Installation and service instructions for contractors



Vitocell 300-V/-W Type EVIB-A+ 160 and 200 I Type EVIB-A 160 to 300 I Type EVIA-A 500 I DHW cylinder with internal indirect coil

VITOCELL 300-V/-W



Safety instructions

 $/ \Lambda$

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.

Target group

These instructions are exclusively intended for qualified contractors.

Note

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

- 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
- Working on the system

- Codes of practice of the relevant trade associations
- Relevant country-specific safety regulations
- 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.

Safety instructions (cont.)



Danger

Floors that are wet or damp with water or glycol based liquids can cause injury due to slipping and falling.

- Keep the floor clean and dry during installation and maintenance work.
- Wear non-slip shoes.

Repair work

- 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.

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.



Danger

Broken-off fragments of insulation material can cause death by suffocation if inhaled or swallowed.

- Do not let children play in the installation room.
- Keep the installation room clean after installation and maintenance work.

Index

Index

1.	Information	Disposal of packaging	5
••		Symbols	
		Intended use	
		Product information	
		Inspection and maintenance	-
		System examples	
		Spare parts lists	
			0
2.	Preparing for installation	Unpacking and handling (160, 200 and 300 I)	7
		Connections	
		Siting information	8
		 Siting the DHW cylinder with immersion heater 	
3.	Installation sequence	160 to 300 I capacity	10
	·	 Fitting the cylinder temperature sensor and thermometer sensor (if supplied) 	
		 Attach the cover and cap, affix the type plate 	
		500 I capacity	
		 Siting the DHW cylinder and fitting the thermal insulation mat at the 	
		bottom	12
		Fitting the thermometer sensor (if supplied) and cylinder tempera-	
		ture sensor	13
		Fitting the thermal insulation jacket	14
		Fitting the cover strips	15
		Fitting the cover	16
		Connections on the heating water side	16
		Connections on the DHW side	17
		 Safety valve 	18
		Connecting the DHW circulation pipe for cylinder banks	18
		 In conjunction with boilers or district heating systems without heat- ing water return temperature limiting facility and a DHW circulation 	
		pipe	19
		 In conjunction with district heating systems with a return tempera- ture limiting facility on the heating water side and/or in conjunction 	
		with several DHW circulation pipes	19
		Connecting the equipotential bonding	
4.	Commissioning, inspec- tion, maintenance	Steps - commissioning, inspection and maintenance	21
5.	Commissioning/service reports		26
6.	Specification		27
7.	Disposal	Final decommissioning and disposal	28
8.	Certificates	Declaration of conformity	29

Disposal of packaging

Please dispose of packaging waste in line with statutory regulations.

Symbols

Symbol	Meaning
	Reference to other document containing further information
1.	Step in a diagram: The numbers correspond to the order in which the steps are carried out.
!	Warning of material losses and environ- mental pollution
4	Live electrical area
٩	Pay particular attention.
) D	 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.
X	Dispose of component at a suitable collec- tion 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
ô	Steps required during commissioning
¢°	Not required during commissioning
	Steps required during inspection
	Not required during inspection
محر	Steps required during maintenance
Je .	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.

Information

Intended use (cont.)

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).

Product information

Vitocell 300-V/-W, type EVIB-A+, EVIB-A and EVIA-A

Stainless steel DHW cylinder with internal indirect coil for DHW heating in conjunction with floorstanding and wall mounted boilers

- An immersion heater can be used for 300 and 500 I cylinder capacities.
- Suitable for systems to DIN 1988, EN 12828 and DIN 4753

Inspection and maintenance

DIN 1988 requires a visual inspection and (if necessary) cleaning no later than 2 years after the cylinder has been commissioned, and thereafter according to requirements.

System examples

Available system examples: See **www.viessmann-schemes.com**.

Spare parts lists

Information about spare parts can be found at **www.viessmann.com/etapp** or in the Viessmann spare part app.





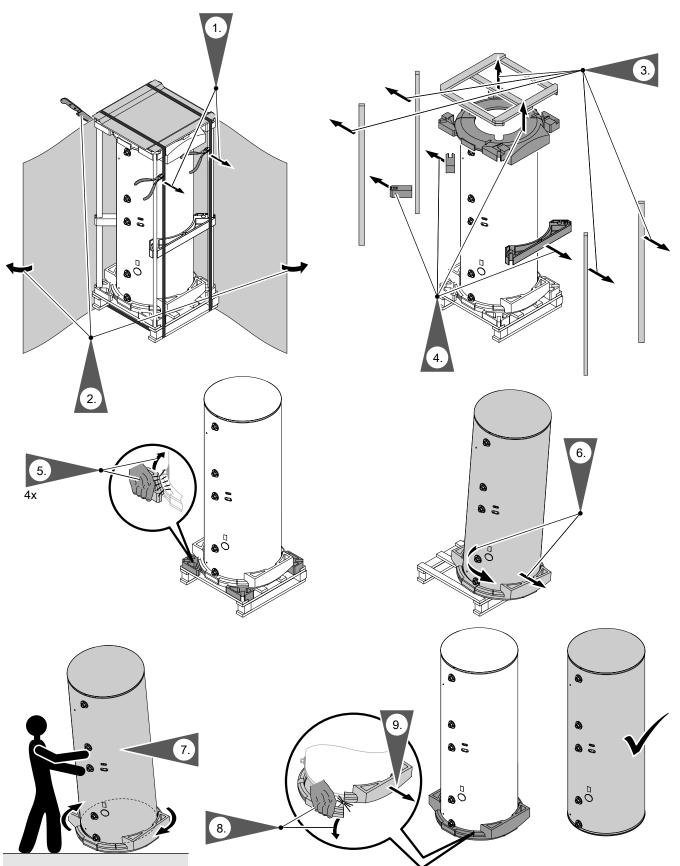


Adhere to statutory regulations, especially concerning the hygiene of potable water.

Contents:

- Type EVIB-A+: 160 and 200 I
- Type EVIB-A: 160, 200 and 300 I
- Type EVIA-A: 500 I

Unpacking and handling (160, 200 and 300 I)





Preparing for installation

Connections

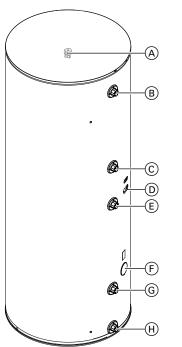
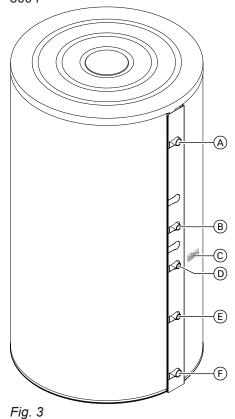


Fig. 2 160, 200 and 300 l capacity

- A High limit safety cut-out, below the thermal insulation
- B DHW
- © DHW circulation
- (D) Clamping device for cylinder temperature sensor
- E Heating water flow
- (F) Injection process plug for insulating foam (do not use, keep closed)
- G Heating water return
- $(\ensuremath{\mathbb{H}})$ Cold water

500 I



ig. o

- A DHW
- (B) DHW circulation
- © Clamp (behind the thermal insulation) for cylinder temperature sensor or temperature controller
- D Heating water flow
- (E) Heating water return
- Cold water

Siting information

- Please note
 - The thermal insulation must not come into contact with naked flames.

Exercise caution when welding and brazing.

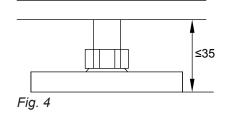
- Please note
- To prevent material damage, site the DHW cylinder in a room free from the risk of frost and draughts.

Alternatively, drain the DHW cylinder when not in use and there is a risk of frost.

Use the adjustable feet to level the DHW cylinder.

Note

Only use one or two of the adjustable feet to level the DHW cylinder. At least one of the adjustable feet must remain fully screwed in.



Do **not** extend the adjustable feet beyond a total length of 35 mm.

Siting information (cont.)

Siting the DHW cylinder with immersion heater

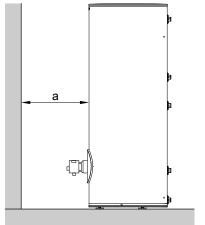


Fig. 5 Example: 300 I capacity

Immersion heater installation instructions

Maintain the minimum clearance.

Cylinder capacity in I	Dim. a in mm
300	min. 730
500	min. 670

Note

The unheated length of any threaded immersion heater installed on site must be at least 100 mm.

160 to 300 I capacity

Fitting the cylinder temperature sensor and thermometer sensor (if supplied)

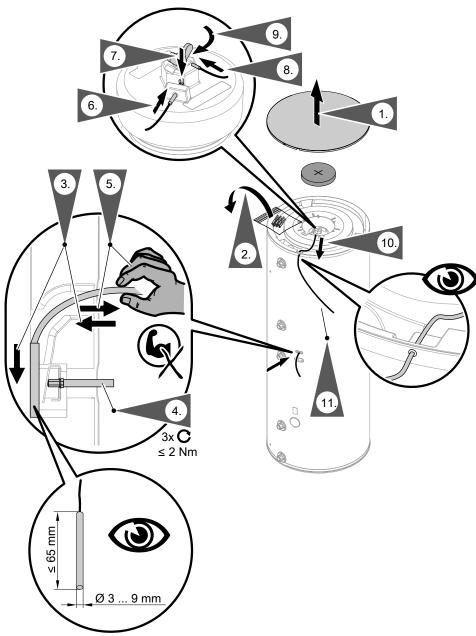


Fig. 6

- **3.** Insert the cylinder temperature sensor as far as it will go into the opening of the clamping device.
- 4. Hand-tighten the cylinder temperature sensor with the screw provided. When doing so, hold the cylinder temperature sensor in place in the sensor terminal until the screw is screwed in.

Please note

- Overtightening the fixing screw may damage the cylinder temperature sensor. Torque: Max. 2 Nm
- 5. Pull gently on the lead from the cylinder temperature sensor to check that it is securely fitted in the clamping device.

- 6. Insert the upper thermometer sensor as far as it will go into the hole in the cylinder cap.
- **7.** Use clips to secure the thermometer sensor against being pulled out.
- **8.** Insert the sensor of the high limit safety cut-out into the aperture next to the wing nut.
- 9. Tighten the wing nut.
- **10.** Guide the thermometer cable through the groove in the thermal insulation and the hole in the sheet steel casing.

160 to 300 I capacity (cont.)

11. Secure the thermometer (accessory) to the wall.

Installation instructions for wall thermome-ter

Attach the cover and cap, affix the type plate

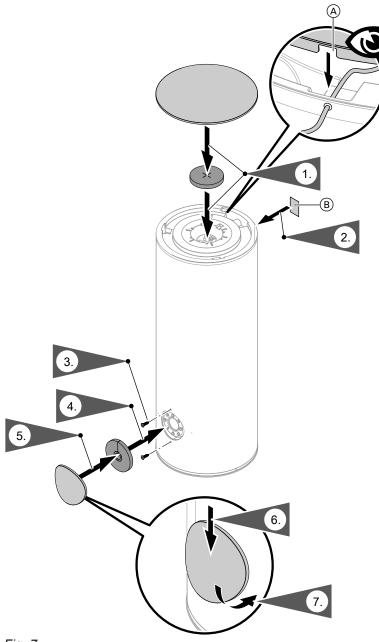


Fig. 7

500 I capacity

Siting the DHW cylinder and fitting the thermal insulation mat at the bottom

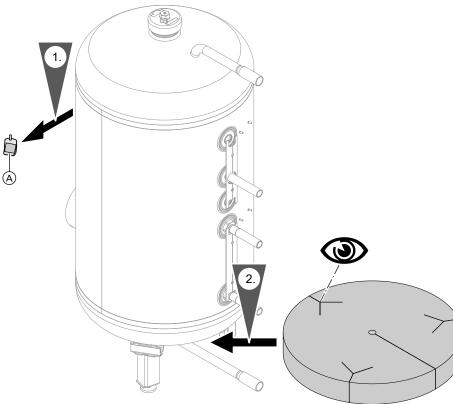
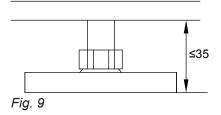


Fig. 8

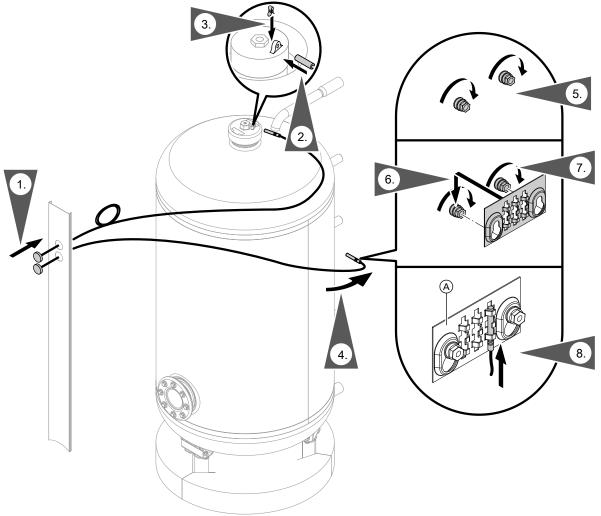


Note

Only use one or two of the adjustable feet to level the DHW cylinder. At least one of the adjustable feet must remain fully screwed in.



Do **not** extend the adjustable feet beyond a total length of 35 mm.



Fitting the thermometer sensor (if supplied) and cylinder temperature sensor

Fig. 10

1. Guide the thermometer sensor through the cover strip. Insert the thermometer.

Note

The cover strip is held in its vertical position by the straight capillaries. This is necessary for the rest of the installation.

- **2.** Insert the upper thermometer sensor as far as it will go into the hole in the cylinder cap.
- **3.** Use clips to secure the thermometer sensor against being pulled out.
- **4.** Route the bottom thermometer sensor capillaries to the back of the cylinder body.
- **5.** Screw the nuts onto the threaded studs. Do not tighten.

- **6.** Slot the clamping devices onto the threaded studs and align.
- 7. Tighten the nuts.
- Depending on where the sensor is being fitted: Insert the thermometer sensors and cylinder temperature sensor into clamp (A) as far as they will go.

Note

- Never wrap insulating tape around the sensors.
- When the thermal insulation is being fitted, the cylinder temperature sensor leads are routed outwards through the apertures (slots) in the rear cover strip.

Installation

500 I capacity (cont.)

Fitting the thermal insulation jacket

Note

- Ensure that no fleece remnants enter the DHW cylinder through the cylinder connections.
- 2 people are required for the following work.

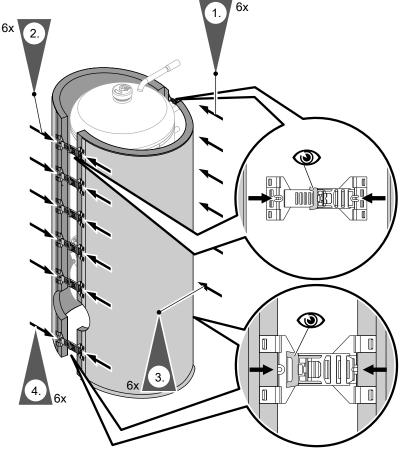


Fig. 11

1. At the back of the cylinder: Attach 6 clip fasteners to the edges of the right and left sections of the thermal insulation jacket. Place the thermal insulation jacket around the cylinder body.

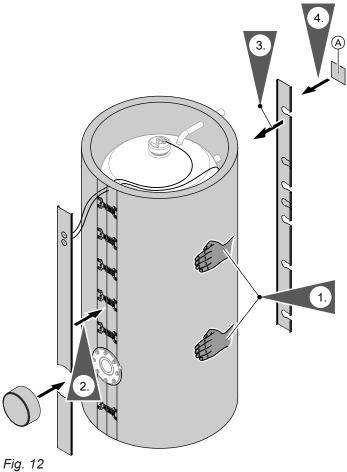
Note

Leave the clip fasteners in the first notch.

- 2. At the front of the cylinder: Attach 6 clip fasteners to the edges of the right and left sections of the thermal insulation jacket.
- **3.** Push the clip fasteners at the back of the cylinder as close together as possible.
- **4.** Push the clip fasteners at the front of the cylinder as close together as possible.

500 I capacity (cont.)

Fitting the cover strips



- (A) DHW cylinder type plate
- **1.** Fit the thermal insulation jacket evenly around the cylinder body by patting it.
- 2. Mount the front cover strip and flange cover.
- 3. Fit the back cover strip.
- 4. Affix the type plate.

500 I capacity (cont.)

Fitting the cover

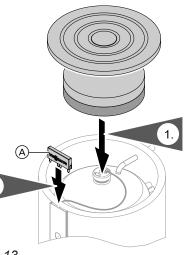


Fig. 13

2.

(A) Cap with Viessmann logo

Connections on the heating water side

- Connect all pipework with detachable fittings.
- Seal any connections that are not required with red brass caps.
- Adjust the temperature controller and high limit safety cut-out so that the DHW temperature in the DHW cylinder does not exceed 95 °C.

Please note

- The internal indirect coil is installed with gaskets.
 - Temperatures > 150 °C at the connections will damage the gaskets.
 Maintain a safe distance when soldering and welding.
 - Realigning the connector will damage the gaskets.

Permissible heating water flow temperature	
 Heating water side 	160 °C
Permissible operating pressure	
 Heating water side 	10 bar 1 MPa
 DHW side 	10 bar 1 MPa
Test pressure	
 Heating water side 	16 bar 1.6 MPa
 DHW side 	16 bar 1.6 MPa
Permissible DHW temperature	95 °C

Note

The soft side of the thermal insulation must rest against the cylinder body.

Connections on the heating water side (cont.)

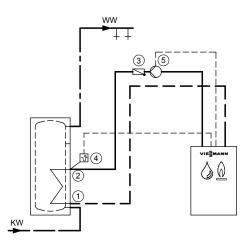


Fig. 14

- 1 Heating water return
- 2 Heating water flow
- ③ Spring-loaded check valve
- (4) Cylinder temperature sensor or temperature controller and high limit safety cut-out (if required)
- 1. For heating water flow temperatures in excess of 95 °C and cylinder capacity of 300 I: Remove the pipe collars from the pipe outlets on the heating water side.

Note

Pipe collars have l.h. threads.

2. Install the heat supply control unit.

Connections on the DHW side

- For connections on the DHW side, observe DIN 1988 and DIN 4753.
 (CH): SVGW regulations.
- Connect all pipework with detachable fittings.
- Seal any connections that are not required with red brass caps.
- Equip the DHW circulation pipe with a DHW circulation pump and a check valve.
- Connection of the DHW circulation pump:
- Connection to the boiler control unit if it is equipped with a DHW circulation pump connection.
- Connection with a time switch if no DHW circulation pump connection is available on the boiler control unit.
- Connection via time switch.
- Always install cylinder banks with connected DHW circulation.

- 5 Circulation pump
- KW Cold water
- WW DHW
- **3.** Install the flow line with a rise and fit an air vent valve at the highest point.
- Only for heating water flow temperatures in excess of 110 °C:
 If the system does not already have one, also install a type-tested high limit safety cut-out.
 For this, use a temperature limiter and high limit safety cut-out (TR/STB).

Please note

The internal indirect coil is installed with gaskets.

 Temperatures > 150 °C at the connections will damage the gaskets.

Maintain a safe distance when soldering and welding.

 Realigning the connector will damage the gaskets.

Connections on the DHW side (cont.)

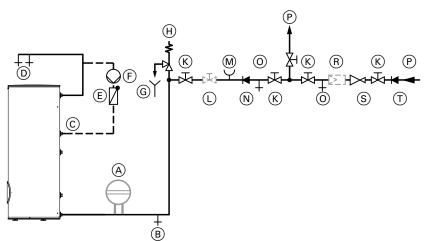


Fig. 15 Example: 300 l capacity

(A) Diaphragm expansion vessel

- B Drain
- © DHW circulation pipe
- D DHW
- (E) Spring-loaded check valve
- F DHW circulation pump
- G Visible discharge pipe outlet point
- (H) Safety valve
- K Shut-off valve

- L Flow regulating valve
- M Pressure gauge connector
- Non-return valve
- O Drain
- P Cold water
- (R) Drinking water filter
- S Pressure reducer
- ⑦ Non-return valve/pipe separator

Safety valve

The system must be equipped with a type-tested diaphragm safety valve as protection against overpressure.

Permissible operating pressure: 10 bar (1 MPa). The connection diameter of the safety valve must be as follows:

- For 160 and 200 I cylinder capacity: R ½ (DN 15), max. heat input 75 kW
- For 300 I to 1000 I cylinder capacity: R ¾ (DN 20), max. heat input 150 kW
- For 1000 I to 5000 I cylinder capacity: R 1 (DN 25), max. heat input 250 kW

Select a safety valve with a higher rating if the heat input of the DHW cylinder is greater than the maximum heat input assigned to the capacity. (See DIN 4753-1, issue 3/88, section 6.3.1).

Install the safety valve in the cold water line. Ensure it cannot be shut off from the DHW cylinder. There must be no constrictions in the pipework between the safety valve and the DHW cylinder.

Please note

Never seal off the safety valve discharge pipe. The overpressure can damage the system. Ensure that any expelled water is safely and visibly drained into a drainage system. Position a sign close to the safety valve discharge pipe, or ideally on the safety valve itself, with the following inscription: "For safety reasons, water may be discharged from the discharge pipe during heating! Never seal."

Install the safety valve above the top edge of the DHW cylinder.

Connecting the DHW circulation pipe for cylinder banks

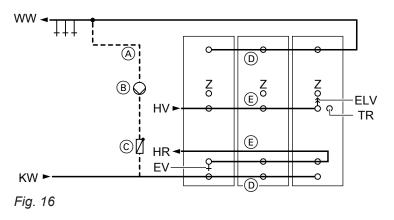
Note

Always install cylinder banks with connected DHW circulation.

Notes on the diagrams below

- Headers D for DHW must be approved for drinking water.
- Install the temperature controller in the final cylinder, as viewed from the heating water flow.
- The "DHW" connection can, contrary to the diagrams, also be connected on the same side as the heating water flow, and the "cold water" connection can be implemented on the same side as the heating water return. This ensures that every cylinder is heated and that water is drawn off from every cylinder equally.

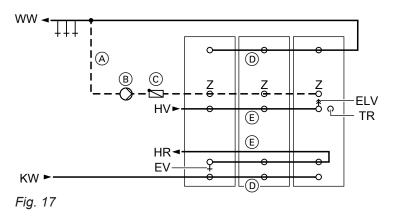
In conjunction with boilers or district heating systems without heating water return temperature limiting facility and a DHW circulation pipe



- (A) DHW circulation pipe
- B DHW circulation pump
- © Spring-loaded check valve
- D Header on the DHW side (stainless steel)
- (E) Header on the heating water side (steel)
- ELV Air vent valve
- EV Drain valve

- HR Heating water return
- HV Heating water flow
- KW Cold water
- WW DHW
- TR Temperature controller
- Z DHW circulation

In conjunction with district heating systems with a return temperature limiting facility on the heating water side and/or in conjunction with several DHW circulation pipes



- (A) DHW circulation pipe
- B DHW circulation pump
- © Spring-loaded check valve
- D Header on the DHW side (stainless steel)
- (E) Header on the heating water side (steel)
- ELV Air vent valve
- EV Drain valve
- HR Heating water return
- HV Heating water flow
- KW Cold water

Connecting the DHW circulation pipe for... (cont.)

WW DHW

- TR Temperature controller
- Z DHW circulation

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 technical requirements stipulated by your local power supply utility and SEV regulations.

💣 👁 🗲 Steps - commissioning, inspection and maintenance

			 Commissioning steps Inspection steps Maintenance steps 	age
o ^o	, ©	ىر		
•			1. Filling the DHW cylinder	22
	•	•	2. Shutting down the system	
•	•	•	3. Checking the safety valve function	
	•	•	4. Cleaning the inside of the DHW cylinder	22
	•	•	5. Reassembling the DHW cylinder	24
•	•	•	6. Checking the connections on the water side for tightness	

Commissioning, inspection, maintenance



Filling the DHW cylinder

1. Fill the DHW cylinder on the DHW side.

Note

If the DHW cylinder is pressurised, tighten the flange cover with a torque of 40 Nm. The cylinder cap does not need to be retightened.



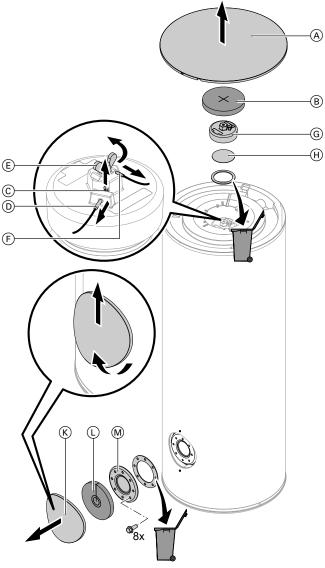
Shutting down the system

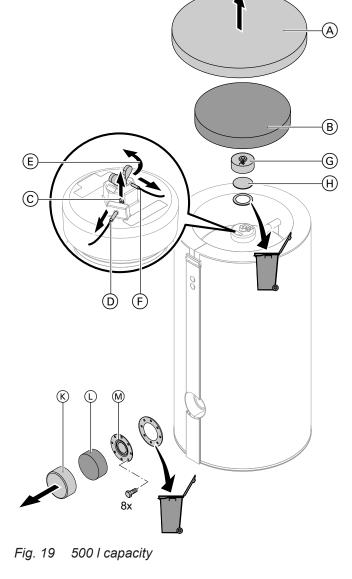
ç° 💿 🌽

Checking the safety valve function

Cleaning the inside of the DHW cylinder







2. Check the fittings on the heating water and DHW sides for leaks and tighten if required.

3. Check the function of the safety valves according

to the manufacturer's instructions.

Fig. 18 160 to 300 I capacity

1. Remove cover (A) and thermal insulation (B).



- 2. If present, remove spring clip ©. Pull out thermometer sensor D.
- Undo wing nut (Ē). Pull out the sensor for high limit safety cut-out (F).
- 4. Remove cylinder cap G and stainless steel circular blank H.
- 5. Drain the DHW cylinder on the DHW side.
- 6. Remove cap (K), thermal insulation (L) and flange cover (M).
- **7.** Disconnect the DHW cylinder from the pipework to prevent cleaning agents and contaminants from entering the pipework.

8. Please note

Pointed, sharp and hard objects can damage the interior of the cylinder.
 Only use plastic tools to clean the interior.

Remove loose deposits with a high pressure cleaner or manually.

∧ Danger

9.

 Cleaning agent residues can lead to poisoning.
 Observe the cleaning agent manufacturer's instructions.

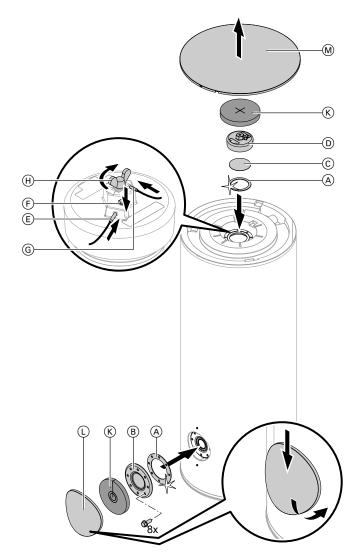
Please note Cleaning agents containing hydrochloric acid can damage the inside of the cylinder. Never use cleaning agents containing hydrochloric acid.

Use a chemical cleaning agent to remove hard deposits that cannot be removed with a high pressure cleaner.

- 10. Fully drain all cleaning agent.
- **11.** Flush the DHW cylinder **thoroughly** after cleaning.



Reassembling the DHW cylinder



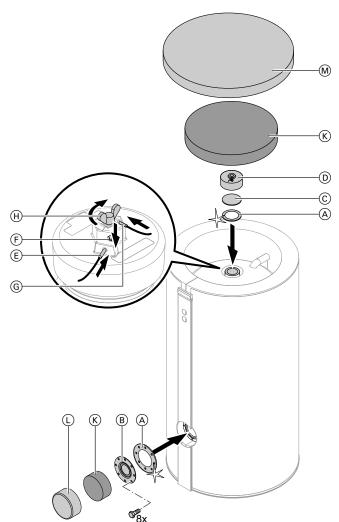


Fig. 20 160 to 300 I capacity

Fig. 21 500 / capacity

- 1. Reconnect the DHW cylinder to the pipework.
- **2.** Insert **new** gaskets \triangle .
- 3. Fit flange cover (B). Max. torque: 40 Nm
- Refit stainless steel circular blank (C) and cylinder cap (D). Max. torque: 160 Nm
- 5. Fill the DHW cylinder on the DHW side.
- 6. Retighten all flange covers (B). Max. torque: 40 Nm
- 7. If present, insert thermometer sensor (E) and secure with spring clip (F).
- 8. Insert high limit safety cut-out sensor G and secure with wing nut H.
- **9.** Fit thermal insulation (K), cap (L) and cover (M).

6173387

ي ان ا



💣 👁 🌽 Checking the connections on the water side for tightness

Commissioning/service reports

	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			

enance/service Maintenance/service Maintenance	service

	Maintenance/service	Maintenance/service	Maintenance/service
Date:			
By:			
,			

	Maintenance/service	Maintenance/service	Maintenance/service
Date:			
By:	_		

	Maintenance/service	Maintenance/service	Maintenance/service
Date:			
By:			

Specification

Vitocell 300-V/W, type EVIA-A+ and EVIA-A

Туре			3-A+		EVIB-A		EVIA-A
Cylinder capacity	I	160	200	160	200	300	500
DIN registration number			Applied for				
Standby heat loss	kWh/24 h	0.705	0.75	0.975	1.04	1.18	1.37
Dimensions							
Length (Ø) a							
 Incl. thermal insulation 	mm	634	634	634	634	668	1022
 Excl. thermal insulation 	mm	_	_	_	_	_	715
Width b							
Incl. thermal insulation	mm	661	661	661	661	706	1084
 Excl. thermal insulation 	mm	_	_	_	_	_	954
Height d							
Incl. thermal insulation	mm	1190	1410	1190	1410	1740	1852
 Excl. thermal insulation 	mm	-	_	_	_	_	1667
Height when tilted							
 Incl. thermal insulation 	mm	1323	1520	1323	1520	1840	_
 Excl. thermal insulation 	mm	_	_	_	_	_	1690
Entire weight incl. thermal insulation	kg	57	57	65	65	92	110.1
Connections (male thread)							
Heating water flow and return	G	1	1	1	1	1	1
Cold water, DHW	G	3/4	3/4	3⁄4	3/4	1	1¼
DHW circulation	G	3/4	3/4	3/4	3/4	1	1

Specification for immersion heater EHE in conjunction with Vitocell 300-V/-W

Туре	EVIB-A	EVIA-A	
Cylinder capacity		300	500
Content that can be heated by the immersion heater		256	390
Width incl. immersion heater EHE	mm	830	1103
Minimum wall clearance for installation of the immersion heater EHE	mm	730	670
Heat-up time from 10 to 60 °C with immersion heater EHE:			
• 2 kW	h	7.3	11.4
• 4 kW	h	3.6	5.7
• 6 kW	h	2.4	3.8

Specification – immersion heater EHE

Output range	kW	Max. 6		
Rated consumption standard mode/quick heat- up	kW	2	4	6
Rated voltage		3/N/PE 400 V/50 Hz		
Rated current	А	8.7		
Weight	kg	2		
IP rating		IP 45		

Final decommissioning and disposal

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

All components must be disposed of correctly.

Declaration of conformity

We, Viessmann Werke GmbH & Co. KG, D-35107 Allendorf, declare as sole responsible body that the named product complies with the European directives and supplementary national requirements in terms of its design and operational characteristics. Using the serial number, the full Declaration of Conformity can be found on the following website: www.viessmann.co.uk/eu-conformity



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

Viessmann Climate Solutions SE 35108 Allendorf Telephone: +49 6452 70-0 Fax: +49 6452 70-2780 www.viessmann.com