

Solar-Divicon, part no. 7188 391 and 7188 392, Solar circuit pump line, part no. 7188 393 and 7188 394

Safety instructions



Please observe these safety instructions.

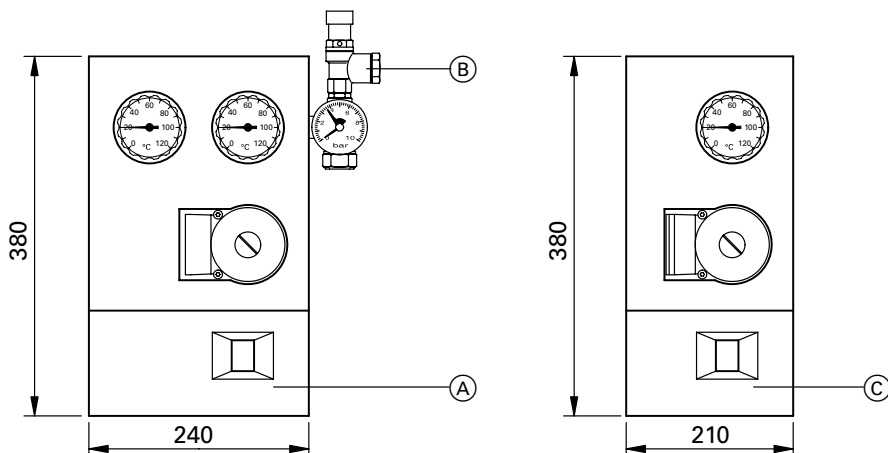
Installation, initial start-up, inspection, maintenance and repairs must be carried out by a competent person (heating engineer/installation contractor).

Before working on the equipment/heating system, isolate the power supply (e.g. by removing a separate mains fuse or by means of a mains isolator) and safeguard against unauthorised reconnection.

When using gas as fuel, also close the main shut-off valve and safeguard against unauthorised reopening.

It is not permitted to carry out repairs on parts that fulfil a safety function. For replacements, use only original spare parts from Viessmann or those which are approved by Viessmann.

Dimensions



- (A) Solar-Divicon
- (B) Safety assembly

- (C) Solar circuit pump line

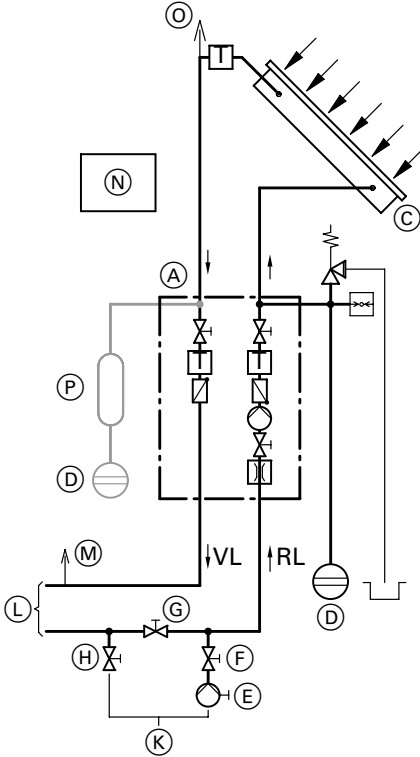
Assembly and installation information

- The Solar-Divicon comprises:
 - pre-assembled and sealed valves and safety assembly
 - Flow regulating valve to control the solar heating system during the initial start-up and operation
 - Non-return valve in the flow and return pipe
- **Always** install Solar-Divicon so that steam cannot enter the expansion vessel in the event of stagnation.
- The Solar-Divicon and the solar circuit pump line are **not** suitable for direct contact with swimming pool water.
- Flush the system with process medium after draining.
- If the expansion vessel is installed as high or higher than the Solar-Divicon, a thermal insulation loop is required.
- A pre-cooling vessel connection is fitted to the flow line to protect the expansion vessel against excess temperatures.
- Use only gunmetal, brass fittings, copper pipes or Viessmann stainless steel solar circuit pipes for the installation. Never use galvanized/zinc-plated pipes, fittings or graphitised gaskets. Use hemp only in conjunction with pressure and temperature-resistant sealants (e.g. Viscotex-Solarpaste, Locher & Co. AG, CH-9450 Altstätten). Components that come in contact with process medium must be resistant to the medium.
- Check the sealing surfaces for cleanliness and damage before assembly.

Installation of the locking ring fittings

- All pipes must be cut at a right angle and deburred.
- Insert the support sleeves into the pipework.
- Push the union nut and the locking ring onto the pipe and lightly lubricate the threads with oil.
- Push the pipe into the locking ring fitting as far as it will go.
- Initially turn the union nut by hand, then tighten with an open ended spanner by a further $\frac{3}{4}$ turn.
- **Never fit** annealed copper pipes onto the locking ring fittings.

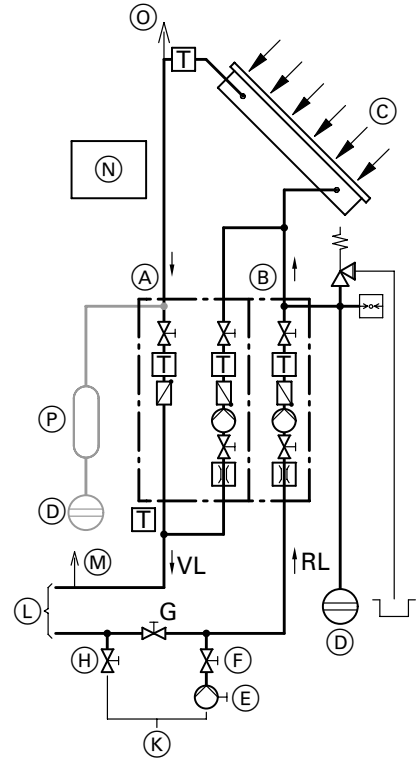
System with Solar-Divicon



- (A) Solar-Divicon
- (B) Solar circuit pump line
- (C) Collector
- (D) Expansion vessel
- (E) Manual solar fill pump
- (F) Fill valve
- (G) Shut-off valve
- (H) Drain valve
- (K) Filling assembly
- (L) Connections to the DHW cylinder
- (M) Air separator
- (N) Solar control unit
- (O) Air vent valve
- (P) Pre-cooling vessel (if required)

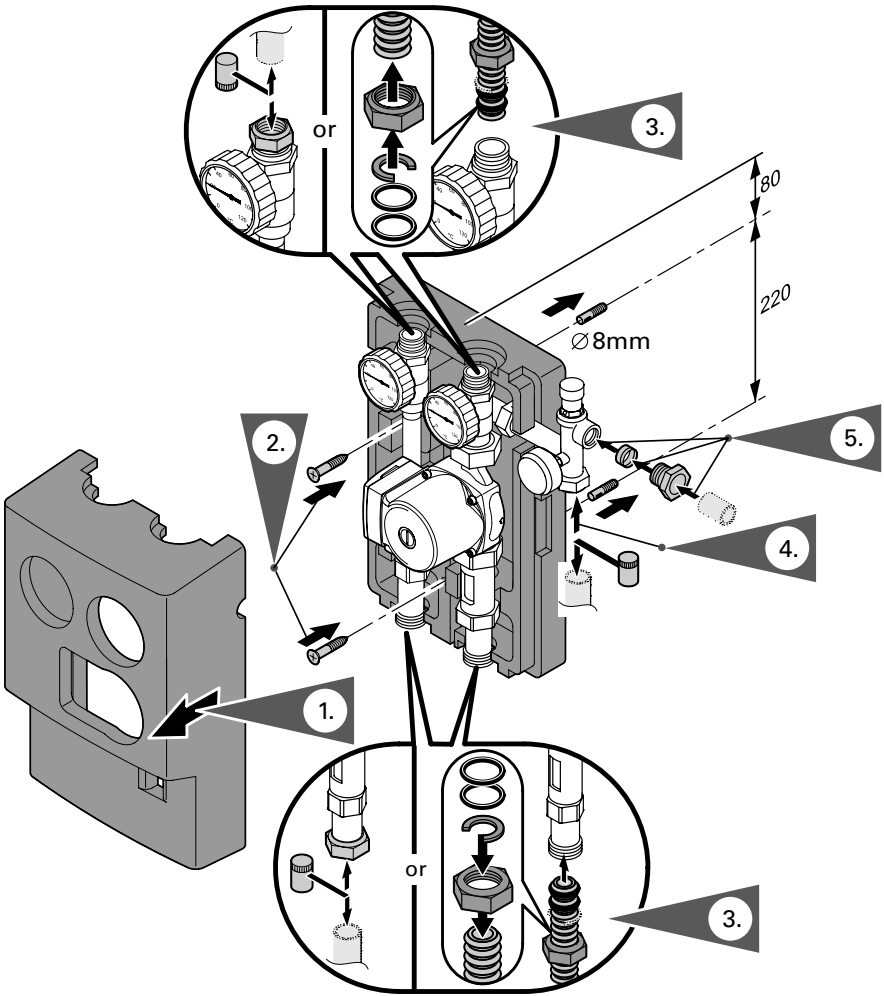
System with Solar-Divicon and solar circuit pump line

Position the solar circuit pump line to the right near the Solar-Divicon. The Solar-Divicon pump acts as a bypass pump, the solar circuit pump line pump as a solar circuit pump. In this case fit the safety assembly onto the solar circuit pump line.



RL Return
VL Flow

Fitting the Solar-Divicon



Fitting the Solar-Divicon (cont.)

1. Pull the upper section of the thermal insulation forwards.
2. Secure the valve assembly together with the lower part of the thermal insulation.

3. Installation with copper pipes

Insert the support sleeves into the interconnecting pipes of the solar circuit.

Alternative:

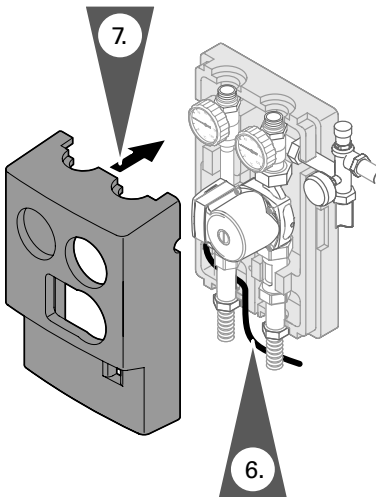
Installation with stainless steel solar circuit pipe

Trim (free of burrs) in the valley of the corrugation; do not damage the peak of the corrugation. Fit the union nut, half washer (in the fifth valley) and O-rings (in the first and third valley).

4. Insert a support sleeve into the connection pipe to the expansion vessel and secure on the safety assembly.
5. Secure the blow-off line with the safety valve from the safety assembly; ensure the correct orientation of the locking ring.

Note

The blow-off line must terminate in an open container.



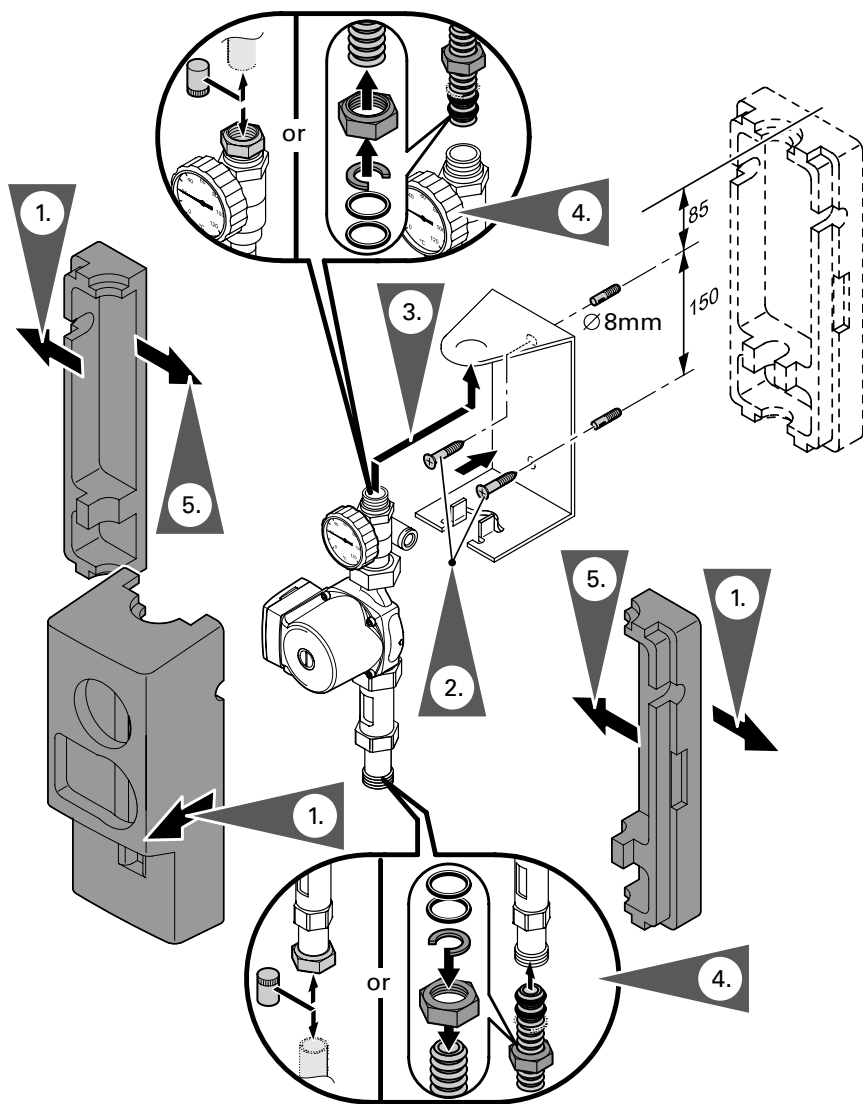
6. Route the connecting cable for the circulation pump downwards through the cable duct and connect to the solar control unit.



Installation and service instructions – solar control unit

7. Push the thermal insulation over the valve assembly.
8. Push the thermal insulation of the pipework into the recesses of the thermal insulation of the Solar-Divicon.

Fitting the solar circuit pump line



Fitting the solar circuit pump line (cont.)

1. Pull the upper section of the thermal insulation forward and remove the valve assembly.
2. Secure the retaining plate.
3. Insert the valve assembly.

4. Installation with copper pipes

Insert the support sleeves into the interconnecting pipes of the solar circuit.

Alternative:

Installation with stainless steel solar circuit pipe

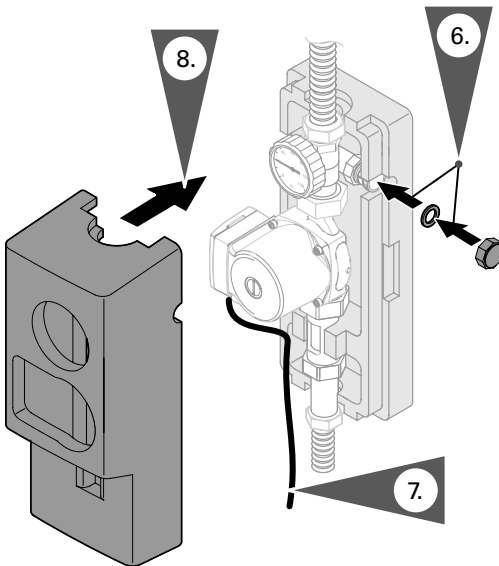
Trim (free of burrs) in the valley of the corrugation; do not damage the peak of the corrugation.

Fit the union nut, half washer (in the fifth valley) and O-rings (in the first and third valley).

5. Slide the thermal insulation under the assembly.

Follow the instructions below or those on page 8.

Fitting the solar circuit pump line separately or on the left next to the Solar-Divicon.



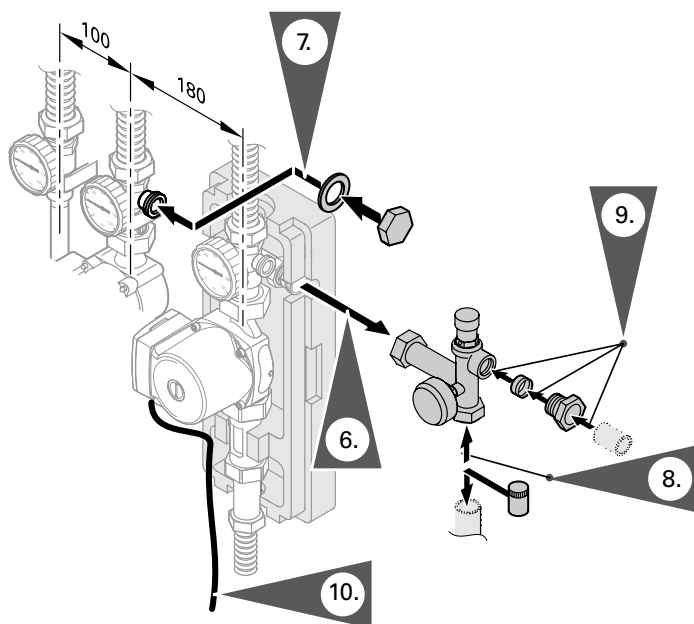
Fitting the solar circuit pump line (cont.)

6. Close the opening of the solar circuit pump line with the cap and the flat packing supplied.
7. Route the connecting cable for the circulation pump downwards through the cable duct and connect to the solar control unit.
8. Push the thermal insulation over the valve assembly and click it into place.
9. Push the thermal insulation of the pipework into the recesses of the thermal insulation of the pump line.



*Installation and service
instructions – solar
control unit*

Fitting the solar circuit pump line to the right next to the Solar-Divicon



Fitting the solar circuit pump line (cont.)

6. Dismantle the safety assembly of the Solar-Divicon and secure it on the solar circuit pump line.
7. Close the opening of the return line of the Solar-Divicon with the cap and the insert.
8. Insert a support sleeve into the connection pipe to the expansion vessel and secure on the safety assembly.

9. Secure the blow-off line on the safety valve of the safety assembly; ensure the correct orientation of the locking ring.

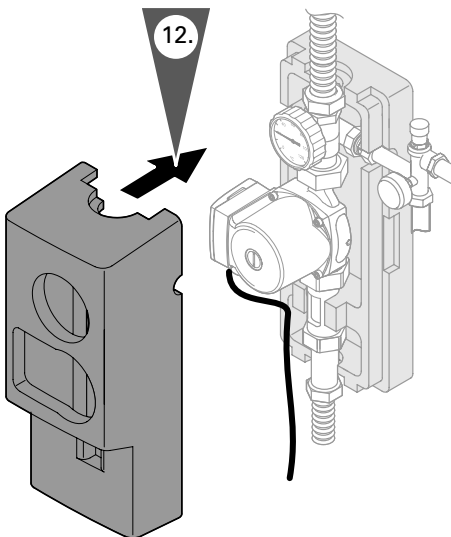
Note

The blow-off line must terminate in an open container.

10. Route the connecting cable for the circulation pump downwards through the cable duct and connect to the solar control unit.



Installation and service instructions – solar control unit



11. Remove the knock-out for the safety assembly.
12. Push the thermal insulation over the valve assembly and click it into place.
13. Push the thermal insulation of the pipework into the recesses of the thermal insulation of the pump line.

Commissioning

Flushing and draining the solar heating system

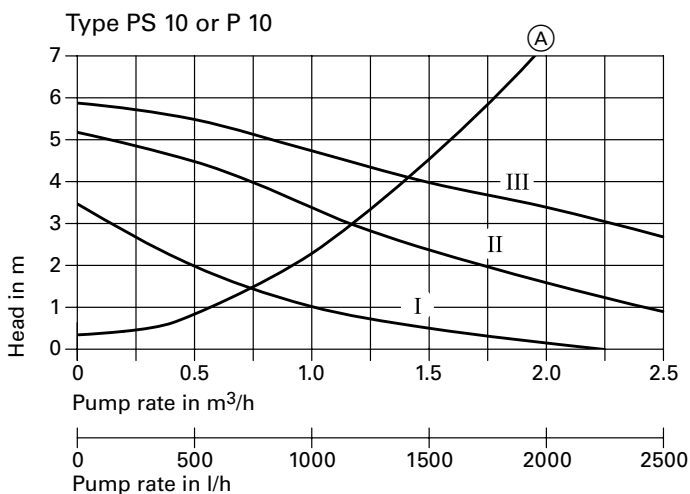
Turn the integral non-return valves in the flow and return lines to "ON" by turning the thermometer 45° clockwise.

Pump curves

Match the flow rate via the output stages of the circulation pump to the number of collectors or collector surface area.

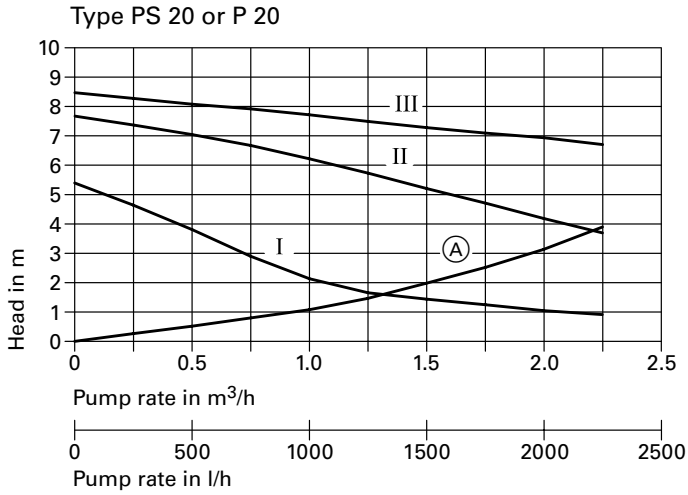


"Vitosol" service instructions



Ⓐ Pressure drop curve of the Solar-Divicon

Commissioning (cont.)



Ⓐ Pressure drop curve of the Solar-Divicon

Solar-Divicon parts list

When ordering spare parts:

Quote the part no. and the item no. of the required part (as per this parts list). Obtain standard parts from your local supplier.

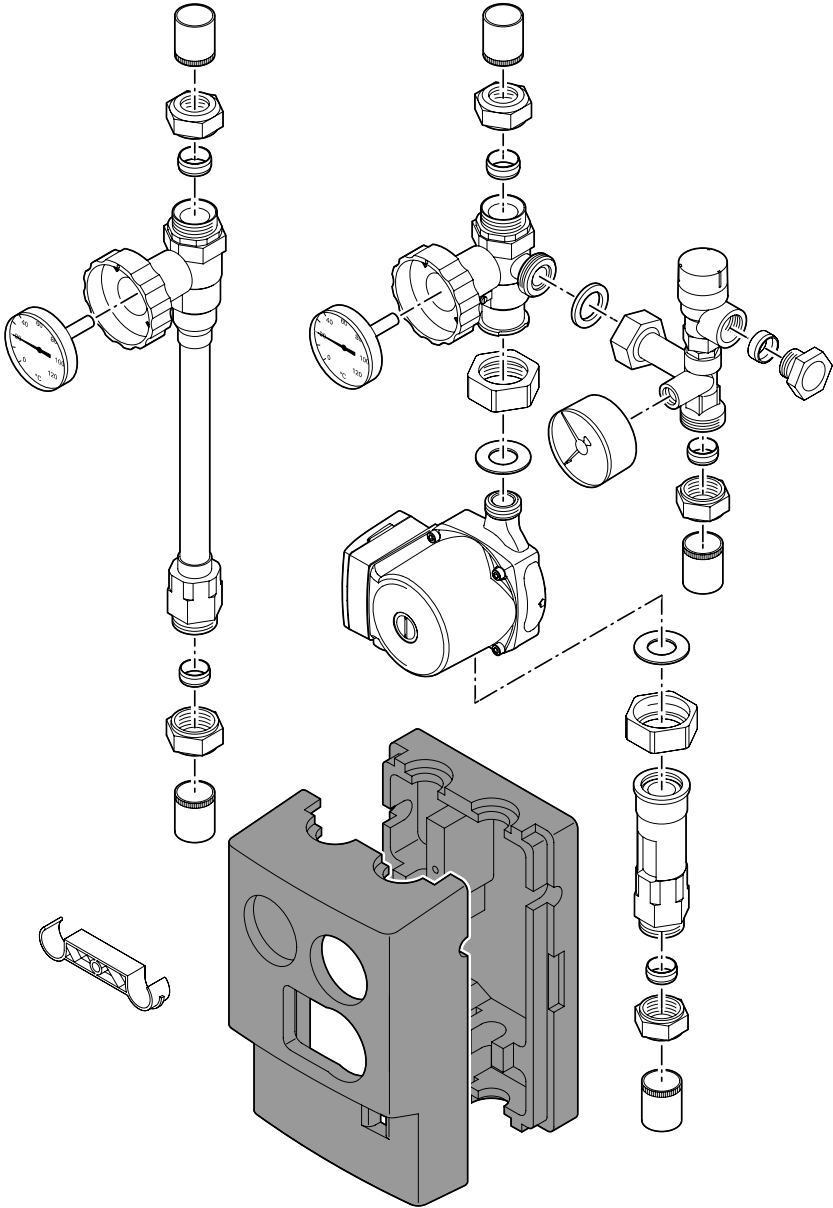
Parts

- 001 Locking ring fitting with support sleeves
- 002 Thermal insulation pieces
- 003 Flow ball valve (with item 004)
- 004 Thermometer
- 005 Flow rate indicator
- 006 Circulation pump
- 007 Gasket set
- 008 Safety assembly
- 009 Return ball valve (with item 004)
- 010 Pressure gauge

Parts not shown

- 011 Half washer pack
- 012 Installation and service instructions

Solar-Divicon parts list (cont.)



Solar circuit pump line parts list

When ordering spare parts:

Quote the part no. and the item no. of the required part (as per this parts list). Obtain standard parts from your local supplier.

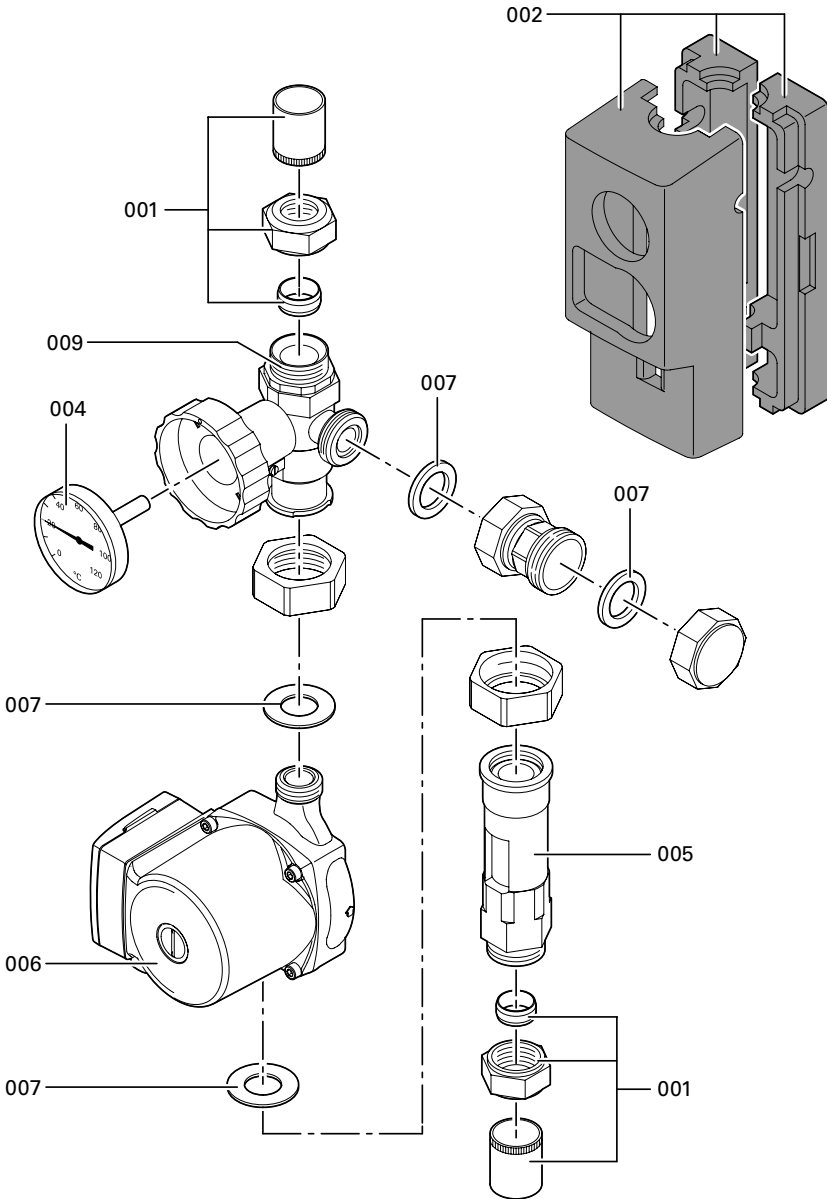
Parts

- 001 Locking ring fitting with support sleeves
- 002 Thermal insulation shells
- 004 Thermometer
- 005 Flow rate indicator
- 006 Circulation pump
- 007 Gasket set
- 009 Return ball valve (with item 004)

Parts not shown

- 011 Half washer pack
- 012 Installation and service instructions

Solar circuit pump line parts list (cont.)



Specification

Solar-Divicon	Type	PS10	PS20
Solar circuit pump line	Type	P10	P20
Grundfos circulation pump		25-60	25-80
Rated voltage	V~	230	230
Power consumption	W	I 40	I 140
at output stages I, II, III		II 60	II 210
		III 75	III 245
Max. pump rate	m ³ /h	3.7	2.8
Max. head	m	5.8	8
Flow rate indicator	litres/ min	2 to 12	7 to 30
Safety valve (only for Solar-Divicon)	bar	6	6
Max. operating temperature	°C	120	120
Max. operating pressure	bar	6	6
Connections Ø			
■ Solar circuit (locking ring fitting/ stainless steel solar circuit pipe)	mm	22	22
■ Expansion vessel (only for Solar-Divicon)	mm	22	22

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