

# Installation instructions

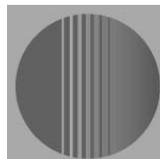
for contractors

# VIESSMANN

## Vitocell 300-B

### Type EVB

DHW cylinder with internal indirect coils  
300 and 500 litre capacity



## VITOCELL 300-B



**300 litre capacity**

**500 litre capacity**

## Safety instructions



*Please follow these safety instructions closely to prevent accidents and material losses. For safety instructions in conjunction with boilers, see separate installation instructions.*

### Safety regulations

Installation, commissioning, inspection, maintenance and repairs must only be carried out by a competent person (heating engineer/ installation contractor).

Observe all current safety regulations as defined by DIN, EN, DVGW, TRGI, TRF and VDE or locally applicable standards. See also the "Safety instructions" in the "Vitotec technical documentation" folder.

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.

### **Safety instructions**

*In this instruction manual, this heading denotes information which must be observed to prevent accidents and material losses.*

 *This symbol denotes important information which must be observed to prevent material losses.*

## Product information

DHW cylinder with internal indirect coils, made from stainless steel for heating domestic hot water in conjunction with boilers, district heating or low temperature heating systems for dual-mode operation.

300 and 500 litre capacity

Suitable for systems conforming to DIN 1988, DIN 4751 and DIN 4753.

DIN registration applied for.

# DHW cylinder installation

## General information

### ⚠ Safety instructions

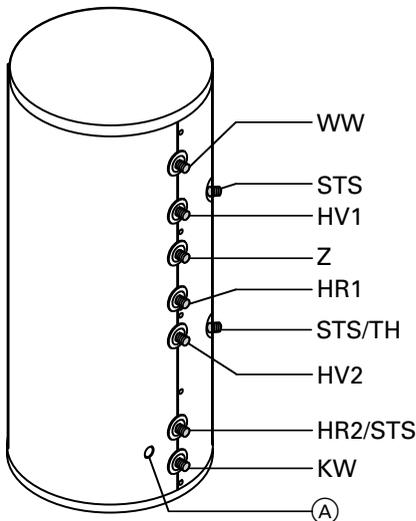
Install the DHW cylinder in a frost-protected and draught-free room. Otherwise it must be drained when not in use and there is a risk of frost.



### Please note

The thermal insulation must not be able to come into contact with naked flames. Exercise caution when welding and soldering.

Provide adequate clearance from the wall so that the thermostat can be operated (if installed).



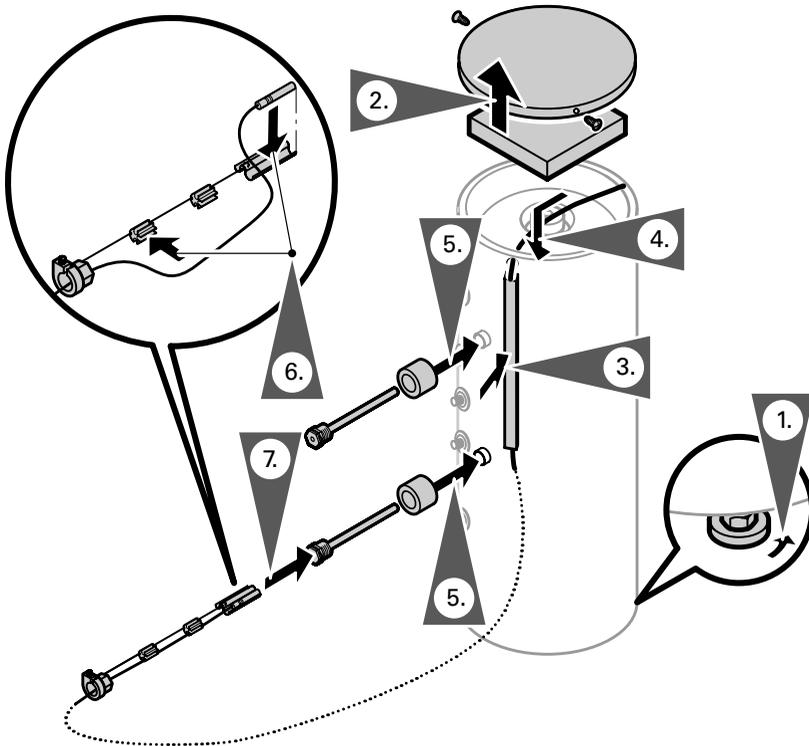
- Ⓐ only for 300 litres capacity:  
Equipotential bonding  
(outer jacket)
- HR1 Heating water return\*<sup>1</sup>
- HR2/STS Heating water return  
and cylinder temperature  
sensor for solar operation\*<sup>2,3</sup>
- HV1 Heating water flow\*<sup>1</sup>
- HV2 Heating water flow\*<sup>2</sup>
- KW Cold water
- STS Cylinder temperature sensor  
or control thermostat  
(upper internal indirect coil)
- STS/TH Cylinder temperature sensor  
or control thermostat and  
thermometer sensor  
(lower internal indirect coil)\*<sup>3</sup>
- WW DHW
- Z DHW circulation

\*<sup>1</sup>The upper internal indirect coil is provided for connection to a boiler or a heat pump.

\*<sup>2</sup>The lower internal indirect coil is provided for connection to solar collectors or heat pumps.

\*<sup>3</sup>Recommended arrangement of the cylinder temperature sensor for solar operation:  
With threaded elbow (accessory) in the heating water return.

### Installing a DHW cylinder with 300 litres capacity



1. Level the DHW cylinder with its adjustable feet.

**⚠ Safety instruction**  
*Never extend the adjustable feet beyond a total length of 35 mm.*

2. Remove the top panel and the thermal insulation mat.

3. Affix the cable channel.

4. Route the sensor lead of the lower thermometer through the opening and the cable channel.

5. Seal in the reducing connections and sensor wells.

6. Secure the thermometer sensor on the outside of the contact spring of the sensor retainer (not in the groove) so that it is flush with the front of the spring.

**Note**  
*Never wrap insulating tape around the sensor.*

7. Insert the sensor retainer together with the sensor into the lower sensor well until it bottoms out.

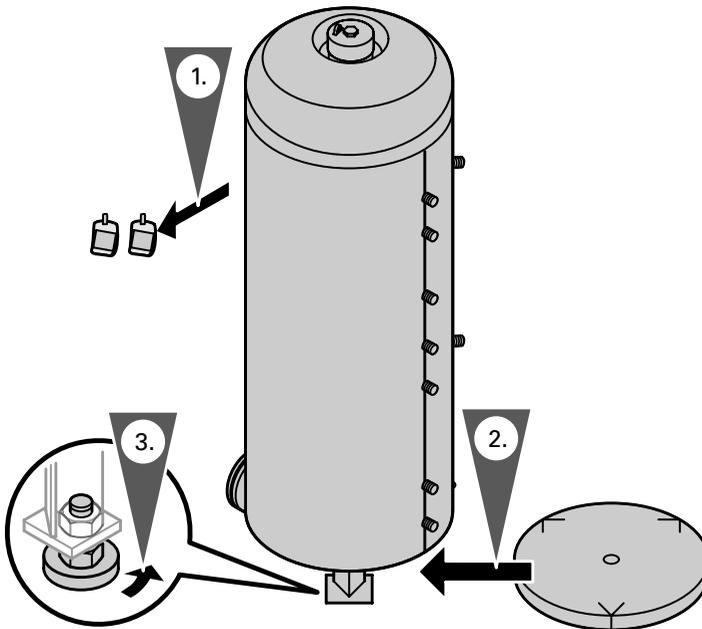
### Installing a DHW cylinder with 500 litres capacity



#### Please note

The thermal insulation must not be able to come into contact with naked flames. Exercise caution when welding and soldering.

All components required for fitting the thermal insulation can be found in the thermal insulation carton.



1. Remove the pack containing the type plate from the cylinder body, and keep safe.

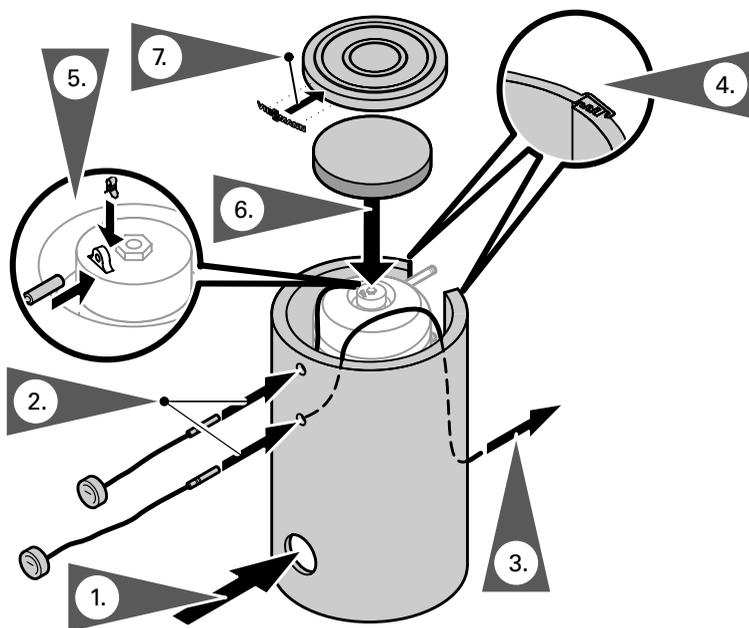
2. Push the thermal insulation mat underneath the DHW cylinder.

3. Level the DHW cylinder with its adjustable feet.

#### Safety instruction

**Never** extend the adjustable feet beyond a total length of 35 mm.

## DHW cylinder installation (cont.)

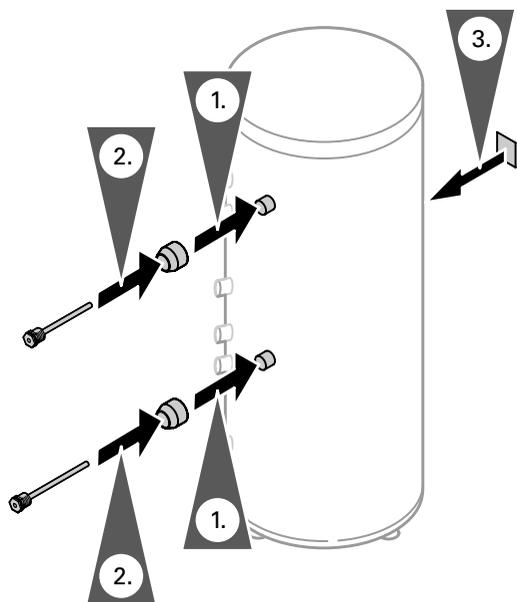


- 1 Push the thermal insulation jacket onto the flange.
- 2 Route the sensor lead of the upper thermometer (shorter lead) and the lower thermometer (longer lead) through the opening and push in the thermometers.
- 3 Guide the sensor of the lower thermometer over the cylinder body to the back of the cylinder and out through the cut-out in the thermal insulation for the heating water flow (HV2 see page 3).
- 4 Close the hooks on the closure strips.
- 5 Insert the sensor of the upper thermometer into the hole of the cylinder cap until it bottoms out, then secure with a clip to prevent pulling out.
- 6 Position the thermal insulation mat and lid.
- 7 Push the logo (from the type plate pack) into the lid.

### **Note**

*Install the sensor into the sensor well as shown on page 8.*

## DHW cylinder installation (cont.)



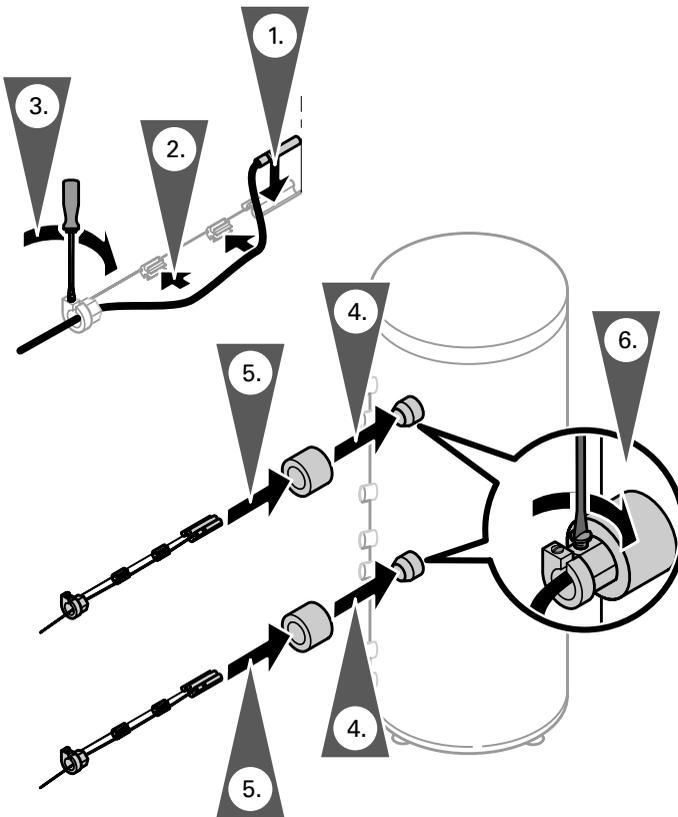
1. Seal in the reducing connections.
2. Seal in the sensor well.
3. Affix the type plate.

## Installing the sensor well and the cylinder temperature sensor

- The cylinder temperature sensor for the heating side is supplied in the package of the appropriate control unit. The solar side cylinder temperature sensor is supplied in the package of the solar control unit.
- Secure the sensor on the outside of the contact spring of the sensor retainer (not in the groove) so that it is flush with the front of the spring.
- Never wrap insulating tape around the sensor.
- Insert the sensor retainer together with the sensor into the sensor well until it bottoms out.

### ⚠ **Safety instruction**

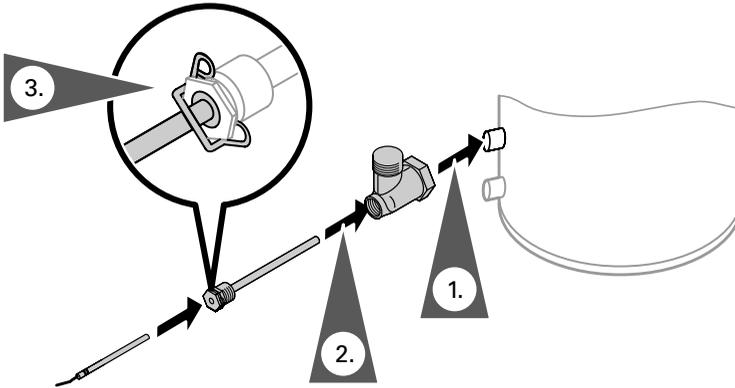
*For the sake of maximum operational reliability, use the sensor well supplied for the control unit sensor. If the sensor to be used does not fit this sensor well, use a different stainless steel sensor well (1.4571 or 1.4435).*



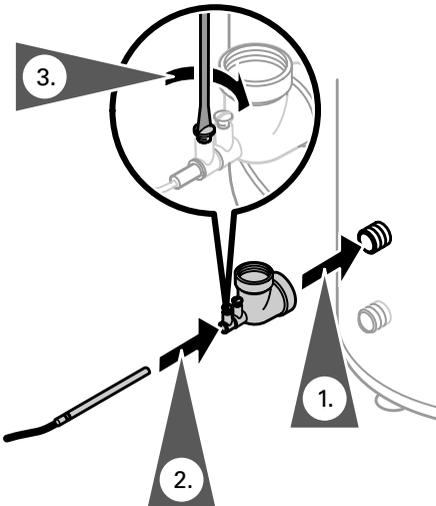
## Installing the cylinder temperature sensor for solar operation

In case of solar operation, install the cylinder temperature sensor with a threaded elbow (accessory) into the heating return (solar return). Insert the sensor until it bottoms out inside the sensor well.

### 300 litres capacity



### 500 litres capacity



## Connecting the earth bonding

Connect the earth bonding in accordance with the requirements stipulated by your local electricity supply company and current local regulations.

## Connecting the heating water side

### Note

- Adjust the control thermostat and high limit safety cut-out to ensure that the DHW temperature inside the DHW cylinder **never** exceeds 95 °C.
- Connect the pipework with detachable fittings.

#### Permiss. temperatures

■ solar side	200 °C
■ heating water side	200 °C
■ DHW side	95 °C

#### Test pressure

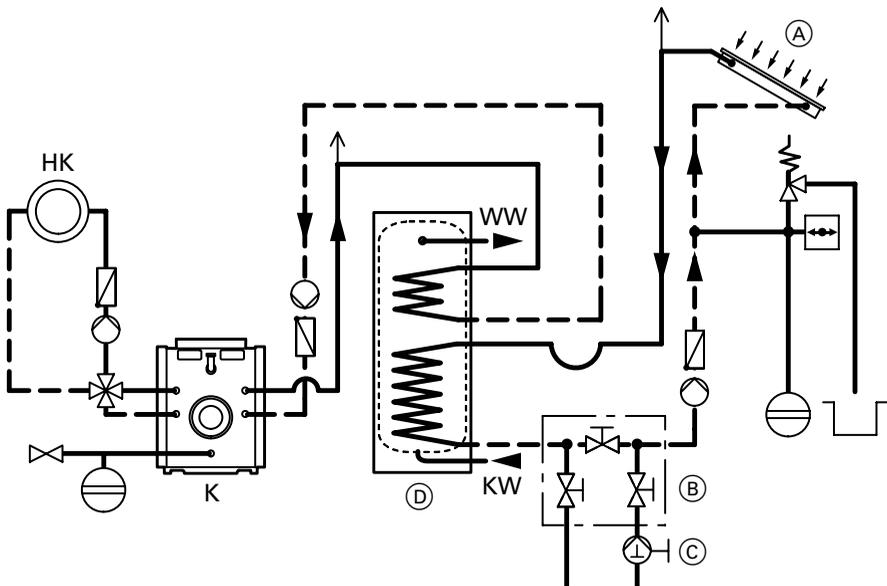
■ solar side (primary)	40 bar
■ heating water side (primary)	40 bar
■ DHW side (secondary)	13 bar

#### Permiss. operating pressure

■ solar side	25 bar
■ heating water side	25 bar
■ DHW side	10 bar

### Heating DHW through solar collectors

via the lower internal indirect coil and heat supply for reheating or heating the DHW by means of a boiler via the upper internal indirect coil (parallel operation)



- (A) Solar panel
- (B) DHW cylinder
- (C) Fill valve
- (D) Manual solar fill pump

- HK Heating circuit
- K Oil/gas fired boiler
- KW Cold water
- WW DHW

## Connecting the heating water side (cont.)

1. Only for heating water flow temperatures above 95 °C:  
Remove the cover bezels from the heating water side pipe outlets (bezels have l.h. threads).
2. Install the flow line with an incline and fit an air vent valve at its highest point.
4. Only for heating water flow temperatures above 110 °C:  
Install an additional type-tested high limit safety cut-out, if none has so far been installed in the system. For this, use a twin thermostat (temperature limiter and high limit safety cut-out).
3. Only for systems with solar operation install an additional high limit safety cut-out, if the following water volume is heated per m<sup>2</sup> absorber area:
  - Less than 30 litre DHW volume when using Vitosol flat plate collectors,
  - Less than 100 litre DHW volume when using Vitosol tube collectors.  
For this, install the cylinder cap with R ¾" nipple (accessory).
5. Close test ports that are not used for the installation of a sensor.

## Connecting the domestic hot water side

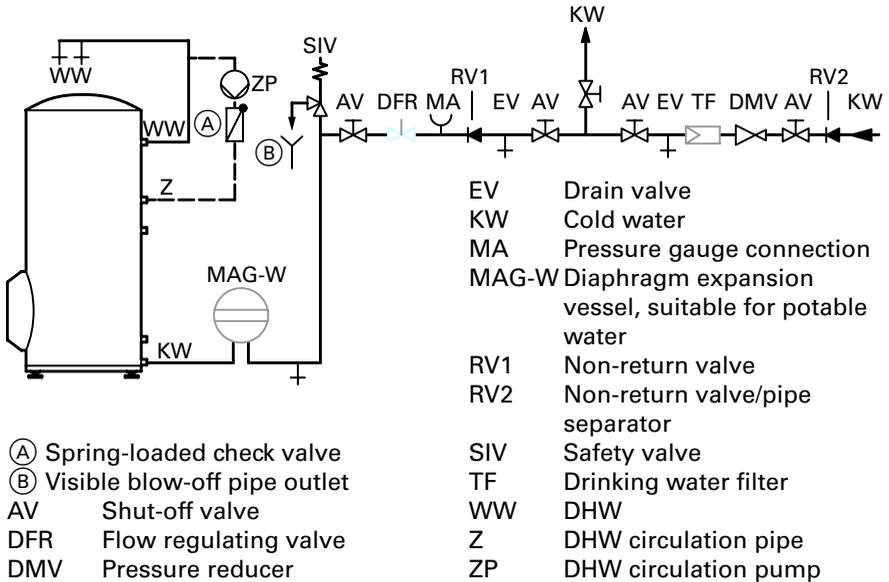
### General information

For connecting the DHW side, observe DIN 1988 and DIN 4753.

#### **Note**

- *Connect the pipework with detachable fittings.*
- *Seal connections that are not required with red brass caps.*
- *Equip the DHW circulation line with a circulation pump, check valve and time switch. Only a restricted gravity operation is possible.*
- *Always install the cylinder banks with connected DHW circulation.*

## Connecting the domestic hot water side (cont.)



### Notes regarding the safety valve

The system must be equipped with a type-tested diaphragm safety valve as protection against overpressure. Permiss. operating pressure: 10 bar. The connection diameter of the safety valve must be at least  $R \frac{3}{4}$ " (DN 20).

Consequently, the max. permissible input would be 150 kW.

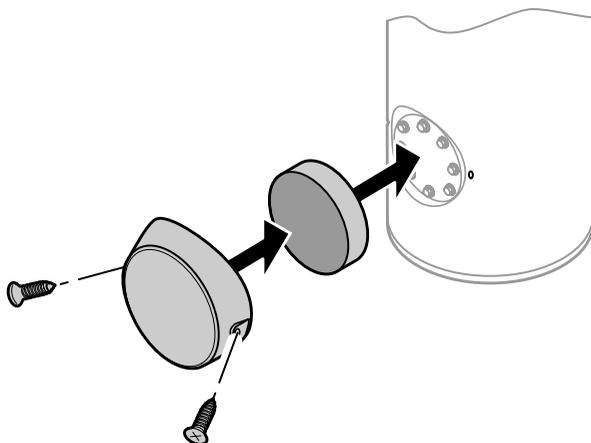
If the heating load of the DHW cylinder lies above the max. heating load allocated to the capacity, select a larger safety valve that is big enough for the actual heating load (see DIN 4753-1, issue 3/88, section 6.3.1).

Install the safety valve in the cold water pipe. It must not be able to be isolated from the DHW cylinder.

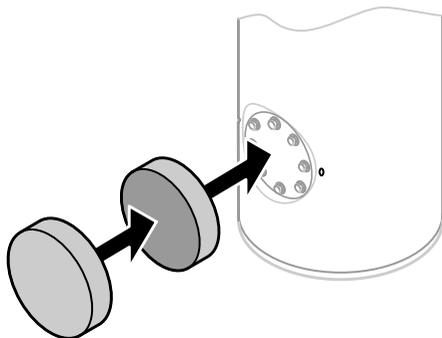
The pipework between the safety valve and the DHW cylinder must not be restricted in any way. The safety valve blow-off line must not be able to be closed. Expelled water should be safely and visibly drained into a dewatering unit. It is advisable to place a sign close to the safety valve blow-off line or on the safety valve itself with the following inscription: "For safety reasons, water may be discharged from the blow-off line during heating. Never seal off." The safety valve should be installed above the top edge of the DHW cylinder.

## Fitting the cover

300 litre capacity



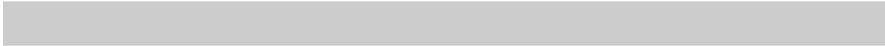
500 litre capacity



## Commissioning



*For commissioning the  
DHW cylinder, see  
"Service Instructions".*



Viessmann Werke GmbH&Co KG  
D-35107 Allendorf  
Tel: +49 6452 70-0  
Fax: +49 6452 70-27 80  
[www.viessmann.de](http://www.viessmann.de)

Viessmann Limited  
Hortonwood 30, Telford  
Shropshire, TF1 7YP, GB  
Tel: +44 1952 675000  
Fax: +44 1952 675040  
E-mail: [info-uk@viessmann.com](mailto:info-uk@viessmann.com)

5592 782 GB Subject to technical modifications.

 Printed on environmentally friendly,  
chlorine-free bleached paper