Installation and service instructions

for contractors

Solar-Divicon and solar pump assembly

Safety instructions

Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained

Note

Details identified by the word "Note" contain additional information.

Installation, commissioning, inspection, maintenance and repairs must only 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 main isolator) and safeguard against unauthorised reconnection.

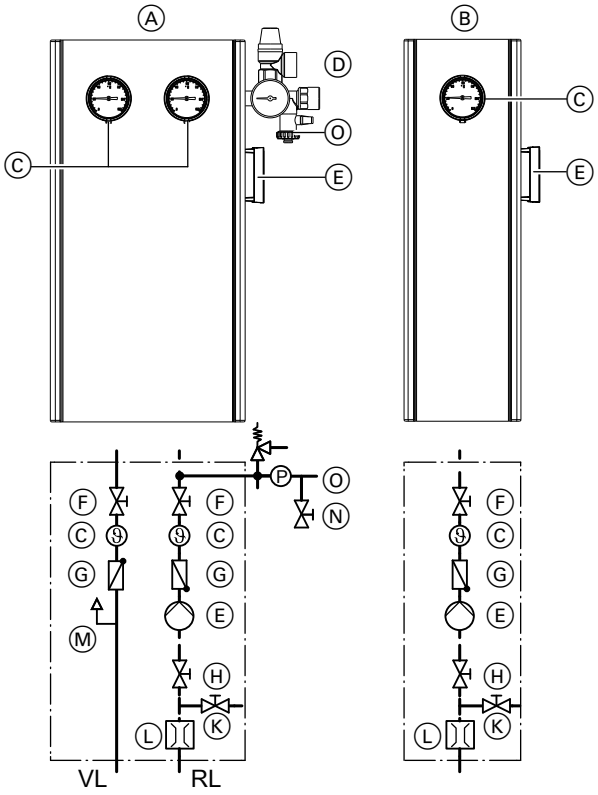
Repairing components that fulfil a safety function can compromise the safe operation of your heating system.
For replacements, use only original spare parts supplied or approved by Viessmann.

Versions

	Solar control unit			Circulation pump	
	Without	Vitosolic 100, type SD1	Solar control module, type SM1	Multi stage	Highly efficient, with PWM control
Solar-Divicon					
PS10	x	x	x	x	x
PS20	x	—	—	—	x
Solar pump assembly					
P10	x	—	—	x	x
P20	x	—	—	—	x

Components

- Pre-assembled and sealed valve and safety assembly
- Flow rate indicator (see page 4) for checking the solar thermal system during commissioning and operation
- Ball valve with integrated check valve in flow and return lines
- Drain & fill valve
- Air separator (see page 4)
- Shut-off valve (adjusting screw above the flow rate indicator, see page 4)
- Solar control unit, subject to version



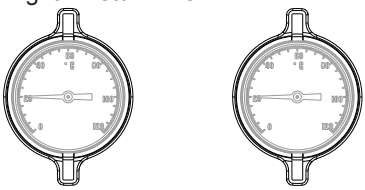
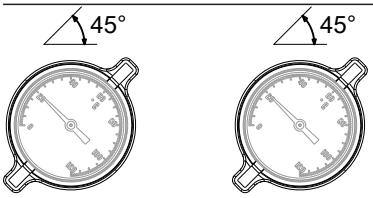
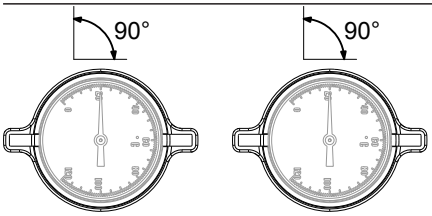
Ⓐ Solar-Divicon
Ⓑ Solar pump assembly
Ⓒ Thermometer
Ⓓ Safety assembly
Ⓔ Circulation pump
Ⓕ Shut-off valves
Ⓖ Non-return valves
Ⓗ Shut-off valve
Ⓚ Drain valve
Ⓛ Flow rate indicator
Ⓜ Air separator
Ⓝ Fill valve

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Components (cont.)

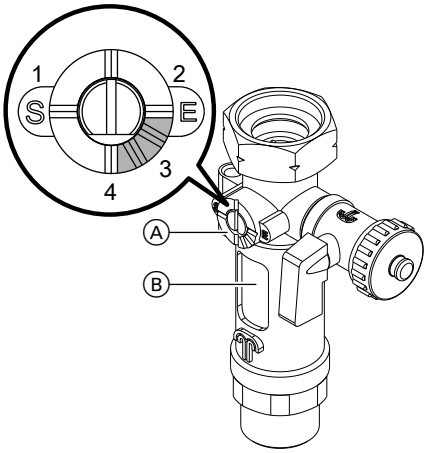
Ⓞ Expansion vessel connection VL Flow
RL Return

Function of the shut-off and non-return valves

Left: Flow line Right: Return line 	**Operating position** Vertical position
	**Filling/draining** Rotated clockwise by 45°
	**Closed** Rotated clockwise by 90°

Components (cont.)

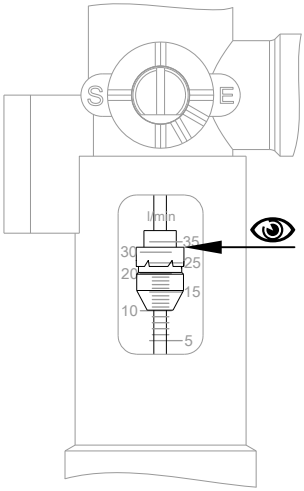
Shut-off valve and flow rate indicator



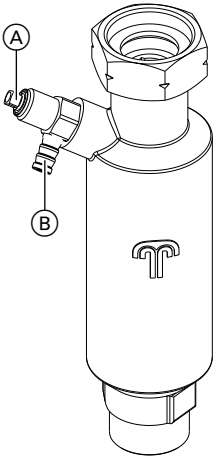
Ⓐ Shut-off valve (adjusting screw)
- 1 Flushing
- 2 Draining
- 3 Flow rate regulation
- 4 Operating position (depicted in the diagram)

Ⓑ Flow rate indicator

Check the flow rate at the top edge of the float



Air separator



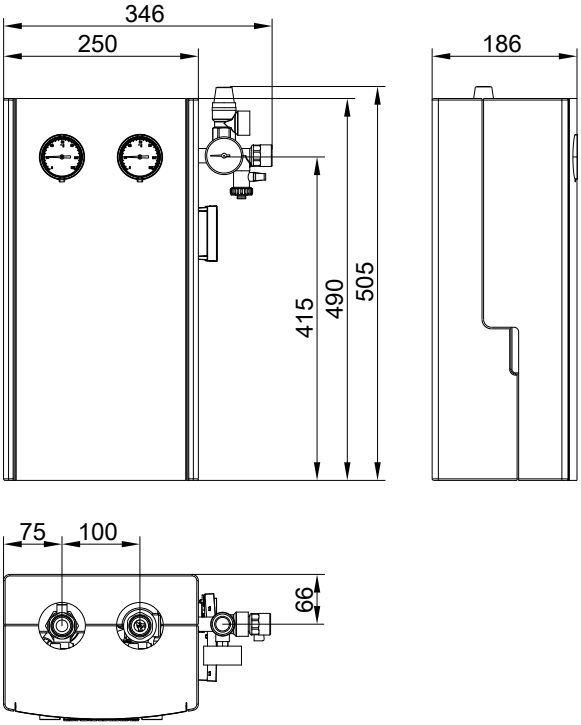
Ⓐ Air vent valve
Ⓑ Hose connection

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Installation information

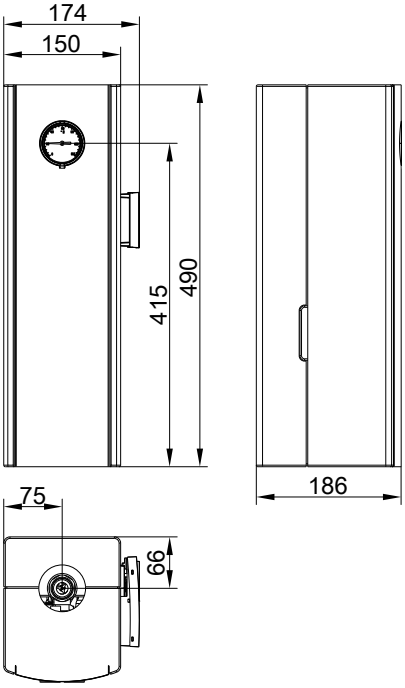
Dimensions

Solar-Divicon



Installation information (cont.)

Solar pump assembly

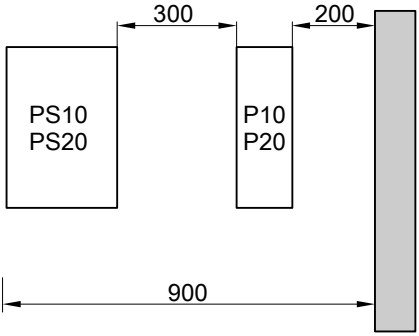


Installing the locking ring fittings

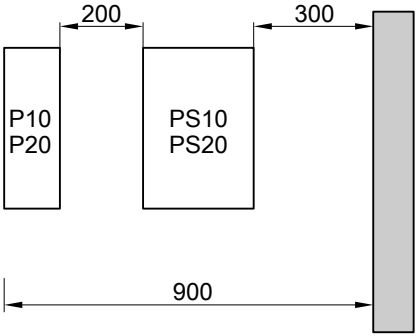
- All pipes must be cut at right angles and deburred.
- Insert support sleeves into pipework.
- Push the union nut and the locking ring onto the pipe and lightly lubricate the threads with oil.
- Push the pipe into the locking ring fitting as far as it will go.
- Initially tighten union nut by hand, then tighten with an open-ended spanner by a further ¾ revolution.
- **Never** fit annealed copper pipes onto the locking ring fittings.

Clearances

Solar pump assembly to the right of the Solar-Divicon



Solar pump assembly to the left of the Solar-Divicon



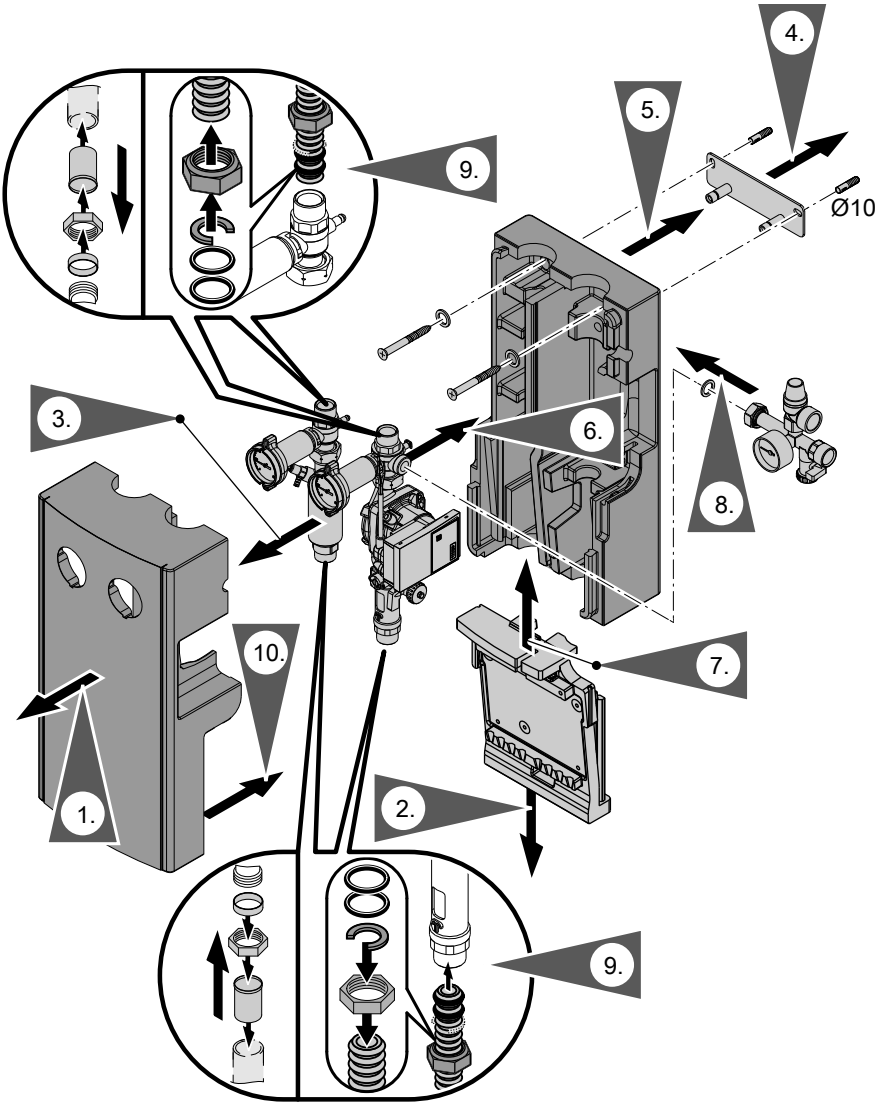
Fitting the Solar-Divicon

- The Solar-Divicon and the solar pump assembly are unsuitable for direct contact with swimming pool water.
- Every time the system is drained, flush the system with heat transfer medium.
- A tee connection is available for the purpose of connecting the expansion vessel and the stagnation heat sink **in the flow**.
- Install a thermal insulation loop if the expansion vessel is installed higher than the Solar-Divicon.
- Use only bronze, brass or stainless steel fittings, copper or stainless steel pipes or Viessmann stainless steel solar circuit pipes for the installation. Use hemp only in conjunction with pressure and temperature-resistant sealants.
- Check the sealing faces for cleanliness and damage before assembly.
- The discharge pipe must exit into an open container.

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Fitting the Solar-Divicon (cont.)

Note the information regarding individual steps.



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Fitting the Solar-Divicon (cont.)

Information on step 1:
After you have removed the upper insulation shell, remove the transport protection cardboard.

Information on step 3:
Remove the flow and return lines to make installation easier.
If you are installing a Solar-Divicon, ***type PS20****, remove the spring clip before removing the flow and return lines.*

Information on step 9:
Versions:
- ***Installation with copper pipes***
  Insert the support sleeves into the solar circuit pipes and secure with valve connections.
- ***Installation with stainless steel solar circuit pipe***
  Trim and deburr in the valley of the corrugation; do not damage the peak of the corrugation.
  Fit the union nut, half washer (in the 5th valley) and O-rings (in the 1st and 3rd valley).

Electrical connections

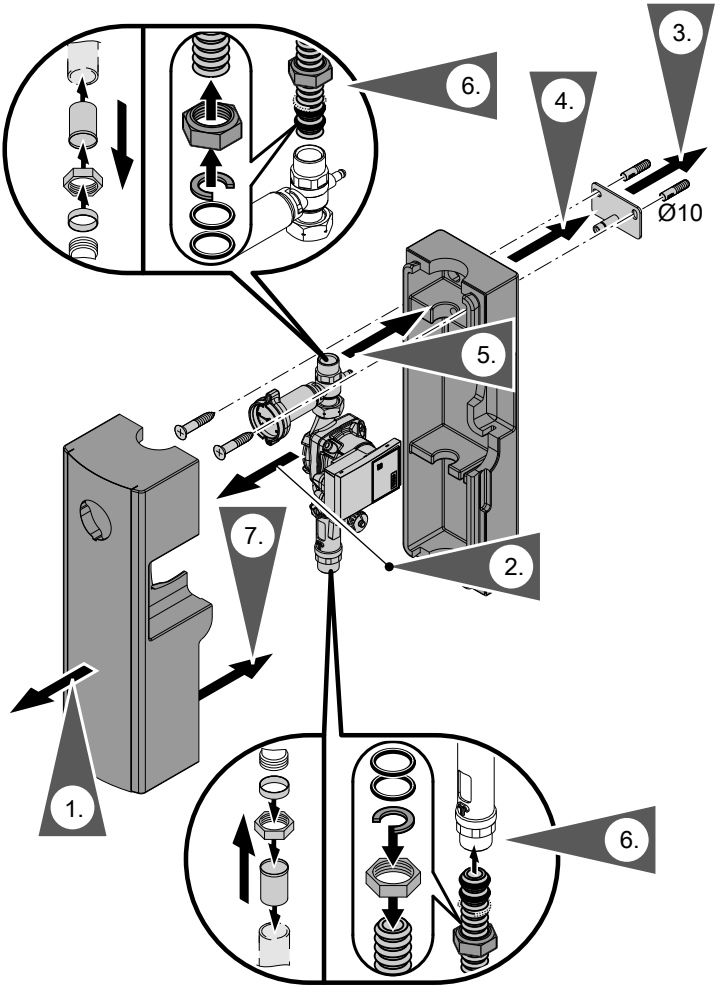
- **Version with solar control unit:**
  The circulation pump is connected to the solar control unit at the factory.
  See the installation and service instructions for further connections.
- **Version without solar control unit:**
  Route the connecting cable for the circulation pump downwards through the cable trunking and connect it to the solar control unit.
  See the installation and service instructions for further connections.

Information on the Solar-Divicon, type PS10 with solar control unit
For maintenance and service work, the solar control unit can be hooked into the side of the circulation pump.

Mounting the solar circuit pump assembly

Observe the clearances on page 7.

Note the information regarding individual steps.



Mounting the solar circuit pump assembly (cont.)

Information on step 2:
Remove the return line to make installation easier.
*If you are installing a Solar-Divicon, **type P20** remove the spring clip before removing the return line.*

Information on step 6:
Versions:
- ***Installation with copper pipes***
  Insert the support sleeves into the solar circuit pipes and secure with valve connections.
- ***Installation with stainless steel solar circuit pipe***
  Trim and deburr in the valley of the corrugation; do not damage the peak of the corrugation.
  Fit the union nut, half washer (in the 5th valley) and O-rings (in the 1st and 3rd valley).

Flushing and filling the solar thermal system


Solar collector service instructions.

Electrical connections

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

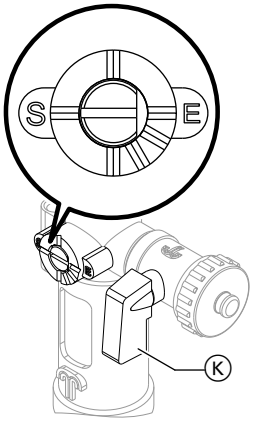

Solar control unit installation and service instructions

Replacing the circulation pump

1. Close shut-off valve Ⓕ in the return line (see page 3).

2. Close shut-off valve Ⓗ in the return line: Use a screwdriver to turn the slot on the adjusting screw above the flow rate indicator to position "E".

Replacing the circulation pump (cont.)

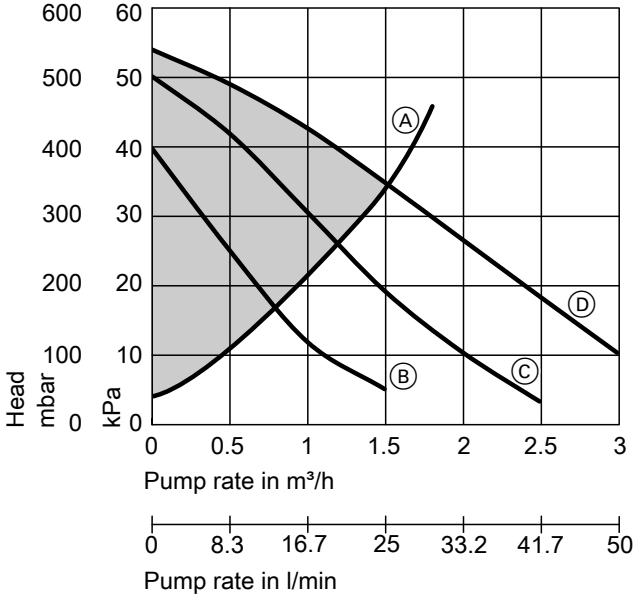


3. Open drain valve Ⓚ and drain the heat transfer medium.

4. Replace the circulation pump.

Pump curves

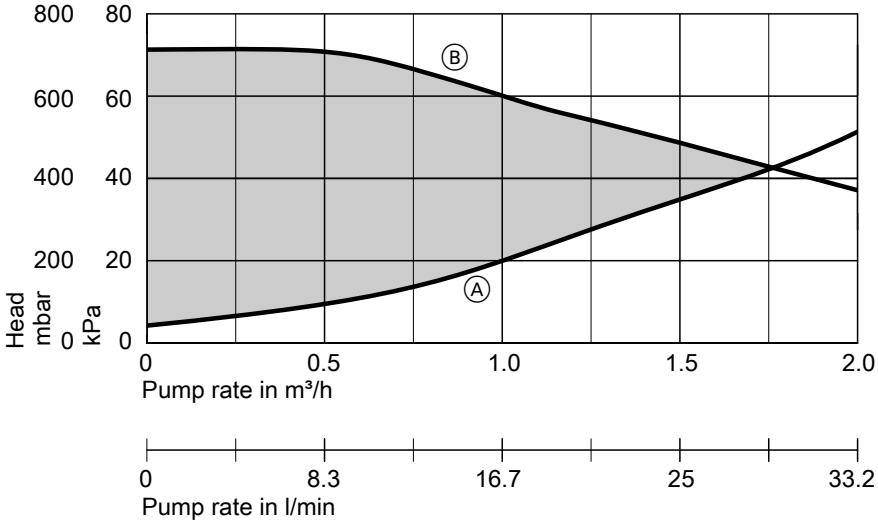
3-stage circulation pump



Ⓐ Pressure drop curve
Ⓑ Head at output stage I
Ⓒ Head at output stage II
Ⓓ Head at output stage III

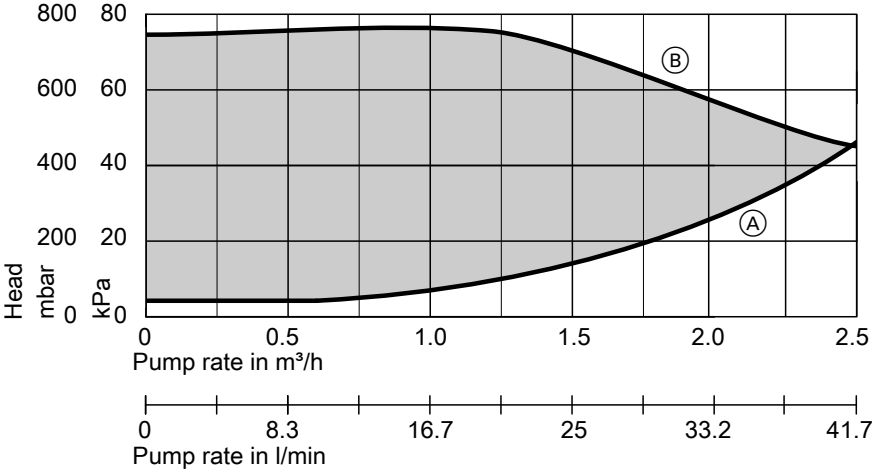
Pump curves (cont.)

HE circulation pump with PWM control, types PS10 and P10



Ⓐ Pressure drop curve Ⓑ Max. head

HE circulation pump with PWM control, types PS20 and P20



Ⓐ Pressure drop curve Ⓑ Max. head

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LED on the HE circulation pump

LED	Meaning	Cause	Remedy
Illuminated green	Circulation pump in operation	—	—
Flashes green in short intervals	Circulation pump in standby	—	—
Fault indications			
■ Flashes red and green alternately	Circulation pump is ready for operation but not running. ***Note*** *The circulation pump starts automatically after the cause of the fault has been removed.*	■ Undervoltage (< 160 V~) ■ Overvoltage (> 253 V~)	Check the power supply. (195 V~ < U < 253 V~)
		Motor temperature too high	Check ambient and heat transfer medium temperatures.
■ Flashes red	Circulation pump switched off (blocked)	Circulation pump does not start automatically.	Replace circulation pump (see page 11)
■ LED off	—	No operating voltage.	Check connecting cable.
		LED faulty	Check whether the circulation pump is running.
		PCB faulty	Replace the circulation pump (see page 11).

Specification

Type		PS10, P10	PS10, P10	PS20, P20
Wilo circulation pump		ST15/6ECO	PARA 15/7.0	PARA 15/7.5
		Multi stage circulation pump	HE circulation pump with PWM control	
Rated voltage	V~	230	230	230
Power consumption				
■ Output stage I	W	36	—	—
■ Output stage II	W	43	—	—
■ Output stage III	W	49	—	—
■ Min.	W	—	3	3
■ Max.	W	—	45	73
Flow rate indicator	l/min	1 to 13	1 to 13	5 to 35
Safety valve (solar)	bar	6	6	6
Max. operating temperature	°C	120	120	120
Max. operating pressure	bar	6	6	6
Connections (locking ring fitting/double O-ring)				
■ Solar circuit	mm	22	22	22
■ Expansion vessel	mm	22	22	22

Parts list for Solar-Divicon, type PS10

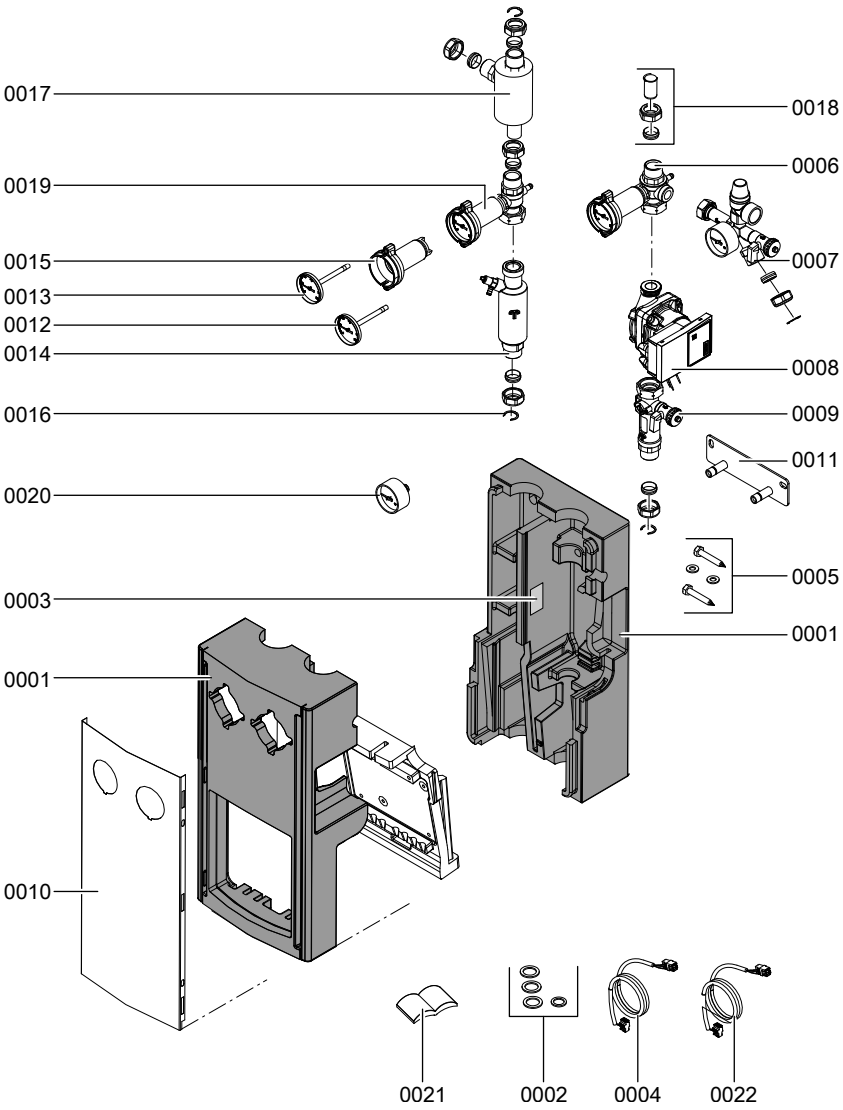
Without solar control unit

Pos.	Part
0001	Insulation shell
0002	Gasket set
0003	Type plate
0004	Circulation pump connecting cable, 230 V~
0005	Fixings
0006	Ball valve, return, DN 15
0007	Safety assembly
0008	Circulation pump
0009	Flow rate indicator
0010	Cover
0011	Mounting plate
0012	Thermometer, blue
0013	Thermometer, red
0014	Air separator, DN 15

Parts list for Solar-Divicon, type PS10 (cont.)

Pos.	Part
0015	Ball valve handle, DN 15
0016	Retaining clip (5 pce)
0017	Tee connection, flow
0018	Locking ring fitting (5 pce)
0019	Ball valve, flow, DN 15
0020	Pressure gauge
0021	Installation and service instructions
0022	Circulation pump connecting cable, PWM (only for Solar-Divicon with HE circulation pump)

Parts list for Solar-Divicon, type PS10 (cont.)



Parts list for Solar-Divicon, type PS10

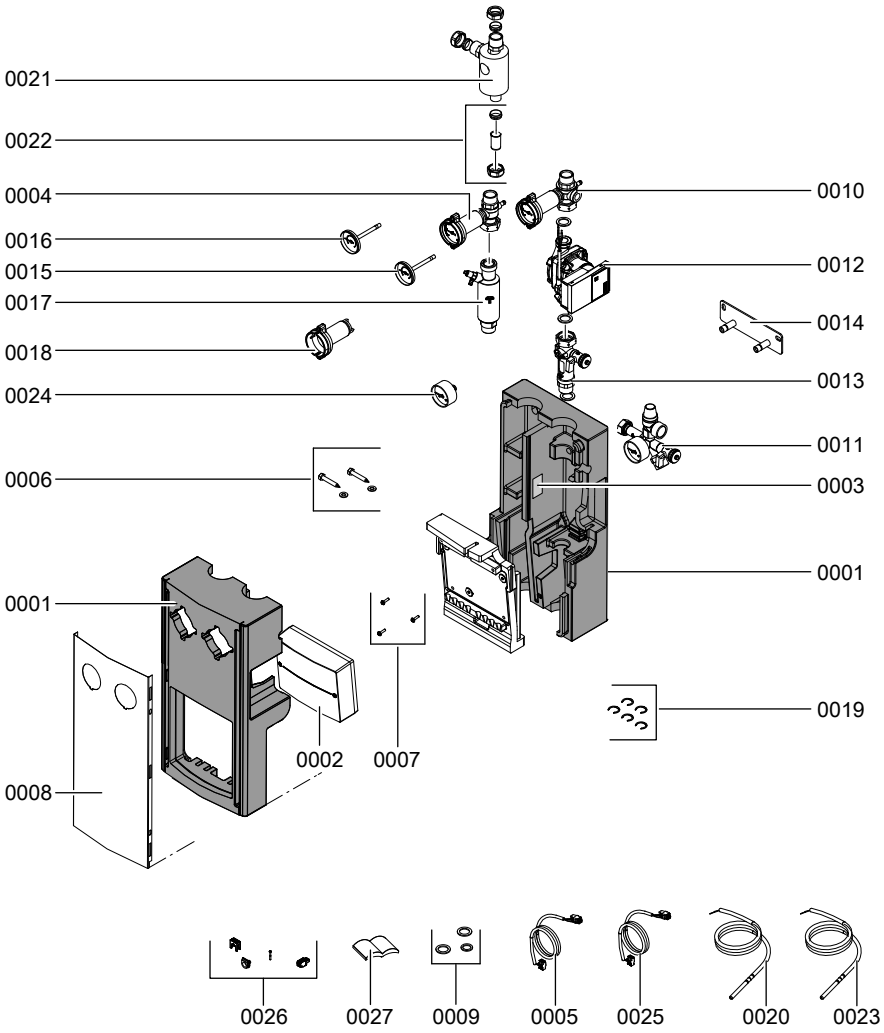
With solar control module, type SM1

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Parts list for Solar-Divicon, type PS10 (cont.)

Pos.	Part
0001	Insulation shell
0002	Solar control module, type SM1
0003	Type plate
0004	Ball valve, flow, DN 15
0005	Circulation pump connecting cable, 230 V~
0006	Fixings
0007	Screws 40 x 16 mm
0008	Cover
0009	Gasket set
0010	Ball valve, return, DN 15
0011	Safety assembly
0012	Circulation pump
0013	Flow rate indicator
0014	Mounting plate
0015	Thermometer, blue
0016	Thermometer, red
0017	Air separator, DN 15
0018	Ball valve handle, DN 15
0019	Retaining clip (5 pce)
0020	Cylinder temperature sensor
0021	Tee connection, flow
0022	Locking ring fitting (5 pce)
0023	Collector temperature sensor NTC
0024	Pressure gauge
0025	Circulation pump connecting cable, PWM (only for Solar-Divicon with HE circulation pump)
0026	Screwless terminals
0027	Installation and service instructions

Parts list for Solar-Divicon, type PS10 (cont.)

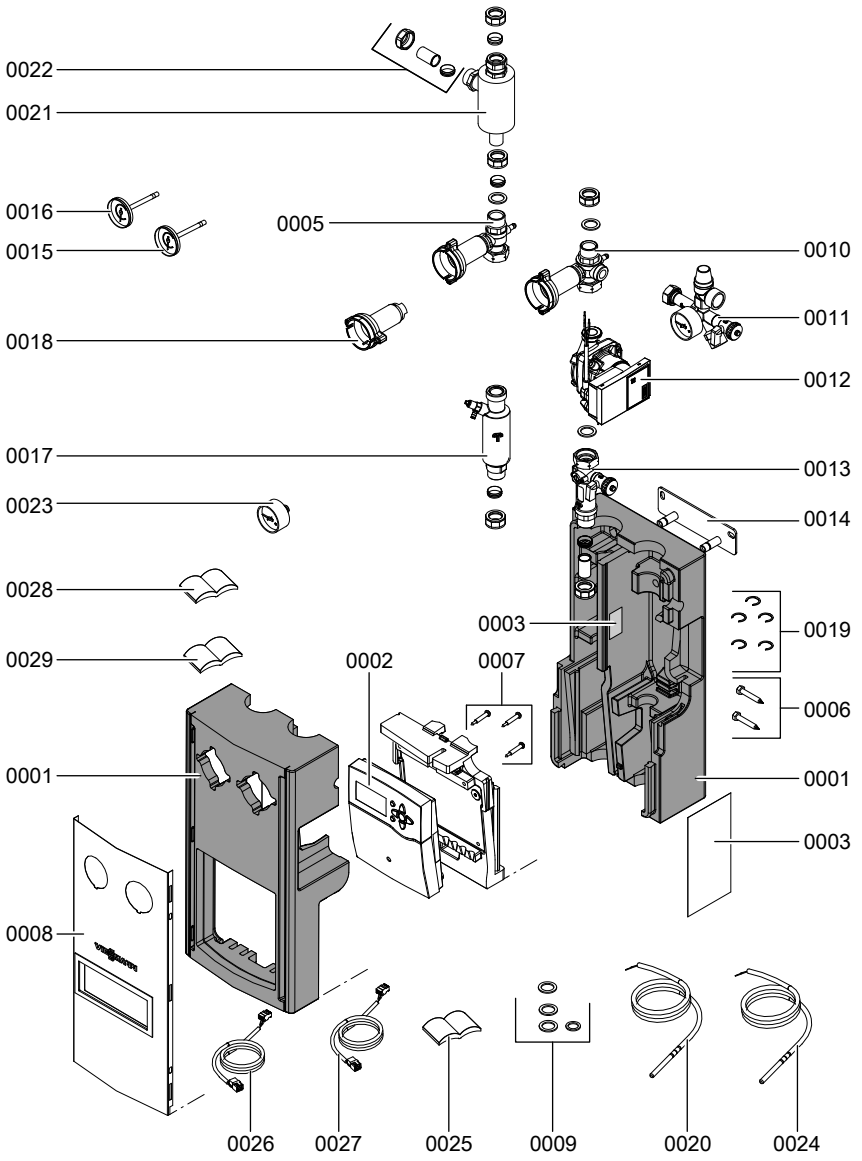


Parts list for Solar-Divicon, type PS10

With Vitosolic 100, type SD1

Pos.	Part
0001	Insulation shell
0002	Vitosolic 100, type SD1
0003	Type plate
0005	Ball valve, flow, DN 15
0006	Fixings
0007	Fixings for Vitosolic 100
0008	Cover
0009	Gasket set
0010	Ball valve, return, DN 15
0011	Safety assembly
0012	Circulation pump
0013	Flow rate indicator
0014	Mounting plate
0015	Thermometer, blue
0016	Thermometer, red
0017	Air separator, DN 15
0018	Ball valve handle, DN 15
0019	Retaining clip (5 pce)
0020	Cylinder temperature sensor
0021	Tee connection, flow
0022	Locking ring fitting (5 pce)
0023	Pressure gauge
0024	Collector temperature sensor
0025	Installation and service instructions
0026	Circulation pump connecting cable, PWM (only for Solar-Divicon with HE circulation pump)
0027	Circulation pump connecting cable, 230 V~
0028	Vitosolic 100, type SD1 operating instructions
0029	Vitosolic 100, type SD1 installation and service instructions

Parts list for Solar-Divicon, type PS10 (cont.)

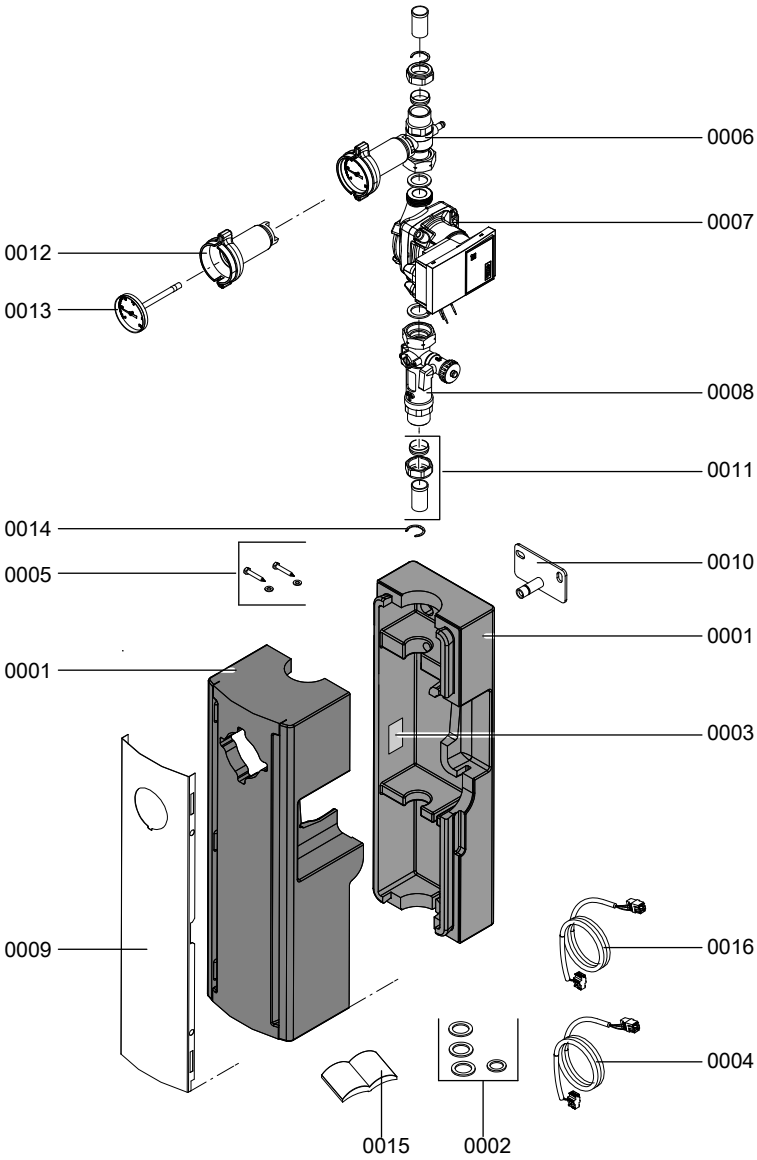


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Parts list for solar pump assembly, type P10

Pos.	Part
0001	Insulation shell
0002	Gasket set
0003	Type plate
0004	Circulation pump connecting cable, 230 V~
0005	Fixings
0006	Ball valve, return, DN 15
0007	Circulation pump
0008	Flow rate indicator
0009	Cover
0010	Mounting plate
0011	Locking ring fitting (2 pce)
0012	Ball valve handle, DN 15
0013	Thermometer, blue
0014	Retaining clip (2 pce)
0015	Installation and service instructions
0016	Circulation pump connecting cable, PWM (only for solar pump assembly with HE circulation pump)

Parts list for solar pump assembly, type P10 (cont.)

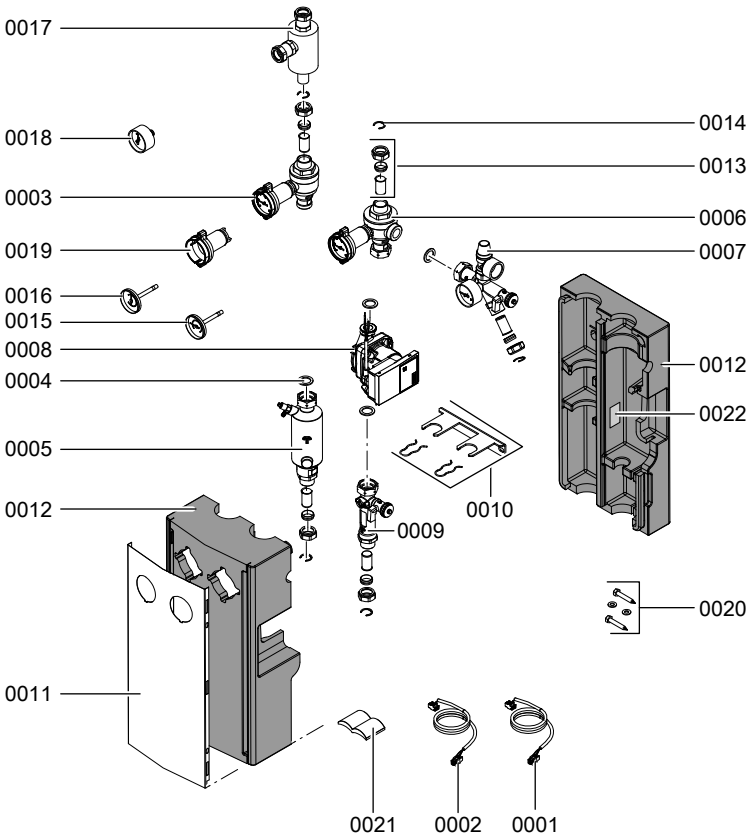


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Parts list for Solar-Divicon, type PS20

Pos.	Part
0001	Circulation pump connecting cable, 230 V~
0002	Circulation pump connecting cable, PWM
0003	Ball valve, flow, DN 25
0004	Gasket set
0005	Air separator, DN 25
0006	Ball valve, return, DN 25
0007	Safety assembly
0008	HE circulation pump, Para 15/7.5
0009	Flow rate indicator
0010	Mounting plate
0011	Cover
0012	Insulation shell
0013	Locking ring fitting (5 pce)
0014	Retaining clip (5 pce)
0015	Thermometer, blue
0016	Thermometer, red
0017	Tee connection, flow
0018	Pressure gauge
0019	Ball valve handle, DN 25
0020	Fixings
0021	Installation and service instructions
0022	Type plate

Parts list for Solar-Divicon, type PS20 (cont.)

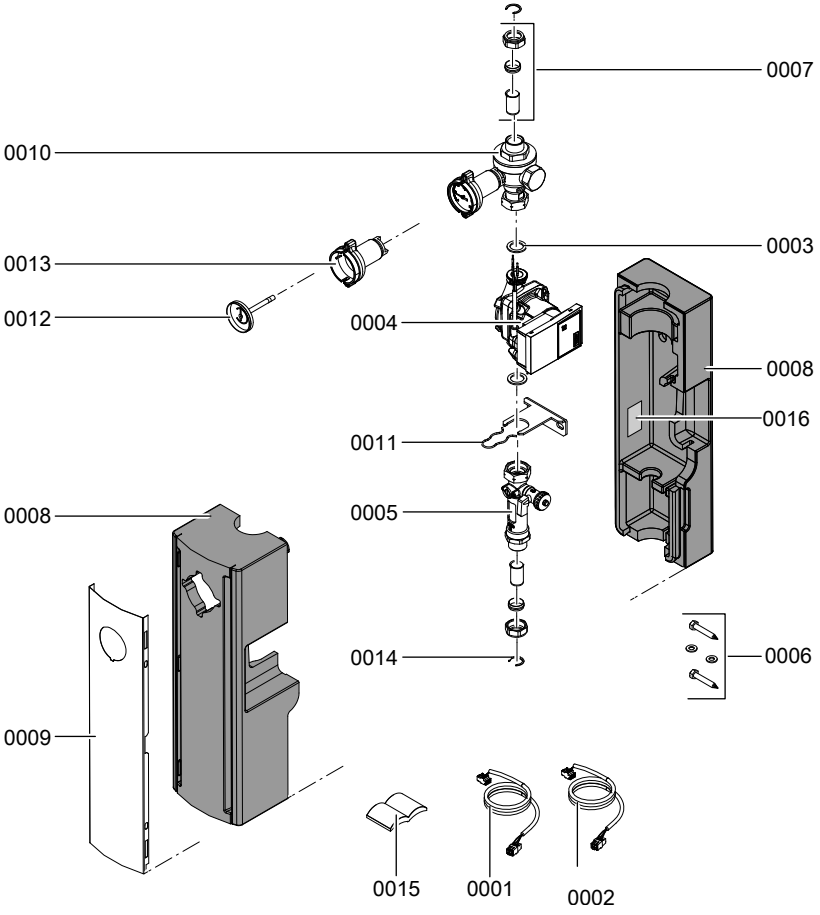


Parts list for solar pump assembly, type P20

Pos.	Part
0001	Circulation pump connecting cable, 230 V~
0002	Circulation pump connecting cable, PWM
0003	Gasket set
0004	HE circulation pump, Para 15/7.5
0005	Flow rate indicator
0006	Fixings
0007	Locking ring fitting (2 pce)
0008	Insulation shell

Parts list for solar pump assembly, type P20 (cont.)

Pos.	Part
0009	Cover
0010	Ball valve, return, DN 25
0011	Mounting plate
0012	Thermometer, blue
0013	Ball valve handle, DN 25
0014	Retaining clip (2 pce)
0015	Installation and service instructions
0016	Type plate



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Applicability

Serial No.:

7511246	7511247	7511248	7511249
7511250	7511251	7511252	7511253
7514721	7514725		

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