Installation and service instructions

for contractors

Vitocell 100-E/W
Type SVPA
Heating water buffer cylinder
46 l

VITOCELL 100-E/W

5792553 GB 9/2018

Please keep safe.

Safety instructions

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

Safety instructions explained

Danger
This symbol warns against the risk of injury.

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

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

Target group

These instructions are exclusively intended for qualified contractors.

- Work on electrical equipment may only be carried out by a qualified electrician.
- The system must be commissioned by the system installer or a qualified person authorised by the installer.

Regulations to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for environmental protection
- Codes of practice of the relevant trade associations
- All relevant safety regulations as defined by DIN, EN, DVGW, VDE and locally applicable standards
  (A) ÖNORM, EN and ÖVE
  (CH) SEV, SUVA, SVTI, SWKI and SVGW

Working on the system

- Isolate the system from the power supply (e.g. by removing the separate fuse or by means of a mains isolator) and check that it is no longer live.
- Safeguard the system against reconnection.

Please note
Electronic assemblies can be damaged by electrostatic discharge.
Prior to commencing any work, touch earthed objects such as heating or water pipes to discharge static loads.

Danger
Hot surfaces can cause burns.
- Before maintenance and service work, switch OFF the appliance and let it cool down.
- Never touch the hot surfaces of uninsulated pipes and fittings.

Repair work

Please note
Repairing components that fulfil a safety function can compromise the safe operation of the system.
Replace faulty components only with genuine Viessmann spare parts.

Safety instructions (cont.)

Auxiliary components, spare and wearing parts

! **Please note**
Spare and wearing parts that have not been tested together with the system can compromise its function. Installing non-authorised components and making non-approved modifications or conversions can compromise safety and may invalidate our warranty.
For replacements, use only original spare parts supplied or approved by Viessmann.

Index

Disposal of packaging

Please dispose of packaging waste in line with statutory regulations.

DE: Use the disposal system organised by Viessmann.
AT: Use the ARA statutory disposal system (Altstoff Recycling Austria AG, licence number 5766).
CH: Packaging waste is disposed of by the HVAC contractor.

Symbols

Symbol	Meaning
	Reference to other document containing further information
	Step in a diagram: The numbers correspond to the order in which the steps are carried out.
	Warning of material losses and environmental pollution
	Live electrical area
	Pay particular attention.
	▪ Component must audibly click into place. or ▪ Acoustic signal
	▪ Fit new component. or ▪ In conjunction with a tool: Clean the surface.
	Dispose of component correctly.
	Dispose of component at a suitable collection point. Do **not** dispose of component in domestic waste.

The steps in connection with commissioning, inspection and maintenance are found in the "Commissioning, inspection and maintenance" section and identified as follows:

Symbol	Meaning
	Steps required during commissioning
	Not required during commissioning
	Steps required during inspection
	Not required during inspection
	Steps required during maintenance
	Not required during maintenance

Intended use

The appliance is only intended to be installed and operated in sealed unvented systems that comply with EN 12828 / DIN 1988, or solar thermal systems that comply with EN 12977, with due attention paid to the associated installation, service and operating instructions. DHW cylinders are only designed to store and heat water of potable water quality. Heating water buffer cylinders are only designed to hold fill water of potable water quality. Only operate solar collectors with the heat transfer medium approved by the manufacturer.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial usage for a purpose other than heating the building or DHW shall be deemed inappropriate.

Any usage beyond this must be approved by the manufacturer for the individual case.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and results in an exclusion of liability.

Incorrect usage also occurs if the components in the system are modified from their intended use (e.g. through direct DHW heating in the collector).

Adhere to statutory regulations, especially concerning the hygiene of potable water.

Product information

Stainless steel heating water buffer cylinder for storing heating water in conjunction with heat pumps.
For installation in the secondary circuit.
Suitable for systems to EN 12828 and DIN 4753.
Colour: Vitosilver or white.
Dimensions and weight: See pages 10 and 21.

Note
This appliance is not vapour diffusion-proof and is therefore not suitable for cooling mode with return temperatures below 20 °C.

Preparing for installation

Minimum volume and minimum flow rate

Viessmann air/water heat pumps defrost efficiently by reversing the refrigerant circuit. For this, the defrost energy is briefly extracted from the secondary circuit. To ensure safe and long term operation of the heat pump, the specified minimum flow rate in the secondary circuit must always be maintained.

A sufficiently large system volume must be ensured in every operating state (with sealed unvented heating circuits) by installing an overflow valve (see page 15).
For detailed information, see the following table:

Type	Minimum heating system volume in l	Minimum flow rate in l/h
Vitocal 1xx-S AWB, AWB-M, AWB-E, AWB-M-E, AWB-E-AC, AWB-M-E-AC		
04	17	900
06	26	900
08	35	900
12	52	900
14	61	900
16	70	900

Type	Minimum heating system volume in l	Minimum flow rate in l/h
Vitocal 2xx-S AWB-M 201.D/AWB-M-E-AC 201.D, AWBT-M 221.C, AWBT-M-E-AC 221.C (230 V appliances)		
04	50	700
06	50	700
08	50	700
10	50	1400
13	50	1400
16	50	1400
Vitocal 2xx-S AWB 201.D, AWB-E-AC 201.D, AWBT 221.C, AWBT-E-AC 221.C (400 V appliances)		
10	50	1400
13	50	1400
16	50	1400

Preparing for installation (cont.)

Type	Minimum heating system volume in l	Minimum flow rate in l/h
Vitocal 200-A AWO-M 201.A, AWO-M-E-AC 201.A (230 V appliances)		
04	50	700
06	50	700
08	50	700
10	50	1400
13	50	1400
16	50	1400
Vitocal 200-A AWO 201.A, AWO-E-AC 201.A (400 V appliances)		
10	50	1400
13	50	1400
16	50	1400

Type	Minimum heating system volume in l	Minimum flow rate in l/h
Vitocal 200-A		
AWCI-AC 201.A07	50	1100
AWCI-AC 201.A10	50[*1]	1450
	60	
Vitocal 300-A		
AWCI-AC 301.A09	50[*1]	1200
AWO-AC 301.A09	50[*1]	1200
AWO-AC 301.B07	80	1200
AWO-AC 301.B11	80	1200
AWO-AC 301.B14	80	1400

Type	Minimum heating system volume in l	Minimum flow rate in l/h
Vitocaldens 222-F, Vitolacaldens 222-F HAWB-M 222.A, HAWB 222.A		
23	25	750
26	50	1000
29	50	1600
30	50	1000
33	50	1600

*[*1] In conjunction with underfloor heating and an overflow valve installed in the most remote section of the heating circuit*

Preparing for installation (cont.)

Pipework volume

Nominal diameter	Dimensions in mm	Volume in l/m
Copper pipe		
DN 25	28 x 1	0.53
DN 32	35 x 1	0.84
DN 40	42 x 1	1.23
DN 50	54 x 2	2.04
DN 60	64 x 2	2.83
Threaded pipes		
1	33.7 x 3.25	0.58
1 ¼	42.4 x 3.25	1.01
1 ½	48.3 x 3.25	1.37
2	60.3 x 3.65	2.21
Composite pipes		
DN 25	32 x 3	0.53
DN 32	40 x 3.5	0.86
DN 40	50 x 4.0	1.39
DN 50	63 x 6.0	2.04
Hydraulic connection lines		
DN 32	40 x 3.7	0.84
DN 40	50 x 4.6	1.31

Hydraulic lines in the secondary circuit

Route with the following minimum nominal diameter:

Heat pump	Nominal diameter
Vitocal 1xx-S Vitocal 2xx-S Vitocal 2xx-A Vitocaldens 222-F Vitolacaldens 222-F	DN 25
Vitocal 200-A Vitocal 300-A	DN 32

Preparing for installation (cont.)

Connections and dimensions

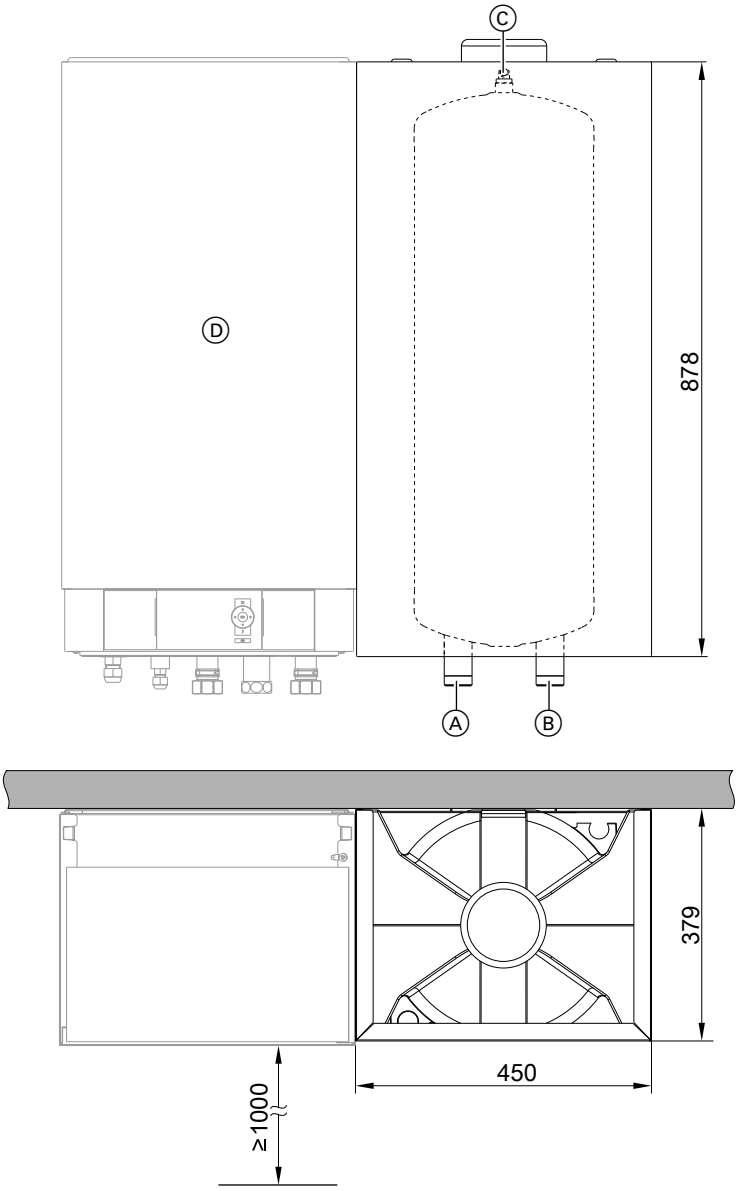

Fig. 1

Ⓐ Heating water flow or heating water return, as required
Ⓑ Heating water return or heating water flow, as required
Ⓒ Air vent valve
Ⓓ Heat pump (the heating water buffer cylinder can be installed either to the right or left of the heat pump indoor unit.)

With this heating water buffer cylinder, no minimum clearances to walls or other appliances need be maintained on either side.

Please note
To prevent material damage, install the buffer cylinder in a draught-free room free from the risk of frost.
When not in use, the buffer cylinder must be drained if there is a risk of frost.

Note
When installing the appliance adjacent to a heat pump, use the connection located closer to the heat pump for the heating water flow.

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Type plate

Affix the type plate supplied to a side of the heating water buffer cylinder that will remain accessible.

Connecting the equipotential bonding

Connect the equipotential bonding in accordance with the requirements stipulated by your local power supply utility and VDE [or local] regulations.

(CH) Connect the equipotential bonding in accordance with the requirements stipulated by your local power supply utility and current SEV regulations.

Fitting the wall mounting bracket

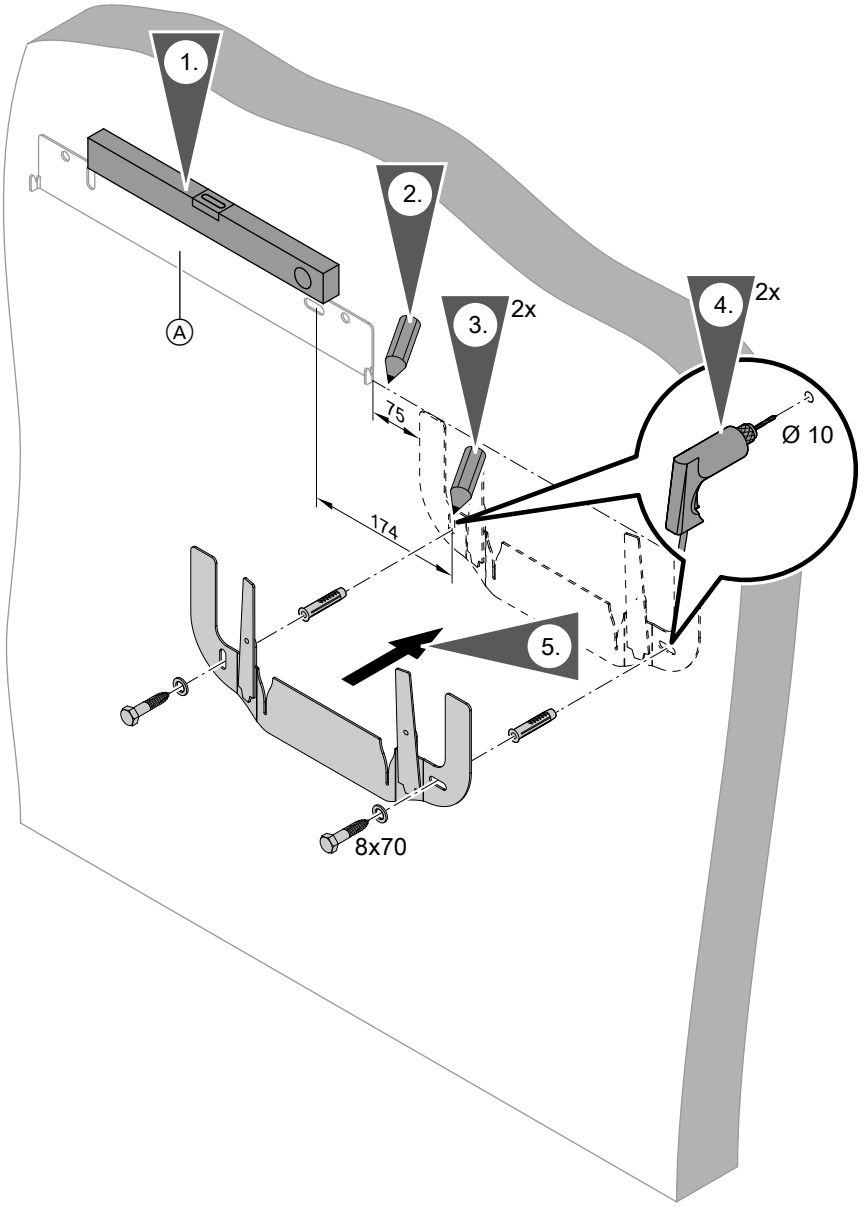

Fig. 2

Ⓐ Heat pump wall mounting bracket

1. If the heating water buffer cylinder is being installed next to a wall mounted Viessmann heat pump: Align wall mounting bracket Ⓐ of the heat pump horizontally.
2. Mark the upper edge of the heating water buffer cylinder wall mounting bracket level at the height of the lower edge of wall mounting bracket Ⓐ (if fitted).
3. Align the heating water buffer cylinder wall mounting bracket on the wall and mark the 2 drill holes in pencil.
4. Remove the wall mounting bracket again and drill the holes as marked (∅ 10 mm).
5. Insert the rawl plugs and secure the wall mounting bracket with 2 screws 8 x 70.

Mounting the heating water buffer cylinder

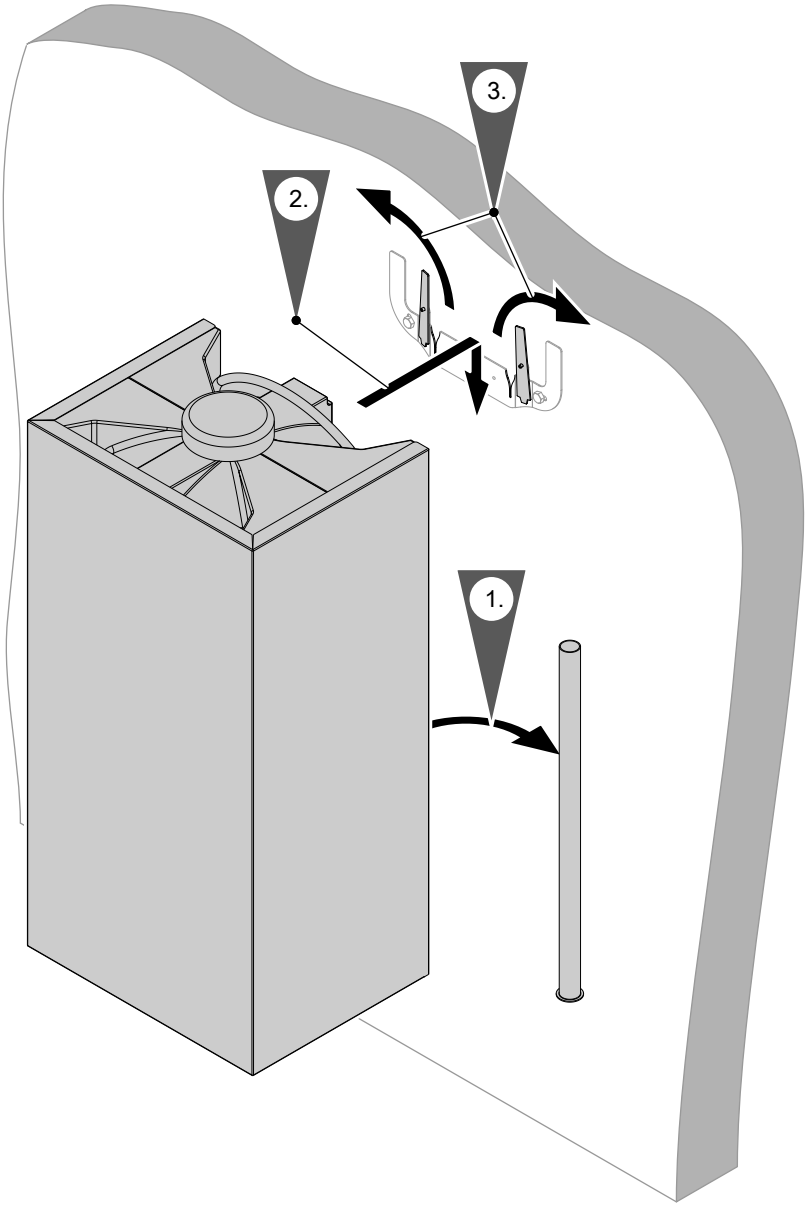

Fig. 3

1. Remove the lance from the back of the heating water buffer cylinder.

2. Hook the heating water buffer cylinder onto the wall mounting bracket and press down firmly.

3. Pivot the locking brackets outwards as far as they will go.

Making the connections on the heating water side

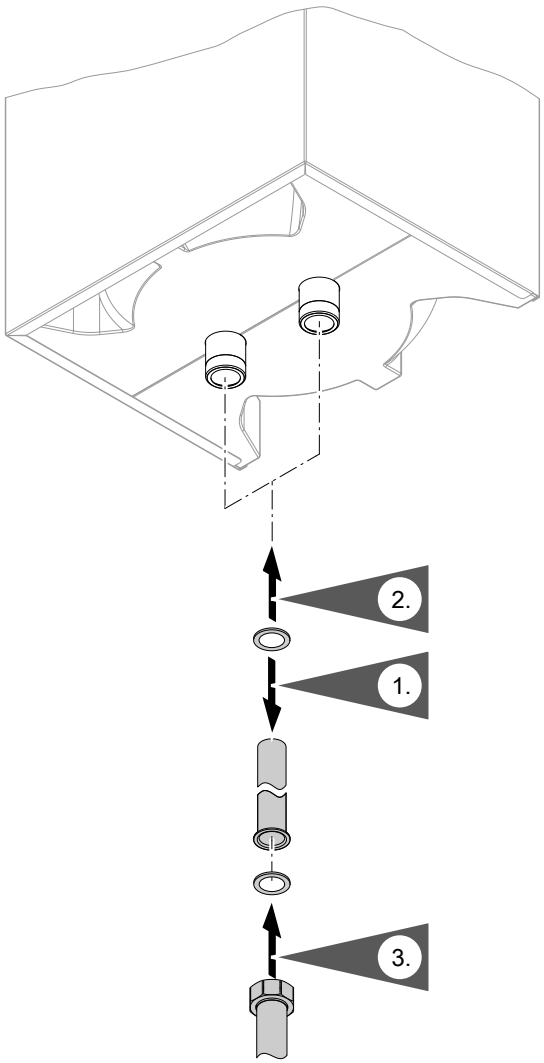

Fig. 4

1. Push the first gasket onto the lance.

2. Insert the lance into the heating water flow of the heating water buffer cylinder. Check whether the left or right connection is to be used as the heating water flow.

Note

- *The heating water flow of the heating water buffer cylinder is the connection that is linked to the heating water return of the heat pump.*
- *Which of the two cylinder connections is used as the heating water flow can be freely selected, depending on the circumstances on site.*

3. Secure the lance to the heating water buffer cylinder with the second gasket and union nut.

Making the connections on the heating water side (cont.)

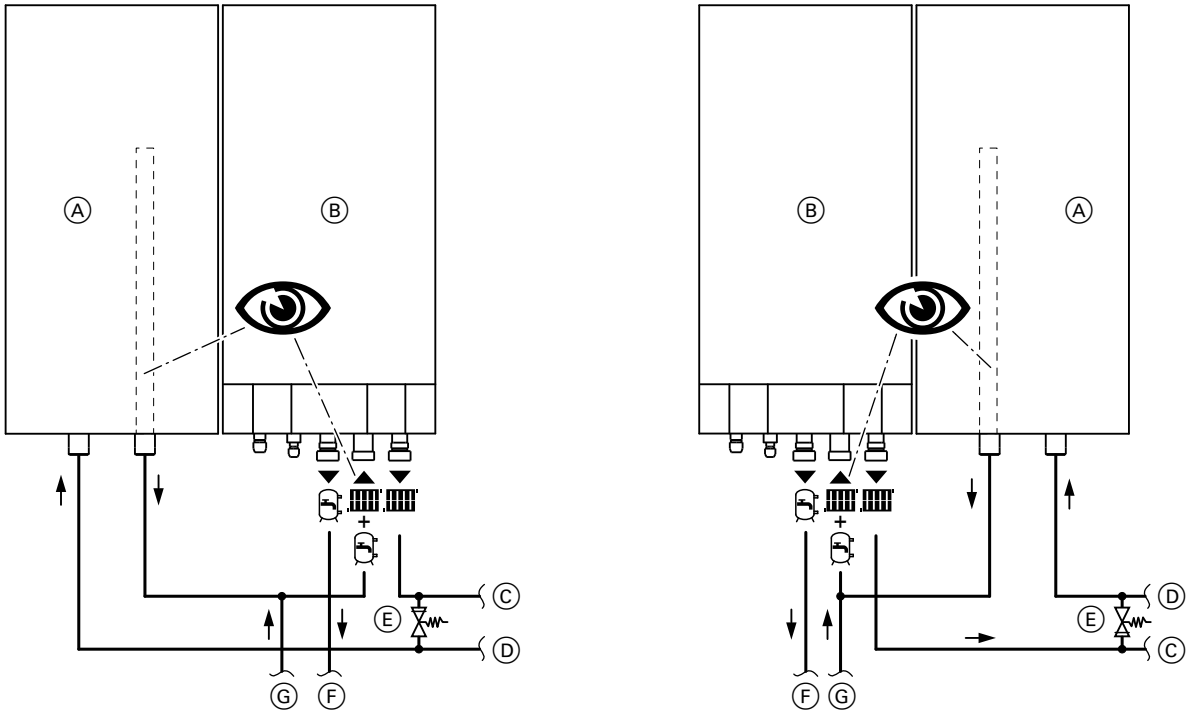

Fig. 5 Connections with heating water buffer cylinder installed to the left or right

Ⓐ Vitocell 100-E/W
Ⓑ Vitocal 200-S
Ⓒ Heating water flow to the heating circuits
Ⓓ Heating water return to the heating water buffer cylinder
Ⓔ Overflow valve
Ⓕ Flow to the DHW cylinder (heating water side)
Ⓖ Return from the DHW cylinder (heating water side)

Air/water heat pumps:
In conjunction with this heating water buffer cylinder, install supplied overflow valve Ⓔ as close as possible downstream of the heat pump, between the heating water flow and heating water return.

Note
The overflow valve must be set for the specific heat pump type (see the following table).

Making the connections on the heating water side (cont.)

Overflow valve settings for appliances with internal secondary pump

Heat pump	Overflow valve setting in mbar	New max. residual head of the integrated circulation pump in mbar
Vitocal 100-S – 101.A04	500	500
Vitocal 100-S – 101.A06	500	500
Vitocal 100-S – 101.A08	500	500
Vitocal 100-S – 101.A12	500	500
Vitocal 100-S – 101.A14	500	500
Vitocal 100-S – 101.A16	500	500
Vitocal 200-S – 201/221.D04	500	500
Vitocal 200-S – 201/221.D06	500	500
Vitocal 200-S – 201/221.D08	500	500
Vitocal 200-S – 201/221.D10	360	360
Vitocal 200-S – 201/221.D13	360	360
Vitocal 200-S – 201/221.D16	360	360
Vitocal 200-A – 201.A7	460	460
Vitocal 200-A – 201.A10	400	400
Vitocal 300-A – AWCI-AC 301.A, without instantaneous water heater	470	470
Vitocal 300-A – AWCI-AC 301.A, with instantaneous water heater	430	430
Vitocaldens 222-F – 222.A26	500	500
Vitocaldens 222-F – 222.A29	110	110
Vitolacaldens 222-F – 222.A30	500	500
Vitolacaldens 222-F – 222.A33	200	200

If the supplied overflow valve is not used, or is installed in a different location to the one described above, set the overflow valve in accordance with the following curves and the pump curve of the heat pump (see heat pump technical guide).

Brine/water heat pumps:
If the buffer cylinder is used in combination with the brine/water heat pump to increase the volume, install the overflow valve at the furthest point. Set the overflow valve in accordance with the following curves and the pump curve of the heat pump (see heat pump technical guide).

Making the connections on the heating water side (cont.)

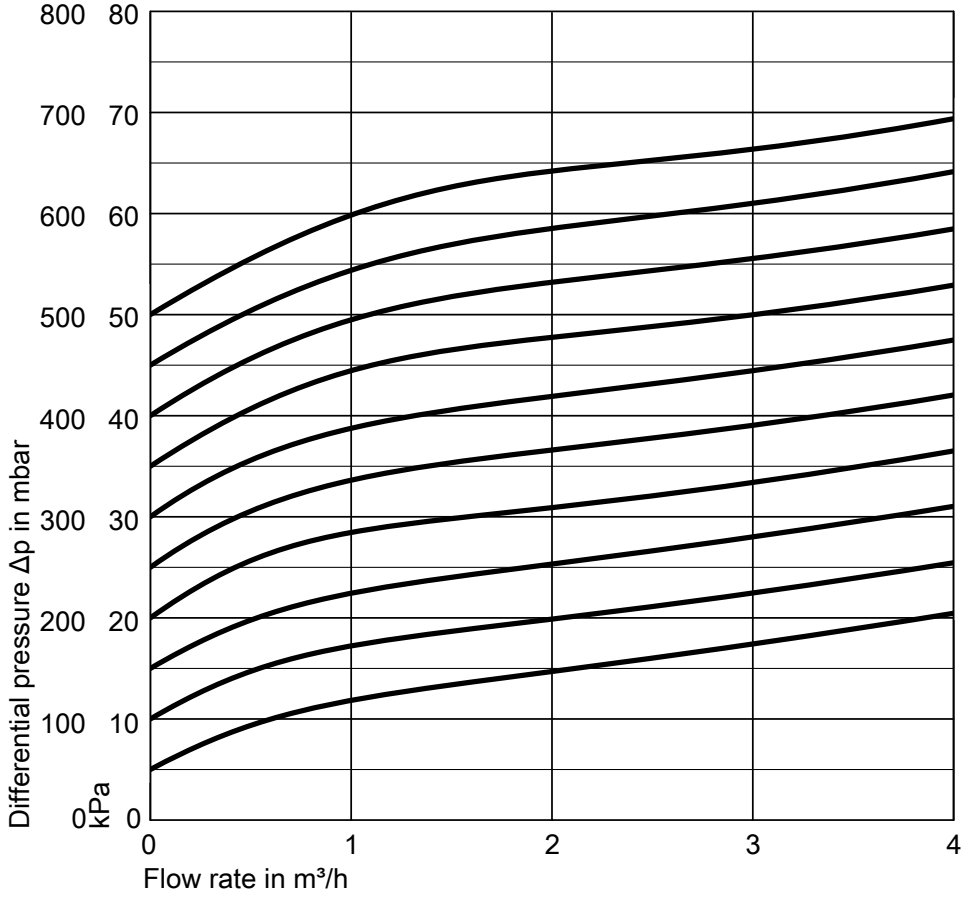

Fig. 6

Note

- *With sealed unvented heating circuits, the minimum flow rate must be safeguarded via the overflow valve.*
- *With open vented heating circuits, there should be no throughput via the overflow valve.*

Filling and venting the heating water buffer cylinder

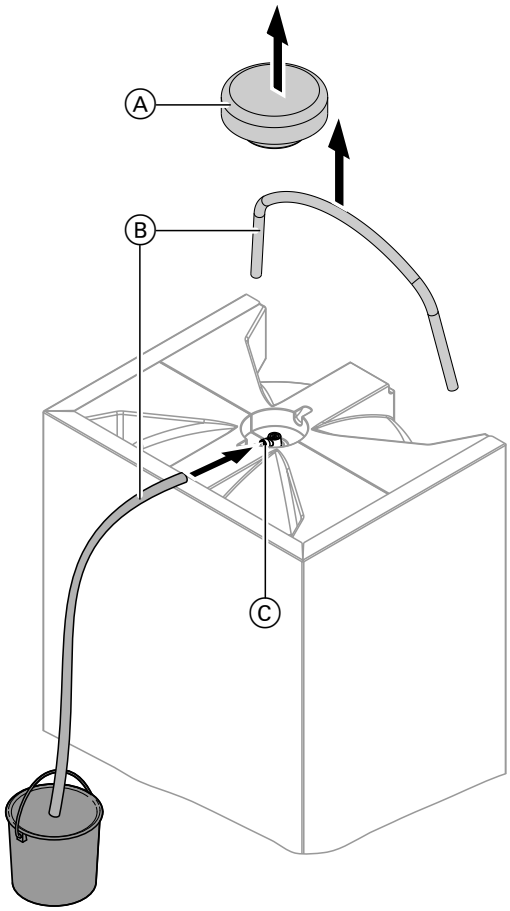

Fig. 7

1. Remove thermal insulation cap Ⓐ.
2. Take air vent hose Ⓑ out of its retainer.
3. Push air vent hose Ⓑ onto air vent valve Ⓒ.
4. Fill the system with water. While filling, leave the air vent valve open until water flows from the air vent hose.

Parts list

The following details are required when ordering parts:
- Serial no. (see type plate)
- Position number of the part (from this parts list)

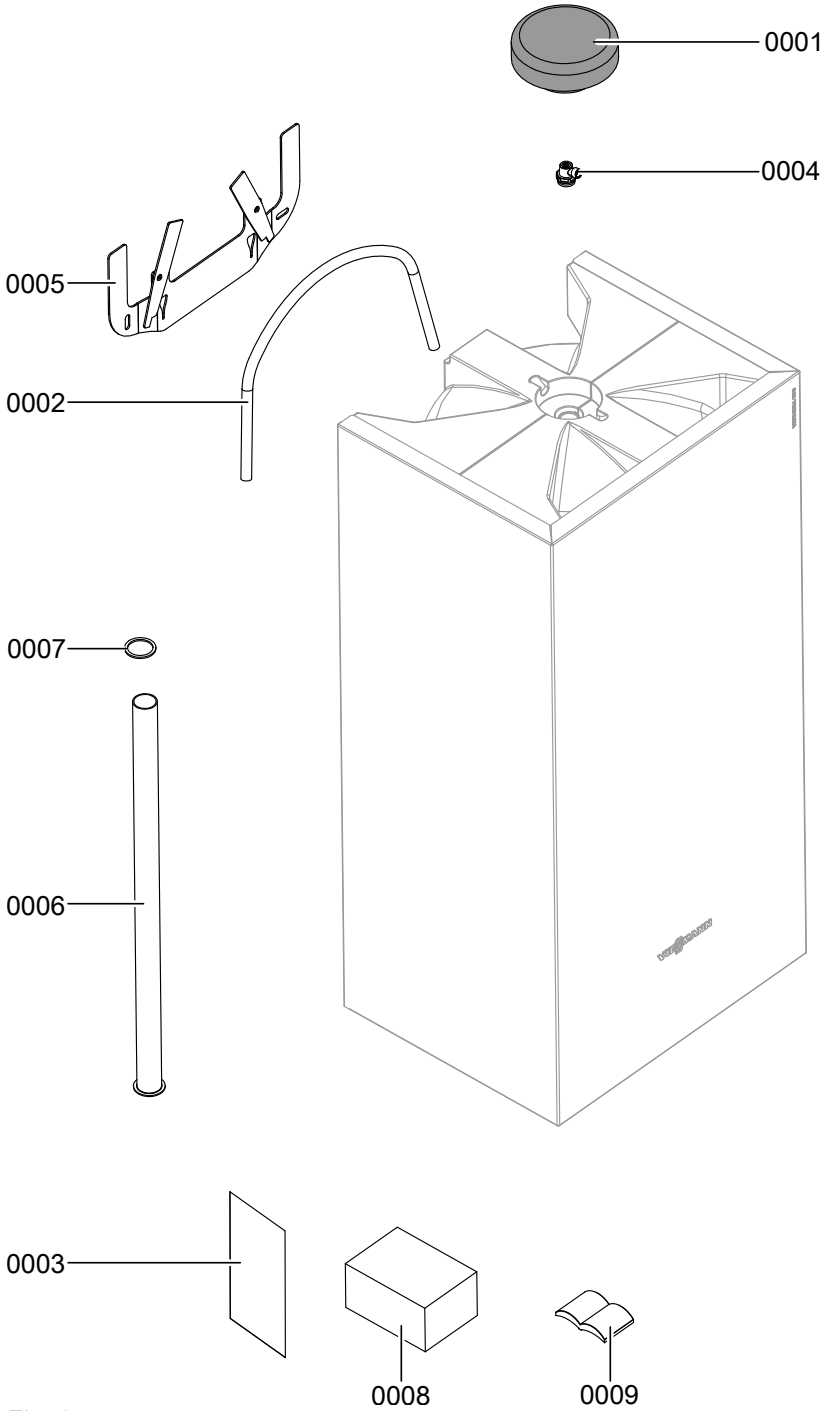

Fig. 8

Parts list (cont.)

Pos.	Part
0001	Thermal insulation cap
0002	Silicone hose (air vent hose)
0003	Type plate
0004	Air vent valve (drain plug G ½)
0005	Wall mounting bracket
0006	Lance (internal heating water pipe)
0007	Gasket
0008	Overflow valve
0009	Installation and service instructions

Specification

Cylinder capacity	**l**	**46**
Standby heat loss to EN 12897: 2006 Q_{ST} at 45 K temperature differential	kWh/24 h	0.94
Dimensions		
Length (excl. wall mounting bracket)	mm	370
Width	mm	450
Height	mm	958
Weight	kg	22.47

Final decommissioning and disposal

Viessmann products can be recycled. Components and substances from the system are not part of ordinary household waste.
For decommissioning the system, isolate the system from the power supply and allow components to cool down where appropriate.
All components must be disposed of correctly.

Keyword index

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Viessmann Werke GmbH & Co. KG
D-35107 Allendorf
Telephone: +49 6452 70-0
Fax: +49 6452 70-2780
www.viessmann.com

Viessmann Limited
Hortonwood 30, Telford
Shropshire, TF1 7YP, GB
Telephone: +44 1952 675000
Fax: +44 1952 675040
E-mail: info-uk@viessmann.com