

# INSTALLATION AND MAINTENANCE INSTRUCTIONS

## BUFFER CYLINDER

### P 120-5 W Worc



6 720 805 267-00.1 ITL

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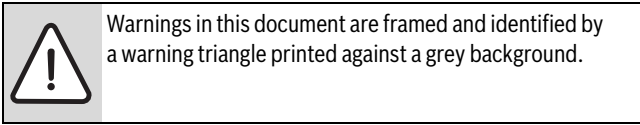
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## 1 Key to symbols and safety instructions

### 1.1 Explanation of symbols

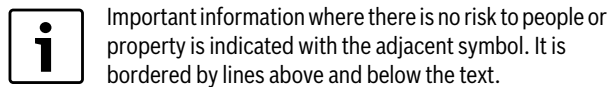
#### Warnings



Signal words at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

- **NOTE** indicates that material losses may occur.
- **CAUTION** indicates possible minor to medium personal injury.
- **WARNING** indicates possible severe injury.
- **DANGER** indicates that severe personal injury may occur.

#### Important information



#### Additional symbols

Symbol	Meaning
▶	Action step
→	Cross-reference to other parts of this document or to other documents
•	List/list entry
–	List/list entry (second level)

Tab. 1

### 1.2 General safety instructions

#### General information

These installation and maintenance instructions are intended for competent installers.

Failure to observe the safety instructions can result in serious injuries.

- ▶ Read and follow the safety instructions.
- ▶ Observe these installation and maintenance instructions to ensure trouble-free operation.
- ▶ Install and commission heat sources and their accessories according to the relevant installation instructions.
- ▶ Never use open feed and expansion cistern.

## 2 Product information

### 2.1 Correct use

The buffer cylinder may only be filled with heating water. Only use the buffer cylinder in sealed heating systems. Heating systems should preferably be designed with heat pumps.

Any other use is considered inappropriate. Any damage that may result is excluded from liability.

**Not for use as a method of potable hot water (Domestic Hot Water) Storage.**

### 2.2 Data plate

The data plate is located at the top of the rear of the buffer cylinder and includes the following details:

Item	Description
1	Model designation
2	Serial number
3	Actual content
4	Standby heat loss
6	Year of manufacture
8	Max. DHW cylinder temperature
9	Max. flow temperature, heat source
17	Max. operating pressure, heat source side

Tab. 2 Data plate

### 2.3 Scope of supply

- Buffer tank
- Installation and servicing instructions

### 2.4 Technical data

	Unit	P 120-5 W Worc
<b>General information</b>		
Dimensions		→ Fig. 1, page 6
Height when tilted	mm	1120
Connections		→ Tab. 4, page 4
Connection size, heating water	DN	R¾"
Internal diameter, test port cylinder temperature sensor	mm	10
Weight (dry, excl. packaging)	kg	53
Total weight when filled	kg	173
<b>Cylinder capacity</b>		
Available capacity (total)	l	120
Standby heat loss (24h) according to DIN 4753 part 8 <sup>1)</sup>	kWh/24h	1.6
Maximum heating water temperature	°C	90
Max. heating water operating pressure	bar (positive)	3

Tab. 3 Dimensions and specifications (→ Fig. 1, page 6 and Fig. 2, page 6)

1) Excluding distribution losses outside the buffer cylinder.

## 2.5 Product description

Item	Description
1	Heating system flow
2	Casing, painted sheet metal with rigid polyurethane foam insulation
3	Heating system return
4	Return to heat source
5	Sensor pocket
6	Storage cylinder, steel
7	Flow from heat source
8	Plug with sensor pocket
9	Air vent valve
10	PS casing lid

Tab. 4 Product description (→ Fig. 1, page 6 and Fig. 2, page 6)

## 3 Regulations

This appliance must be installed and serviced only by a competent person in accordance with the current:

- IEE regulations, construction regulations
- Construction regulations (Scotland) (consolidation)
- Construction regulations (Northern Ireland)
- Local water statutes
- Document 63S on Health and Safety at Work (Electricity at Work Regulations 1989, (IS813 (Ireland))
- and further local requirements.

If no special regulations are specified, the relevant codes of practice apply.

- BS7074:1: Code of practice for domestic heating and drinking water supply
- EN:12828: Central heating in residential buildings

## 4 Transport

- ▶ Secure the buffer cylinder to prevent it falling during transport.
- ▶ Move packed buffer cylinder with a sack trolley and strap (→ Fig. 3, page 6).
- or –
- ▶ Move unpacked buffer cylinder with a transport net; during handling, protect connections against possible damage.

## 5 Fitting

The buffer cylinder is delivered fully assembled.

- ▶ Check that the buffer cylinder is complete and undamaged.

### 5.1 Siting

#### 5.1.1 Requirements for the installation site



**NOTICE:** System damage through inadequate load bearing capacity of the supporting surface or unsuitable substrate.

- ▶ Ensure that the installation area is level and offers sufficient load-bearing capacity.

- ▶ Site the buffer cylinder on a plinth if there is a risk that water may collect at the installation site.
- ▶ Site the buffer cylinder in dry internal areas that are free from the risk of frost.

#### 5.1.2 System components

Function diagram for connecting the buffer cylinder to the heat source (→ Fig. 8, page 8).

Item	Description
1	Heat source
2	Heating system
3	additional heating system (in case of expansion)
4	Pump
5	3-way mixer
6	Buffer tank

Tab. 5 System components (→ Fig. 8, page 8)

#### 5.1.3 Installing the buffer cylinder

- ▶ Stand the buffer cylinder upright and level it (→ Fig. 5, page 7 and Fig. 6, page 7).
- ▶ Remove the protective caps.
- ▶ Apply Teflon tape or Teflon string (→ Fig. 7, page 7).

### 5.2 Final installation work for the buffer cylinder



**DANGER:** Risk of fire from soldering and welding!

- ▶ Take appropriate protective measures when soldering and welding as the thermal insulation is flammable; for example, cover the thermal insulation.
- ▶ Check the integrity of the thermal insulation after completing work.

- ▶ When sizing the heating system expansion vessel, take the cylinder capacity into consideration.
- ▶ Route the connection cables for the cylinder temperature sensors from the back of the cylinder to the heat pump or controller.



**CAUTION:** Risk of damage to non heat-resistant installation materials (e. g. plastic piping)!

- ▶ Use installation material which is heat resistant to  $\geq 80$  °C.

- ▶ Install pipework runs so that natural circulation is prevented.
- ▶ Installing connection lines free of stress.
- ▶ Install the buffer cylinder pipework on site.

- ▶ When filling the buffer cylinder, manually release the air via the air vent (→ Fig. 2, [9], page 6) on the top side of the cylinder (→ Fig. 11, page 8 and Fig. 12, page 9).
- ▶ Check all connections for tightness (→ Fig. 13, page 9).

### 5.3 Fitting temperature sensors

Fit the temperature sensors (→ Fig. 9 and 10, page 8).



Ensure that the sensor area has contact with the sensor pocket area for the sensor's full length.

Sensor positions:

- **M1** = Measuring point for flow temperature sensor (T1) top
- **M2** = Measuring point for return temperature sensor (GT1) bottom (→ Fig. 1, page 6)



For information on this refer to the documentation for the heat pump or control unit.

## 6 Startup



**NOTICE:** Risk of system damage through excessive pressure!  
▶ Never close the blow-off line of the safety relief valve.

- ▶ Commission all assemblies and accessories as specified in the manufacturer's technical documentation.

### 6.1 Commissioning the buffer cylinder



Check the buffer cylinder for leaks using potable water only.

The test pressure must not exceed 3 bar positive pressure.

### 6.2 Instructing users

- ▶ Explain the operation and handling of the heating system and buffer cylinder, making a particular point of safety-relevant features.
- ▶ Explain the function and checking of the safety valve.
- ▶ Hand all enclosed documents over to the owner/operator.
- ▶ Highlight the following for the user:
  - **Recommendation in the case where there is a risk of frost and when the user is briefly away:** Keep the buffer cylinder in operation and select the lowest possible water temperature.

## 7 De-commissioning

- ▶ Switch off the temperature controller at the control unit.



**WARNING:** Risk of scalding from hot water.  
▶ Allow the buffer cylinder to cool down sufficiently.

- ▶ Drain the buffer cylinder (→ chapter 9.3, page 5).
- ▶ Decommission all assemblies and accessories of the heating system as specified in the manufacturer's technical documentation.
- ▶ Close the shut-off valves.

## 8 Environmental protection/Disposal

Environmental protection is a fundamental principle of the Bosch Group.

Quality of products, efficiency and environmental protection are equally important objectives for us. All legislation pertaining to the environment is strictly observed.

### Packaging

We are dedicated in adhering to country specific disposal standards as they relate to packaging to ensure optimum recycling. All packaging materials are environmentally friendly and can be recycled.

### Obsolete equipment

Old appliances contain materials that should be recycled. The relevant assemblies are easy to separate, and all plastics are identified. In this manner the individual components are easily sorted and added into the recycling and disposal systems.

## 9 Maintenance

### 9.1 Recommendations for users

- ▶ Sign a maintenance and inspection contract with an authorized contractor.

### 9.2 Service and repair

Apart from occasional visual inspection, storage tanks do not require any particular servicing or cleaning.

- ▶ Use original spare parts only!

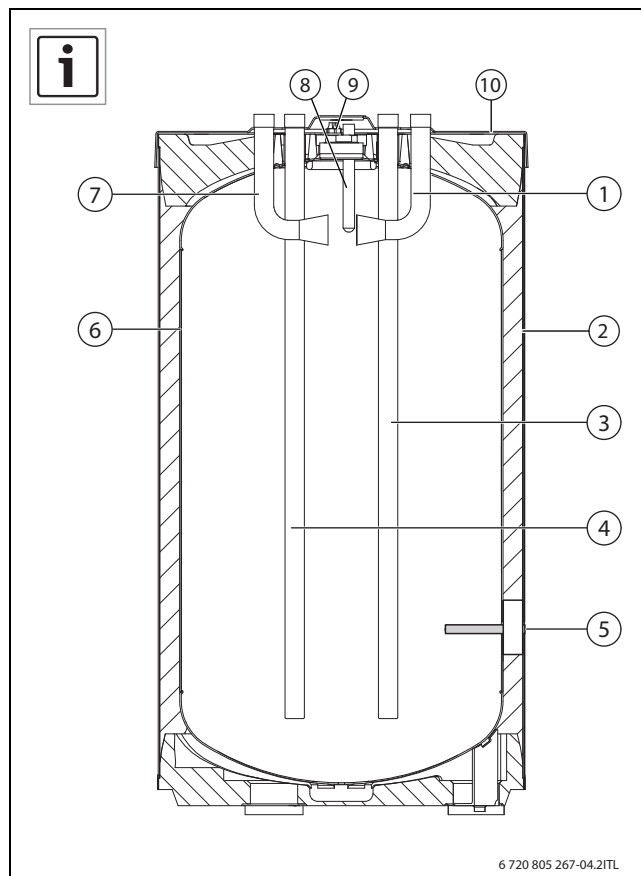
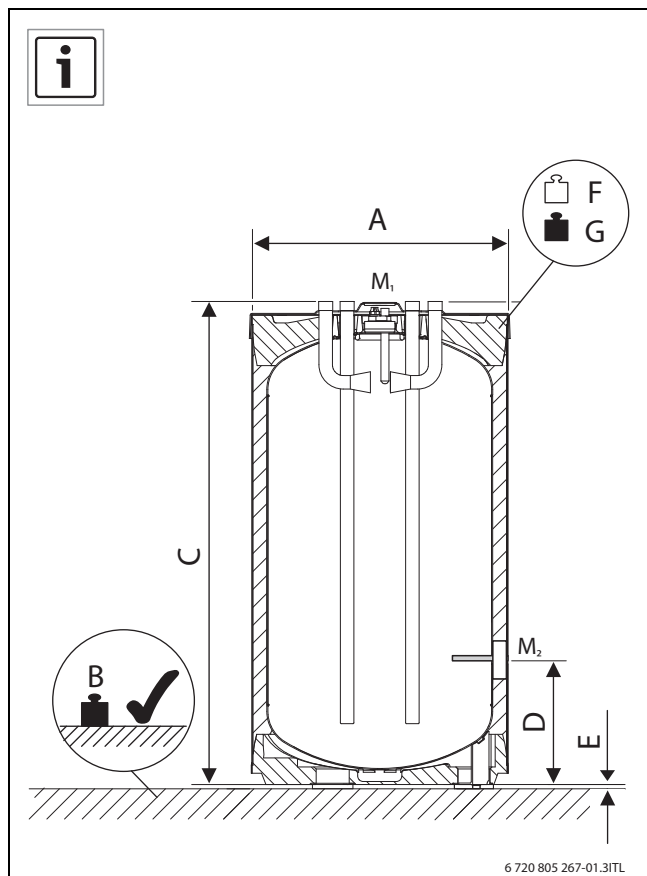
### 9.3 Emptying



**WARNING:** Risk of scalding!  
Hot water can cause severe scalding.  
▶ Allow the storage tank time to cool down after decommissioning.

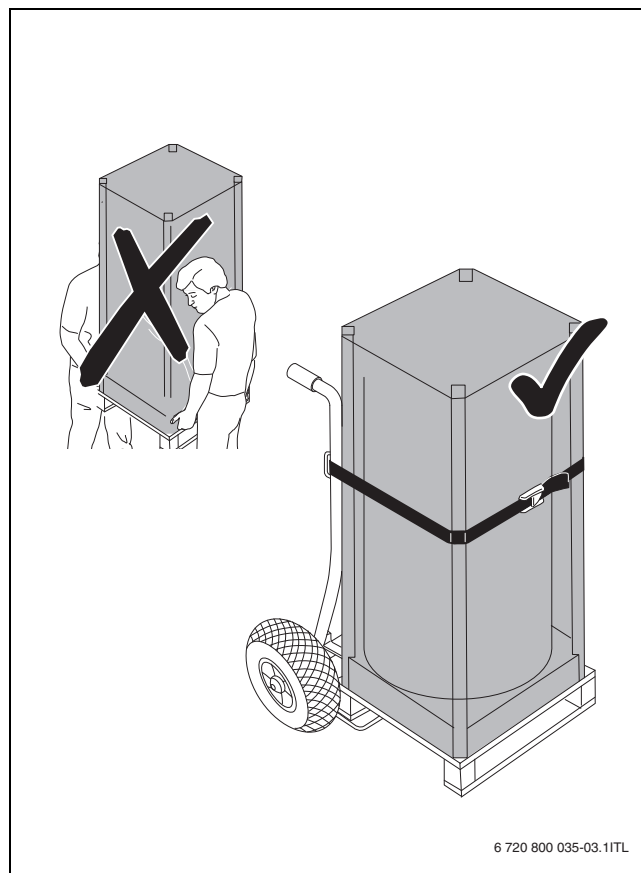
If required, drain the buffer cylinder. For instance, if there is a risk of frost.

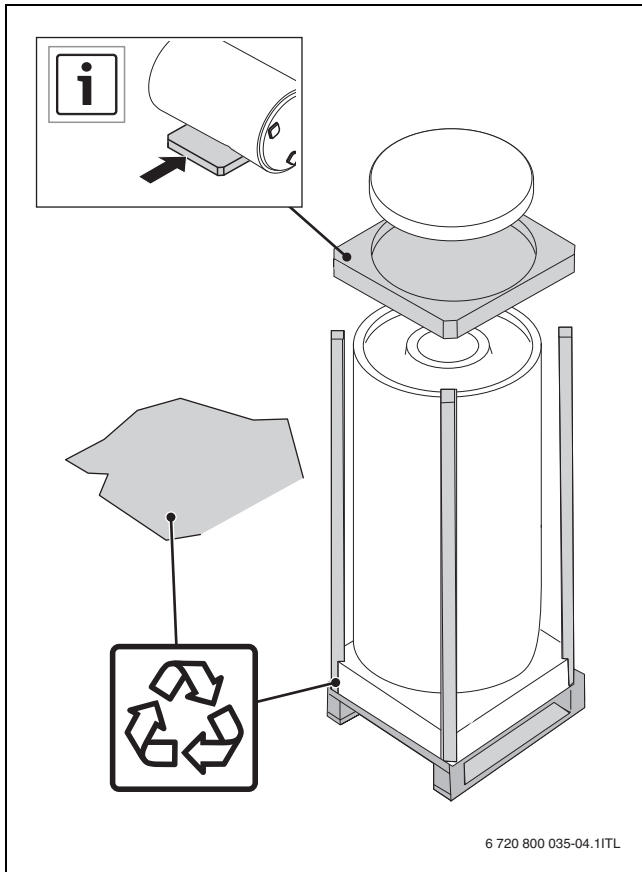
- ▶ Unscrew plug (→ Fig. 2 [8], page 6) using an open-ended spanner (spanner size 38).
- ▶ Drain the buffer cylinder using a hose or suction device.
- ▶ Then use Teflon tape or Teflon cord to seal the plug.
- ▶ Check for leaks once it has been refilled.



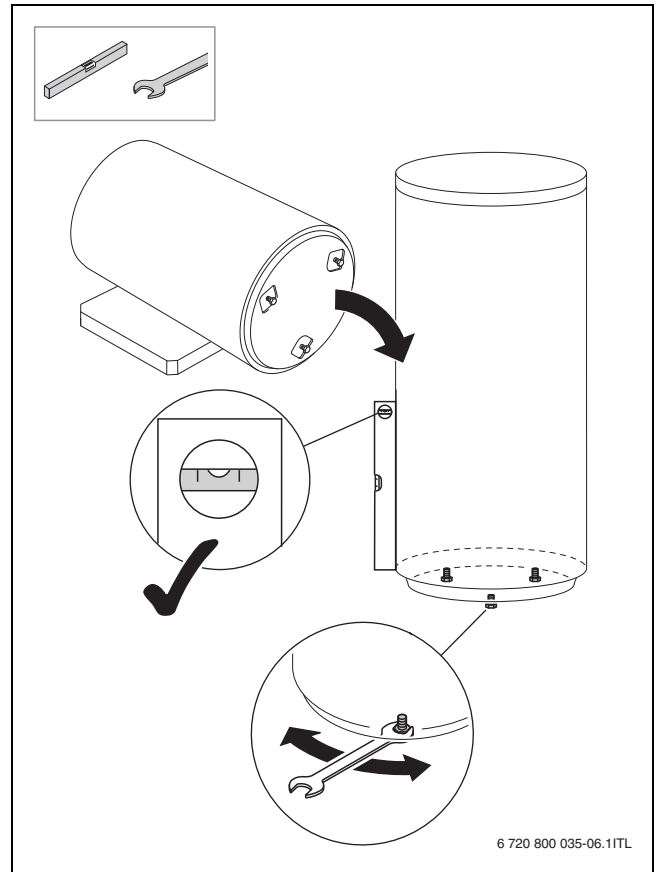
P 120-5 W Worc		
A	mm	550
B	kg	173
C	mm	980
D	mm	248
E	mm	12.5
F	kg	53
G	kg	173

Tab. 6

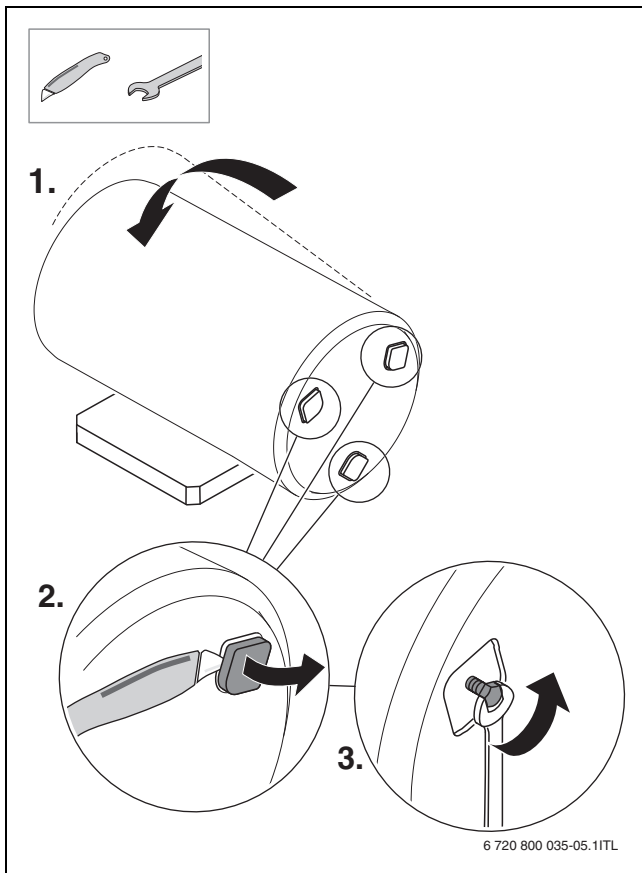




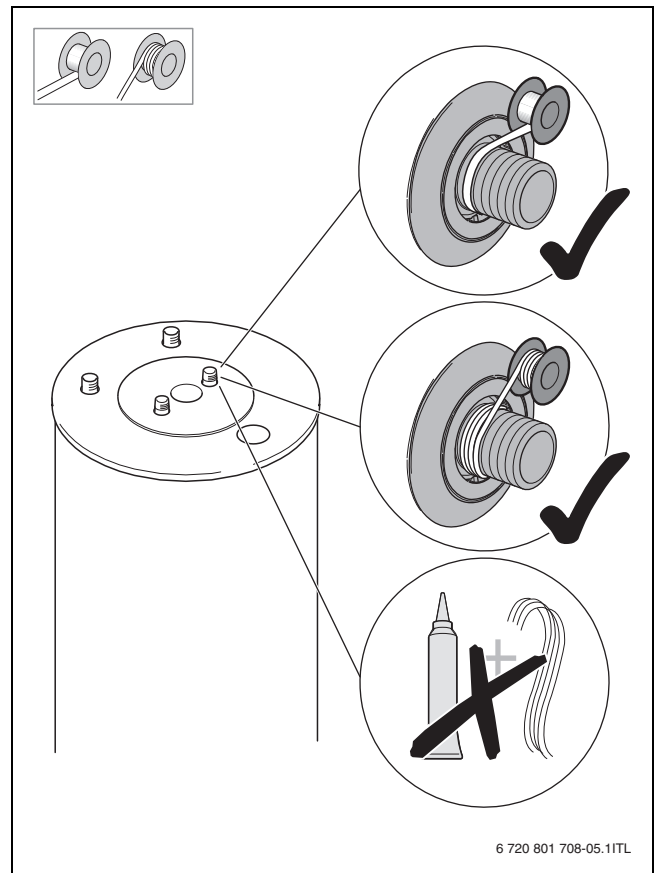
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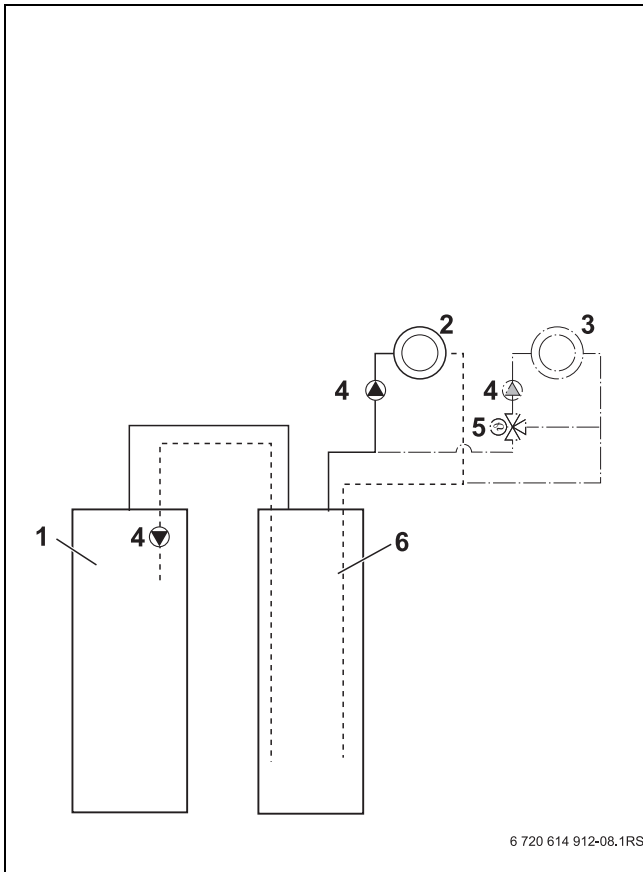
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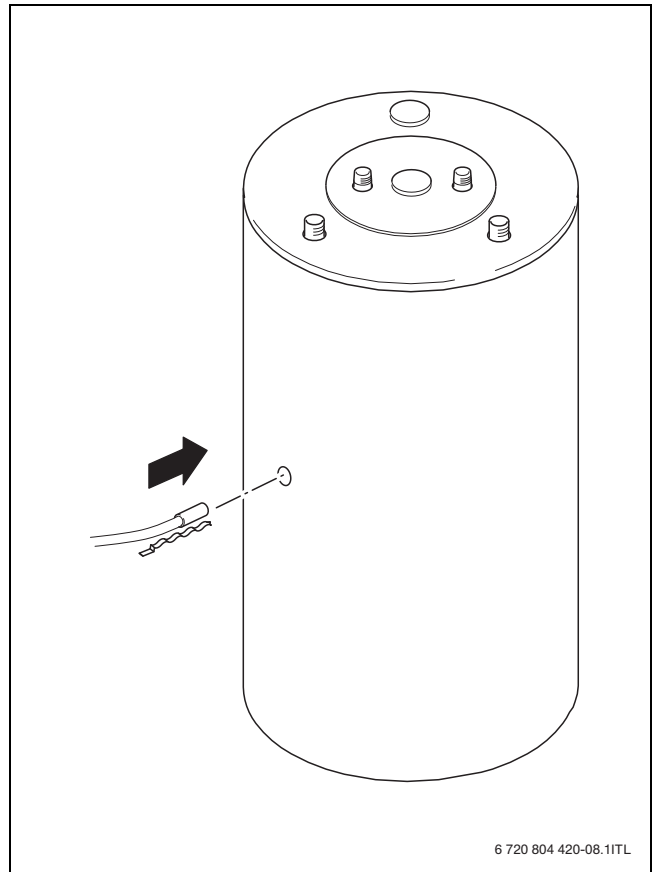


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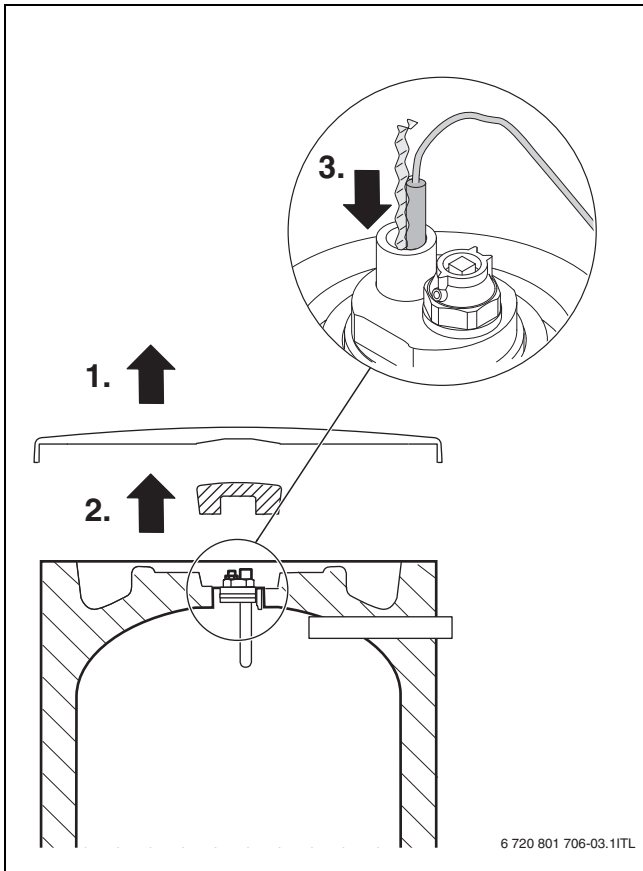
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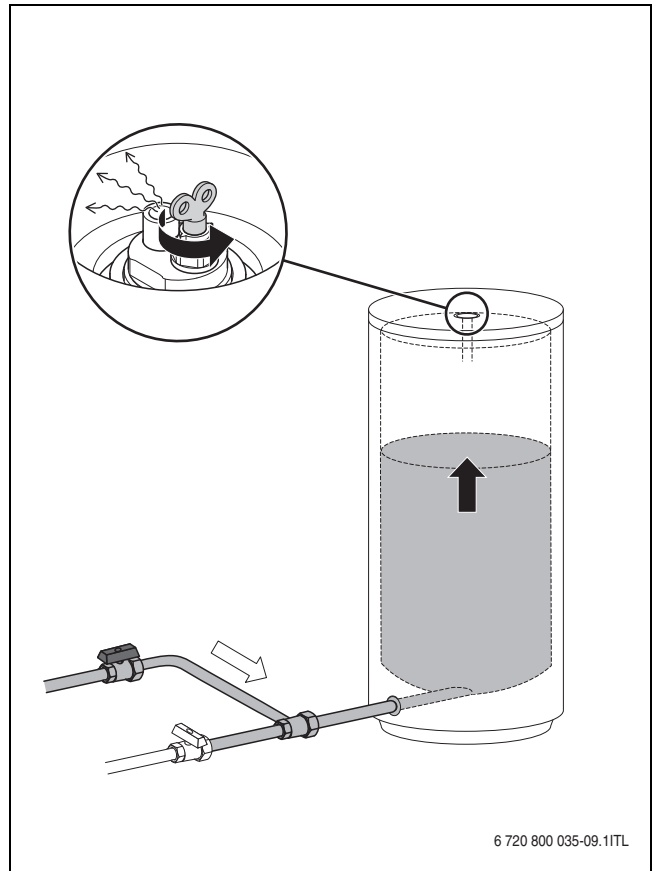
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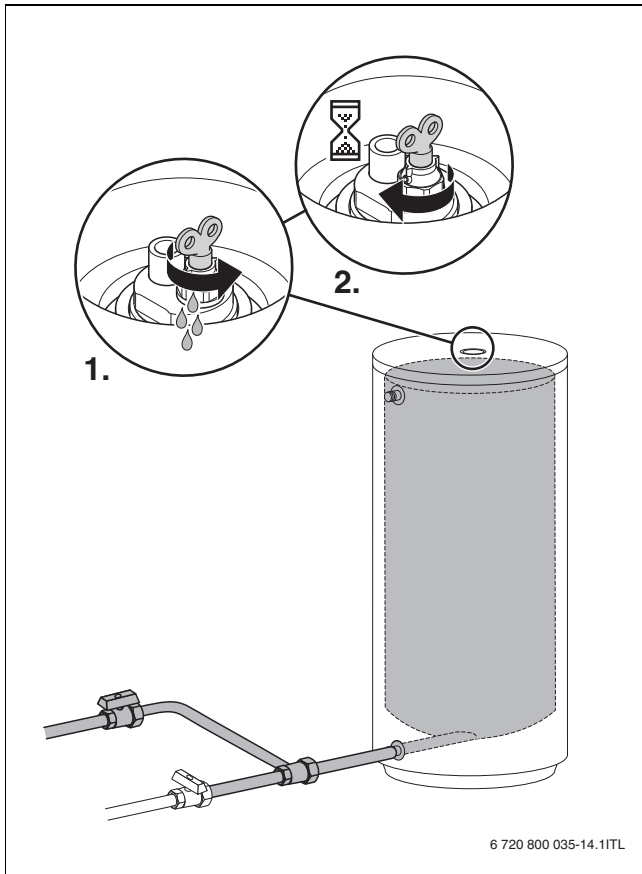
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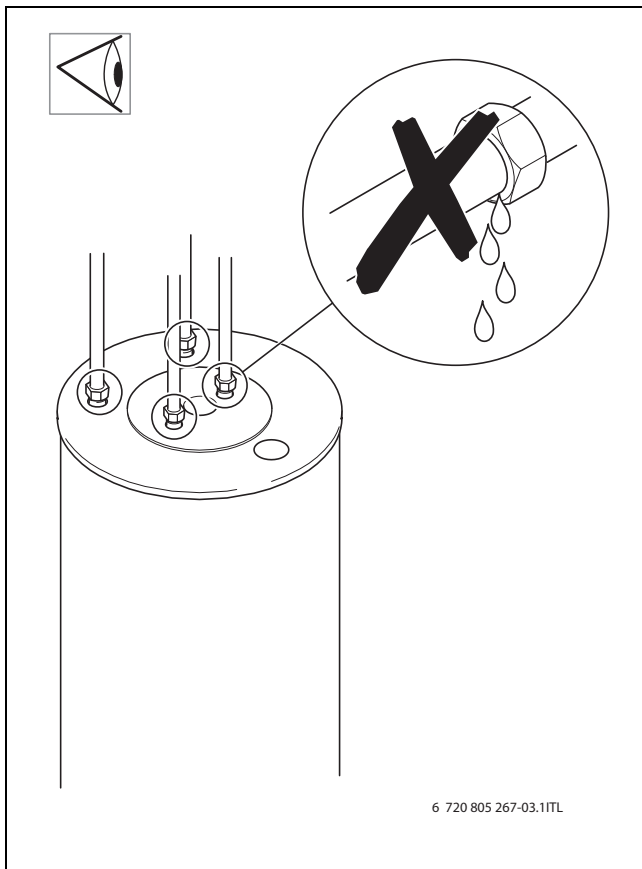
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**Notes**

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## Notes

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