taps on all draw-off points.
- ▶ Drain the appliance via the drain valve of the safety assembly.

13.3 Replacing the signal anode

- ▶ Replace the signal anode if it becomes depleted. Ensure there is a good connection between the anode and the cylinder (maximum permissible transition resistance 0.3 Ω).

13.4 Cleaning and descaling the appliance

You can use the flange aperture as an inspection port to view the cylinder interior.



1 Threaded extraction holes

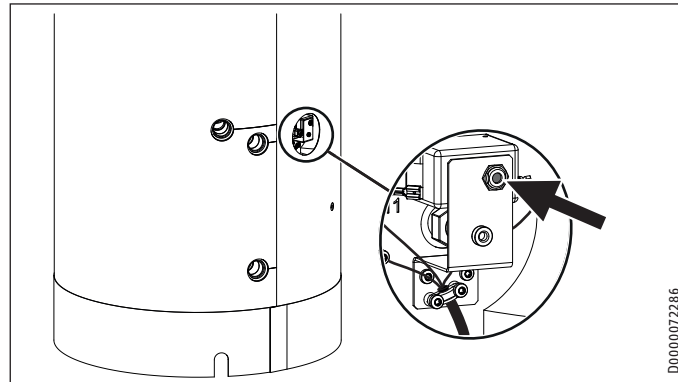
- ▶ Use the threaded lift-off holes to release the flange plate from the flange connector.

For the torque of the flange screws, see chapter “Specification / Dimensions and connections”.

Never use descaling pumps.

Never treat the cylinder surface or the signal anode with descaling agents.

13.5 Resetting the high limit safety cut-out



- ▶ To reset the high limit safety cut-out, press its reset button.



Material losses

If the cylinder temperature exceeds 85 °C, the high limit safety cut-out responds and the solar circuit pump is shut down. This results in a temperature rise in the solar collector. If the collector limit temperature set at the solar controller is exceeded, a collector emergency stop occurs (see solar controller operating and installation instructions).

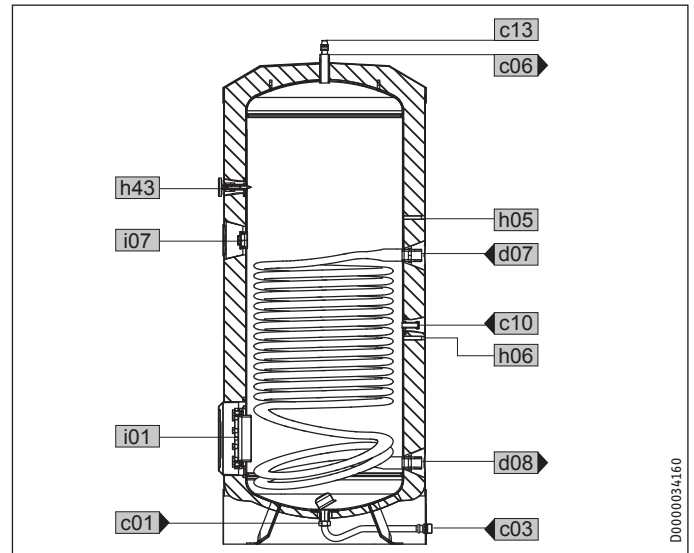
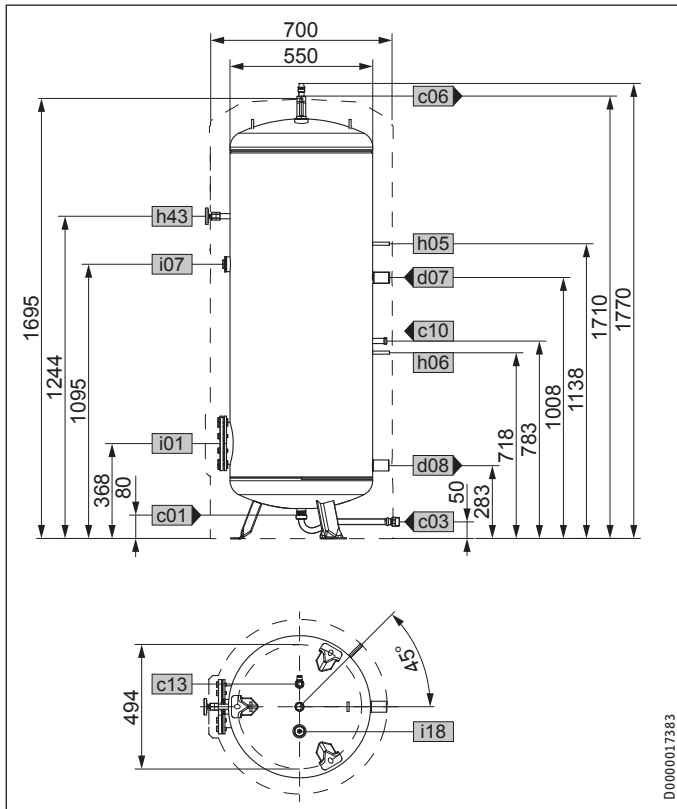
To ensure safe operation, our solar controllers are preset at the factory with the following values:

- Set cylinder temperature = 45 °C
- Maximum cylinder temperature = 60 °C
- ▶ If you adjust the settings manually, never set the maximum cylinder temperature to above 85 °C.

14. Specification

14.1 Dimensions and connections

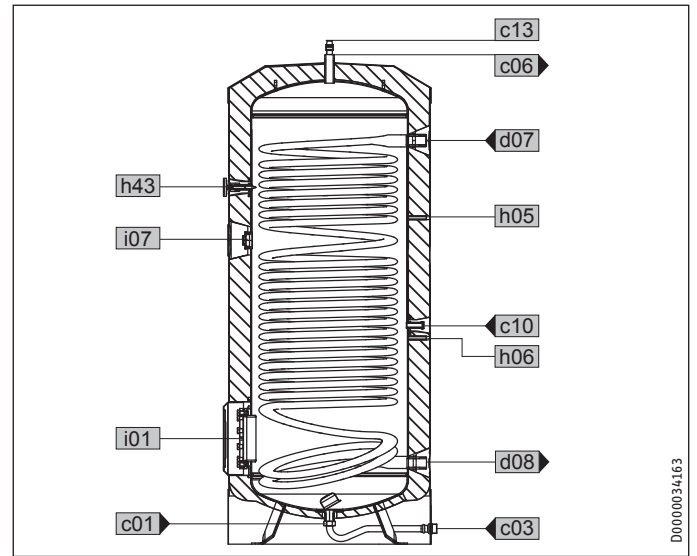
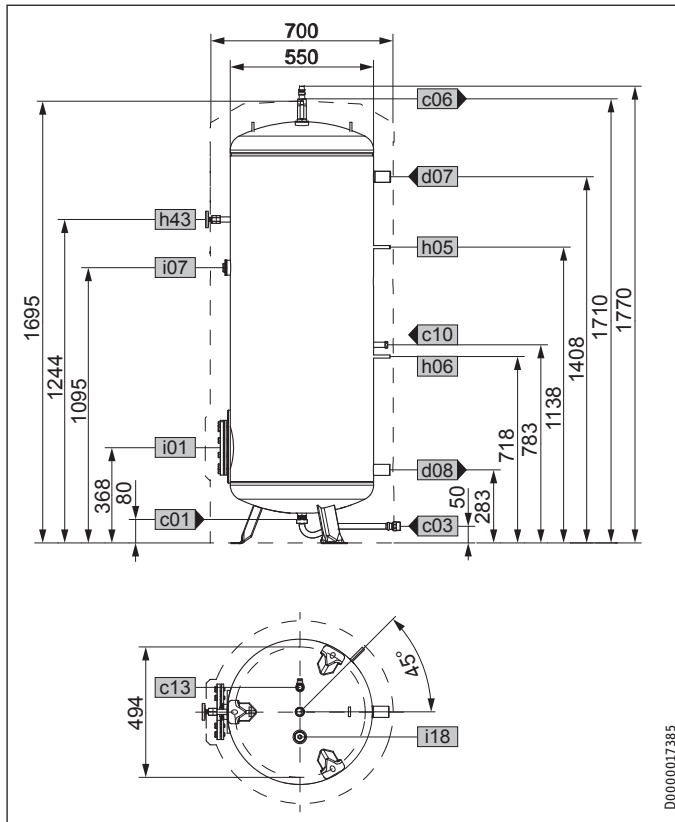
SBB 301 WP (GB)



		SBB 301 WP GB	
c01	Cold water inlet	Male thread	G 1 A
c03	Cold water inlet pipe	Male thread	G 1 A
		Torque	nm
			100
c06	DHW outlet	Male thread	G 1 A
c10	DHW circulation	Male thread	G 1/2 A
c13	T&P valve	Diameter	mm
			22
d07	Heat pump heating flow	Female thread	G 1 1/2
d08	Heat pump heating return	Female thread	G 1 1/2
h05	Sensor heat pump DHW	Diameter	mm
			9,5
h06	Sensor heat pump DHW optional	Diameter	mm
			9,5
h43	Thermometer	Diameter	mm
			9,5
i01	Flange	Diameter	mm
			210
		Pitch circle diameter	mm
			180
		Screws	M 12
		Torque	nm
			55
i07	elec. emergency/booster heater	Female thread	G 1 1/2
i18	Protective anode	Female thread	G 1 1/4

INSTALLATION Specification

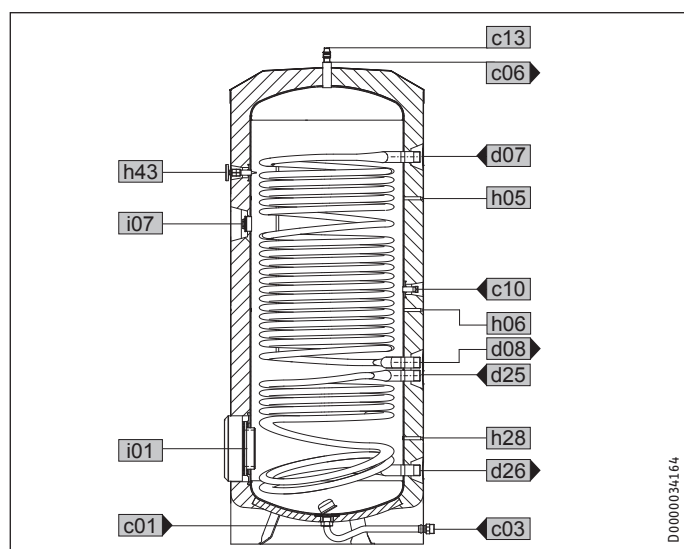
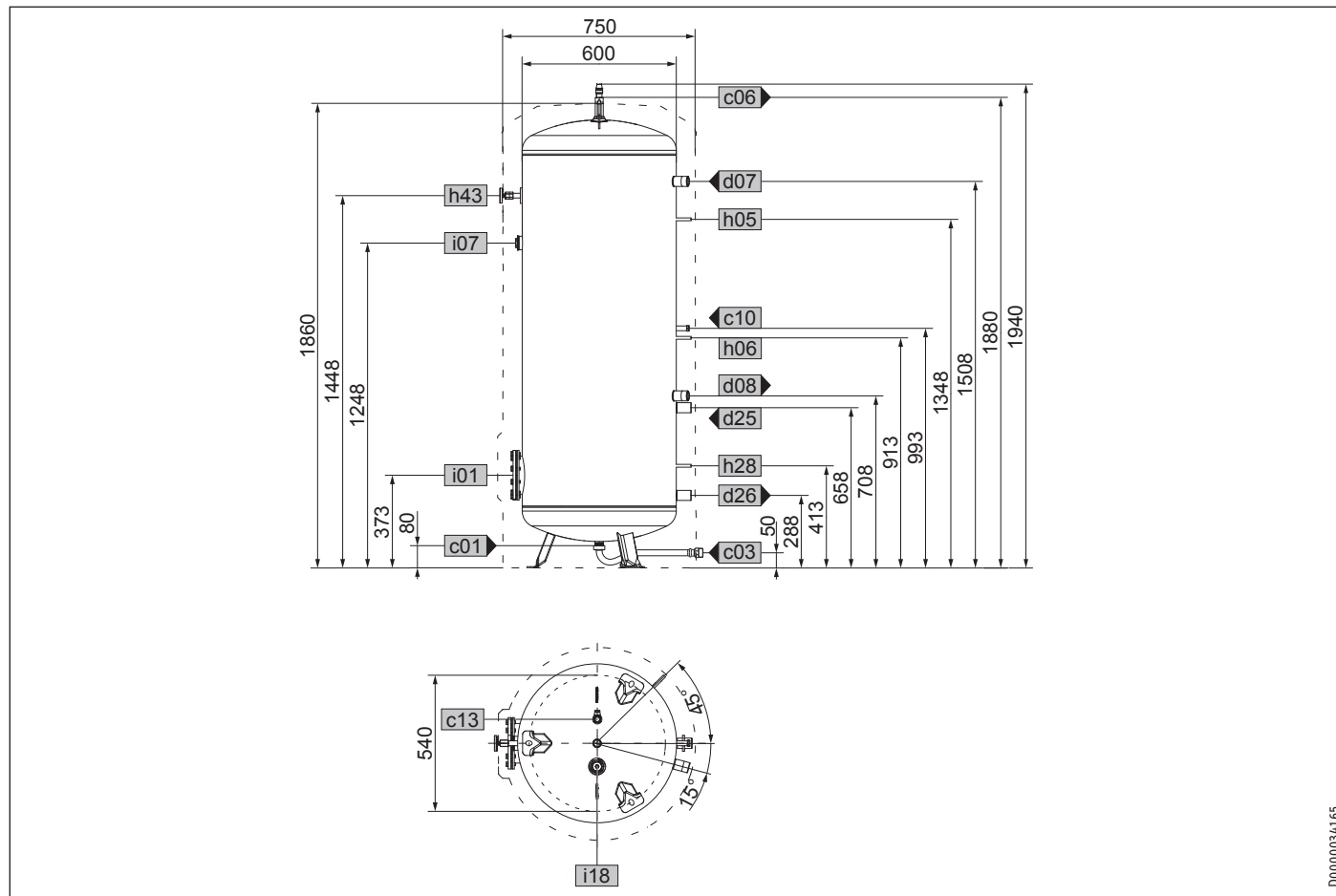
SBB 302 WP (GB)



		SBB 302 WP GB	
c01	Cold water inlet	Male thread	G 1 A
c03	Cold water inlet pipe	Male thread	G 1 A
		Torque	nm 100
c06	DHW outlet	Male thread	G 1 A
c10	DHW circulation	Male thread	G 1/2 A
c13	T&P valve	Diameter	mm 22
d07	Heat pump heating flow	Female thread	G 1 1/2
d08	Heat pump heating return	Female thread	G 1 1/2
h05	Sensor heat pump DHW	Diameter	mm 9,5
h06	Sensor heat pump DHW optional	Diameter	mm 9,5
h43	Thermometer	Diameter	mm 9,5
i01	Flange	Diameter	mm 210
		Pitch circle diameter	mm 180
		Screws	M 12
		Torque	nm 55
i07	elec. emergency/booster heater	Female thread	G 1 1/2
i18	Protective anode	Female thread	G 1 1/4

INSTALLATION Specification

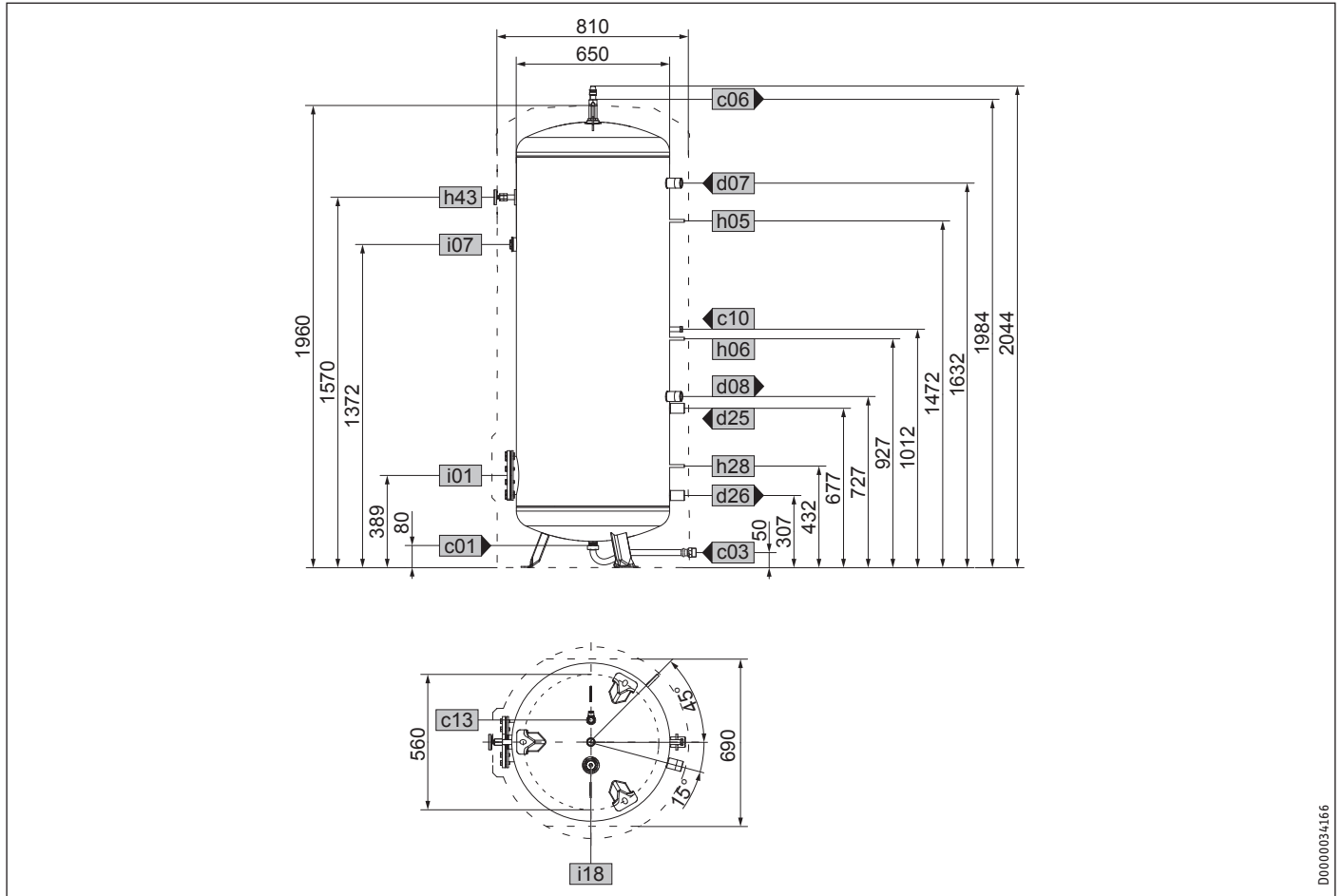
SBB 401 WP SOL (GB)



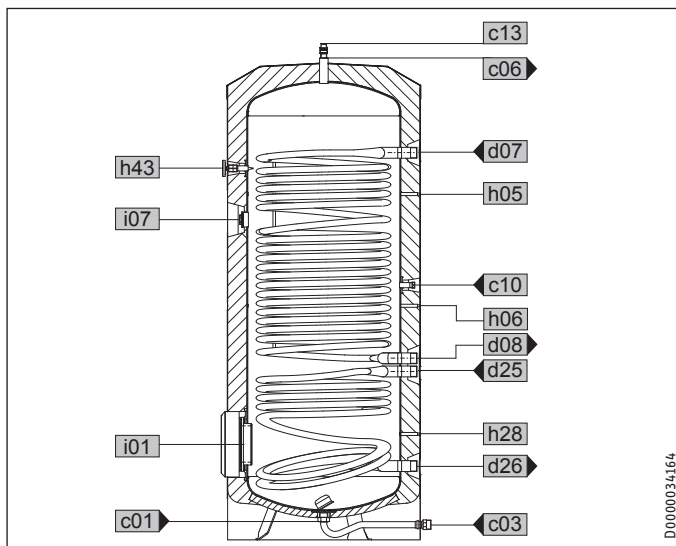
			SBB 401 WP SOL GB
c01	Cold water inlet	Male thread	G 1 A
c03	Cold water inlet pipe	Male thread	G 1 A
		Torque	nm 100
c06	DHW outlet	Male thread	G 1 A
c10	DHW circulation	Male thread	G 1/2 A
c13	T&P valve	Diameter	mm 22
d07	Heat pump heating flow	Female thread	G 1 1/2
d08	Heat pump heating return	Female thread	G 1 1/2
d25	Solar flow	Female thread	G 1 1/2
d26	Solar return	Female thread	G 1 1/2
h05	Sensor heat pump DHW	Diameter	mm 9,5
h06	Sensor heat pump DHW optional	Diameter	mm 9,5
h28	Sensor solar cylinder	Diameter	mm 9,5
h43	Thermometer	Diameter	mm 9,5
i01	Flange	Diameter	mm 210
		Pitch circle diameter	mm 180
		Screws	M 12
		Torque	nm 55
i07	elec. emergency/booster heater	Female thread	G 1 1/2
i18	Protective anode	Female thread	G 1 1/4

INSTALLATION Specification

SBB 501 WP SOL (GB)



D0000034166



D0000034166

			SBB 501 WP SOL GB
a23	Appliance	Width excl. side insulation sections	mm 690
c01	Cold water inlet	Male thread	G 1 A
c03	Cold water inlet pipe	Male thread	G 1 A
		Torque	nm 100
c06	DHW outlet	Male thread	G 1 A
c10	DHW circulation	Male thread	G 1/2 A
c13	T&P valve	Diameter	mm 22
d07	Heat pump heating flow	Female thread	G 1 1/2
d08	Heat pump heating return	Female thread	G 1 1/2
d25	Solar flow	Female thread	G 1 1/2
d26	Solar return	Female thread	G 1 1/2
h05	Sensor heat pump DHW	Diameter	mm 9,5
h06	Sensor heat pump DHW optional	Diameter	mm 9,5
h28	Sensor solar cylinder	Diameter	mm 9,5
h43	Thermometer	Diameter	mm 9,5
i01	Flange	Diameter	mm 210
		Pitch circle diameter	mm 180
		Screws	M 12
		Torque	nm 55
i07	elec. emergency/booster heater	Female thread	G 1 1/2
i18	Protective anode	Female thread	G 1 1/4

INSTALLATION Specification

14.2 Heat sources

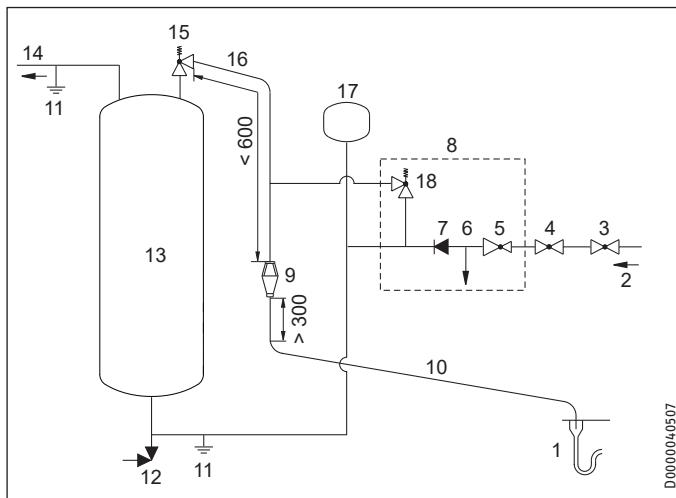
The DHW cylinders SBB WP (GB) | SBB WP SOL (GB) are approved according to the Building Regulations.

SBB WP (GB) | SBB WP SOL (GB) must only be connected to the following heat pumps and solar pump assemblies.

	SBB 301 WP (GB) Set 228944	SBB 302 WP (GB) Set 228945	SBB 401 WP SOL (GB) Set 228946	SBB 501 WP SOL (GB) Set 228947
Heat pump				
WPL 07 ACS classic	•	•	•	•
WPL 09 ACS classic	•	•	•	•
WPL 13 ACS classic	•	•	•	•
WPL 17 ACS classic	•	•	•	•
WPL 15 AS; WPL 15 ACS	•	•	•	•
WPL 25 AS; WPL 25 ACS	•	•	•	•
WPL 13 E/cool	•	•	•	•
WPL 18 E/cool	-	•	•	•
WPL 23 E/cool	-	-	•	•
WPL-A 05 HK 230 Premium	•	•	•	•
WPL-A 07 HK 230 Premium	•	•	•	•
WPE-I 04 H 230 Premium	•	•	•	•
WPE-I 06 H 230 Premium	•	•	•	•
WPE-I 08 H 230 Premium	•	•	•	•
WPE-I 12 H 230 Premium	•	•	•	•
WPE-I 15 H 230 Premium	•	•	•	•
WPF 05 S	•	•	•	•
WPF 07 S	•	•	•	•
WPF 10 S/M	•	•	•	•
WPF 13 S/M	-	•	•	•

INSTALLATION Specification

14.3 Hydraulic diagram



- 1 Discharge below fixed grate
- 2 Cold water supply
- 3 Shut-off valve
- 4 Line strainer
- 5 Pressure reducing valve
- 6 Balanced pressure; cold water outlet
- 7 Check valve
- 8 Safety assembly
- 9 Tundish
- 10 Metal discharge pipe (D2) from tundish, with continuous fall
- 11 Equipotential bond
- 12 Drain valve
- 13 Cylinder
- 14 DHW outlet
- 15 T&P valve
- 16 Metal discharge pipe (D1) from T&P valve to tundish
- 17 Expansion vessel
- 18 Expansion valve

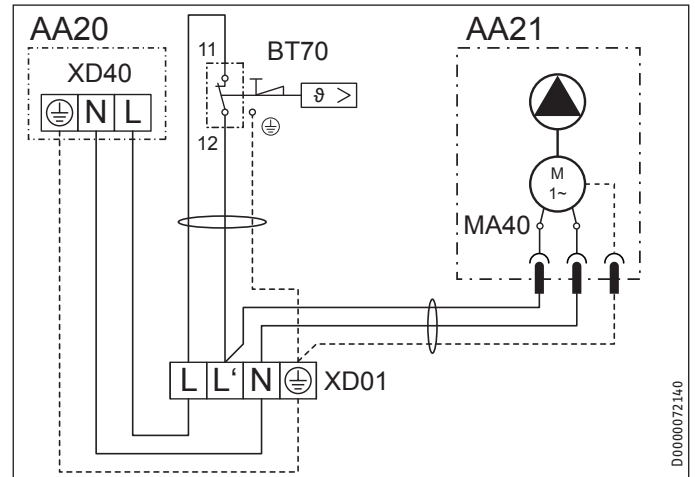
Minimum size of discharge pipe D1	mm			22
Minimum size of discharge pipe D2 from tundish	mm	28	35	42
Maximum permissible pressure drop, expressed as a length of straight pipe (i.e. no elbows or bends)	m	9	18	27
Pressure drop of each elbow or bend	m	1.0	1.4	1.7

Connection dimensions

Safety assembly connection	mm	22
Expansion valve end connection	mm	15
Expansion vessel connection, male, BSP		G 3/4 A
Tundish inlet connection	mm	22
Tundish outlet connection	mm	28

14.4 Wiring diagram

SBB 401 WP SOL (GB) | SBB 501 WP SOL (GB)



- AA20 SOM... solar controller
- AA21 SOKI... solar compact installation
- BT70 High limit safety cut-out
- MA40 Solar circuit pump
- XD01 Terminal
- XD40 Solar circuit pump relay terminal

INSTALLATION Specification

14.5 Details on energy consumption

Product datasheet: Hot water storage tanks to regulation (EU) no. 812/2013 / (S.I. 2019 No. 539 / Schedule 2)

	SBB 301 WP (GB) Set	SBB 302 WP (GB) Set	SBB 401 WP SOL (GB) Set	SBB 501 WP SOL (GB) Set
	228944	228945	228946	228947
Manufacturer	STIEBEL ELTRON	STIEBEL ELTRON	STIEBEL ELTRON	STIEBEL ELTRON
Model identification of the supplier	SBB 301 WP (GB) Set	SBB 302 WP (GB) Set	SBB 401 WP SOL (GB) Set	SBB 501 WP SOL (GB) Set
Energy efficiency class	C	C	C	
standing loss S	W 88	88	100	100
storage volume V	I 321	319	424	533

14.6 Data table



Note

Observe the data table of the connected heat source.

		SBB 301 WP (GB) Set	SBB 302 WP (GB) Set	SBB 401 WP SOL (GB) Set	SBB 501 WP SOL (GB) Set
		228944	228945	228946	228947
Hydraulic data					
Nominal capacity	l	301	290	391	493
Capacity, upper indirect coil	l	20.00	28.40	25.10	31.30
Capacity, lower indirect coil	l			8.80	8.80
Surface area, upper indirect coil	m ²	3.20	4.80	4.00	5.00
Surface area, lower indirect coil	m ²			1.40	1.40
Pressure drop at 1.0 m ³ /h, upper indirect coil	hPa	37	56	47	58
Pressure drop at 1.0 m ³ /h, lower indirect coil	hPa			17	17
Heating water input power at flow rate, upper indirect coil	kW - l/min	29.3 - 15.0	38.3 - 15.5	34.2 - 15.5	37.5 - 15.0
Heating water input power at flow rate, lower indirect coil	kW - l/min			17.4 - 16.3	21.9 - 15.0
Reheating time, upper indirect coil	min	32	17.5	22.4	29.0
Reheating time, lower indirect coil	min			70.8	78.0
Amount of mixed water at 40 °C (15 °C/60 °C)	l	529	514	681	857
DHW volume, upper indirect coil	l	261	232	257	329
DHW volume, lower indirect coil	l			390	484
Max. operating temperature heating water	°C	89	89	89	89
Application limits					
Max. permissible pressure (Design Pressure) DHW cylinder	MPa	0.70	0.70	0.70	0.70
Test pressure	MPa	1.50	1.50	1.50	1.50
Max. permissible pressure (Design Pressure), upper indirect coil	MPa	1.00	1.00	1.00	1.00
Max. permissible pressure (Design Pressure), lower indirect coil	MPa			1.00	1.00
Max. permissible temperature	°C	89	89	89	89
Max. flow rate	l/min	38	38	45	50
High limit safety cut-out	°C			85	85
Max. recommended collector aperture area	m ²			10	10
Electrical details					
Max. breaking capacity				16 A/250 V~	16 A/250 V~
Energy data					
Standby energy consumption/24 h at 65 °C	kWh	2.10	2.10	2.40	2.40
Energy efficiency class		C	C	C	
Output data					
Tested to standard		EN 12897:2016	EN 12897:2016	EN 12897:2016	EN 12897:2016
Values					
Max. operating pressure DHW	MPa	0.35	0.35	0.35	0.35
Max. operating pressure, upper indirect coil	MPa	0.20	0.20	0.20	0.20
Max. operating pressure, lower indirect coil	MPa			0.25	0.25
T&P valve, nominal set temperature	°C	90	90	90	90
Safety assembly, max. supply pressure	MPa	1.60	1.60	1.60	1.60
Pressure reducing valve, nominal pressure		PN 16	PN 16	PN 16	PN 16
Pressure reducing valve, set value range	MPa	0.30	0.30	0.30	0.30
Expansion valve, nominal set pressure	MPa	0.60	0.60	0.60	0.60
Expansion vessel volume	l	25	25	25	25
T&P valve, nominal set pressure	MPa	0.70	0.70	0.70	0.70

INSTALLATION

Specification

		SBB 301 WP (GB) Set	SBB 302 WP (GB) Set	SBB 401 WP SOL (GB) Set	SBB 501 WP SOL (GB) Set
Dimensions					
Height	mm	1770	1770	1940	2044
Diameter	mm	700	700	750	810
Height of unit when tilted	mm	1750	1750	1930	2030
Weights					
Weight, empty	kg	156	184	219	260
Weight, full	kg	457	477	610	753

Guarantee

The guarantee conditions of our German companies do not apply to appliances acquired outside of Germany. In countries where our subsidiaries sell our products a guarantee can only be issued by those subsidiaries. Such guarantee is only granted if the subsidiary has issued its own terms of guarantee. No other guarantee will be granted.

We shall not provide any guarantee for appliances acquired in countries where we have no subsidiary to sell our products. This will not affect warranties issued by any importers.

Environment and recycling

We would ask you to help protect the environment. After use, dispose of the various materials in accordance with national regulations.

NOTES

Deutschland

STIEBEL ELTRON GmbH & Co. KG
Dr.-Stiebel-Straße 33 | 37603 Holzminden
Tel. 05531 702-0 | Fax 05531 702-480
info@stiebel-eltron.de
www.stiebel-eltron.de

Verkauf

Kundendienst Ersatzteilverkauf

Tel. 05531 702-110 | Fax 05531 702-95108 | info-center@stiebel-eltron.de
Tel. 05531 702-111 | Fax 05531 702-95890 | kundendienst@stiebel-eltron.de
www.stiebel-eltron.de/ersatzteile | ersatzteile@stiebel-eltron.de

Australia

STIEBEL ELTRON Australia Pty. Ltd.
294 Salmon Street | Port Melbourne VIC 3207
Tel. 03 9645-1833 | Fax 03 9644-5091
info@stiebel-eltron.com.au
www.stiebel-eltron.com.au

Austria

STIEBEL ELTRON Ges.m.b.H.
Gewerbegebiet Neubau-Nord
Margaritenstraße 4 A | 4063 Hörsching
Tel. 07221 74600-0 | Fax 07221 74600-42
info@stiebel-eltron.at
www.stiebel-eltron.at

Belgium

STIEBEL ELTRON bvba/sprl
't Hofveld 6 - D1 | 1702 Groot-Bijgaarden
Tel. 02 42322-22 | Fax 02 42322-12
info@stiebel-eltron.be
www.stiebel-eltron.be

China

STIEBEL ELTRON (Tianjin) Electric Appliance Co., Ltd.
Plant C3, XEDA International Industry City
Xiqing Economic Development Area
300385 Tianjin
Tel. 022 8396 2077 | Fax 022 8396 2075
info@stiebel-eltron.cn
www.stiebel-eltron.cn

Czech Republic

STIEBEL ELTRON spol. s r.o.
Dopraváků 749/3 | 184 00 Praha 8
Tel. 251116-111 | Fax 235512-122
info@stiebel-eltron.cz
www.stiebel-eltron.cz

Finland

STIEBEL ELTRON OY
Kapinakuja 1 | 04600 Mäntsälä
Tel. 020 720-9988
info@stiebel-eltron.fi
www.stiebel-eltron.fi

France

STIEBEL ELTRON SAS
7-9, rue des Selliers
B.P 85107 | 57073 Metz-Cédex 3
Tel. 0387 7438-88 | Fax 0387 7468-26
info@stiebel-eltron.fr
www.stiebel-eltron.fr

Hungary

STIEBEL ELTRON Kft.
Gyár u. 2 | 2040 Budaörs
Tel. 01 250-6055 | Fax 01 368-8097
info@stiebel-eltron.hu
www.stiebel-eltron.hu

Japan

NIHON STIEBEL Co. Ltd.
Kowa Kawasaki Nishiguchi Building 8F
66-2 Horikawa-Cho
Saiwai-Ku | 212-0013 Kawasaki
Tel. 044 540-3200 | Fax 044 540-3210
info@nihonstiebel.co.jp
www.nihonstiebel.co.jp

Netherlands

STIEBEL ELTRON Nederland B.V.
Daviottenweg 36 | 5222 BH 's-Hertogenbosch
Tel. 073 623-0000 | Fax 073 623-1141
info@stiebel-eltron.nl
www.stiebel-eltron.nl

New Zealand

Stiebel Eltron NZ Limited
61 Barrys Point Road | Auckland 0622
Tel. +64 9486 2221
info@stiebel-eltron.co.nz
www.stiebel-eltron.co.nz

Poland

STIEBEL ELTRON Polska Sp. z O.O.
ul. Działkowa 2 | 02-234 Warszawa
Tel. 022 60920-30 | Fax 022 60920-29
biuro@stiebel-eltron.pl
www.stiebel-eltron.pl

Russia

STIEBEL ELTRON LLC RUSSIA
Urzhumskaya street 4,
building 2 | 129343 Moscow
Tel. +7 495 125 0 125
info@stiebel-eltron.ru
www.stiebel-eltron.ru

Slovakia

STIEBEL ELTRON Slovakia, s.r.o.
Hlavná 1 | 058 01 Poprad
Tel. 052 7127-125 | Fax 052 7127-148
info@stiebel-eltron.sk
www.stiebel-eltron.sk

South Africa

STIEBEL ELTRON Southern Africa (PTY) Ltd
30 Archimedes Road
Wendywood
Johannesburg, 2090
Tel. +27 10 001 85 47
info@stiebel-eltron.co.za
www.stiebel-eltron.co.za

Switzerland

STIEBEL ELTRON AG
Industrie West
Gass 8 | 5242 Lupfig
Tel. 056 4640-500 | Fax 056 4640-501
info@stiebel-eltron.ch
www.stiebel-eltron.ch

Thailand

STIEBEL ELTRON Asia Ltd.
469 Moo 2 Tambol Klong-Jik
Amphur Bangpa-In | 13160 Ayutthaya
Tel. 035 220088 | Fax 035 221188
info@stiebel-eltronasia.com
www.stiebel-eltronasia.com

United Kingdom and Ireland

STIEBEL ELTRON UK Ltd.
Unit 12 Stadium Court
Stadium Road | CH62 3RP Bromborough
Tel. 0151 346-2300 | Fax 0151 334-2913
info@stiebel-eltron.co.uk
www.stiebel-eltron.co.uk

United States of America

STIEBEL ELTRON, Inc.
17 West Street | 01088 West Hatfield MA
Tel. 0413 247-3380 | Fax 0413 247-3369
info@stiebel-eltron-usa.com
www.stiebel-eltron-usa.com

STIEBEL ELTRON



Irrtum und technische Änderungen vorbehalten! | Subject to errors and technical changes! | Sous réserve d'erreurs et de modifications techniques! | Onder voorbehoud van vergissingen en technische wijzigingen! | Salvo error o modificación técnica! | Excepto erro ou alteração técnica | Zastrzeżone zmiany techniczne i ewentualne błędy | Omyly a technické změny jsou vyhrazeny! | A muszakí változtatások és tévedések jogát fenntartjuk! | Отсутствие ошибок не гарантируется. Возможны технические изменения. | Chyby a technické zmeny sú vyhradené! | Stand 9734