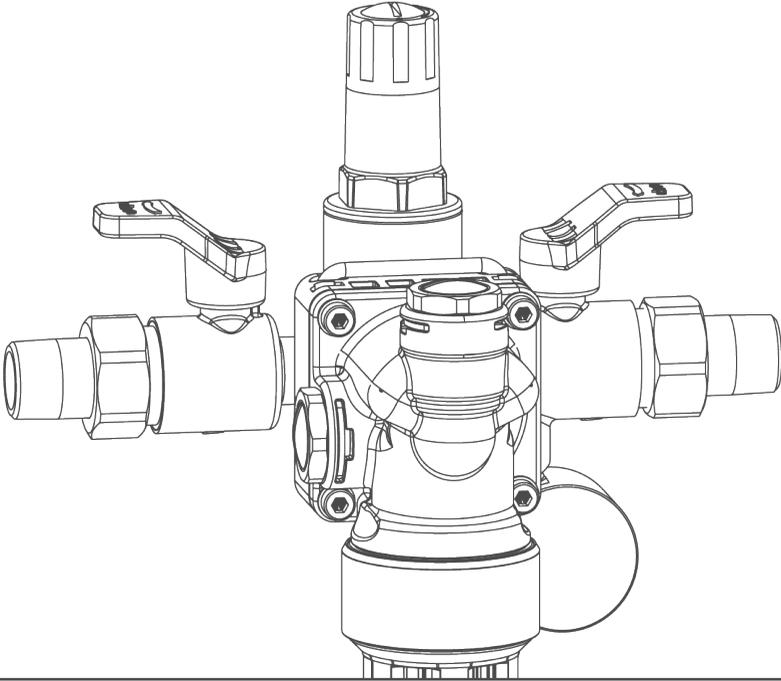


We understand water.



Filling group | thermaliQ:SB13

Operation manual

grünbeck

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Translation of the original operation manual

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1 About this manual

1.1 Other applicable documents

For the filling group thermalIQ:SB13, the following documents shall also be deemed as applicable documents:

- The manuals of all accessories used.

1.2 Target group

This manual is intended for specialist installers and owners/users.

1.3 Storage of documents

Keep this manual and all other applicable documents, so that they are available when needed. Make sure that your specialist installer enters the proper start-up and annual maintenance in chapter 11 of the operation log.

1.4 Symbols used



This symbol identifies instructions that you must comply with for your personal safety.



This symbol identifies instructions that you must comply with in order to avoid damage to property.



This symbol identifies important information about the product or its handling.



This symbol identifies work that may only be carried out by specialist installers. In Germany, the installation company must be registered in an installation directory of a water supply company acc. to §12(2) AVB Wasser V (German Ordinance on General Conditions for the Supply of Water).

1.5 Typographical conventions

The following typographical conventions are used in this manual:

Designation	Depiction
Instruction Single-step instruction or chronological sequence of actions does not matter	▶ Action
Instruction Multi-step instruction and chronological sequence of actions is important	1. First action a first step b second step 2. Second action
Result following an instruction	» Result
Lists	● Listed item • Listed sub-item
Menu paths	Status level>Menu level>Submenu
Display texts	Display text
Operating elements	Button/key

1.6 Validity of the manual

This manual applies to the following products:

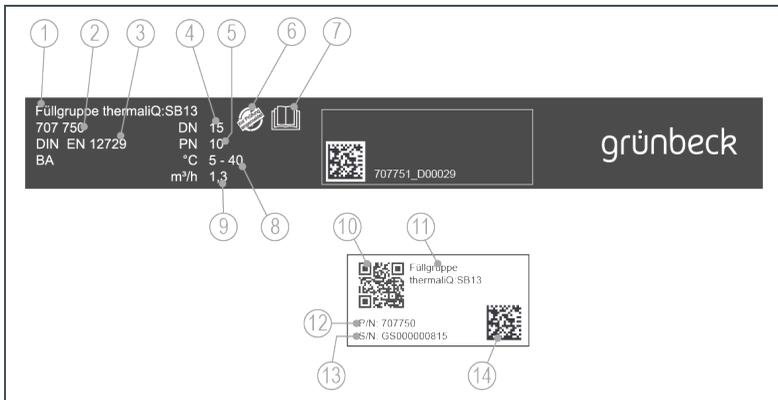
- Filling group thermalIQ:SB13

1.7 Type plate

The type plate is located at the drain funnel.

Please specify the data shown on the type plate in order to speed up the processing of your inquiries or orders.

- ▶ Enter the necessary information in the table below to have it readily available when necessary.



Item	Designation	Item	Designation
1	Product designation	2	Order no.
3	DIN	4	Nominal diameter
5	Nominal pressure	6	DVGW test pending
7	Observe operation manual	8	Ambient temperature
9	Nominal flow	10	QR code
11	Product designation	12	Order no.
13	Serial no.	14	Data matrix code

- Product designation: Filling group thermalIQ:SB13
- Order no.: 707 750
- Serial no.: _____

2 Safety



WARNING: Contamination of drinking water due to improper handling.

- Risk of infectious diseases.
 - ▶ Have the installation, start-up and annual maintenance carried out by specialist installers only.
-

2.1 Safety measures

- Carefully read this manual before operating your product.
- Install the product in a frost-free room. Otherwise, the product may suffer irreparable damage. Water damage may occur as a result.
- Only use genuine spare parts for maintenance or repair. If unsuitable spare parts are used, the warranty for your product will be void.
- Only have persons working on your product that have read and understood the present manual and that are qualified to do such work due to their vocational training.
- Only operate the product if all components are installed properly.
- Safety equipment must never be removed, bridged or otherwise tampered with.

2.2 Technical safety instructions

This manual contains instructions that you must comply with for your own personal safety as well as to avoid damage to property. The instructions are highlighted by a warning triangle and have the following structure:



CAUTION: Type and source of danger

- Possible consequences
 - ▶ Preventive measures
-

The following signal words were defined subject to the degree of danger and may be used in the present document:

- **DANGER** means that death or serious injury will result.
- **WARNING** means that death or serious injury may result.
- **CAUTION** means that minor bodily injuries may occur.
- **NOTE** (without warning triangle) means that damage to property may occur.

2.3 Regulations

When installing and starting up the system, amongst others, comply with the following regulations and guidelines:

- Statutory regulations on environmental protection
- Provisions of the employers' liability insurance companies
- DIN EN 806 Specifications for installations inside buildings conveying water for human consumption
- VDI 6023 Part 5 - 7 Specifications for installations inside buildings conveying water for human consumption

2.4 Responsibilities of the specialist installer

Comply with the following instructions to ensure the proper and safe functioning of the product:

- Only perform activities described in this manual.
- Perform all activities in accordance with all applicable standards and regulations.
- Brief the owner/user on the function and operation of the product.
- Advise the owner/user of the maintenance of the product.
- Inform the owner/user about possible dangers that can arise during the operation of the product.

2.5 Responsibilities of the owner/user

Comply with the following instructions to ensure the proper and safe functioning of the product:

- Arrange for a specialist installer to carry out installation, start-up and maintenance.
- Have the product explained to you by the specialist installer.
- Only perform activities described in this manual.
- Do not carry out any activities that are explicitly designated for a specialist installer.
- Only use this product as intended.
- Make sure that the required inspection and maintenance work is carried out.
- Keep this manual.

3 Product description

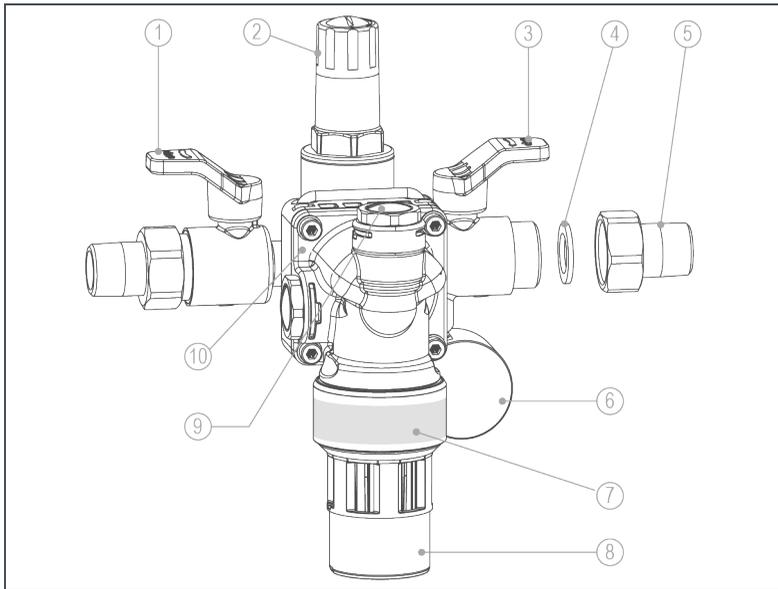
3.1 Intended use

The filling group thermalIQ:SB13 is designed for the safe connection of a heating system to a drinking water installation in accordance with the standards.

The filling group thermalIQ:SB13 secures the drinking water against water flowing back from the heating circuit.

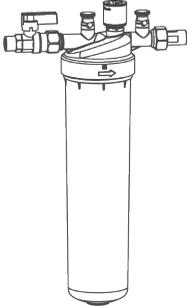
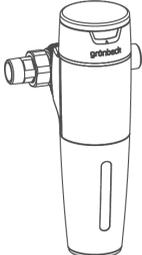
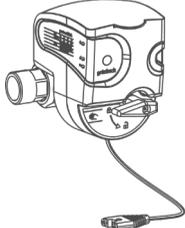
The pressure reducer of filling group thermalIQ:SB13 regulates the filling pressure.

3.2 Product components



Item	Designation	Item	Designation
1	Shut-off valve (inlet)	2	Pressure reducer
3	Shut-off valve (outlet)	4	Gasket
5	Water meter screw connection	6	Pressure gauge
7	Type plate	8	Drain funnel
9	Test connection of upstream pressure zone	10	Rotary flange

3.3 Accessories

Illustration	Product	Order no.
	<p>Treatment group thermaliQ:HB2</p>	<p>707 755</p>
	<p>Fine filter pureliQ:K20</p> <p>The fine filter pureliQ:K filters the drinking water and protects the residential water system as per DIN EN 806.</p>	<p>101 220</p>
	<p>Safety device protectliQ</p> <p>The protectliQ safety device is a product to protect against water damage in single and two-family homes.</p>	<p>126 400</p>
<p>Without illustration</p>	<p>Service kit</p> <p>Service kit for the maintenance of system separators.</p>	<p>132 095</p>

3.4 Functional description

The filling group thermalIQ:SB13 consists of a system separation unit and a pressure reducer.

The raw water to fill the heating system flows through the shut-off valve at the inlet side and the dirt trap into the system separator.

After the system separator, the water flows through the pressure reducer. The pressure reducer ensures that the filling pressure in the heating system is not exceeded. The filling pressure is indicated at the pressure gauge.

3.4.1 System separator

The system separator BA as per DIN EN 12729 is a safety device and protects the drinking water from impurities up to category 4.

The system separator consists of an upstream, an intermediate and a downstream **pressure** zone. If pressure fluctuations occur in the system and the upstream pressure thus drops below the downstream pressure, the intermediate pressure zone is emptied via the relief valve.

This prevents the water from flowing back into the drinking water system.

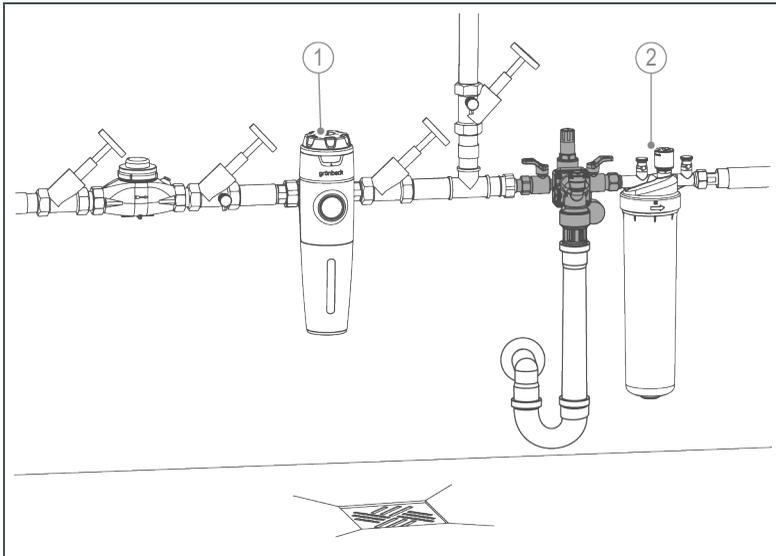
3.4.2 Pressure reducer

The pressure reducer decreases the pressure on the inlet side (inlet pressure) to the desired pressure on the outlet side (outlet pressure).

4 Installation



The installation of a filling group represents a major intervention into the drinking water system and may only be performed by a specialist installer.



Item	Designation	Item	Designation
1	Drinking water filter pureliQ:KD	2	Treatment group thermalIQ: HB2

4.1 Requirements for the installation site

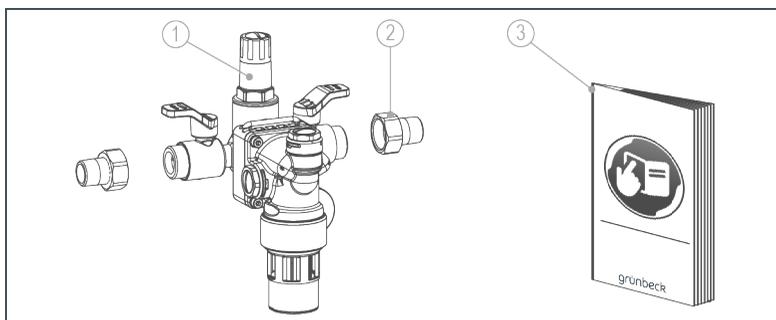
Observe local installation directives, general guidelines and technical specifications. The installation site must be frost-proof

and ensure the product's protection from chemicals, dyes, solvents and vapours.

A floor drain must be provided in the installation room. If no floor drain is available, an appropriate safety device must be installed in order to prevent water damage.

A drinking water filter must be installed upstream of the product.

4.2 Checking the scope of supply



Item	Designation	Item	Designation
1	Filling group with built-in system separator, drain funnel	2	Water meter screw connection
3	Operation manual		

- ▶ Check the scope of supply for completeness and possible damage.

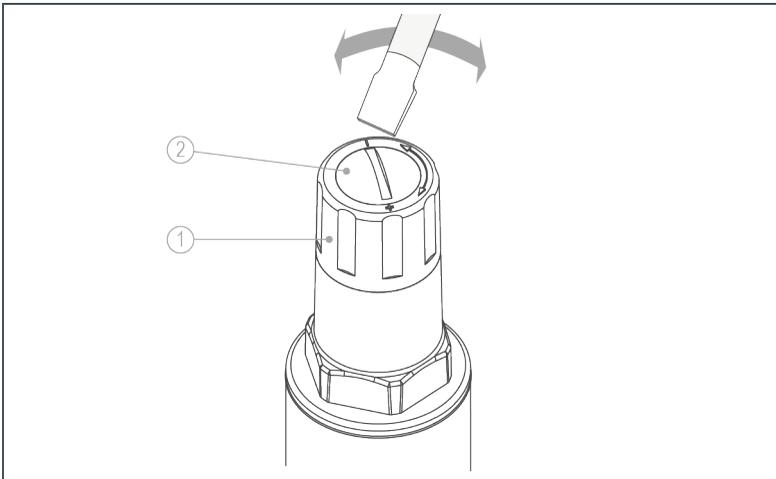
4.3 Installing the product

1. Flush the pipe.

2. Observe the flow direction.
(Directional flow arrow located under the shut-off valves).
3. Install the **filling group** into the pipe horizontally or vertically and without any mechanical stress.
4. Turn the system separator unit on the rotary flange in a way that the drain funnel points vertically downwards.
5. Install a DN 40 drain connection (not included in the scope of supply).
6. Make sure there is a free outlet.
 - » The product is installed.

5 Start-up

5.1 Setting the pressure reducer



Item	Designation	Item	Designation
1	Adjusting handle	2	Screw



The pressure reducer is factory-set to 1.5 bar.

The pressure reducer can be adjusted as follows:

1. Loosen the screw.
2. Adjust the filling pressure at the adjusting handle.
 - a Turn to the left  to lower the pressure.
 - b Turn to the right  to increase the pressure.
3. Tighten the screw.

5.2 Filling the heating system

1. Slowly open both shut-off valves.
 - » The filling process begins.
2. Open the screw plugs at the test connections.
 - » The filling group is being vented.
3. Close the screw plugs when no more air is escaping.
4. Visually check for leaks.
5. Close both shut-off valves after filling.

5.3 Handing over the product to the owner/user

When handing over the product, proceed as follows:

1. Inform the owner/user how the product works.
2. Hand over all documents to the owner/user for keeping.
3. Use the manual to brief the owner/user and answer any questions.
4. Inform the owner/user about the need for inspections and maintenance.

6 Operation

6.1 Functional check of system separator

The separating function and the function of the non-return valve must be checked at regular intervals to ensure the proper function of the system separator.

1. Close the shut-off valve (inlet).
2. Open the screw plug at the test connection for upstream pressure.
 - » The upstream pressure zone is depressurised.
 - » The filling group goes into separation position and completely drains the intermediate pressure zone.
 - » The system separator works properly.
3. Close the screw plug at the test connection for upstream pressure.
4. Close the shut-off valve (inlet).
 - » The filling group goes into operating position.

7 Cleaning, inspection, maintenance

Inspection and maintenance of a filling group is prescribed in the DIN EN 806-5 standard. Regular maintenance ensures trouble-free and hygienic operation. Have the filling group maintained by a specialist installer at least once a year. Proper operation and maintenance of the product are essential for trouble-free and hygienic operation.



A maintenance contract ensures that all the required maintenance work will be performed in due time.

- ▶ Only use genuine spare and wearing parts from Grünbeck.

7.1 Cleaning

1. Only clean the outside of the product.
2. Do not use any strong or abrasive cleaning agents because they may damage the surface.
3. Wipe the housing with a damp cloth.

7.2 Inspection



Regular inspection increases the operational reliability of your product. DIN EN 806 Part 5 recommends that an inspection be carried out at least every 6 months.

To conduct an inspection, proceed as follows:

1. Check all water-carrying parts for leaks.
2. Check all components for possible damage and corrosion.
3. Check that valves and connections are easy to operate.
4. Check that the drainage system can absorb the discharge water and that a free outlet via the vertical drain funnel is ensured.
5. Open the shut-off valves at the inlet and outlet.
6. Open a withdrawal point downstream (e.g. tap for heating water make-up feed).
 - » No water may escape from the system separator to the drain funnel.
7. Close the shut-off valve at the outlet and at the withdrawal point.
8. Close the shut-off valve at the inlet.
 - » No water may escape from the system separator to the drain funnel.

7.3 Maintenance



Regular maintenance increases the operational reliability of your product. DIN EN 806 Part 5 recommends that maintenance be carried out at least every 12 months.

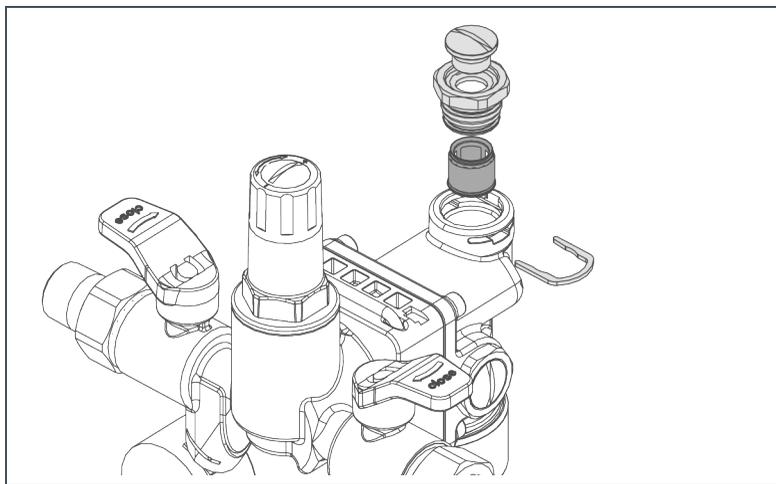


May only be carried out by a specialist installer.

- ▶ Service the filling group with the service kit for the maintenance of system separators (order no. 132 095).

In addition to the inspection work described in chapter 7.2, proceed as follows to perform maintenance:

Cleaning the dirt trap



1. Close both shut-off valves.

2. Depressurise the filling combination by unscrewing the screw plug at the test connection of the upstream pressure zone.
3. Remove the safety clip at the test connection of the upstream pressure zone and remove the brass insert.
4. Remove the internal dirt trap and clean it.
5. Reassemble all components.
6. Mount the safety clip.
7. Tighten the screw plug.

Cleaning the drain funnel

- ▶ Clean the drain funnel (free outlet) and the ventilation openings.

Functional check of system separator

1. Open the shut-off valve at the inlet of the filling group until water pressure is applied and then close it again.
2. Slowly unscrew the screw plug at the test connection of the upstream pressure zone of the system separator by approx. ½ turn.
 - » The relief valve must open, drain the intermediate pressure zone completely and water must escape to the drain funnel.
3. Close the screw plug at the test connection of the upstream pressure zone of the system separator.
4. Open the shut-off valve at the inlet of the filling group.
 - » Filling group goes into operating position – no water is escaping any longer.

Testing of rest, flow and differential pressure of the system separator

The service kit (refer to chapter 3.3) can be used to perform a test. For the necessary test steps, refer to the operation manual of the service kit, order no. 132 945 or to DIN 12729.

- ▶ Enter all work in the operation log.

7.4 Spare parts

You may order spare parts and consumables from your local Grünbeck representative (refer to the internet at www.gruenbeck.com).

7.5 Wearing parts

Wearing parts are listed below.

- Gaskets

8 Troubleshooting



Short-term, undefined water leakage at the relief valve of the filling group does not represent a malfunction. This is a normal control behaviour of the filling group caused by pressure fluctuations on the inlet side in the water supply system.

Observation	Meaning	Remedy
High pressure when filling or refilling the heating system.	Defective pressure gauge.	Replace the pressure gauge.
	Contamination at the seal seat of the pressure reducer.	Check the pressure reducer for impurities.
	Defective pressure reducer.	Replace the pressure reducer.

9 Disposal

- Comply with the applicable national regulations.

9.1 Packaging

- ▶ Dispose of the packaging in an environmentally sound manner.

9.2 Product



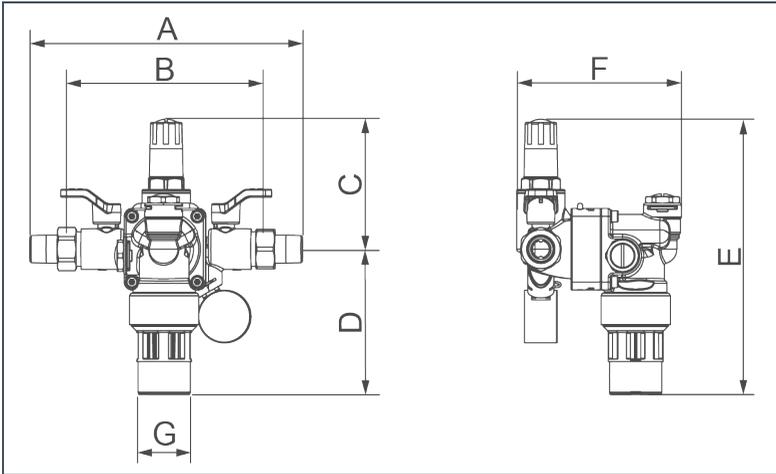
If this symbol (crossed out waste bin) is on the product, this product is subject to the European Directive 2012/19/EU. This means that this product or the electrical and electronic components must not be disposed of as household waste.

- ▶ Dispose of electrical and electronic products or components in an environmentally sound manner.



For information on collection points for your product, contact your municipality, the public waste management authority, an authorised body for the disposal of electrical and electronic products or your waste disposal service.

10 Technical specifications



Dimensions and weights

A Installation length with screw connection	[mm]	208
B Installation length without screw connection	[mm]	152
C Height above centre of pipe connection	[mm]	99
D Height below centre of pipe connection	[mm]	110
E Total height	[mm]	209
F Depth	[mm]	105
G Drain connection/drain funnel	[mm]	40
Operating weight, approx.	[kg]	1.5
Shipping weight, approx.	[kg]	1.7

Connection data

Nominal connection diameter	DN 15 (G ½")
-----------------------------	--------------

Performance data

Max. operating pressure	[bar]	10
Setting range	[bar]	0.5 - 4
Filling capacity at 1.5 bar	[m³/h]	1.3

General data

Water temperature	[°C]	5 – 30
Ambient temperature	[°C]	5 – 40
Order no.		707 750

11 Operation log

Filling group thermalIQ:SB13

Serial no.: _____

Start-up

Customer		
Name:	_____	
Address:	_____	
Installation/Accessories		
Drain connection acc. to DIN EN 1717	<input type="checkbox"/> yes	<input type="checkbox"/> no
Floor drain available	<input type="checkbox"/> yes	<input type="checkbox"/> no
Safety device	<input type="checkbox"/> yes	<input type="checkbox"/> no

Maintenance work

Work performed	
<input type="checkbox"/> Maintenance	Company: _____
<input type="checkbox"/> Repair	Name: _____
	Date, signature _____
<input type="checkbox"/> Maintenance	Company: _____
<input type="checkbox"/> Repair	Name: _____
	Date, signature _____
<input type="checkbox"/> Maintenance	Company: _____
<input type="checkbox"/> Repair	Name: _____
	Date, signature _____
<input type="checkbox"/> Maintenance	Company: _____
<input type="checkbox"/> Repair	Name: _____
	Date, signature _____
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<input type="checkbox"/> Repair	Name: _____
	Date, signature _____
<input type="checkbox"/> Maintenance	Company: _____
<input type="checkbox"/> Repair	Name: _____
	Date, signature _____

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