Buderus P120.5 Buffer Cylinder Instruction Manual

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P120.5 | P200.5 | P300.5

Buderus

6 720 819 267 (2022/06)

Contents

1 Explanation of symbols and general safety instructions

1.1 Explanation of symbols

Warnings
⚠ Warnings in the text are indicated by a warning triangle. In addition, signal words are used to indicate the type and seriousness of the ensuing risk if measures for minimising the danger are not taken.

The following signal words are defined and can be used in this document:

- NOTICE indicates that material losses may occur.
- CAUTION indicates that minor to medium personal injury may occur.
- WARNING indicates that severe or life-threatening personal injury may occur.
- DANGER indicates that severe personal injury or death may occur.

Important information
i Important information where there is no danger to people or property is indicated with the adjacent symbol.

Additional symbols

Symbol	Meaning
▶	Action step
→	Cross-reference to another part of this document
•	List/list entry
–	List/list entry (second level)

Table 1

1.2 General safety instructions

General These installation and maintenance instructions are intended for contractors.
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.
▶ To reduce oxygen permeation and therefore corrosion to a minimum, do not use vapour-permeable components! Never use open expansion vessels.
▶ Never close the safety valve.

2 Product information

2.1 Correct use

Buffer cylinders may only be filled with heating water.
Only use buffer cylinders in sealed heating systems.
Operate the buffer cylinders P120.5, P200.5, P300.5 preferably in combination with heat pumps.
Any other use is considered incorrect. Any damage that may result is excluded from liability.

2.2 Scope of Delivery

- Buffer cylinder
- Installation and servicing instructions

2.3 Technical data

- Dimensions and specifications (Fig. 1, page 42)

	Unit	P120.5 A	P200.5 A
Available capacity (total)	l	120	203
Standby heat loss[1)]	kWh/24h	0,8	1,03
Maximum heating water temperature	°C	90	90
Maximum heating water operating pressure	bar (positive)	3	3

Table 2 Technical data (A)

1) EN 12897; Excluding distribution losses outside the buffer cylinder.

	Unit	P120.5 B	P200.5 B	P300.5 B
Available capacity (total)	l	120	203	300
Standby heat loss[1)]	kWh/24h	1,3	1,4	1,94
Maximum heating water temperature	°C	90	90	90
Maximum heating water operating pressure	bar (positive)	3	3	3

Table 3 Technical data (B)

1) EN 12897; Excluding distribution losses outside the buffer cylinder.

2.4 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 pump
5	Sensor well for return temperature sensor (GT1) (Test point)
6	Drain tap
7	Storage cylinder, steel
8	Flow from heat pump
9	Plug with sensor well for flow temperature sensor (T1)
10	Air vent valve
11	PS casing lid

Table 4 Product description (→Fig. 2, page 43)

2.5 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. Type
2. Serial number
3. Available capacity (total)
4. Standby heat loss
5. Year of manufacture
6. Max. heating water flow temperature
7. 17 Max. heating water operating pressure

Table 5 Data plate

2.6 Product datasheet on energy consumption

The following product data complies with the requirements of EU Regulations 814/2013 and 812/2013 as supplement to the Directive 2017/1369/ EU.

Product number	Product typ	Storage volume (V)	Standing loss (S)	Water heating energy efficiency class
8 732 910 192	P120.5 S	120,0 l	35,2 W	A
7 735 500 667 8 718 542 920	P120.5 P120/5W	120,0 l	52,0 W	B
8 732 910 194	P200.5 S	203,0 l	42,7 W	A
7 735 500 668 8 718 543 041	P200.5 P200/5W	203,0 l	56,6 W	B
7 735 500 684 8 718 542 847	P300.5 P300/5W	300,0 l	59,0 W	B

Table 6 Product datasheet on energy consumption

3 Regulations

Observe the following directives and standards:

- Local regulations
- EnEG (in Germany)
- EnEV (in Germany)

  Installation of, and equipment for, heating and water heating systems:
- DIN and EN standards

  – DIN 4753, part 1: DHW cylinders and DHW heating systems for potable and process water; requirements, identification,

  equipment and testing

  – DIN 4753, part 8: Thermal insulation of DHW cylinders up to 1000 l nominal capacity – requirements and testing (product

  standard)

  – DIN EN 12 828: Heating systems in buildings – engineering hot water heating systems

  – DIN 18 380: VOB1), heating systems and central DHW systems

  – DIN 18 381: VOB1), gas, water and sewage installation work

  within buildings

  – VDE regulations.

4 Transport

▶Secure the buffer cylinder to prevent it falling during transport. ▶Transport the tank (Fig. 3, page 43).

5 Fitting

▶Check that the buffer cylinder is complete and undamaged.

5.1 Installation location

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.
Only with P200.5, P300.5: Observe the minimum wall clearances inside the installation room
(Fig. 5, page 44).

5.2 Installing the buffer cylinder

Stand the buffer cylinder upright and level it (Fig. 6 to Fig. 7,
page 44). Remove the protective caps. Apply Teflon tape or Teflon string (Fig. 8, page 44).

5.3 Hydraulic connection

⚠ DANGER: Risk of fire from soldering and welding. Take appropriate protective measures when soldering and welding as the thermal insulation is combustible (for example, cover the thermal insulation).
1) VOB: German contract construction procedures Part C: General technical specifications in construction contracts (ATV)

⚠ CAUTION: Water damage resulting from open drain (only P200.5, P300.5)! Connect the drain to the bottom cylinder connection
(Fig. 2, [3], page 43) prior to filling the cylinder.
When sizing the heating system expansion vessel, take the cylinder capacity into consideration.

⚠ CAUTION: Risk of damage to non heat-resistant installation materials (e. g. plastic piping)! Use installation material which is heat resistant to 80 °C.

▶ Install pipework runs so that natural circulation is prevented.
▶ Install all pipes free of stress.
▶ During filling, open the ventilation on the cylinder (Fig. 2, [10], page 43).
Only fill buffer cylinders with potable water.

The test pressure must not exceed 3 bar positive pressure. Carry out tightness test (Fig. 16, page 46).
System components Function diagram for connecting the buffer cylinder to the heat pump (Fig. 9, page 45).

Item Description

1. Heat pump
2. Heating system
3. Additional heating system (in case of expansion)
4. Pump
5. 3-way mixer
6. Buffer cylinder

Table 7 System components (Fig. 9, page 45)

5.4 Installing temperature sensors

Fit the temperature sensors (Fig. 10 and 11, page 45).

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

Note sensor positions (Fig. 2, [5] and [9], page 43). Observe heat pump or control unit installation instructions.

6 Commissioning

NOTICE: Cylinder damage resulting from positive 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. 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:

– Water may be discharged from the safety valve during initial
heat-up.
– The safety valve discharge pipe must always be kept open.
– Where there is a risk of frost and when the user is briefly away: Keep the heating system in operation and select the lowest possible water temperature.

7 Environmental protection/disposal

Environmental protection is a key commitment of the Bosch Group. Quality of products, efficiency and environmental protection are equally important objectives for us. Laws and requirements aimed at protecting the environment are strictly adhered to. To protect the environment we will, subject to economical aspects, use the best possible technology and materials.
Packaging Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling. All of our packaging materials are environmentally compatible and can be recycled.
Old appliance 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.

8 Maintenance

With buffer cylinders, apart from visual checks, no particular maintenance or cleaning work is necessary. Check all connections externally for tightness once a year. In the event of a fault, contact an authorised contractor or the service
department.

9 Decommissioning

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

▶ Decommission the buffer cylinder together with the heat pump.
▶ Switch off the temperature controller at the control unit.
▶ Drain the buffer cylinder:
– Shut off the buffer cylinder (→ Fig. 17, page 47).
– Open the air vent valve (→ Fig. 2,[10], page 43).
– P120.5: drain using the drain valve on the buffer cylinder
(→ Fig. 2, [6], page 43).
– P200.5, P300.5: drain using own drain (→ Fig. 18, page 47).
▶ Shut down all assemblies and accessories of the heating system as
specified in the manufacturer's technical documentation.
▶ Close the shut-off valves (→ Fig. 18, page 47).

10 Data Protection Notice

https://show-policy.ttprivacy.com/ol-7de7b314-7e73-4248-bab1-8aabdc16c8f7?country=DE&lang=en-GB

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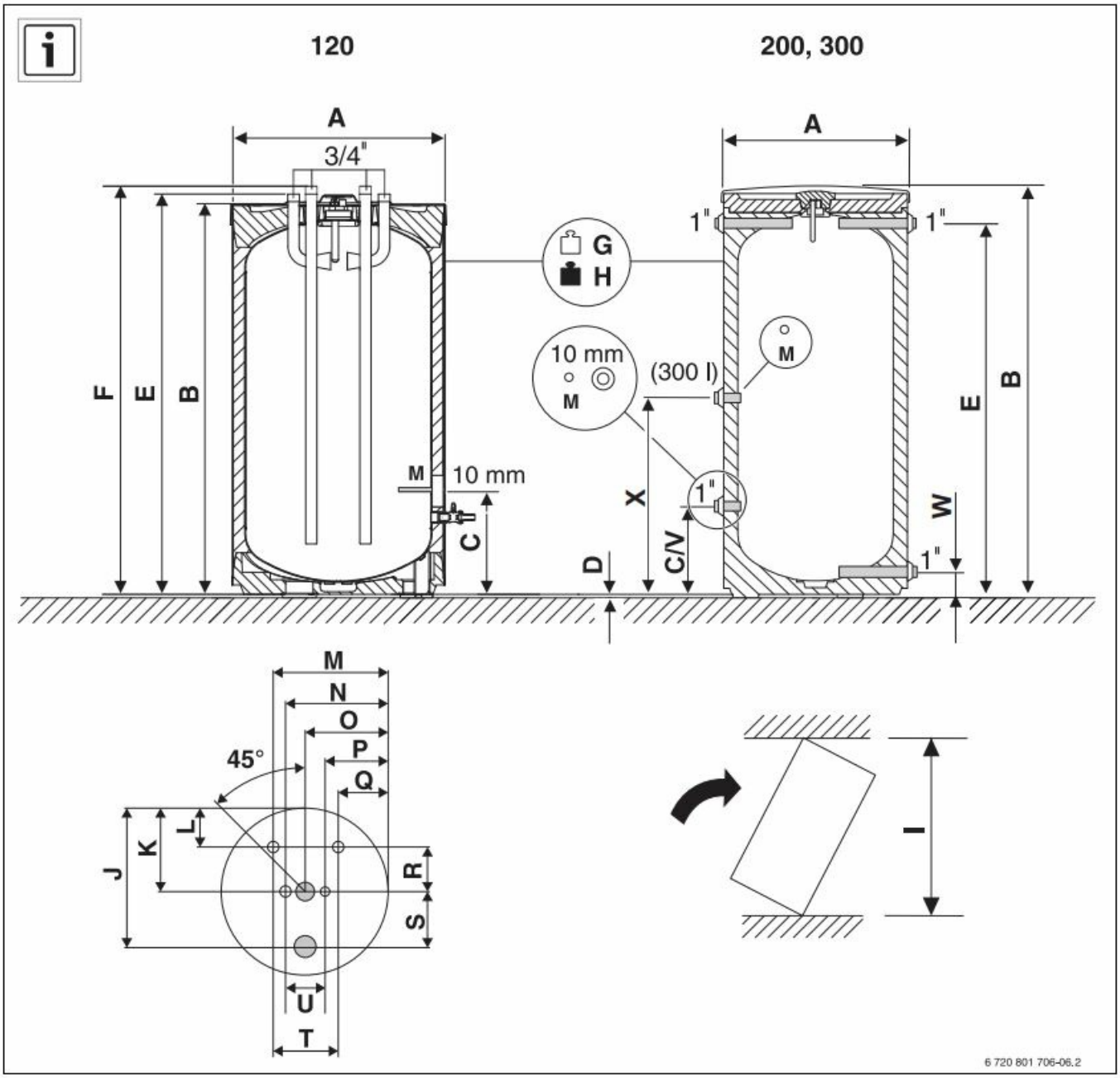

1

		P120.5 A	P120.5 B	P200.5 A	P200.5 B	P300.5 B
A	mm	600	510	600	550	670
B	mm	964	964	1530	1530	1495
C/V	mm	248	248	265	265	318
D	mm	12,5	12,5	12,5	12,5	12,5
E	mm	980	980	80	80	80
F	mm	996	996	1399	1399	1355
G	kg	53	50	92	75	87
H	kg	173	170	292	275	394
I	mm	1180	1120	1625	1625	1655
J	mm	465	440	–	–	–
K	mm	280	255	–	–	–
L	mm	130	105	–	–	–

		P120.5 A	P120.5 B	P200.5 A	P200.5 B	P300.5 B
M	mm	389	364	–	–	–
N	mm	345	320	–	–	–
O	mm	280	255	–	–	–
P	mm	215	190	–	–	–
Q	mm	171	146	–	–	–
R	mm	150	150	–	–	–
S	mm	185	185	–	–	–
T	mm	218	218	–	–	–
U	mm	130	130	–	–	–
W	mm	–	–	80	80	80
X	mm	–	–	–	–	617

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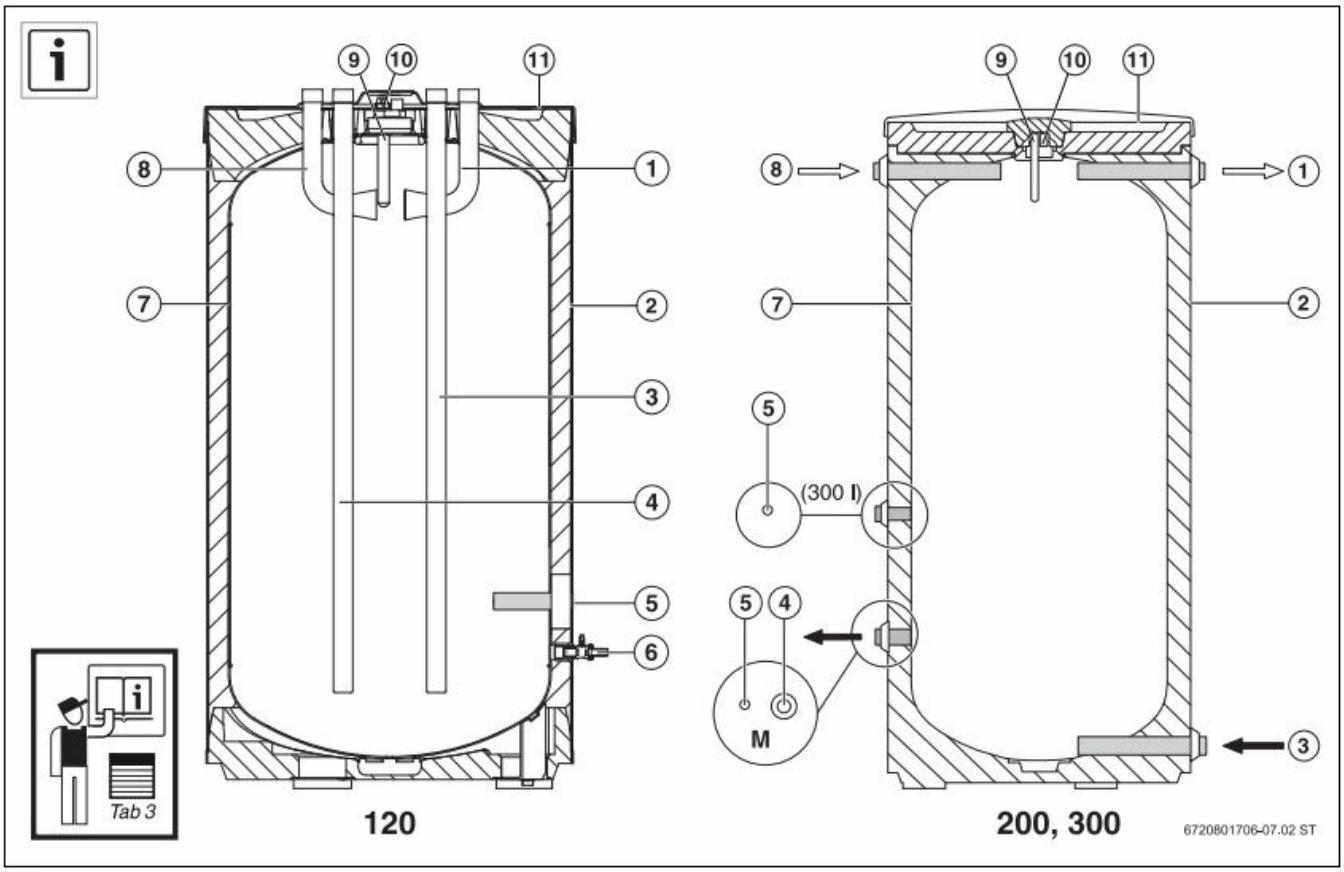
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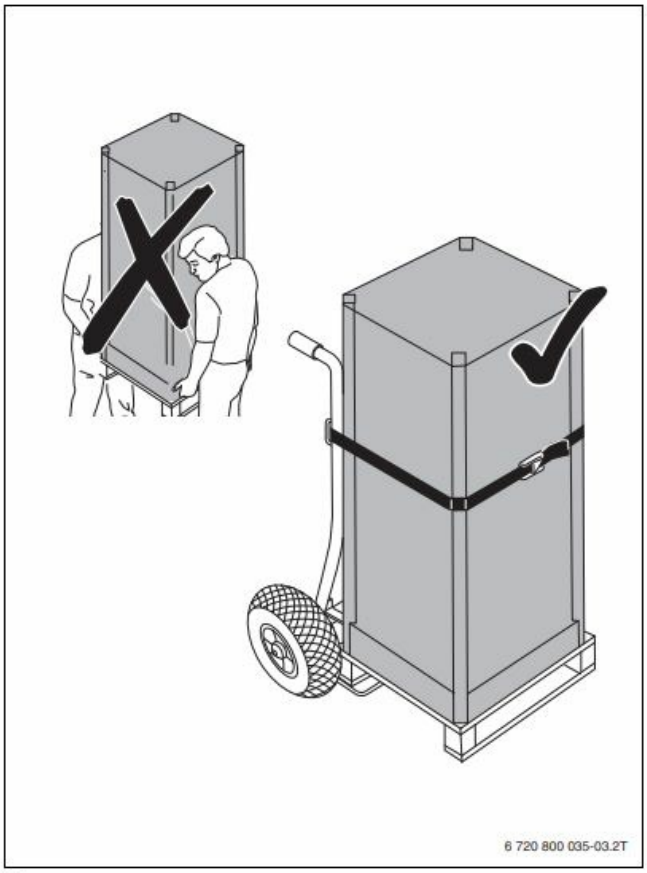
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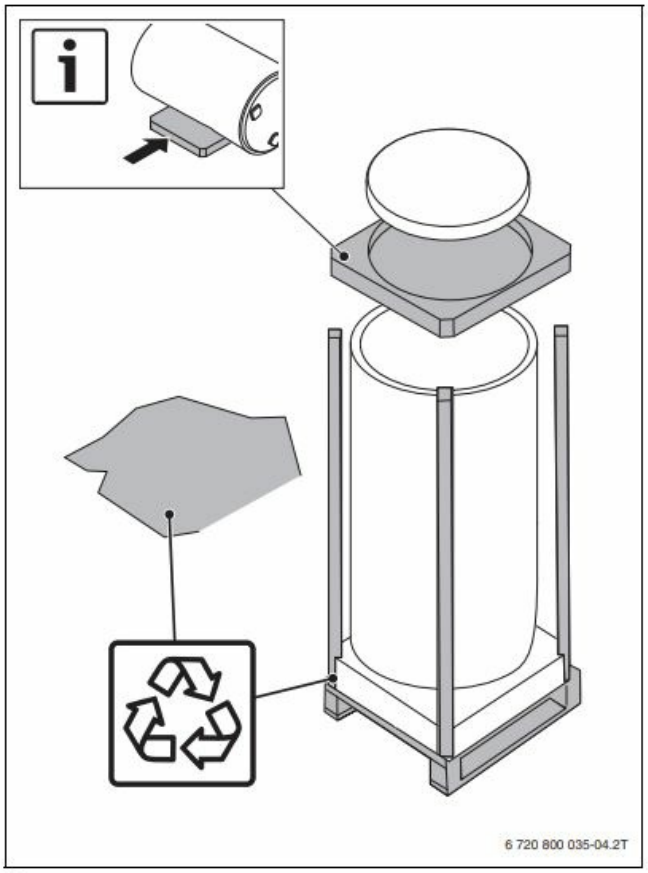
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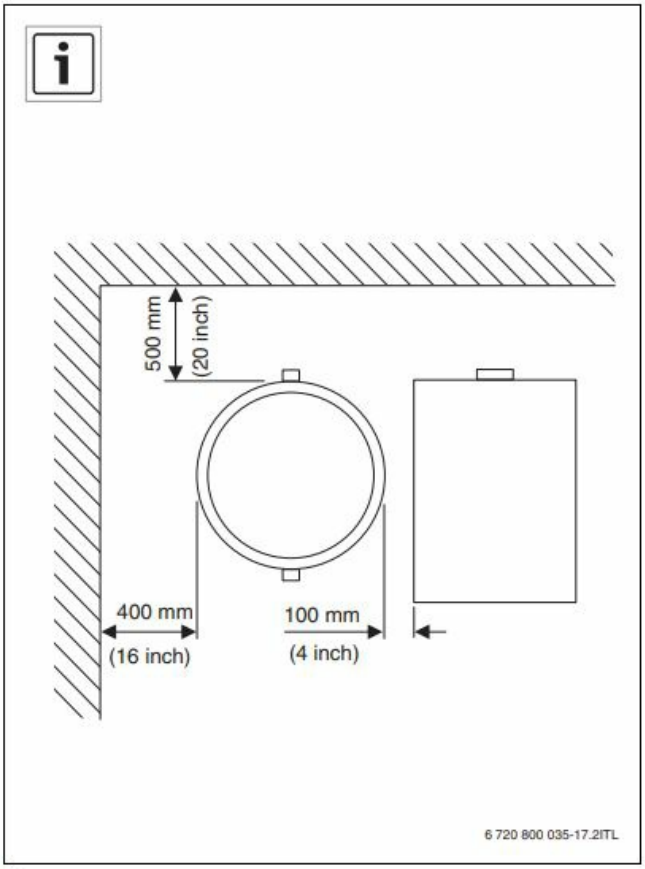
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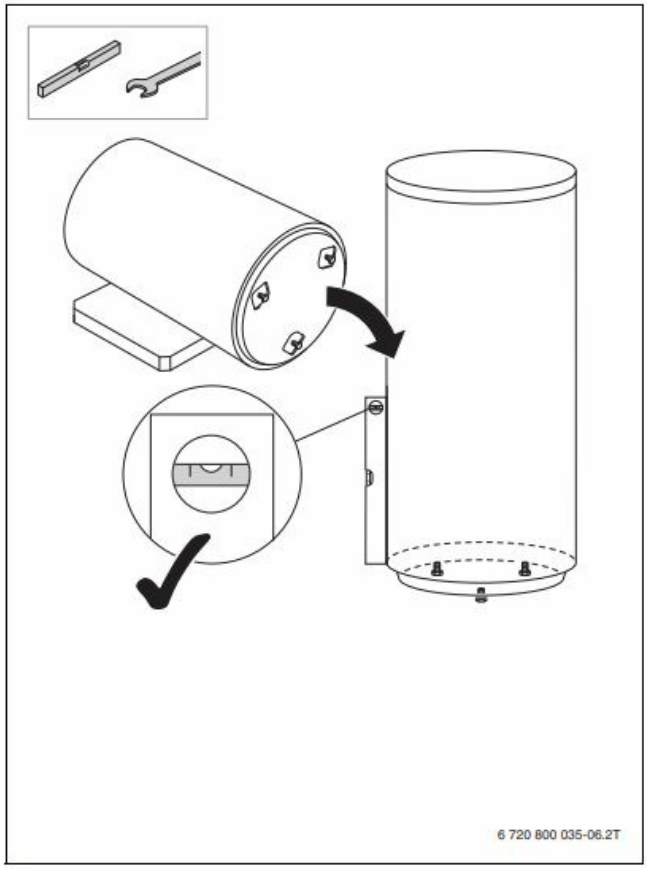
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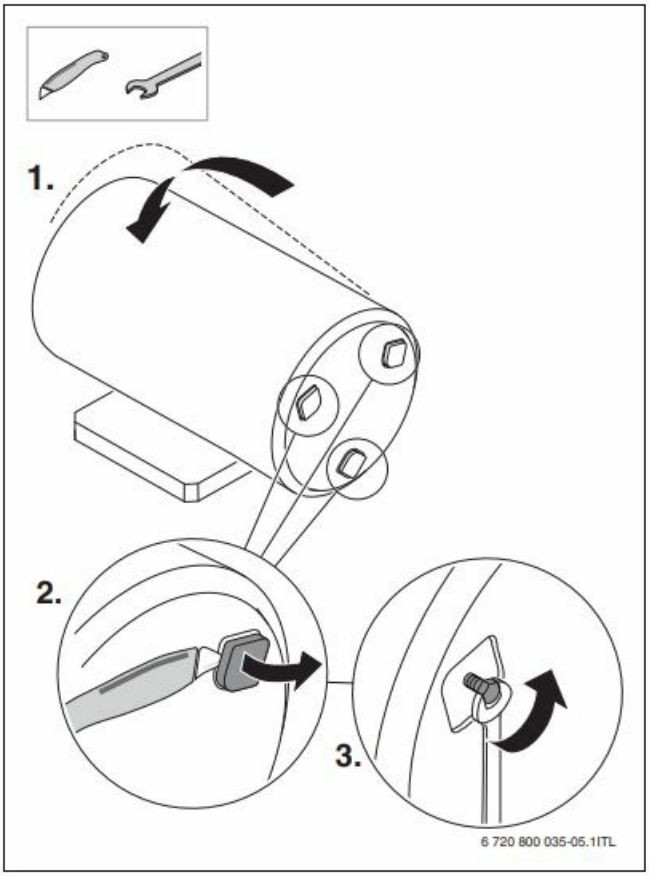
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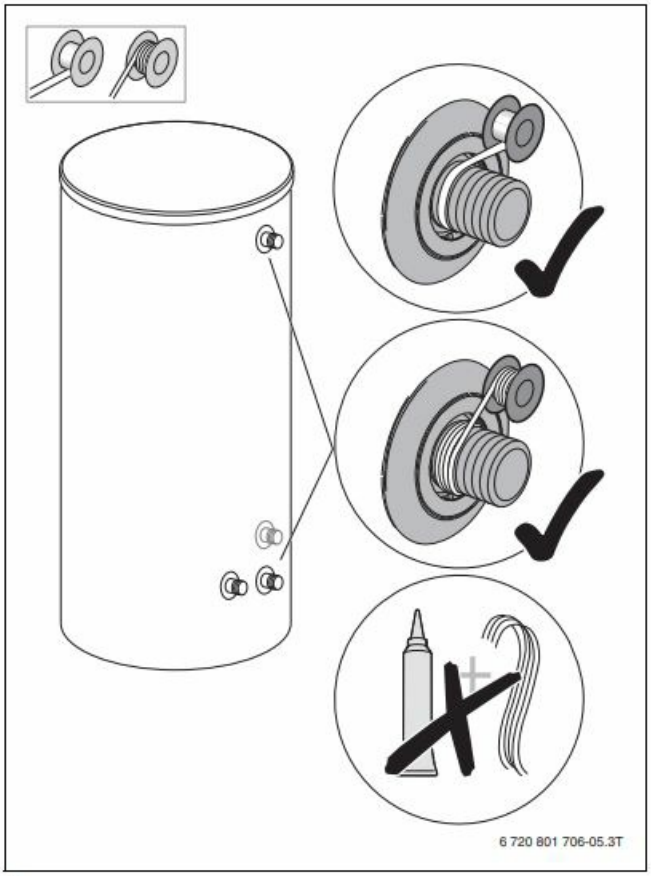
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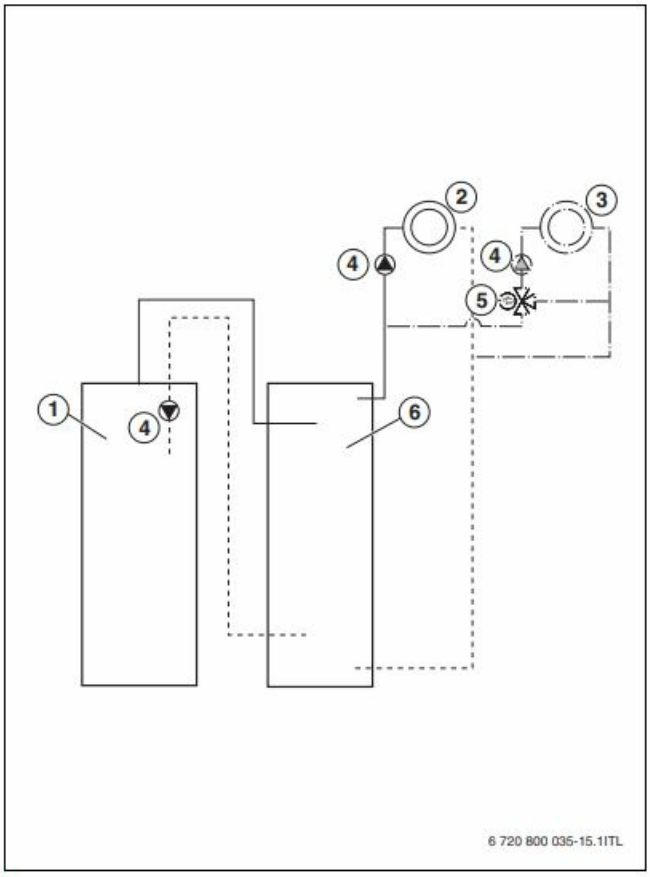
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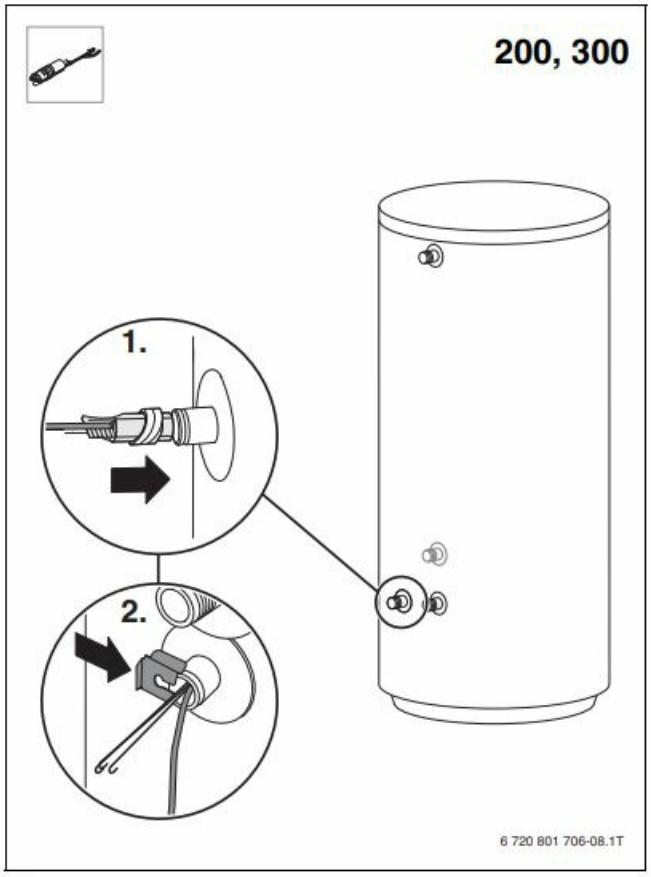
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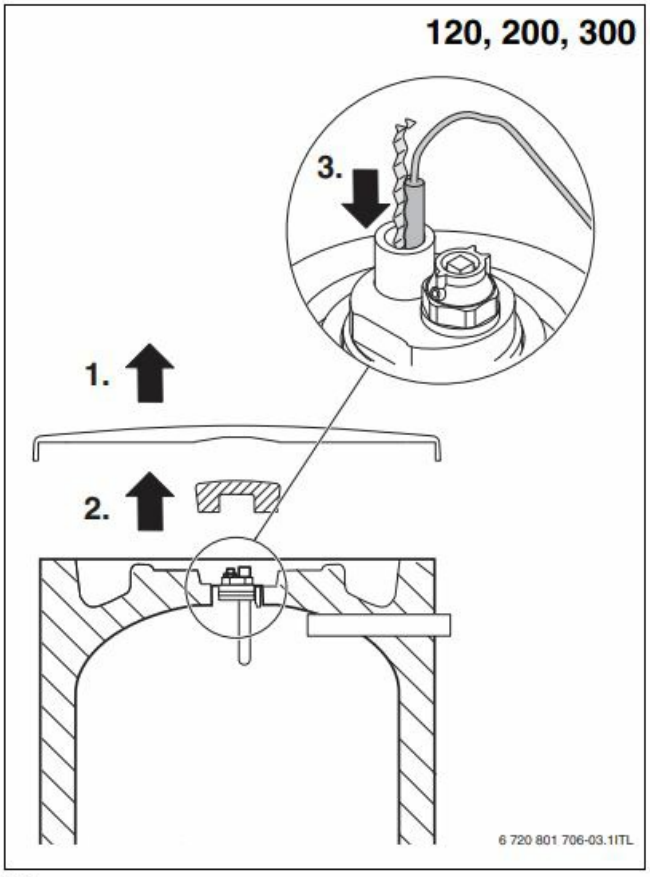
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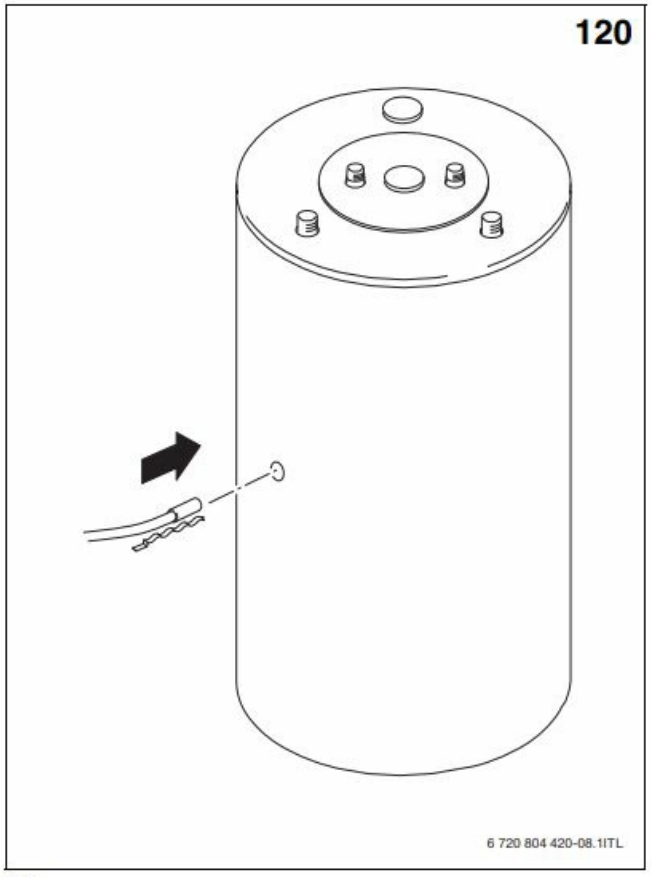
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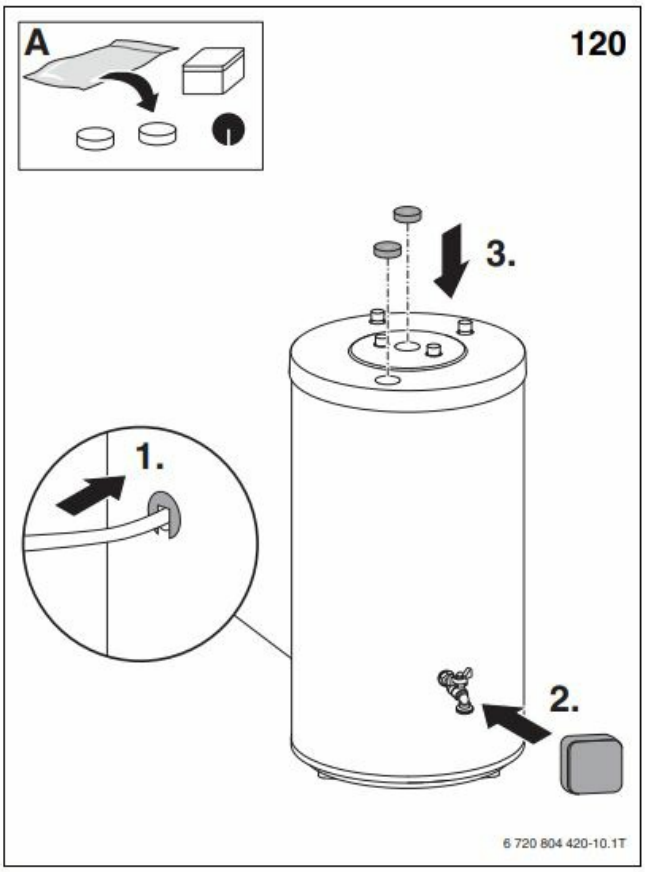
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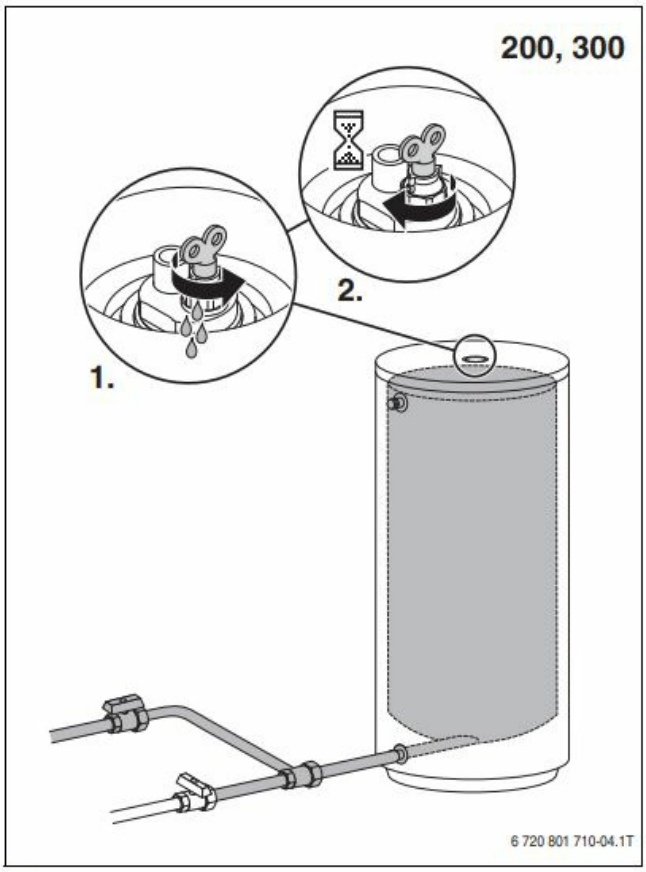
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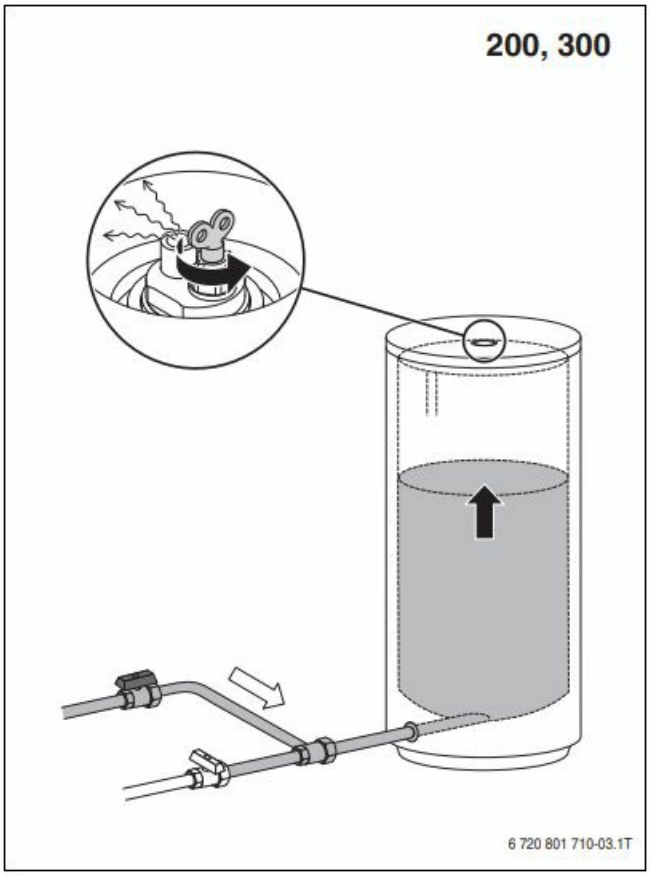
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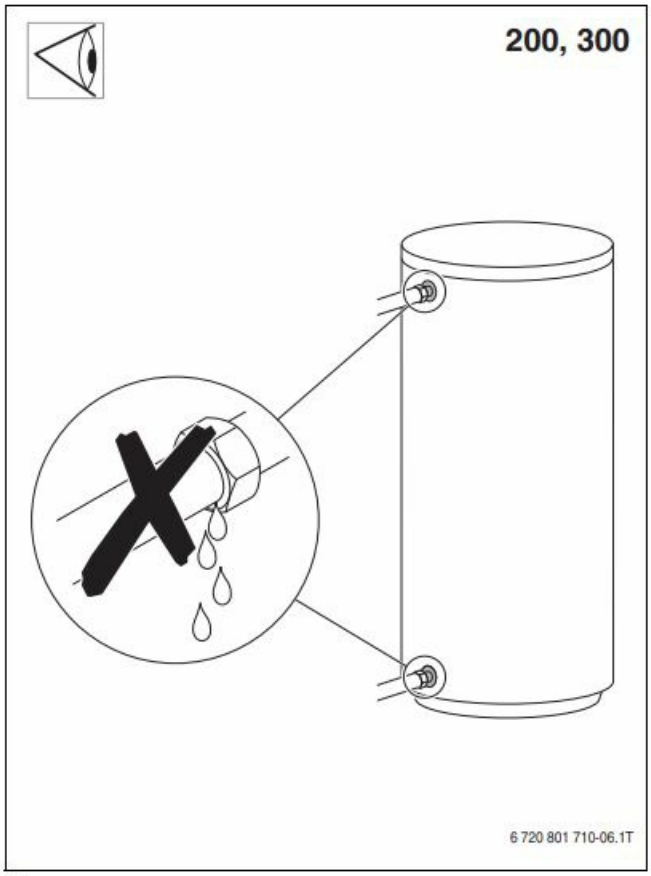
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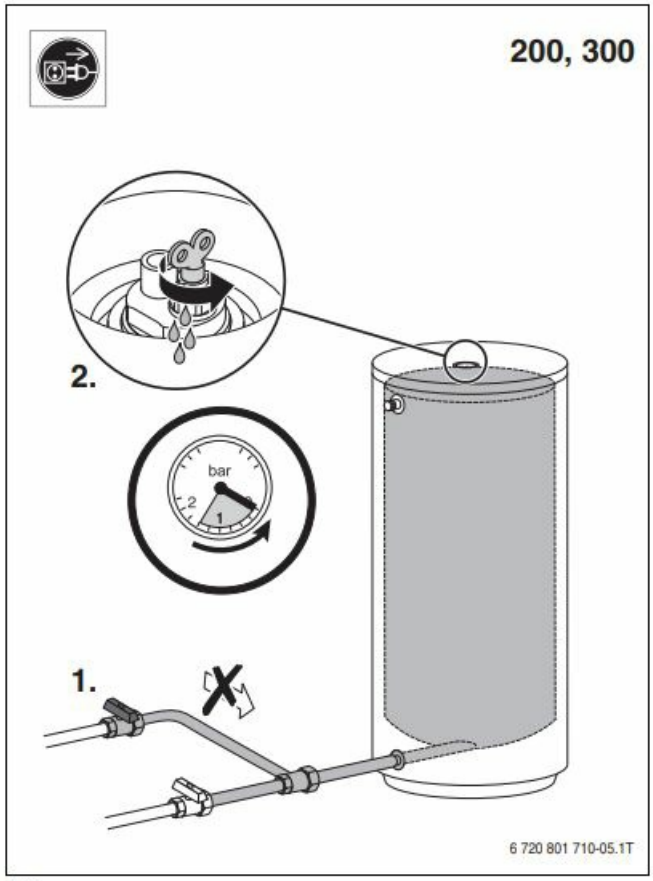

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Documents / Resources

	Buderus P120.5 Buffer Cylinder [pdf] Instruction Manual P120.5 Buffer Cylinder, P120.5, Buffer Cylinder, Cylinder