



# Vaillant VPS R 100 Buffer Cylinder Instruction Manual

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**Vaillant VPS R 100 Buffer Cylinder**



## Product Information

The Buffer Cylinder is a product designed for use in hydraulic systems. It comes in two variants: VPS R 100/1 M and VPS R 200/1 B. The product is manufactured in compliance with regulations, directives, laws, and standards.

## Product Usage Instructions

### Safety

#### Action-related warnings:

The user manual provides action-related warnings to indicate the severity of potential dangers. These warnings are classified using warning symbols and signal words.

### Notes on the documentation

1. **Observing other applicable documents:** It is important to refer to other relevant documents for complete understanding and proper usage of the product.
2. **Storing documents:** Store the user manual and other documentation in a safe place for future reference.
3. **Validity of the instructions:** Ensure that the instructions provided in the manual are up-to-date and valid.

### Product description

1. **Product design:** The Buffer Cylinder is designed for use in hydraulic systems and has specific features to fulfill its intended purpose.
2. **Information on the identification plate:** The product has an identification plate that provides important information about the model and specifications.
3. **Serial number:** Each Buffer Cylinder has a unique serial number for identification and tracking purposes.
4. **CE marking:** The product is marked with a CE symbol, indicating compliance with relevant European standards.

## Set-up

1. **Unpacking:** Remove the product from its packaging carefully.
2. **Checking the scope of delivery:** Ensure that all components and accessories mentioned in the manual are included in the package.
3. **Dimensions of the product and the connections:** Refer to the manual for information on the dimensions of the product and the required connections.
4. **Minimum clearances:** Maintain the specified minimum clearances around the product for safe operation.
5. **Clearance from combustible components:** Ensure that there is sufficient clearance between the product and any combustible components to prevent hazards.
6. **Observing the requirements for the product's installation site:** Follow the specific requirements mentioned in the manual while selecting the installation site for the product.
7. **Wall-mounting the product:** If applicable, follow the instructions provided to securely mount the product on a wall.
8. **Installing the product:** Follow the step-by-step installation instructions provided in the manual to properly install the product.

## Installation

1. **Hydraulics installation:** Refer to the manual for detailed instructions on installing the Buffer Cylinder in hydraulic systems.
2. **Carrying out the wiring:** If wiring is required, follow the instructions provided to ensure proper electrical connections.

## Start-up

1. **Purging the product:** Before starting operation, ensure that any air or contaminants are purged from the system.
2. **Thermal insulation of the product:** If necessary, provide proper thermal insulation to maintain the desired operating temperature.

## Handing the product over to the end user

Follow the recommended procedures for safely handing over the product to the end user.

## Procuring spare parts

Refer to the manual for guidance on procuring spare parts for the Buffer Cylinder.

## Draining the product

If required, follow the instructions provided to drain the product properly.

## Permanently decommissioning

If the product needs to be permanently decommissioned, follow the recommended procedures.

## Recycling and disposal

**Recycling and disposal:** Dispose of the product in accordance with local regulations and guidelines for recycling and disposal.

## Appendix

- **A Pressure loss curve:** Refer to the appendix for a pressure loss curve related to the Buffer Cylinder.
- **B Technical data:** The technical data of the product is provided in the appendix for reference.

## Safety

### Action-related warnings

Classification of action-related warnings The action-related warnings are classified in accordance with the severity of the possible danger using the following warning symbols and signal words:

### Warning symbols and signal words



- **Danger!**

Imminent danger to life or risk of severe personal injury



- **Danger!**

Risk of death from electric shock



- **Warning.**

Risk of minor personal injury



- **Caution.**

Risk of material or environmental damage

### Intended use

- There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.
- This product is intended for use as a vacuum breaker and means that you can integrate two heating generators.
  - observance of accompanying operating, installation and maintenance instructions for the product and any other system components
  - installing and setting up the product in accordance with the product and system approval
  - compliance with all inspection and maintenance conditions listed in the instructions.
- Intended use also covers installation in accordance with the IP code.
- Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

### Caution.

Improper use of any kind is prohibited.

### General safety information

**Danger caused by improper operation**

Improper operation may present a danger to you and others, and cause material damage.

- Carefully read the enclosed instructions and all other applicable documents, particularly the “Safety” section and the warnings.
- As the end user, you should only carry out those activities that are described in these instructions and that are



not marked with the symbol.

**Risk caused by inadequate qualifications**

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

- Set-up
- Dismantling
- Installation
- Start-up
- Inspection and maintenance
- Repair
- Decommissioning

Proceed in accordance with current technology.

**Risk of burns or scalding caused by hot components**

Only carry out work on these components once they have cooled down.

**Risk of death due to lack of safety devices**

The basic diagrams included in this document do not show all safety devices required for correct installation.

- Install the necessary safety devices in the installation.
- Observe the applicable national and inter-national laws, standards and directives.

**Risk of injury due to the heavy weight of the product**

Make sure that the product is transported by at least two people.

**Risk of material damage caused by frost**

Do not install the product in rooms prone to frost.

**Risk of material damage caused by using an unsuitable tool**

Use the correct tool.

Risk of injury and material damage due to maintenance and repairs carried out incorrectly or not carried out at all

- Never attempt to carry out maintenance work or repairs on your product yourself.
- Faults and damage should be immediately eliminated by a competent person.
- Adhere to the maintenance intervals specified.

## Regulations (directives, laws, standards)

Observe the national regulations, standards, directives, ordinances and laws.

## Notes on the documentation

Observing other applicable documents

- You must observe all the operating and installation instructions included with the system components.
- Observe the country-specific notes in the Country Specifics appendix.

## Storing documents

Store these instructions and all other applicable documents for further use.

## Validity of the instructions

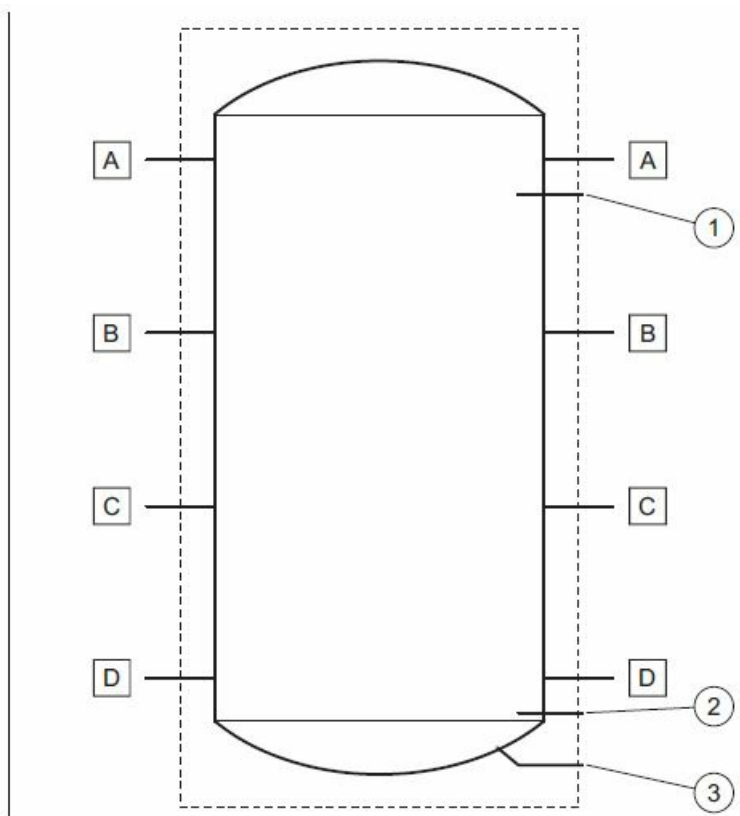
These instructions apply for the following products only:

## Product article number

VPS R 100/1 M	0010021456
VPS R 200/1 B	0010021457

## Product description

## Product design



1. Sensor pocket for the top temperature sensor
2. Sensor pocket for the bottom temperature sensor (only on the 200-litre model)
3. G3/4 draining connection (only on the 200-litre model)

- A G1" 1/2 hydraulic connection
- B G1" 1/2 hydraulic connection
- C G1" 1/2 hydraulic connection
- D G1" 1/2 hydraulic connection

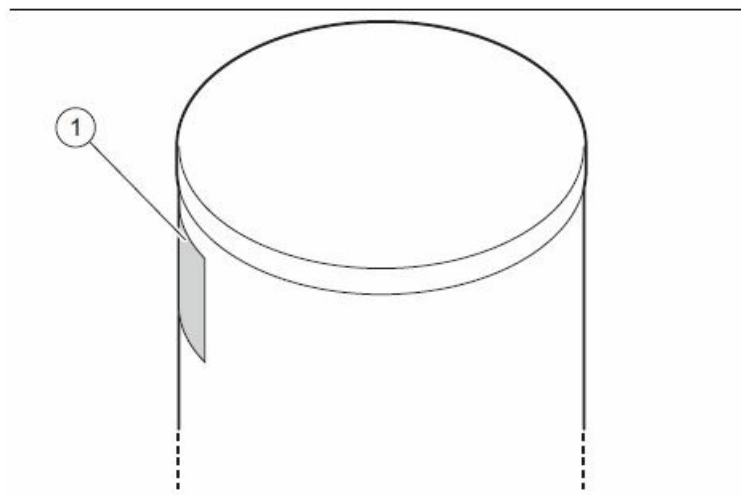
### Information on the identification plate

The identification plate contains the following information:

Abbreviations/symbols	Description
Serial no.	Brand name and serial number for the product
"XX" kg	Net weight
"XX" l	Total cylinder capacity
"XX" mPa	Maximum cylinder operating pressure
"XX" °C	Maximum cylinder operating temperature

### Serial number

Installation location for the identification plate:



The model and serial number are located on the identification plate (1).

### CE marking



The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

### Set-up

### Unpacking

1. Remove the product from the packaging.
2. Remove the protective film from all of the product's components.

**Checking the scope of delivery**

Check the contents of the package.

**Validity:** VPS R 100/1 M

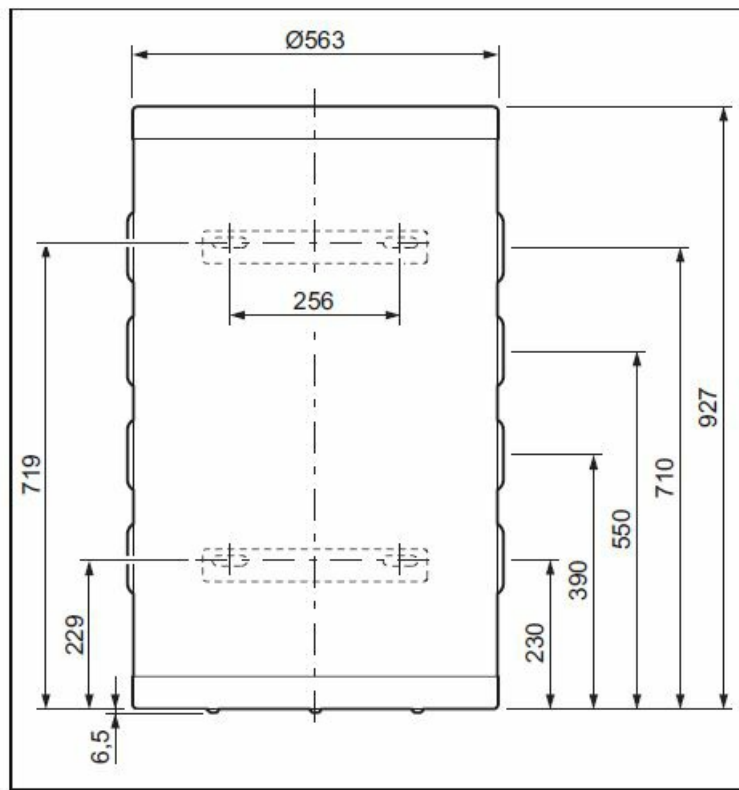
Quantity	Description
1	Buffer cylinder
1	Bag with three feet, three washers and six nuts
2	Wall-fixing strip
4	Pin for securing the wall-fixing strip to the cylinder
1	Lower cover, which must be attached when securing the cylinder to the wall
3	Pin for securing the cover, washer and cover for the pin
1	Cylinder dry pocket
1	Stuffing box
6	G1"1/2 plug + seal
1	Documentation records

**Validity:** VPS R 200/1 B

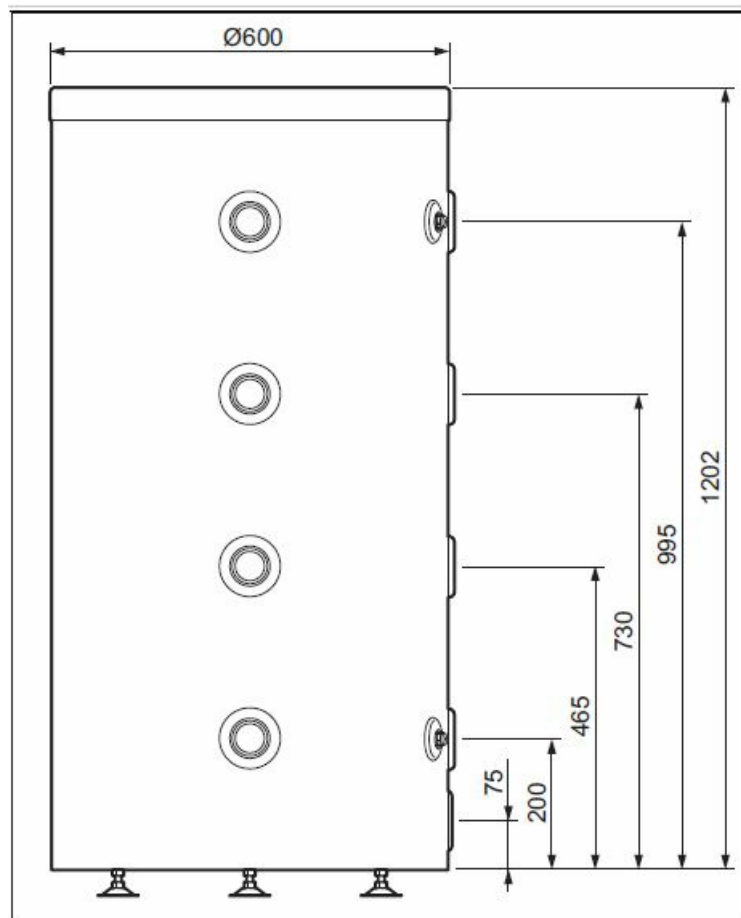
Number	Designation
1	Buffer cylinder
1	Bag with three feet, three washers and six nuts
2	Sensor pocket
2	Stuffing box
6	G1"1/2 plug + seal
1	G3/4 plug for draining the cylinder
1	Enclosed documentation

**Dimensions of the product and the connections****Cylinder with 100-litre capacity**

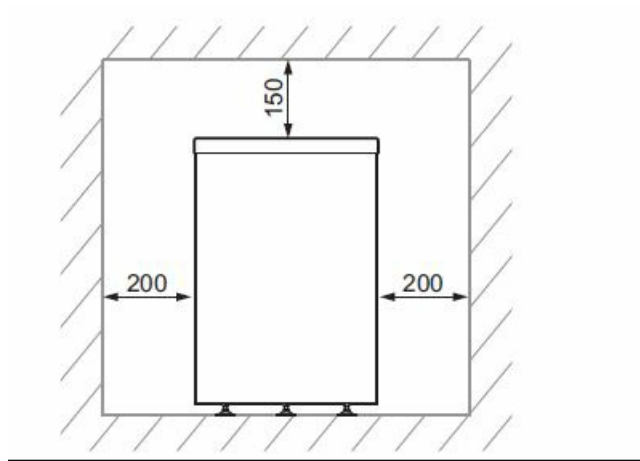




**Cylinder with 200-litre capacity**



**Minimum clearances**



- Comply with the clearances that are shown in the plan.
- Ensure that the water-supply connections can be accessed for checks.

Leaving additional space around the product is helpful for the installation and for maintenance work.

### Clearance from combustible components

- Ensure that no highly flammable parts come into contact with the components as these may reach temperatures of over 80 °C.
- Ensure that there is a minimum clearance between the highly flammable parts and the hot components.
  - **Minimum clearance:** 200 mm

### Observing the requirements for the product's installation site

- Ensure that the room in which the product is installed is not heated to the maximum recommended room temperature.
  - Recommended room temperature: 20 °C
- Do not install the product above another unit that may damage it (e.g. above a cooker that produces steam and grease) or in a room with a high level of exposure to dust or in a corrosive environment.
- Do not install the product below a unit from which liquids may flow.
- Ensure that the room in which you want to set up the product is sufficiently protected against frost.

### Wall-mounting the product

**Validity:** VPS R 100/1 M

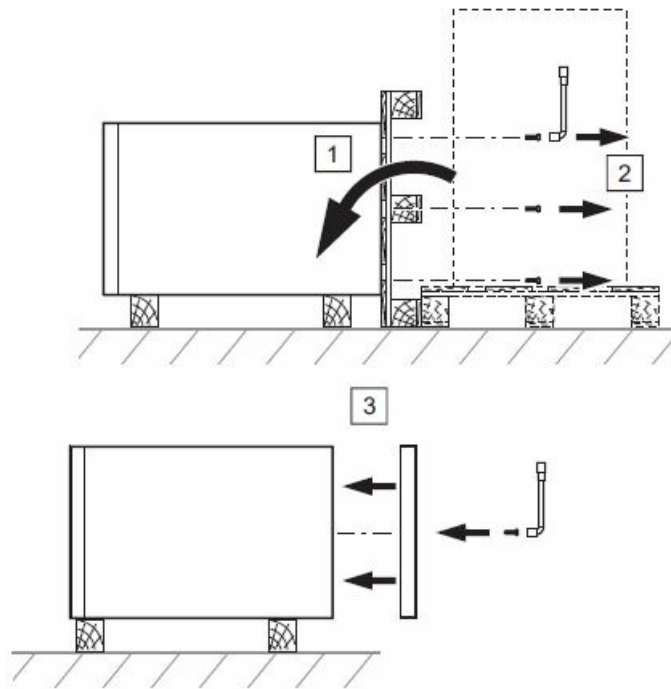
### Caution.

- Risk of injury caused by the product tip-ping.
- If the product is not properly secured to the wall, you cannot rule out that the product will tip.
- Use the four fixing points to secure the product to the wall.
- Check how tight the nuts are. After tightening them, the threaded pins must protrude out of the nuts.

1. Ensure that the wall offers sufficient load-bearing capacity to bear the weight of the product when it has been filled.

1. **Weight when filled with water:** 135 kg

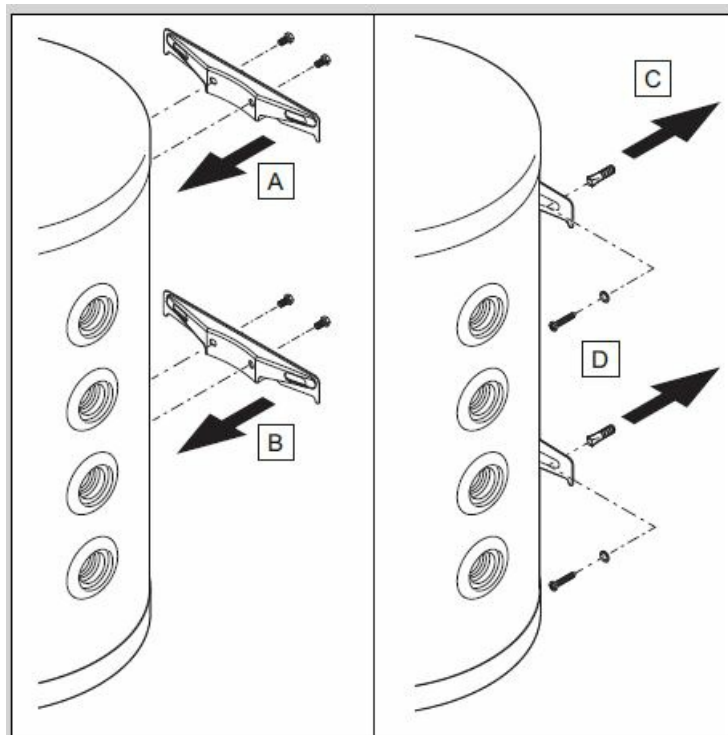
2. Check whether the supplied fixing accessories are suitable for the wall type.



3. Remove the fixing screws from the cylinder below the pallet.

4. Secure the lower cover below the cylinder.

**Condition:** The load-bearing capacity of the wall is sufficient; the fixing material is permitted for the wall



- Attach the wall-fixing strips to the cylinder.
- Secure the cylinder to the wall.

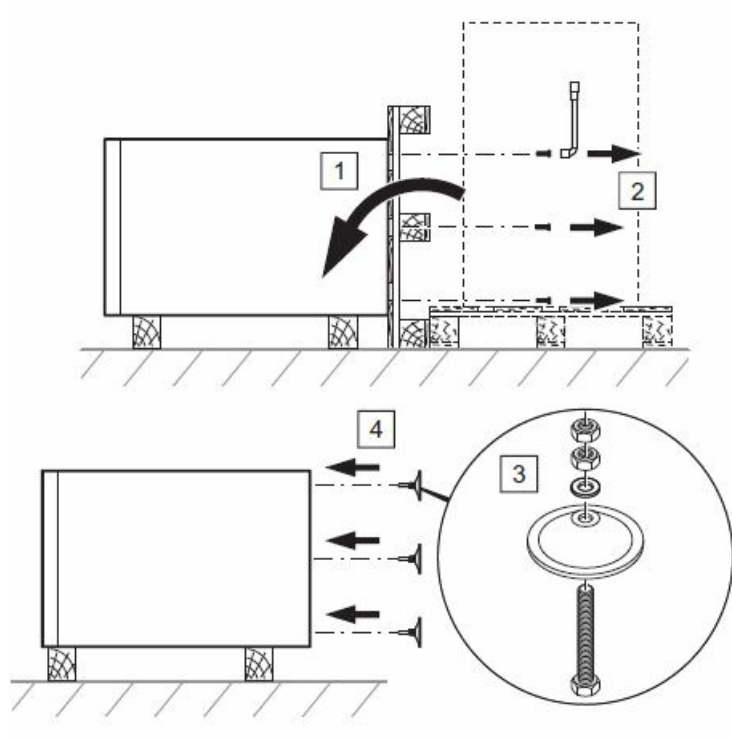
**Condition:** The load-bearing capacity of the wall is not sufficient

Ensure that wall-mounting apparatus on-site has a sufficient load-bearing capacity. Use individual stands or primary walling, for example.

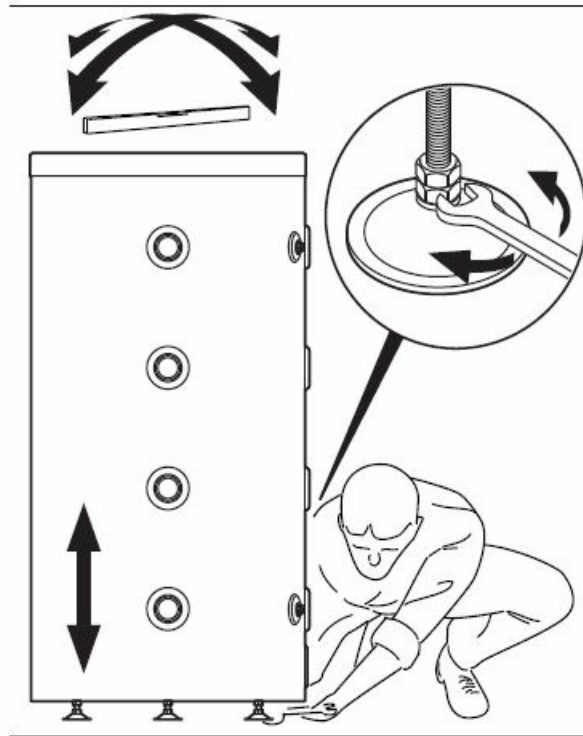
## Installing the product

- When selecting the installation site, note the weight of the filled cylinder and the load-bearing capacity of the floor.

Weight when filled with water	
Validity: VPS R 100/1 M	135 kg
Validity: VPS R 200/1 B	246 kg



- Remove the cylinder's fixing screw from the bottom of the pallet.
- Install the three enclosed feet at the bottom of the cylinder.



- Use the adjustable feet and a spirit level to align the product.

## Installation

### Hydraulics installation

### Water-side connection

- **Caution.**
  - Risk of material damage caused by residues in the pipelines.
  - Welding remnants, sealing residues, dirt or other residues in the pipelines may damage the product.

Flush the heating installation thoroughly before installing the product.

### Caution.

Risk of damage caused by heat transfer when soldering.

The heat that is transferred during soldering may lead to damage to the expanded polypropylene around the product and to the seals on the connectors.

- Protect the product's insulating casing.
- Do not solder the connectors if these have been screwed onto the product.

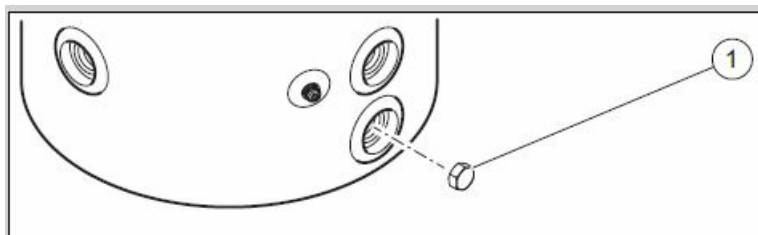
### Caution.

- Risk of material damage caused by corrosion
- Due to non-diffusion-tight plastic pipes in the heating installation, air gets into the heating water. Air in the heating water causes corrosion in the heat generator circuit and in the product.

If you use non-diffusion-tight plastic pipes in the heating installation, ensure that no air gets into the heat generator circuit.

1. Attach a draining cock at the lowest point in the installation.
2. Depending on your installation, connect the circuits in accordance with the basic diagrams shown below.

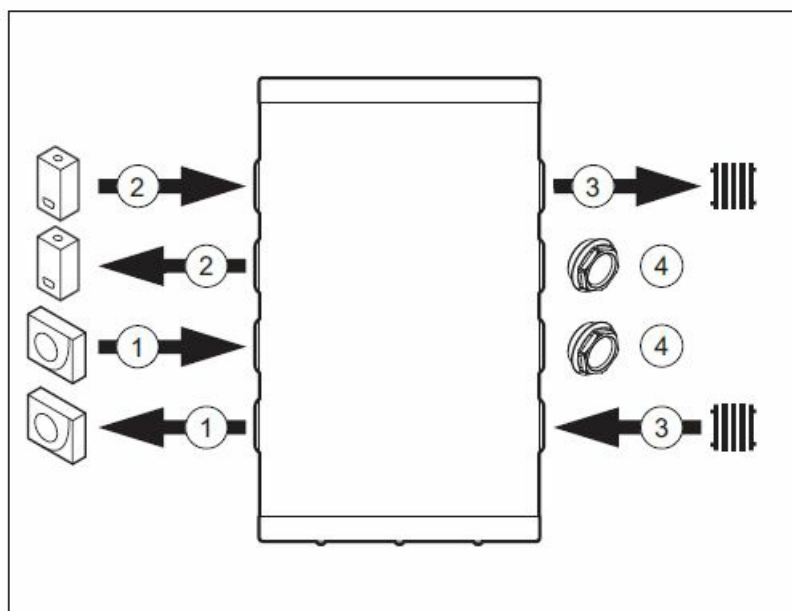
**Validity:** VPS R 200/1 B



- Connect a draining cock to the drain connection on the cylinder.
- If you do not connect a draining cock, attach the drain plug (1) in order to guarantee the leak-tightness of the cylinder.

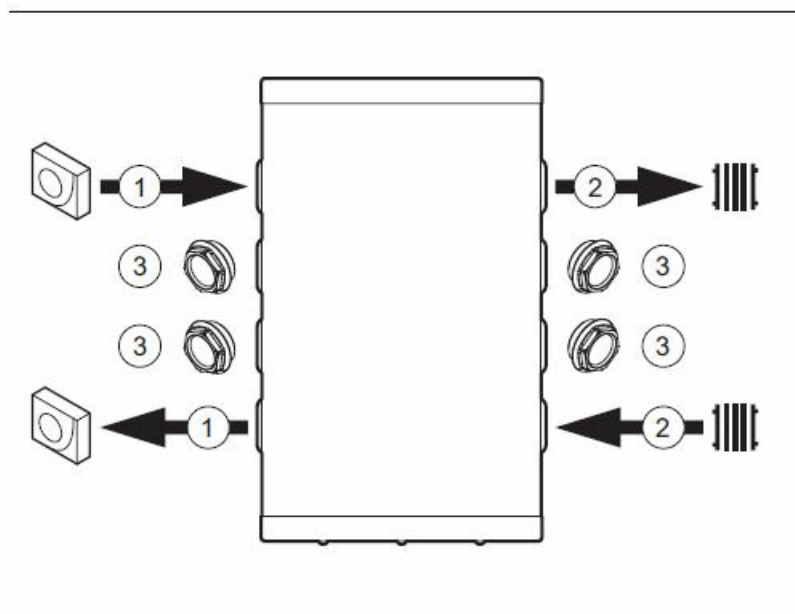
### Basic hydraulic connection diagram

#### Case no. 1



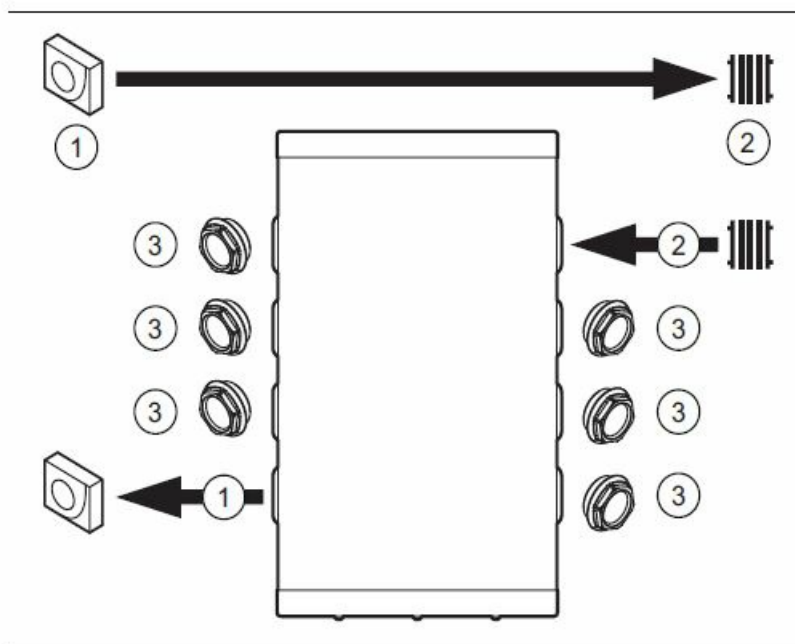
1. Heat pump
2. Boiler
3. Heating circuit
4. Plug

#### Case no. 2



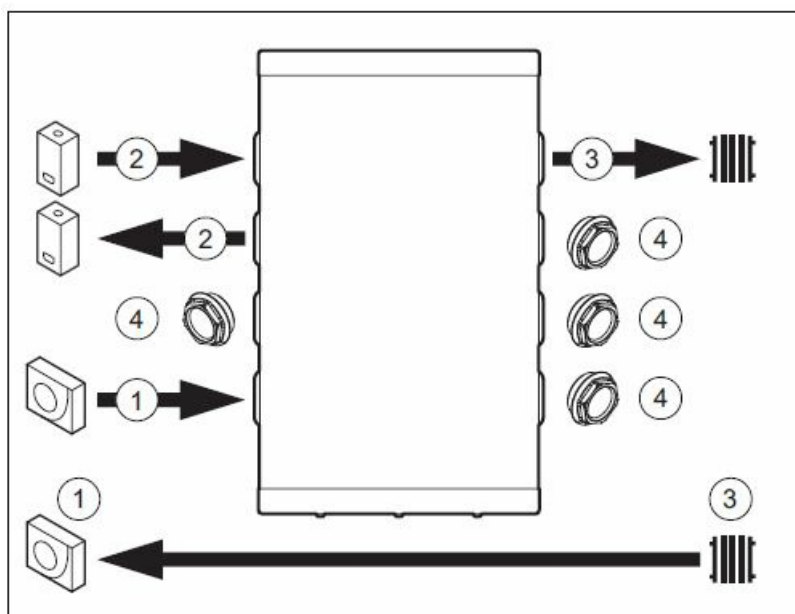
- 1. Heat pump
- 2. Heating circuit
- 3. Plug

#### Case no. 3



- 1. Heat pump
- 2. Heating circuit
- 3. Plug

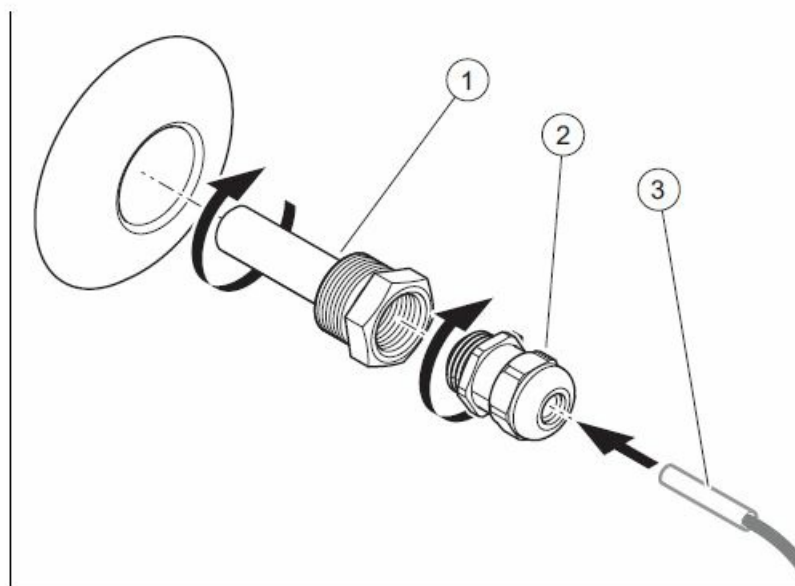
#### Case no. 4



1. Heat pump
2. Boiler
3. Heating circuit
4. Plug

### Carrying out the wiring

**Note** The temperature sensor is not enclosed but must be ordered separately.



1. Screw the sensor pocket (1) into the cylinder.
2. Screw the stuffing box (2) into the sensor pocket (1).
3. Use heat-sink paste to insert the temperature sensor (3) into the sensor pocket (1).

**Validity:** VPS R 200/1 B

To guarantee the leak-tightness of the cylinder, always install the two sensor pockets, even if only one temperature sensor is used.

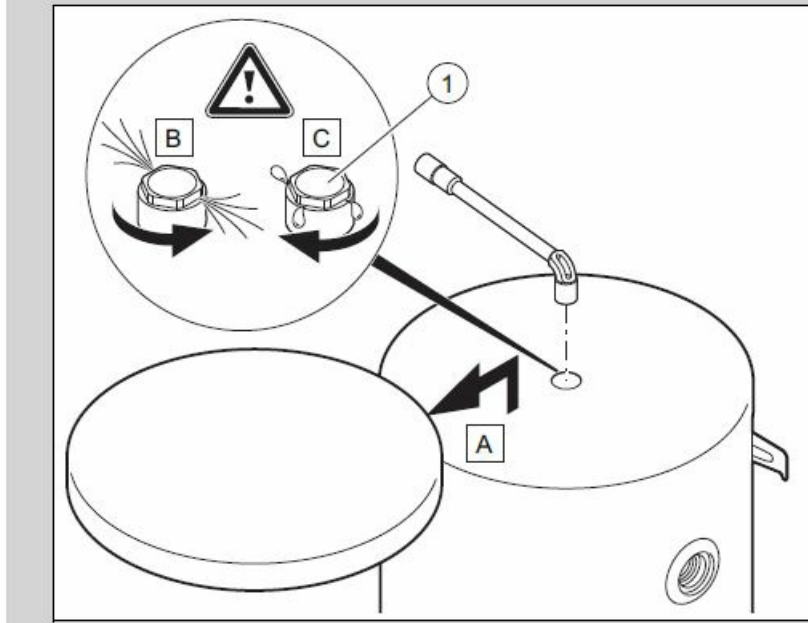


## Start-up

1. For filling the product, see the installation instructions for the heat generators.
2. Check that the hydraulic and electric connections are correctly designed.
3. Check whether the connections are leak-tight.
4. Purge your heating installation.

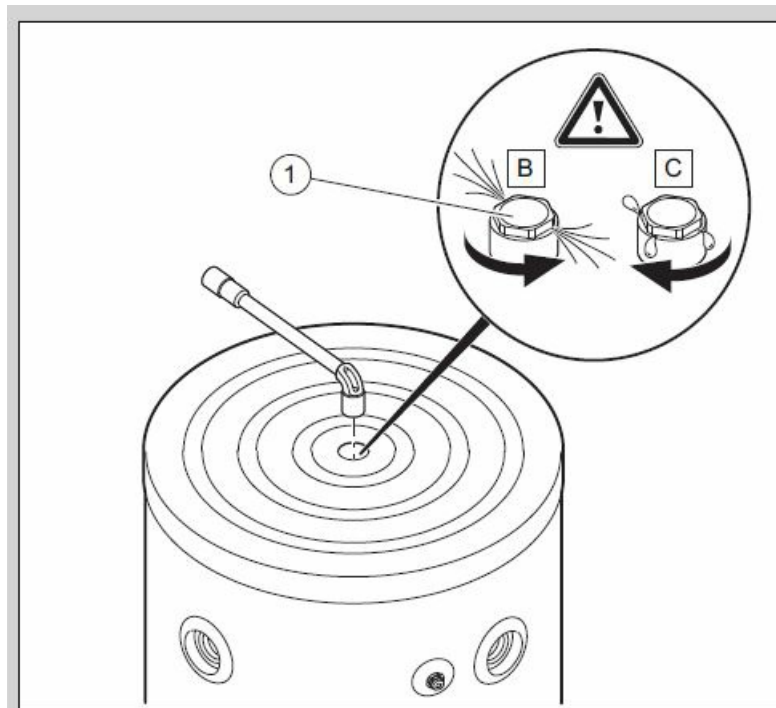
## Purging the product

**Validity:** VPS R 100/1 M



Open the purging valve (1) when filling the heating circuit with water.

**Validity:** VPS R 200/1 B



Open the purging valve (1) when filling the heating circuit with water.

1. Close the purging valve as soon as water flows out (repeat this measure several times, if required).
2. Ensure that the purging connection is leak-tight.

### Thermal insulation of the product

- The product comes with thermal-insulation casing.
- Significant heat is exchanged at the water connections and the plugs if these are not thermally insulated.
- In heating mode, this heat exchange leads to a reduction in the heating output and to the temperature level falling.

### Note

In cooling mode, this heat exchange leads to a re-duction in the system output and to the temperature level rising which, in turn, leads to increased condensation.

Apply thermal insulation to the water connections, the outlet plug on the cylinder and all other pipes in order to limit the heat exchange and therefore reduce the risk of condensation.

### Handing the product over to the end user

Once the installation is complete, answer any questions that the end user may have.

### Procuring spare parts

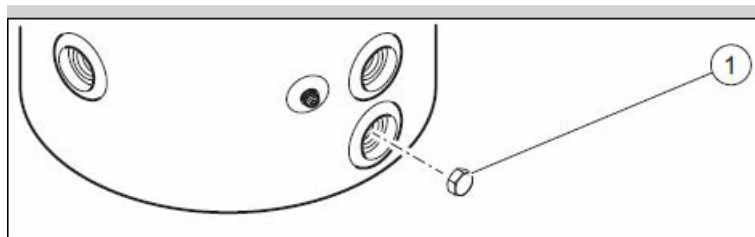
- The original components of the product were also certified by the manufacturer as part of the declaration of conformity. If you use other, non-certified or unauthorised parts during maintenance or repair work, this may result in the product no longer meeting the applicable standards, thereby voiding the conformity of the product.
- We strongly recommend that you use original spare parts from the manufacturer as this guarantees fault-free and safe operation of the product. To receive information about the available original spare parts, contact the contact address provided on the back page of these instructions.
- If you require spare parts for maintenance or repair work, use only the spare parts that are permitted for the product.

### Draining the product

**Validity:** VPS R 100/1 M

To drain the product, use the lowest water connection for the cylinder.

**Validity:** VPS R 200/1 B



- Unscrew the plugs (1) to drain the product.

### Permanently decommissioning

1. Drain the product.
2. Remove the product.
3. Either recycle the product along with its components, or scrap it completely.

### Recycling and disposal

#### Disposing of the packaging

The competent person who installed your product is responsible for the disposal of the packaging.

**Validity:** Except France

#### Disposing of the product



- If the product is labelled with this mark:
  - In this case, do not dispose of the product with the household waste.
  - Instead, hand in the product to a collection centre for waste electrical or electronic equipment.

**Validity:** France

#### Disposing of the product



- Dispose of the product and its accessories correctly.
- Observe all relevant regulations.

### Deleting personal data

Personal data may be misused by unauthorised third parties.

### If the product contains personal data:

Ensure that there is no personal data on or in the product (e.g. online login details or similar) before you dispose of the product.

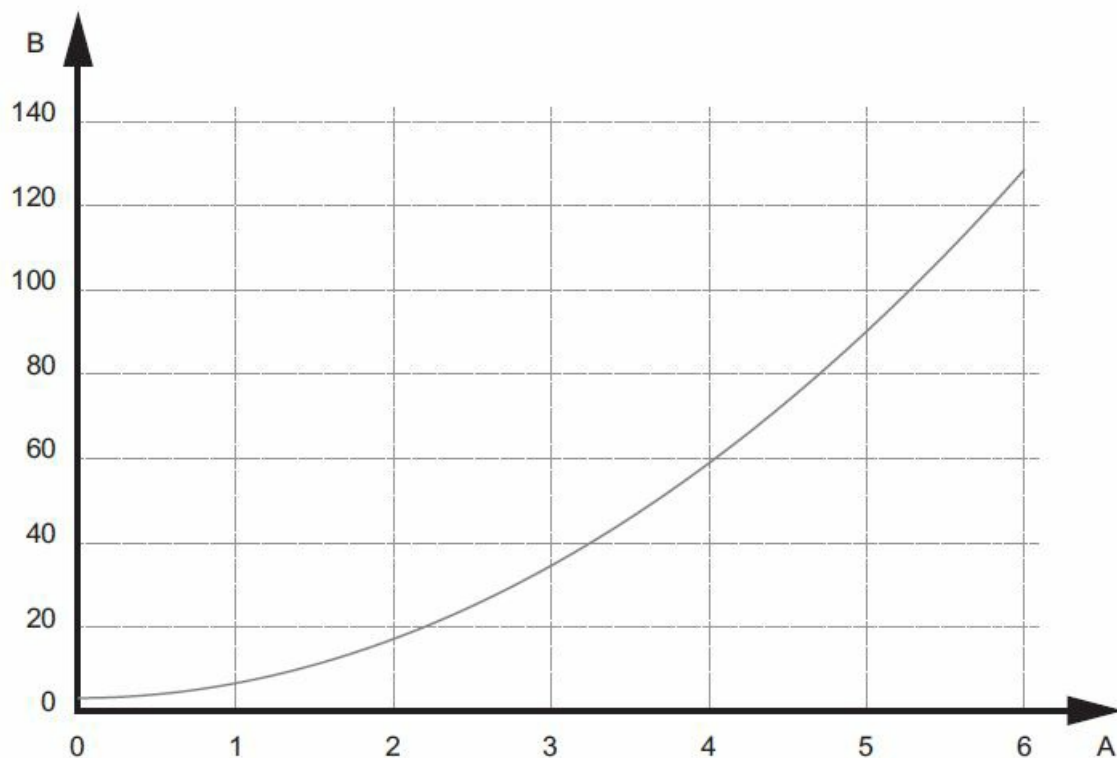
### Recycling and disposal

#### Disposing of the packaging

- Dispose of the packaging correctly.
- Observe all relevant regulations.
- For detailed information refer to [www.vaillant.co.uk](http://www.vaillant.co.uk).

### Appendix

#### A Pressure loss curve



- A Volume flow: [m³/h]
- B Pressure loss  $\Delta p$ : [mbar]

#### B Technical data

##### Technical data

	<b>VPS R 100/1 M</b>	<b>VPS R 200/1 B</b>
<b>Nominal capacity</b>	101 l	202 l
<b>Outer diameter of the cylinder</b>	550 mm	600 mm
<b>Height of the cylinder</b>	932 mm	1,202 mm
<b>Net weight</b>	34 kg	44 kg
<b>Weight when filled with water</b>	135 kg	246 kg
<b>Material of the cylinder and the connections</b>	Steel	Steel
<b>Water pressure range</b>	0.1 to 0.3 MPa (1.0 to 3.0 bar)	0.1 to 0.3 MPa (1.0 to 3.0 bar)
<b>Maximum operating temperature</b>	95 °C	95 °C
<b>Diameter of the water connections</b>	G1" 1/2	G1" 1/2
<b>Diameter of the sensor pocket</b>	G1/2	G1/2
<b>Maximum volume flow</b>	6 m³/h	6 m³/h

## Country specifics

### GB, Great Britain

#### UKCA mark

- The UKCA marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.
- The declaration of conformity can be viewed at the manufacturer's site.

#### Guarantee

For information on the manufacturer's guarantee, you can write to the contact address that is provided on the back page.

#### Customer service

For contact details for our customer service department, you can write to the address that is provided on the back page, or you can visit [www.vaillant.co.uk](http://www.vaillant.co.uk).

#### Address

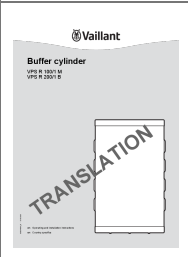
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- Derbyshire
- DE56 1JT
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## Documents / Resources

	<p><a href="#">Vaillant VPS R 100 Buffer Cylinder</a> [pdf] Instruction Manual VPS R 100-1 M, VPS R 200-1 B, VPS R 100 Buffer Cylinder, Buffer Cylinder, Cylinder</p>
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## References

-  [Wärmepumpen und andere Heizungen - Vaillant Österreich](#)
-  [Serviceleistungen des Vaillant Werkskundendienstes | Vaillant](#)
-  [Verwarming van Vaillant – Geniet van ultiem comfort - Vaillant](#)
-  [Heizungen, Heizgeräte & Heizsysteme höchster Qualität | Vaillant](#)
-  [Heizung? Entdecken Sie innovative Heizungen | Vaillant](#)
-  [Sistemas de climatización | Vaillant](#)
-  [Chaudières gaz ou fioul condensation avec Vaillant, un des leaders européens du chauffage](#)
-  [Vaillant | Caldaie, Pompe di Calore e Climatizzatori](#)
-  [Vaillant - Warmtepompen & andere duurzame oplossingen](#)
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