BOSCH BH 120-5 Buffer Memory Instruction Manual

Contents

BH 120-5, BH 200-5, BH 300-5

Installation and Maintenance Instructions for the Contractor

6720821243 (2023/06)

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

 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.**

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2 Product information

2.1 Declaration of Conformity

The design and operating characteristics of this product comply with the British, European and supplementary national requirements.

UK CA CE The UKCA and CE markings declare that the product complies with all the applicable British and European legislation, which is stipulated by attaching these markings.

You can request the complete text of the Declaration of Conformity from the UK address indicated in this document.

2.2 GB Importer

Bosch Thermotechnology Ltd
Cotswold Way, Warndon
Worcester WR4 9SW / UK

2.3 Simplified UK/EU Declaration of conformity regarding radio equipment

Bosch Thermotechnik GmbH hereby declares, that the Climate 2000 product described in these instructions complies with the Directive UK S.I. 2017/1206 (UK) 2014/53/EU.

You can request the complete text of the UK/EU Declaration of Conformity from the UK address indicated in this document.

2.4 Regulations

In order to ensure installation and operation of the product in accordance with the regulations, please observe all the applicable national and regional regulations as well as all technical rules and guidelines.

You can find a list of the most relevant British and European directives and regulations in the table below.

EU legislation	**UK legislation**
Electromagnetic Compatibility – Directive 2014/30/EU	Electromagnetic Compatibility Regulations 2016
Low Voltage Directive 2014/35	Electrical Equipment (Safety) Regulations 2016
Radio Equipment – Directive 2014/53/EU	Radio Equipment Regulations 2017
Pressure Equipment – Directive 2014/68/EU	Pressure Equipment (Safety) Regulations 2016
Gas Appliances – Regulation (EU) 2016/426	Regulation 2016/426 on gas appliances as brought i nto UK law and amended
Machinery Directive 2006/42/EC	Supply of Machinery (Safety) Regulations 2008
Ecodesign Directive 2009/125/EC	The Ecodesign for Energy-Related Products Regulat ions 2010
Energy Labelling Regulation (EU) 2017/1369	Energy Labelling Regulation (EU) 2017/1369 (as ret ained in UK law and amended)
Restriction of the Use of certain Hazardous Substances in Eletrical and Electronic Equipment (RoHS) – Directive 2002/95/EC	The Restriction of the Use of Certain Hazardous Su bstances in Eletrical and Electronic Equipment Regu lations 2012
European Directive 2012/19/EC on old electronic and el ectrical appliances	(UK) Waste Electrical and Electronic Equipment Reg ulations 2013 (as ammended)

Table 2

2.5 Correct use

Buffer cylinders may only be filled with heating water.

Only use buffer cylinders in sealed heating systems.

Operate the buffer cylinders BH 120-5, BH200-5, BH 300-5 preferably in combination with heat pumps.

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

2.6 Scope of Delivery

- Buffer cylinder
- Installation and servicing instructions

2.7 Technical data

- Dimensions and specifications (→ Fig. 1, page 55)

	Unit	BH 120-5 A	BH 200-5 A
Available capacity (total)	l	120	203
Standby heat loss[1)]	kWh/24h	0,9	1,0
Maximum heating water temperature	°C	90	90
Maximum heating water operating pressure	bar (positive)	3	3

Table 3 Technical data (A)

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

	Unit	BH 120-5 B	BH 200-5 B	BH 300-5 B
Available capacity (total)	l	120	203	307
Standby heat loss[1)]	kWh/24h	1,1	1,4	1,8
Maximum heating water temperature	°C	90	90	90
Maximum heating water operating pressure	bar (positive)	3	3	3

Table 4 Technical data (B)

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

2.8 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 5 Product description (→ Fig. 2, page 56)

2.9 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
6	Year of manufacture
9	Max. heating water flow temperature
17	Max. heating water operating pressure

Table 6 Data plate

2.10 Product datasheet on energy consumption

The following product data complies with the requirements of EU Regulations 811/2013 and 812/2013 as

supplement to the Directive 2010/30/EU.

Product numb er	Product typ	Storage volume (V)	Standing loss (S)	Water heating energy efficiency cl ass
7 735 501 535	BH 120-5 1	120,0 l	35,2 W	A
7 735 500 777 8 718 543 039	BH 120-5 BST 120-5 E hp	120,0 l	46,8 W	B
7 735 501 538	BH 200-5 1	203,0 l	41,4 W	A
7 735 500 778 8 718 543 047	BH 200-5 BST 200-5 E hp	203,0 l	58,2 W	B
7 735 500 795 8 718 542 850	BH 300-5 BST 300-5 E hp	307,0 l	74,2 W	C

Table 7 Product datasheet on energy consumption

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3 Transport

▶ Secure the buffer cylinder to prevent it falling during transport.
▶ Transport the tank (→ Fig. 3, page 56).

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4 Fitting

▶ Check that the buffer cylinder is complete and undamaged.

4.1 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 BH 200-5, BH 300-5:

▶ Observe the minimum wall clearances inside the installation room (→ Fig. 5, page 57).

4.2 Installing the buffer cylinder

▶ Stand the buffer cylinder upright and level it (→ Fig. 6 to Fig. 7, page 57).
▶ Remove the protective caps.
▶ Apply Teflon tape or Teflon string (→ Fig. 8, page 57).

4.3 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).

CAUTION: Water damage resulting from open drain (only BH 200-5, BH 300-5)!
▶ Connect the drain to the bottom cylinder connection (→ Fig. 2, [3], page 56) 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 56).

The test pressure must not exceed 3 bar positive pressure.

▶ Carry out tightness test (→ Fig. 16, page 59).

System components
Function diagram for connecting the buffer cylinder to the heat pump (→ Fig. 9, page 58).

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 8 System components (→ Fig. 9, page 58)

4.4 Installing temperature sensors

▶ Fit the temperature sensors (→ Fig. 10 and 11, page 58).

 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 56).
▶ Observe heat pump or control unit installation instructions.

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5 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.

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6 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.

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7 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.

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8 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 60).
– Open the air vent valve (→ Fig. 2,[10], page 56).
– **BH 120-5:** drain using the drain valve on the buffer cylinder (→ Fig. 2, [6], page 56).
– **BH 200-5, BH 300-5:** drain using own drain (→ Fig. 18, page 60).
▶ 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 60).

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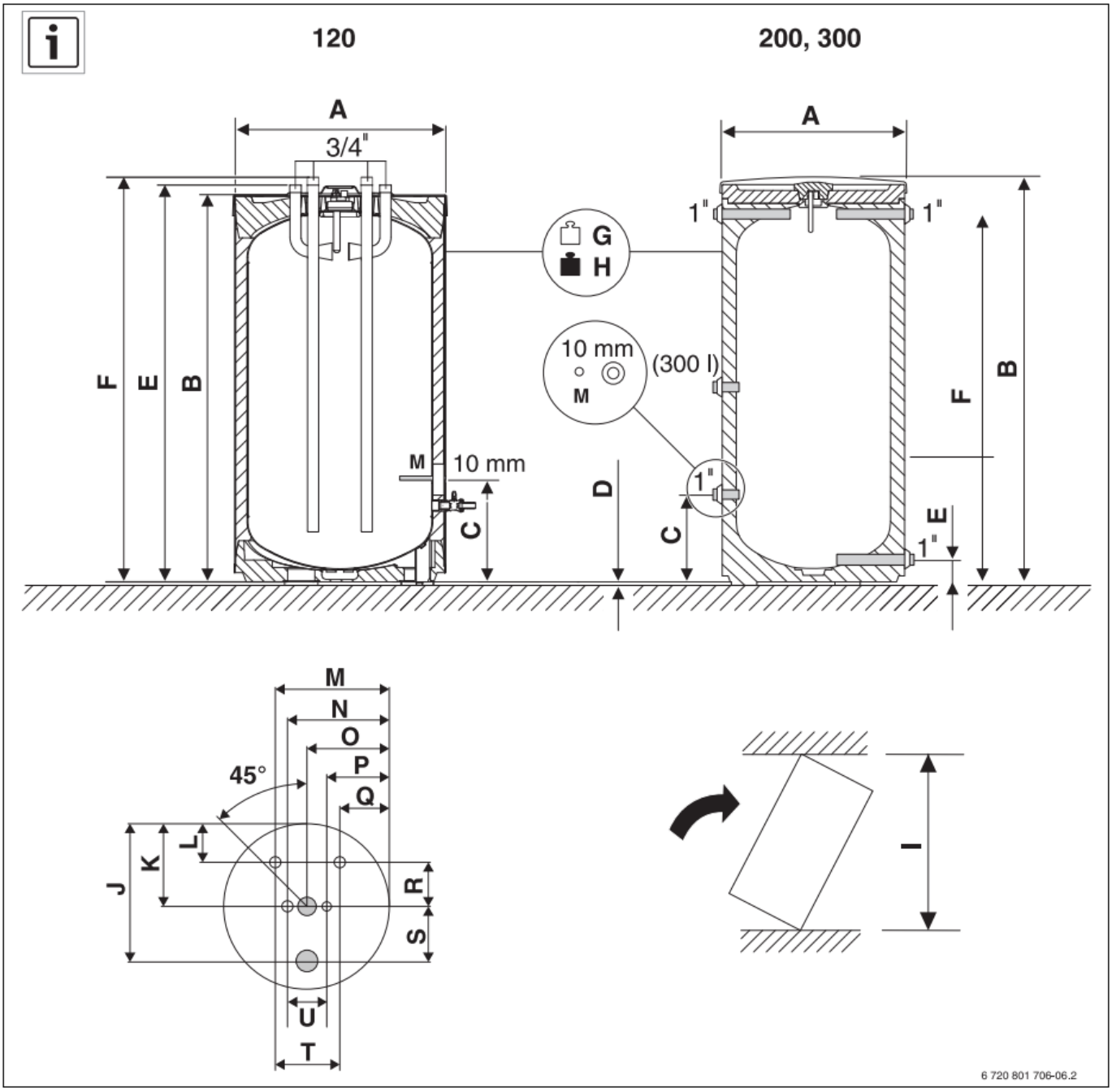
9 Data Protection Notice

We, **Bosch Thermotechnology Ltd., Cotswold Way, Warndon, Worcester WR4 9SW, United Kingdom** process product and installation information, technical and connection data, communication data, product registration and client history data to provide product functionality (art. 6 (1) sentence 1 (b) GDPR), to fulfil our duty of product surveillance and for product safety and security reasons (art. 6 (1) sentence 1 (f) GDPR), to safeguard our rights in connection with warranty and product registration questions (art. 6 (1) sentence 1 (f) GDPR) and to analyze the distribution of our products and to provide individualized information and offers related to the product (art. 6 (1) sentence 1 (f) GDPR). To provide services such as sales and marketing services, contract management, payment handling, programming, data hosting and hotline services we can commission and transfer data to external service providers and/or Bosch affiliated enterprises. In some cases, but only if appropriate data protection is ensured, personal data might be transferred to recipients located outside of the European Economic Area. Further information are provided on request. You can contact our Data Protection Officer under: Data Protection Officer, Information Security and Privacy (C/ISP), Robert Bosch GmbH, Postfach 30 02 20, 70442 Stuttgart, GERMANY.

You have the right to object, on grounds relating to your particular situation or where personal data are processed for direct marketing purposes, at any time to processing of your personal data which is based on art. 6 (1) sentence 1 (f) GDPR. To exercise your rights, please contact us via **privacy.ttgb@bosch.com** To find further information, please follow the QR-Code.



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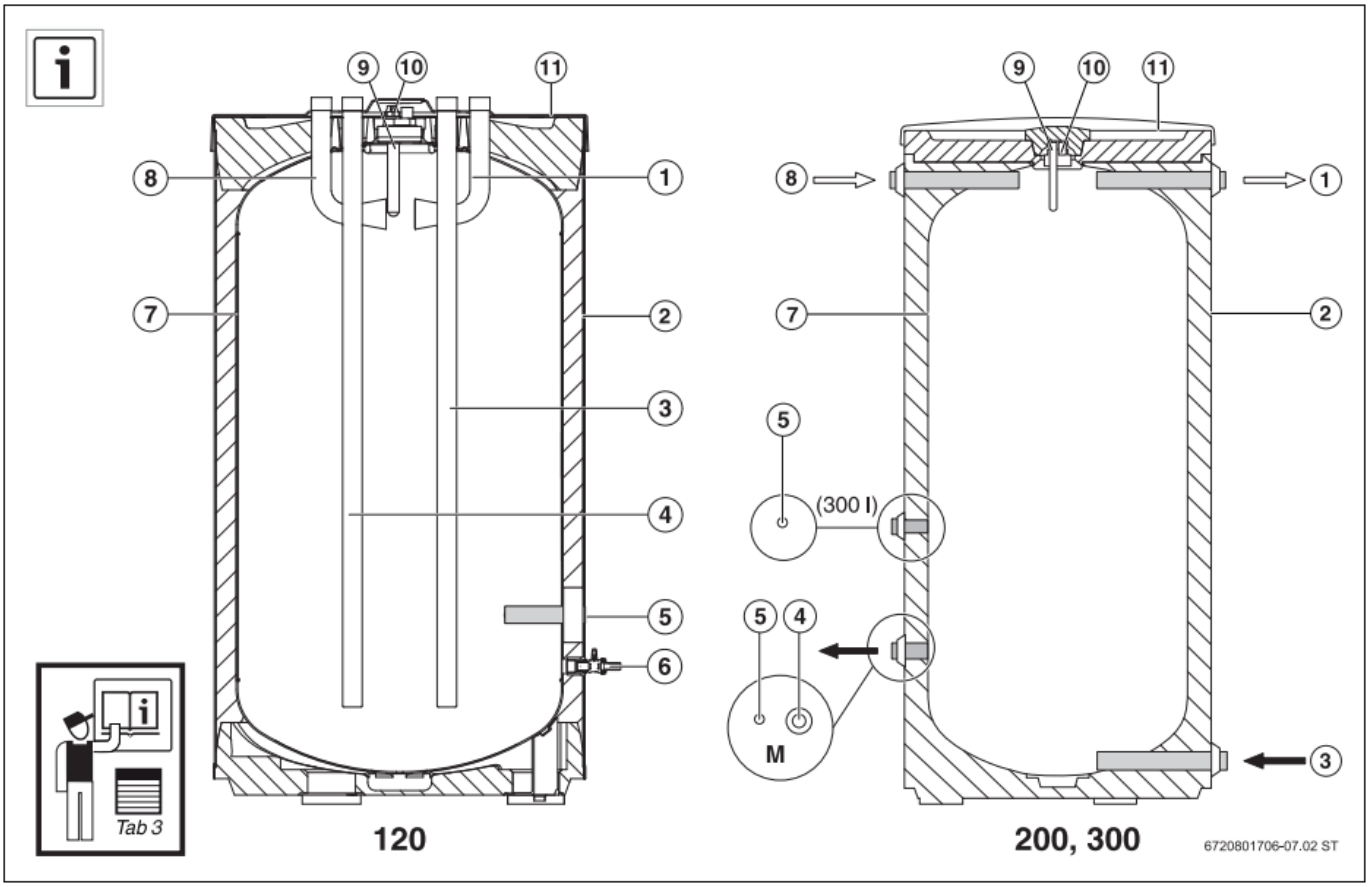
		BH 120-5 A	BH 120-5 B	BH 200-5 A	BH 200-5 B	BH 300-5 B
A	mm	600	510	600	550	670
B	mm	964	964	1530	1530	1495
C	mm	248	248	265	265	318
D	mm	12,5	12,5	12,5	12,5	12,5

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	–	–	–
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	–	–	–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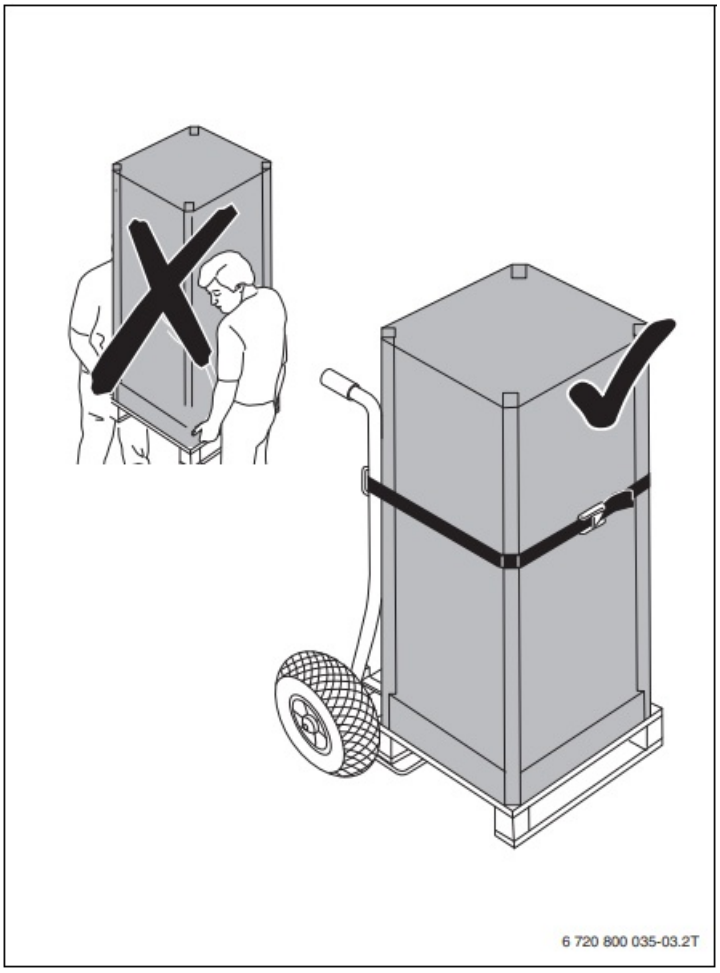
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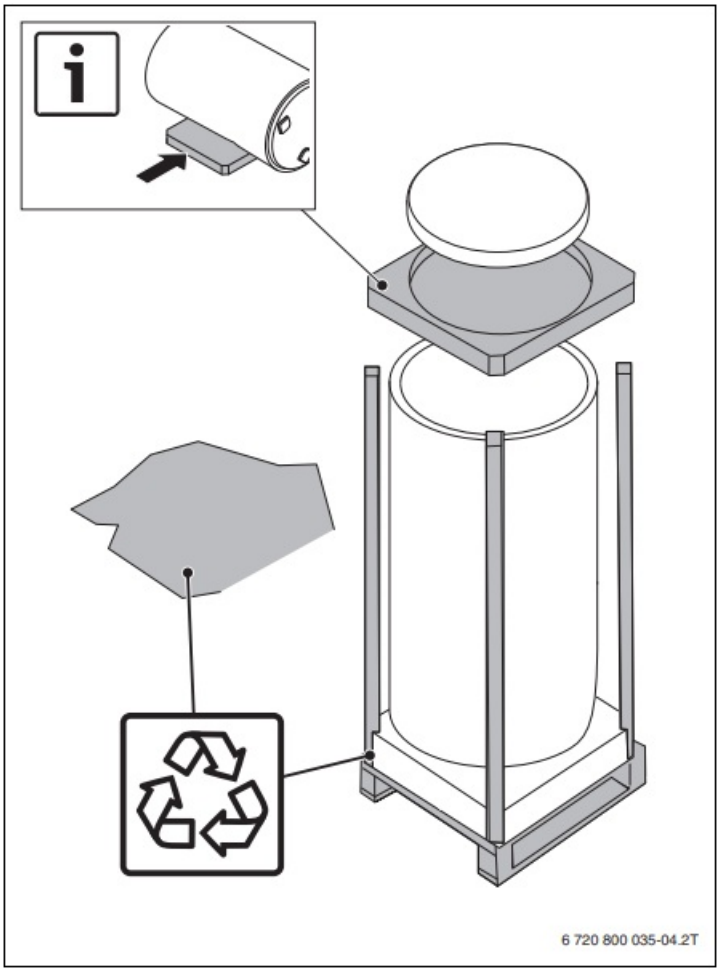
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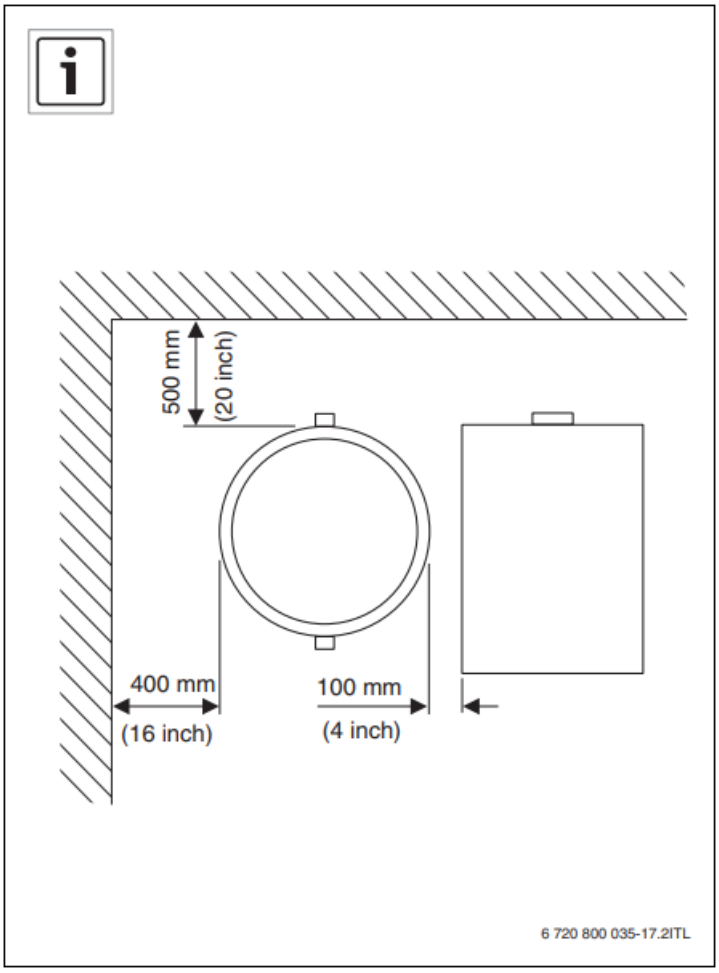
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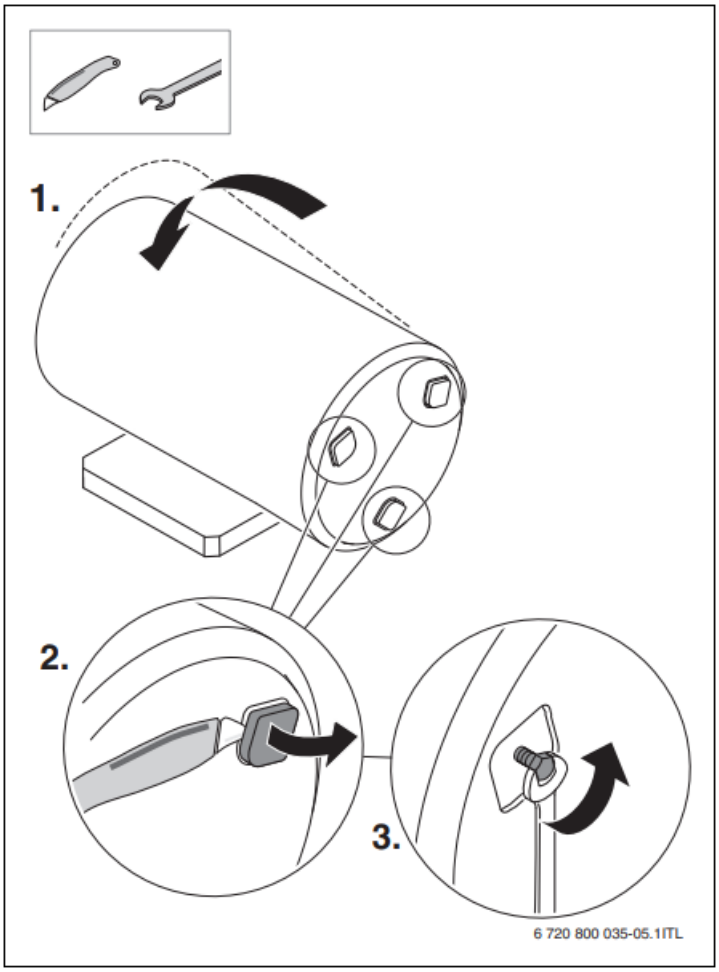

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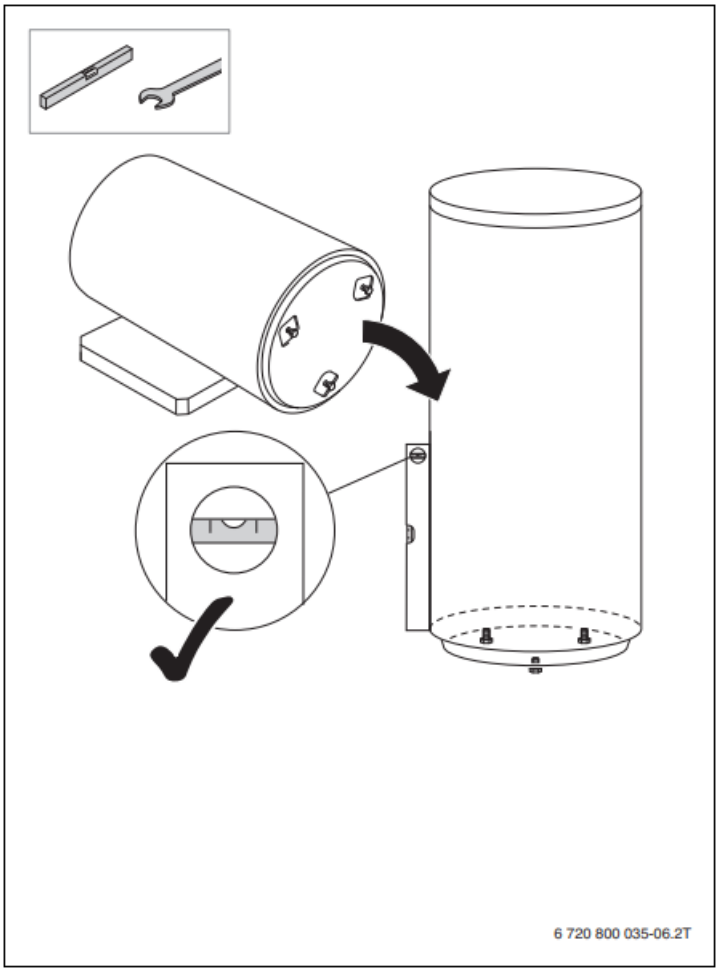

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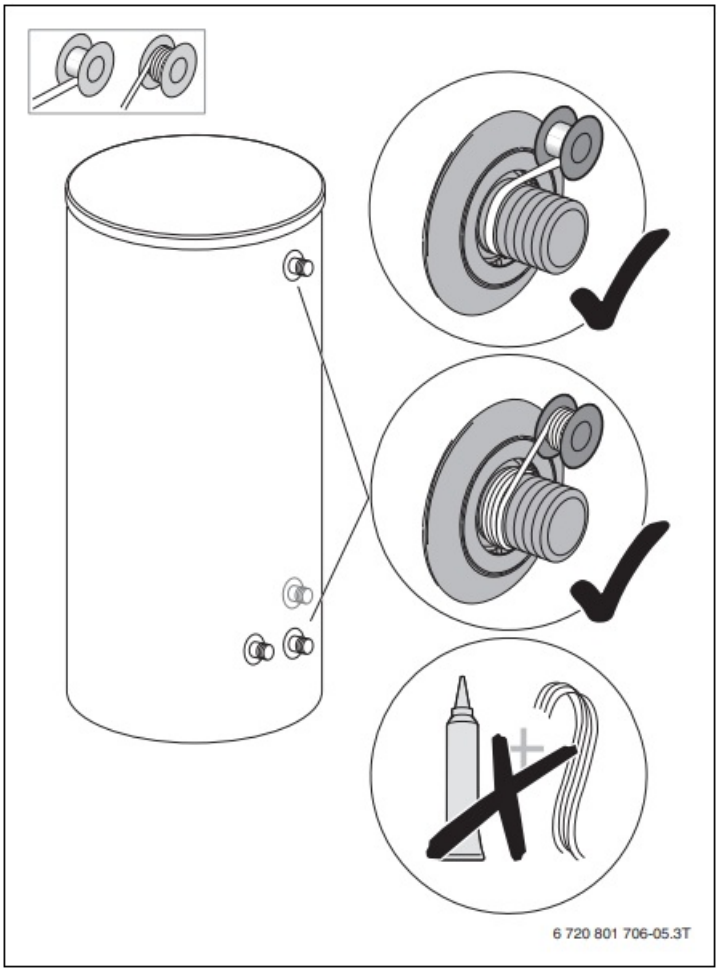

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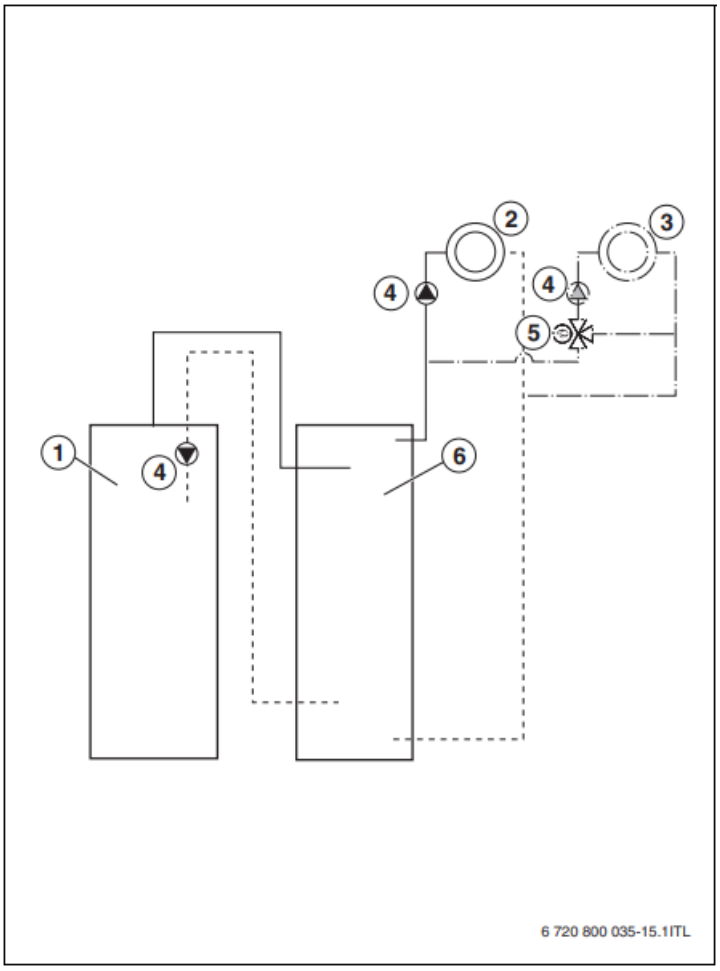

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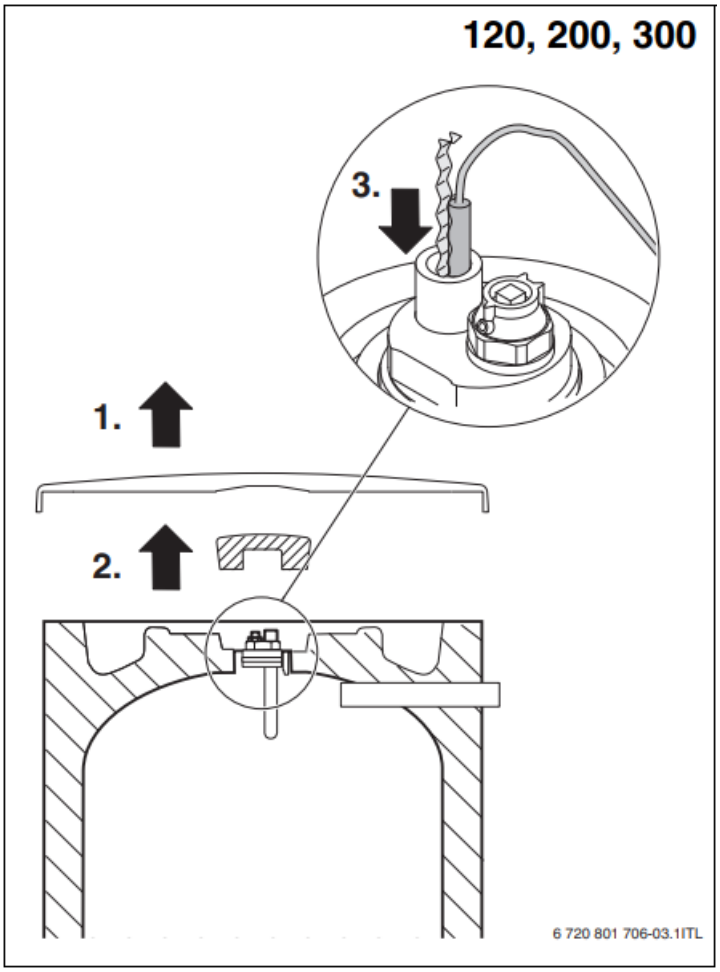
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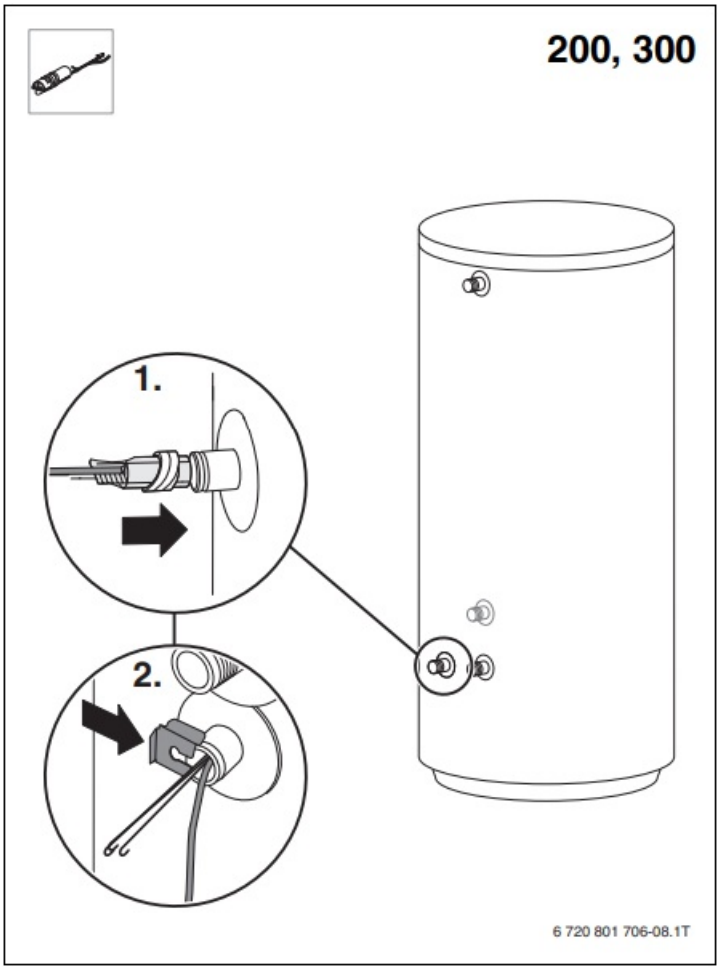
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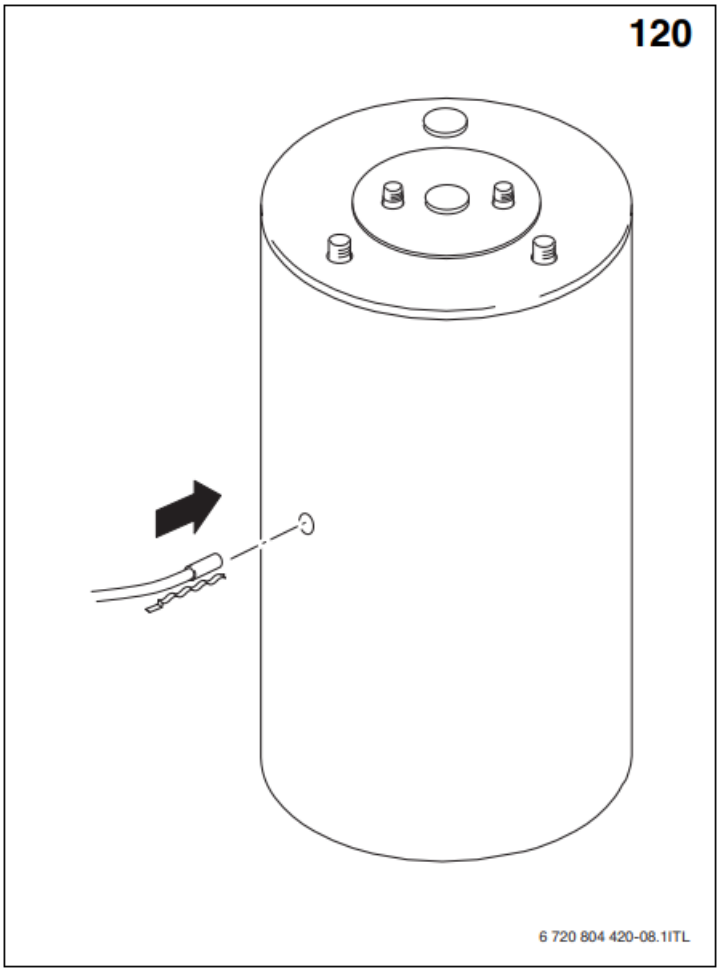

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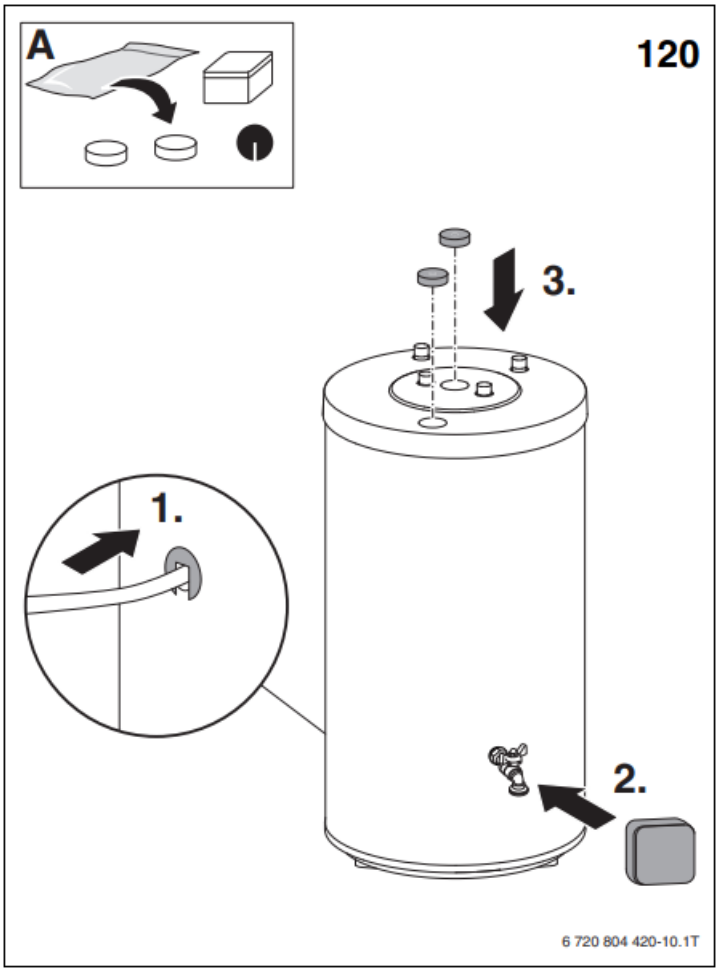

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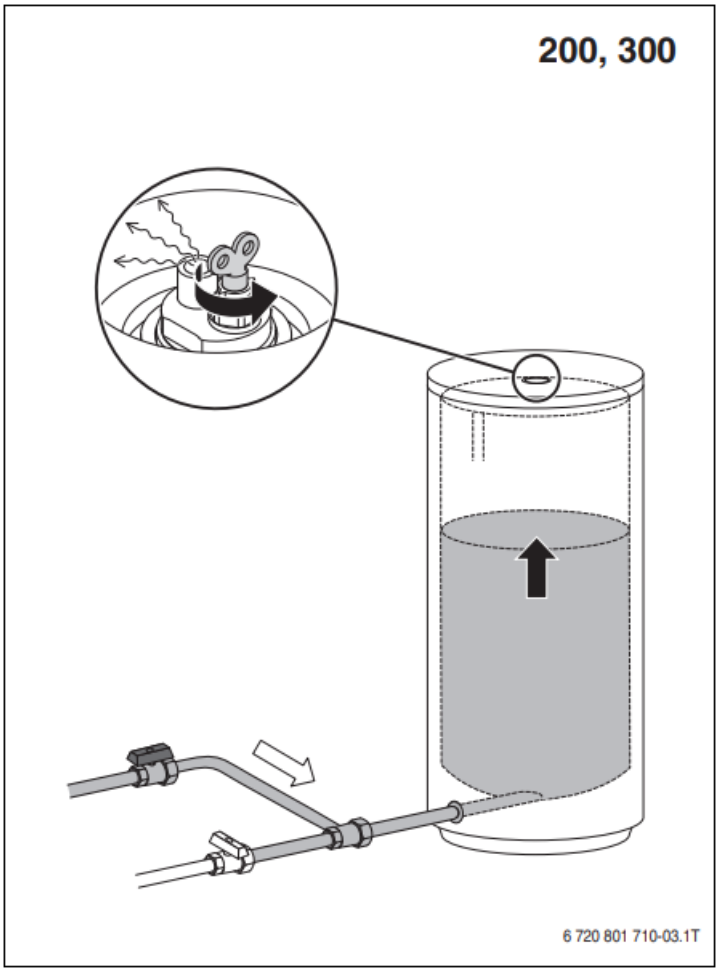

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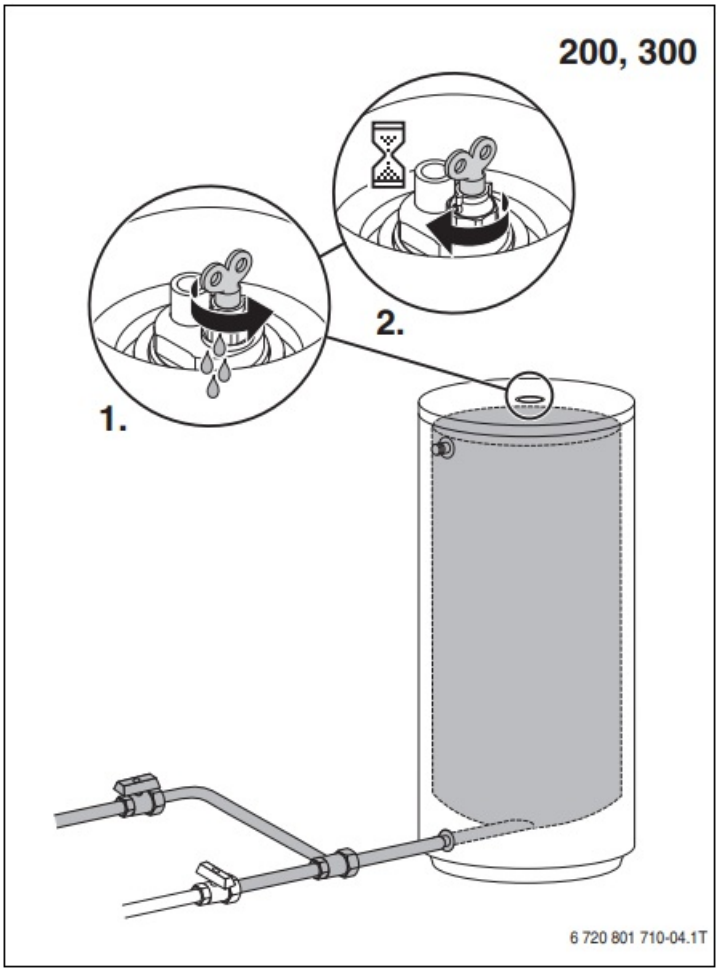

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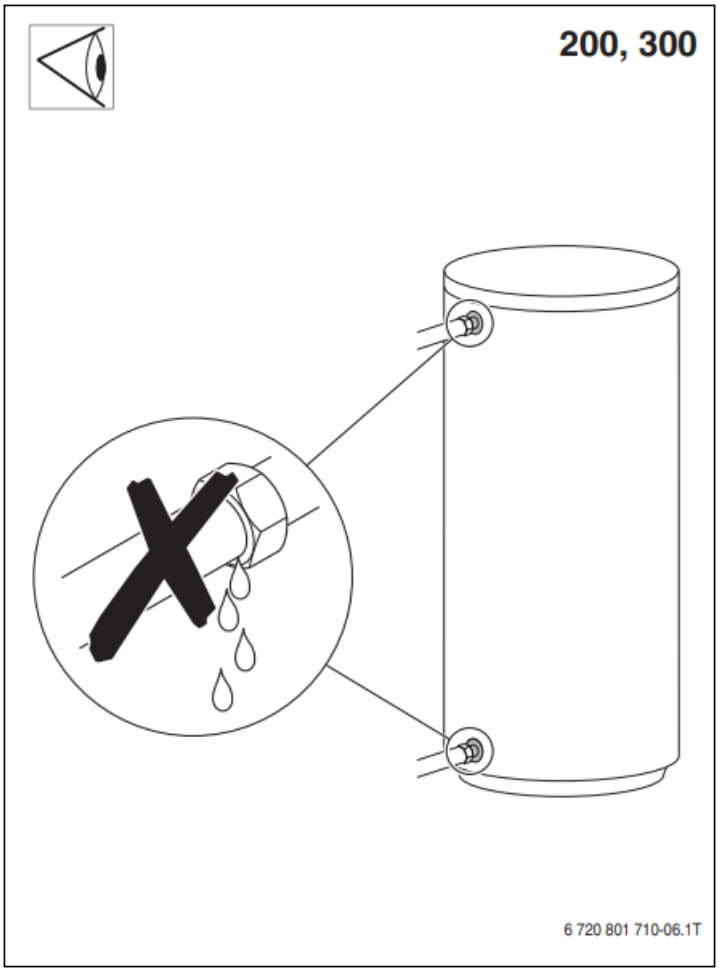

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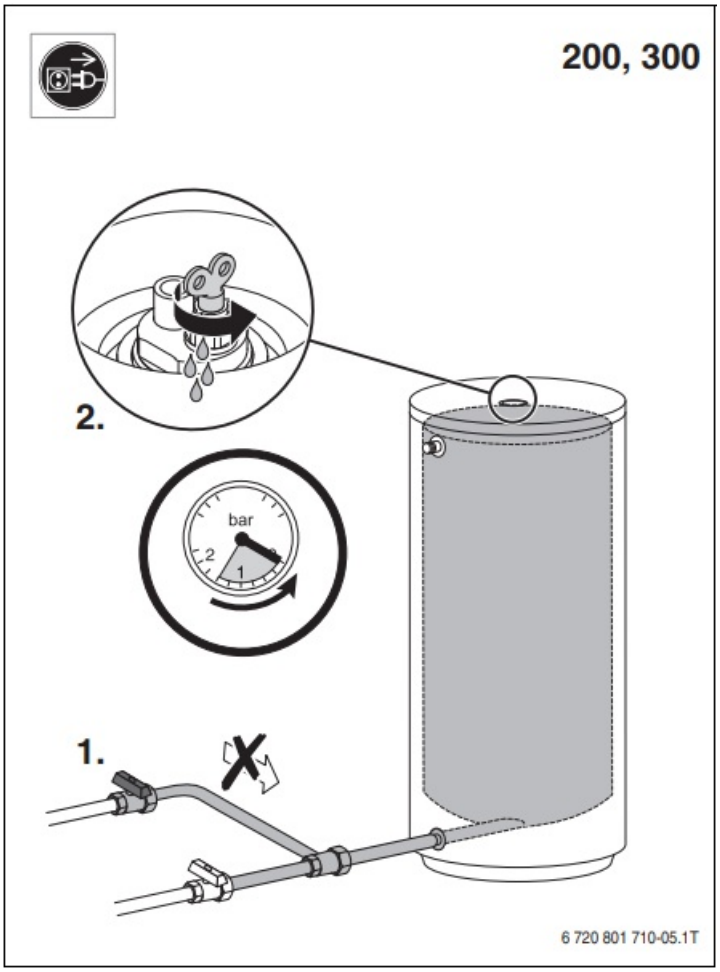

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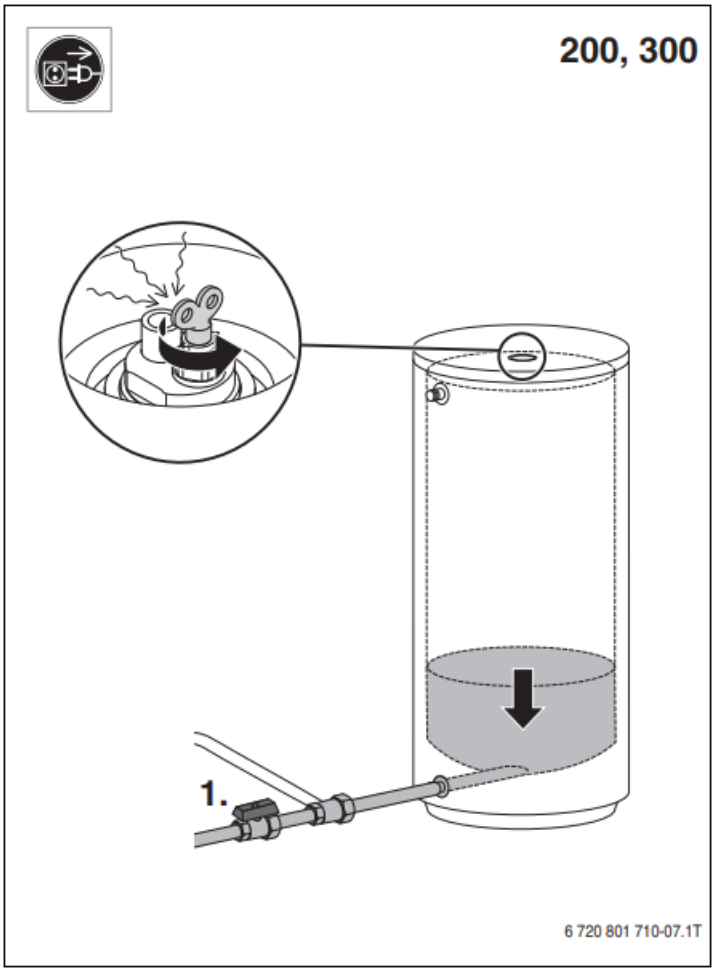

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BH 120-300-5 – 6720821243 (2023/06)

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Documents / Resources

	BOSCH BH 120-5 Buffer Memory [pdf] Instruction Manual BH 120-5, BH 200-5, BH 300-5, BH 120-5 Buffer Memory, Buffer Memory, Memory

References

- Home | Bosch Home Comfort
- WEEE Electronic Waste | Bosch Home Comfort Group
- User Manual