

FlowCon B



Installation
Operation
Commissioning



FlowCon B

7 cbH/bhg:

Technical data and operation

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Solar pump group enabling to integrate a Controller

- Ready to accommodate DeltaSol BS
- Dial thermometer for feed flow and return flow
- Return line with ball valve and non-return valve that can be turned off
- Integrated flowmeter
- Security device with safety valve and manometer
- Full empty valve for filling and flushing the system
- Wall mounting with screws and dowels
- Heat insulation

Technical data

Material:	
Fittings:	brass
Gaskets:	teflon/viton, EPP insulation
Solar non-return valve:	PPS, max. 180°C
Insulation:	EPP, max. 120°C, at short term to 180°C

Admissible max. temperature:

+110°C, at short term to +180°C

Dimensions: with insulation: approx. 240 x 515 mm

Mounting: wall mounting

Connections: 3/4" F

Circulation pump: WILO Star ST20/6 or ST 20/7

Power supply: 210-250 V ~

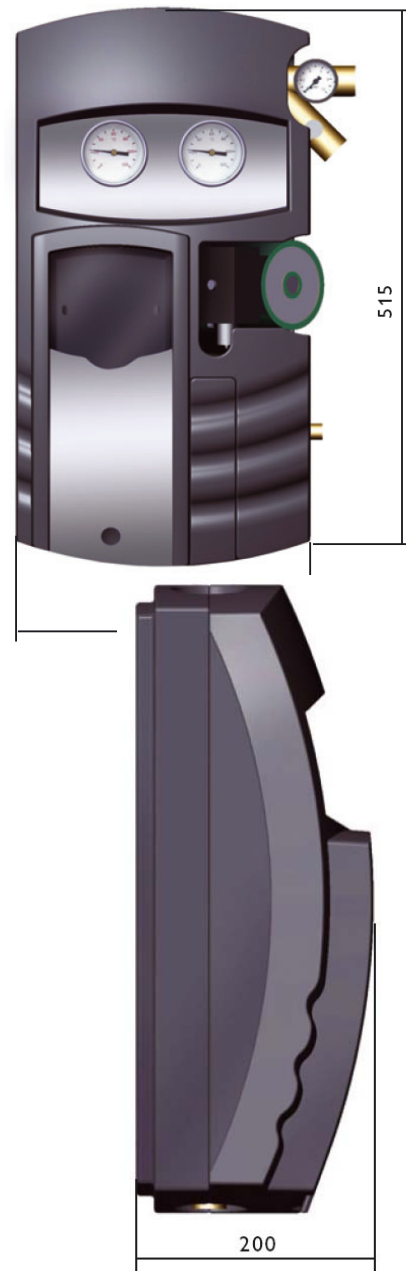
Working pressure: max. 10 bar

Spring pressure of non-return valve:

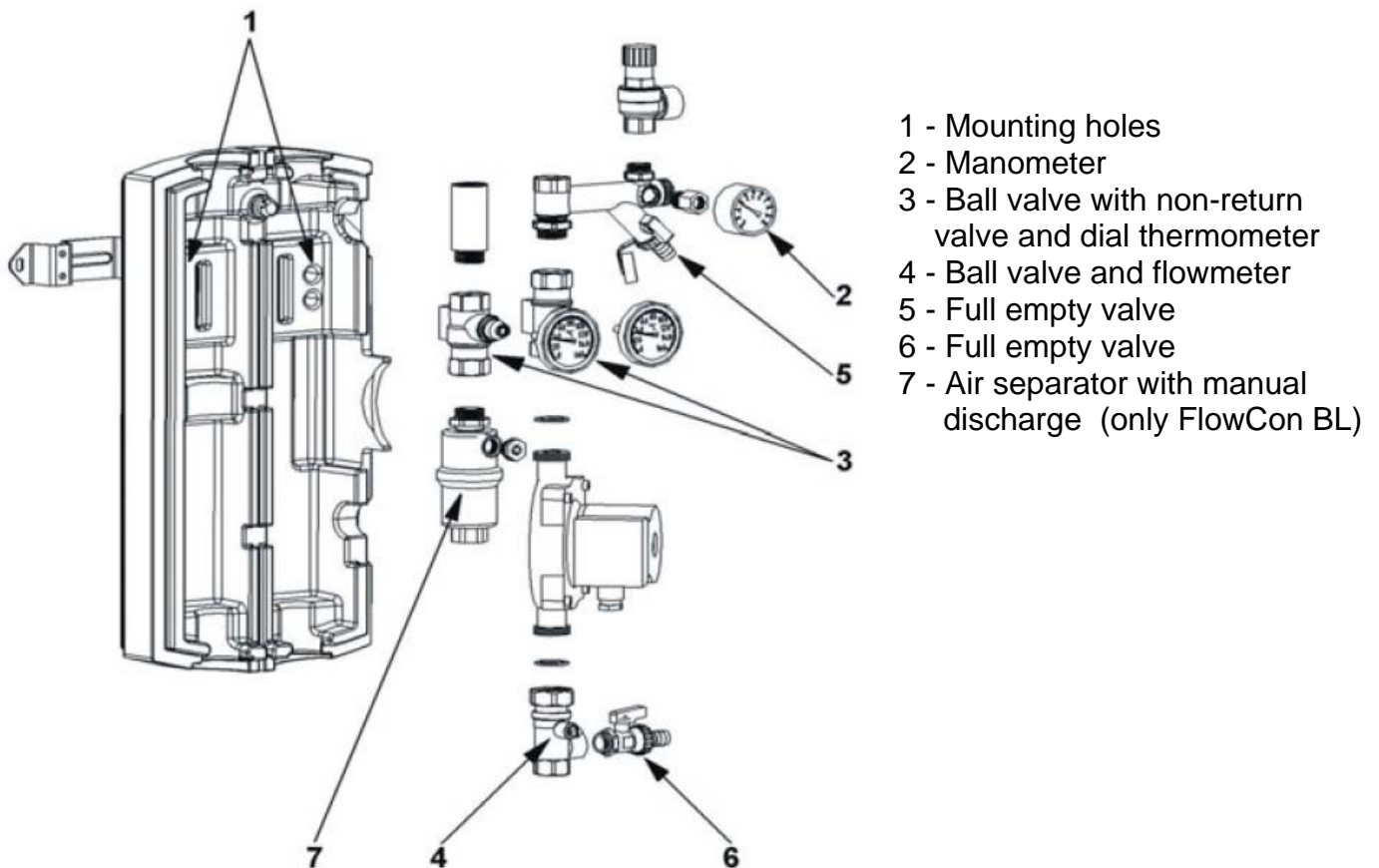
2x200 mm water column

(altogether 400 mm w.c.)

Flowmeter: 1-13 l/min. (standard) or 0,5-5 l/min.



1. Installation



1.1 Mounting the pump group

- The front insulation jacket shall be pulled forward firmly so that the thermometer sensors release from the sheaths.

Please fix the pump station with the rear insulation jacket in place!

- Determine the mounting place of the pump group, align it to the wall and mark the hole center distance for holder (hole center distance 150 mm). Drill the holes, insert dowels and fix the pump group to the wall with the enclosed fastening screws (plate screws 6 x 60 mm).
 - The manometer (2) must be inserted into the valve without using hemp or other sealants. The manometer
 - must be screwed as far as it will go and then slackened so that the display is correctly aligned.
 - Determine the mounting place for the expansion tank and install its connection set.
- All fittings are factory pre-assembled. Please check all fittings are correctly tightened when commissioning the pump group.

1.2 Integration of the Controller DeltaSol[®] BS

front insulation jacket
front view



rear insulation jacket
rear view



- Take off the front insulation jacket, starting from the top (hold the thermometers).
- Pull the part with controller recess downwards.
- Insert the Controller into the provided recess of the insulation and fix it by the fastening screws (3 x 30) and large washers.
- Electrical connections (to plug, sensor and relay) must be made at the controller according to the enclosed manual.
- The cables, especially that of the pump, must be of sufficient length so that the front jacket can be removed without damaging the controller. Please ensure that the cables do not touch hot pipes!

More detailed information for installation of the Controller can be found in the DeltaSol BS Manual.

2. Filling and flushing the system

1. The ball valve (4) below the pump must be closed.
2. Open the full empty valve (5) and fill the system using a filling pump and allow the medium to flow through the system until it discharges through the full empty valve (6). Continue until clear medium appears. For further steps see Point 4 in Commissioning.

The complete solar system must not be flushed with water. As a total emptying of the system is mostly not possible, there is a danger of frost damage.

3. Draining the system

1. Open both non-return valves in the ball valves (3) by using a wrench 14 for opening halfway the ball valve (see non-return valves).
2. Fit a drain cock at the lowest point of the system.
3. Open all air vents at the collector in order to let air into the system and the collectors to drain.

3.1 Emptying the system by using a filling pump

1. Open both the non-return valves in the ball valves (3) by using a wrench 14 by opening halfway the ball valve (see non-return valves).
2. Connect the filling pump to the drain valve (6) below the circulation pump.
3. Open the drain cock to de-pressurise the system.
4. Start up the filling pump and immediately open the full empty valve (5) above the circulation pump (manometer) so that air can be sucked in.

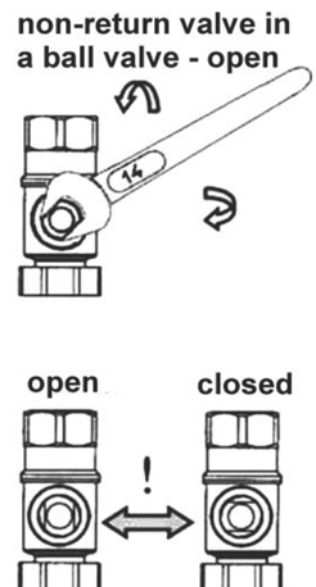
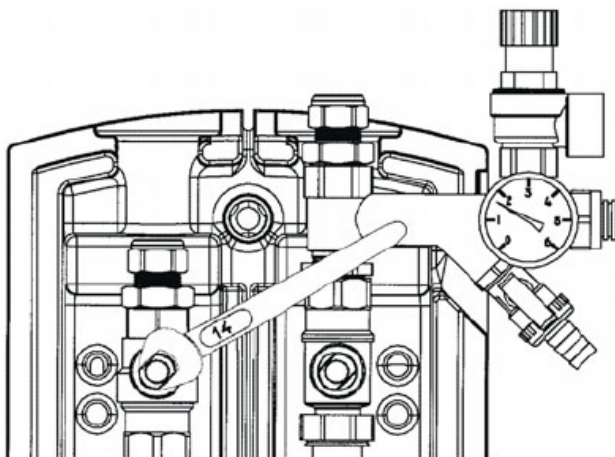
4. Commissioning / Working mode

1. Close the full empty valve and increase the system pressure to 5 bar by means of an external filling pump via a full empty valve (5).
2. Close the full empty valve (5); open all ball valves of the system. Carry out a pressure test of all system joints.
3. Let the system circulate for a moment and carry out the pressure test again (set the controller to manual operation).
4. Open the vent valves at air separator (repeated venting!).
5. Adjust the system pressure to the working pressure value.
6. The solar system must be vented again after some operating hours. After venting the system, please check the pressure of the system and if necessary, refill heat transfer medium.

5. Non-return valves

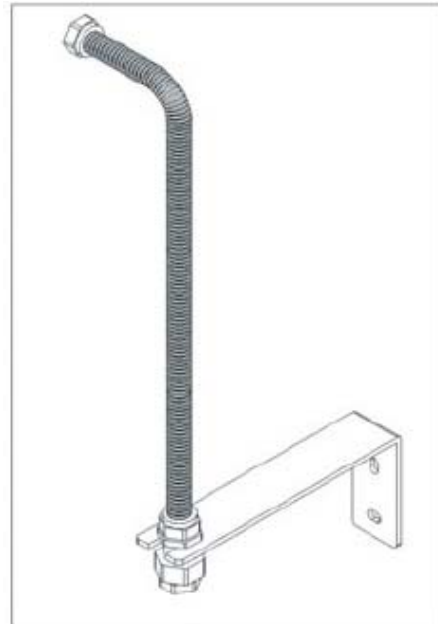
The non-return valves are integrated in the ball valves and each have an opening pressure of 200 mm water column each.

1. Both non-return valves must be opened for filling, draining and flushing the system. They can be opened by opening halfway each ball valve using a wrench 14. Then the ball of the ball valve presses on the non-return valve.
2. The ball valves must be **completely opened** for operation of the system.



6. Expansion tank connection set

The expansion tank connection set consists of a stainless-steel corrugated pipe 0.5m long with cap nuts on both ends, flat gaskets and connection screw joints for solar expansion tank, and a mount strut for connecting an expansion tank.



WARRANTY CERTIFICATE

WARRANTY CONDITIONS

1. The warranty period is 24 months from the date of purchase.
2. When claiming warranty, this Warranty Certificate must be submitted together with the purchase receipt.
3. The warranty is valid only when the technical conditions set by the Manufacturer, installation manual and instructions in the documentation and on the product itself are maintained.
4. The warranty does not cover defects caused by external conditions or improper operation conditions, defects caused by usual wear and tear, further when the product is not used in compliance with its purpose and when the defect was caused by:
 - mechanical damage to the product or its part
 - improper handling
 - tampering by a third person
 - improper installation
 - improper stocking
 - natural disaster

TIGHTNESS TEST CERTIFICATE

The system shall be filled with water, air-bled properly, pressurized to the test pressure of 5.5 bar and the whole system (all the connections, solar collectors, valves...) examined. No visible leaks may be observed. The system remains under pressure for at least 2 hours, after that it is re-examined.

The test result is considered successful when no leaks and/or no pressure depression are observed.

Date of Purchase:

Collector type:

Quantity:

Rubber stamp print and signature of the seller:

Tightness test done and commissioned by:

Installation company:

VAT number:

Name of a responsible worker:

Tel:

Date:

Rubber stamp print and signature of the installer:



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