Installation and service instructions

for contractors

VIESMANN

Solar heat exchanger set

for installation on the Vitocell 100-V, type CVW

Safety instructions

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

Safety instructions explained

! **Please note**
This symbol warns against the risk of material losses and environmental pollution.

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

Installation, initial start-up, 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 mains isolator) and safeguard against unauthorised reconnection.

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

Repairing components which 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.

Product information

Solar heat exchanger set for DHW heating in conjunction with solar thermal systems and Vitocell 100-V, type CVW, 390 l.

Product information (cont.)

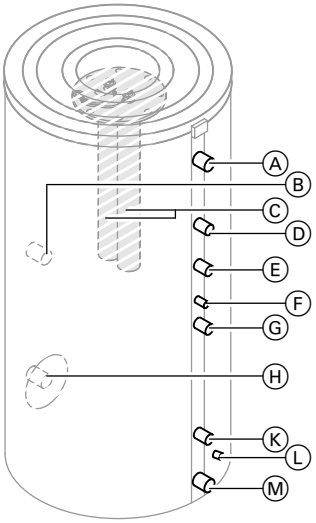
Suitable for systems to DIN 4753. The solar heat exchanger set may be operated in line with the stated application limits, up to a total water hardness of 3.6 mol/m^3 (20 °dH).
Losses arising from excessive pressure, excessive temperatures or unsuitable water quality are excluded from our warranty.

Permiss. temperatures	
Solar side	140 °C
Heating water side	110 °C
On the DHW side ■ Boiler operation ■ Solar operation	 95 °C 60 °C
Permiss. operating pressure	
Solar side	10 bar
Heating water side	10 bar
DHW side	10 bar
Test pressure	
Solar side	13 bar
Heating water side	13 bar
DHW side	13 bar
DIN registration number	Applied for

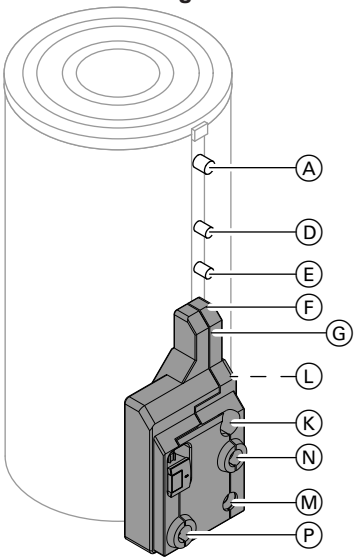
Note
With boilers where higher heating water flow temperatures may occur (e.g. solid fuel boilers), install a device to interrupt cylinder heating (e.g. an additional temperature limiter).

Preparing for installation

Vitocell 100-V, type CVW



Vitocell 100-V, type CVW with fitted solar heat exchanger set

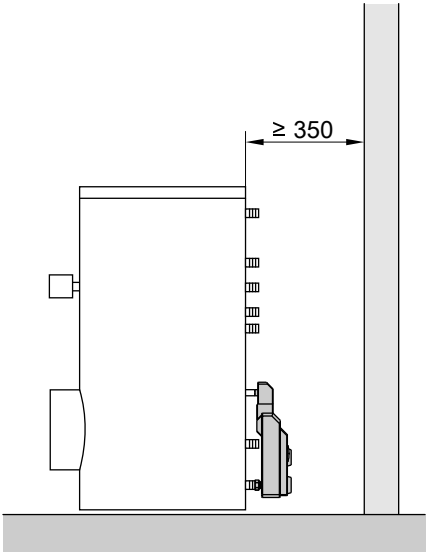


Ⓐ DHW R 1¼
Ⓑ Female connection for immersion heater
Ⓒ Magnesium anodes
Ⓓ DHW circulation R 1
Ⓔ Heating water flow R 1¼
Ⓕ Cylinder temperature controller or temperature sensor
Ⓖ Hot water inlet from the solar heat exchanger set R ¾
Ⓗ Flange with female connection for immersion heater
Ⓚ Heating water return[*1] R 1¼
Ⓛ Cylinder temperature controller or temperature sensor (solar side)
Ⓜ Cold water and drain
- On the DHW cylinder: R 1¼
- On the solar heat exchanger set: R 1

Ⓝ Solar circuit flow ∅ 22 mm
Ⓟ Solar circuit return ∅ 22 mm

[*1] *The connection line runs through the thermal insulation of the solar heat exchanger set.*

Installing the DHW cylinder



Ⓐ Solar heat exchanger set

DHW cylinder installation instructions

Installation information

Please note
Incorrect installation can lead to collector damage.
Use only gunmetal or brass fittings and copper pipes for the installation.

Generally, copper pipes in solar circuits are hard soldered or joined with press fittings.
Soft solder could be weakened, due to the max. temperatures that may occur.
Metal seal connections, locking ring fittings or Viessmann plug-in connections with double O-rings are the most suitable.

If other seals such as flat gaskets are used, adequate glycol, pressure and temperature resistance must be guaranteed by the manufacturer.
Make all connections pressure and temperature resistant (observe the maximum stagnation temperature of the collector).

Never use:
- Teflon (inadequate glycol resistance)
- Hemp connections (not sufficiently gas-tight)

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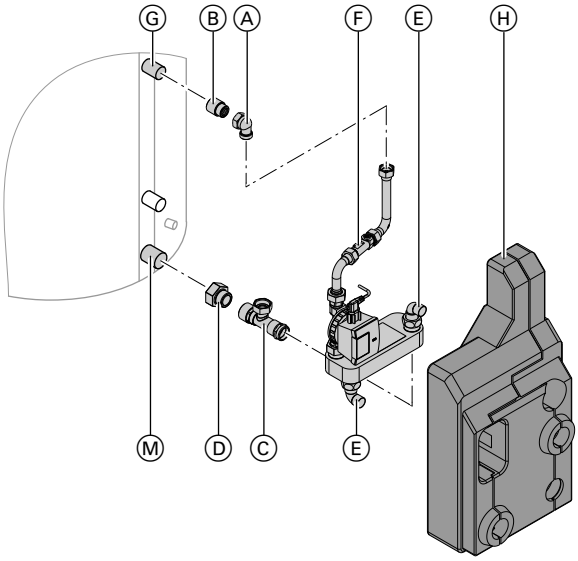
Fitting the solar heat exchanger set



1. Undo elbow Ⓐ with extension Ⓑ, and tee Ⓒ with reducer Ⓓ.

2. Seal in elbow Ⓐ with extension Ⓑ at hot water inlet Ⓖ (from the solar heat exchanger set into the DHW cylinder).

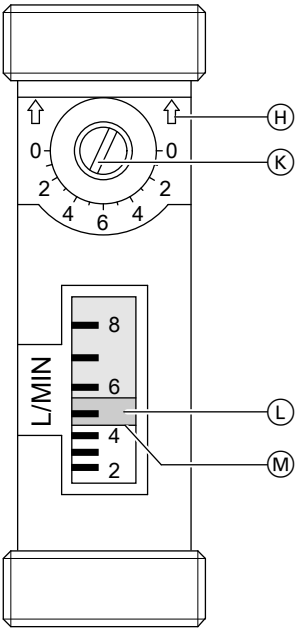
3. Seal in tee Ⓒ with reducer Ⓓ at cold water connection and drain Ⓜ.

4. Position the solar heat exchanger set on tee Ⓒ, loosely secure to elbow Ⓐ and align.

5. Retighten all fittings of the solar heat exchanger set.

6. Undo elbow G 1 x ∅ 22 Ⓔ, solder to the solar side connection lines and refit the elbow.

Fitting the solar heat exchanger set (cont.)



Ⓗ Direction of flow
Ⓚ Adjusting screw
Pos. 6: Valve open
Pos. 0: Valve closed
Ⓛ Float
Ⓜ Reference line of the float

7. Set the flow rate at the adjusting screw of flow meter Ⓕ.
Recommended settings: See tables below.

8. Following installation on the solar side, heating water side and DHW side:
Check the solar heat exchanger set and connection lines for leaks.

9. Fit thermal insulation Ⓗ.

10. Affix the supplied type plate to the DHW cylinder, next to the solar heat exchanger set.

Fitting the solar heat exchanger set (cont.)

Flat-plate collectors Vitosol 100-F, Vitosol 200-F and Vitosol 300-F

High-flow operation, specific flow rate 40 l/(h·m²)		Low-flow operation, specific flow rate 15 l/(h·m²)	
Number of collectors	**Flow rate in l/min**	**Number of collectors**	**Flow rate in l/min**
2	3	6	3.5
3	4.5	7	4
4	6	8	4.5
5	7.5	9	5
6	9.5	10	5.5
7	10.5	11	6.5
8	12.5	12	7
9	14	13	7.5
10	15.5	14	8
11	17	15	8.5
12	18.5	16	9
13	20	18	10.5
14	21.5	20	11.5
15	23.5		

Tube collectors Vitosol 200-T and Vitosol 300-T

Specific flow rate 25 l/(h.m²)	
Collector area in m²	**Flow rate in l/min**
1.63	0.8
3.26	1.3
4.89	2.1
6.52	2.5
8.15	3.3
9.78	4.2

Commissioning, inspection and maintenance

Filling the DHW cylinder from the DHW side

1. Fill the DHW cylinder from the DHW side.
2. If the DHW cylinder is pressurised, retighten the flange cover with a torque of 25 Nm.

Commissioning, inspection and maintenance (cont.)

Checking the heating water and DHW fittings for leaks

Shutting down the system

Checking the function of the safety valves according to manufacturer's instructions

Draining the DHW cylinder from the DHW side

Cleaning the solar heat exchanger set

Note
If scaling is expected due to operating conditions, flush the solar heat exchanger set at regular intervals. Only a qualified heating contractor should clean the solar heat exchanger set and DHW connection.

1. Remove the solar heat exchanger set from the DHW cylinder.
2. Using a cleaning agent, flush in the opposite direction to the flow.
3. Flush with sufficient amounts of clean water to remove any cleaning agent residues.
4. If any water treatment equipment has been installed (e.g. a sluice or injection system), renew the content and service the equipment.
5. Backwash and service the dirt trap or filter in the cold water line (if installed).

Cleaning the DHW cylinder


DHW cylinder service instructions

Parts list

Pos.	Component	Part no.
0001	Elbow G 1	7825459
0002	Plate heat exchanger WP2XZ-12	7810751
0003	Type plate, solar heat exchanger set	5340241

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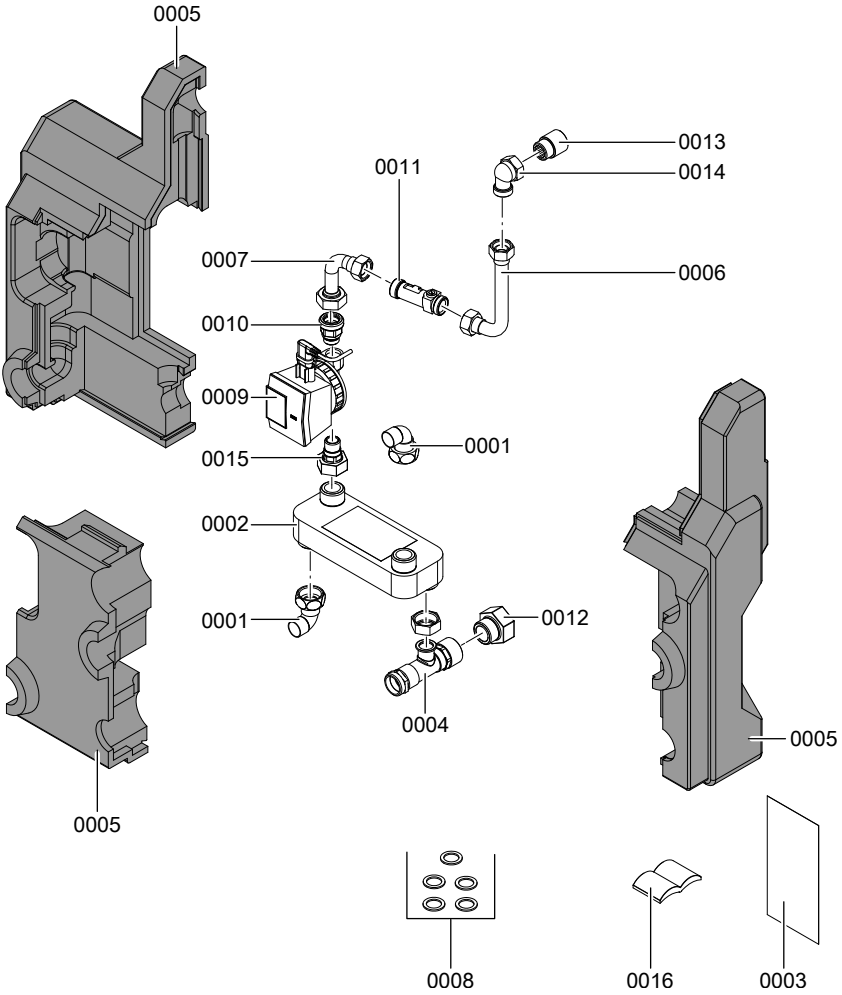
Parts list (cont.)

Pos.	Component	Part no.
0004	Tee R 1	7825460
0005	Thermal insulation	7840773
0006	Pipe bend 1	7813353
0007	Pipe bend 2	7813354
0008	Gasket set G 1 (5 pce)	7835224
0009	Circulation pump	7840774
0010	Non-return valve R ½ x 1	7815777
0011	Line regulating valve and shut-off valve	7815776
0012	Reducer Rp 1¼I-R1A	7823963
0013	Extension R ¾ x 25	7840776
0014	Threaded elbow	7840777
0015	Pump connection fitting	7840778
0016	Solar heat exchanger set installation and service instructions	5583714

Parts list (cont.)



Applicability

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7186663

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