EN-US

Installation and operating manual

QWIK-PURE® CS

› 400

02-673

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1. Information on documentation

This documentation contains all the necessary steps for use of the product and the accessories.

1.1 Contact

Service and tools
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1.2 Information about this installation and operating manual

INFORMATION	Copyright protection
	The content of this installation and operating manual, in the form of text, images, photos, drawings, diagrams, and other illustrations, is copyright protected by the manufacturer. The distribution as well as the duplication of this document, the exploitation and the communication of its contents are prohibited unless expressly authorized.

Publication date	Revision	Version	Reason for change	Scope of change
09/29/2023	00	00	Initial creation	Initial creation
18 June 2024	01	00	Revision	Revision
February 03, 2025	02	00	Revision	Revision

The installation and operating manual, hereinafter referred to as the manual, must always be kept close to the product and be in a permanently legible condition.

The manual must be handed over along with the product if it is sold or passed on.

NOTICE	Follow the instructions given in the manual
	This manual contains all the basic information required for safe operation of the product and must be read before any actions are performed. Otherwise personal and material hazards as well as malfunction and device failure are possible.

2. Safety

2.1 Use

2.1.1 Intended use

The **QWIK-PURE® CS**, hereafter also referred to as the “product,” is used to treat unstable oil–water emulsions and condensates from oil-lubricated and oil-free compressors. Physical processes are used to separate impurities, as well as oils that can be directly separated, from the corresponding water.

Any use of this system other than the use described in this manual is hereby deemed to be non-intended and can cause a hazard for the safety of people and the environment.

The following must be noted for intended use:

- Read and observe this manual.
- Use the product and the accessories exclusively within the operating parameters and agreed delivery conditions specified in section Technical data.
- Use the product and accessories exclusively with fluids that are free of caustic, aggressive, corrosive, toxic, flammable, oxidizing and inorganic components.
  In cases of doubt an analysis must be carried out.
- Use the product and the accessories exclusively within a pipeline system designed in conformity with the operating parameters specified in section Technical data.
- Use the product and the accessories exclusively outside of areas exposed to mechanical loads and splash water.
- Only use the product and accessories outside potentially explosive atmospheres.
- Use the product and the accessories exclusively outside of areas exposed to direct sunlight and heat sources.
- Combine the product and the accessories only with the recommended manufacturer products and components indicated in this manual.
- Adhere to the prescribed maintenance plan.

Before using the product and the accessories, the operating company must make sure that all conditions and prerequisites for intended use are given.

The product and the accessories have been exclusively designed for stationary use in a commercial or industrial area. All of the assembly, installation, operation, maintenance, disassembly and disposal work described may only be performed by qualified skilled technical personnel.

2.1.2 Foreseeable misuse

Foreseeable misuse is deemed to have occurred if the product or the accessories are used in any other way than that described in the section “Intended use”. Foreseeable misuse includes using the product or accessories in a manner that is not intended by the manufacturer or suppliers but that may occur due to foreseeable human behavior.

Foreseeable misuse includes:

- The execution of any kind of modification, in particular constructive and process-technology related interventions.
- Disabling or failing to use available or recommended safety equipment.
- Use for filtering wastewater other than compressor condensate (e.g., industrial wastewater).
- Disposal of waste oils.
- Using the product on water vessels, railway vehicles and motor vehicles.

This list is not exhaustive as not all possible inappropriate use can be foreseen in advance. If the operating company is aware of any inappropriate use of the product or accessories which are not listed here, the manufacturer must be informed immediately.

2.2 Responsibility of the operating company

The responsible operating company must ensure the following to prevent accidents, incidents and adverse effects on the environment:

- Before all actions, check to ensure that the manual available does in fact belong to the product.
- The product and the accessories are used, serviced and repaired in accordance with the intended use.
- The product and accessories are only used with the recommended and fully operable safety equipment.
- All assembly, installation and maintenance work is carried out by qualified skilled technical personnel only.
- Personnel have the required personal protective equipment, and this equipment is used.
- Suitable technical safety measures are taken to ensure that the permissible operating parameters are observed.
- Keep all safety symbols and the type plate on the product and accessories in a legible state. Replace damaged and illegible markings immediately.
- All locally applicable legal requirements and regulations regarding the protection of bodies of water, as well as the associated mandatory documentation obligations (e.g., results from turbidity test, retention periods), must be complied with.

2.3 Target group and personnel

This manual addresses the personnel listed below who are involved with work on the product or the accessories.

INFORMATION	Personnel requirements
	• Minors are strictly prohibited from working with and on the product and its accessories. • Personnel must not carry out any actions involving the product or accessories if they are under the influence of drugs, medications, alcohol, or other substances that may impair their perception.

Operating personnel

"Operating personnel" refers to personnel that is able to safely operate the product and accessories based on its familiarity with the manual and briefing on the product and accessories. Operating personnel can recognize possible malfunctions and dangerous situations independently and arrange for corresponding measures.

Skilled technical personnel specialized in transportation and storage

Skilled technical personnel specialized in transportation and storage are people who, due to their training, professional experience and qualifications, have all the necessary skills to safely execute all actions in connection with the transportation and storage of the product, to instruct, to recognize possible dangerous situations independently and to execute measures to avoid danger.

The skills required include, in particular, experience operating hoists, forklifts and lifting equipment and familiarity with locally applicable laws, standards and guidelines relating to transportation and storage.

Skilled technical personnel specialized in pressure equipment and systems

"Skilled technical personnel specialized in pressure equipment and systems" refers to personnel whose training, professional experience, and qualifications have provided them with all the skills necessary to safely complete any work associated with pressurized fluids and systems, provide instructions, identify potential hazards independently, and take measures to prevent those hazards.

The skills required include, in particular, experience using measuring equipment and control equipment, as well as familiarity with locally applicable laws, standards and regulations for pressurized systems.

Qualified service technicians

Qualified service technicians are persons who have the skills and qualifications as defined in all the aforementioned definitions concerning skilled technical personnel. Qualified service technicians must be verifiably trained and authorized for all work on the product.

2.4 Explanation of the symbols used

The symbols used below indicate safety-relevant and important information which must be adhered to when handling the product and to ensure safe and optimum operation.

Symbol	Description / explanation
	General warning symbol (danger, warning, caution)
	Pressurized system warning
	Hazardous voltage warning
	Read and understand the installation and operating manual
	General mandatory requirement
	Wear safety footwear
	Use protective gloves (cut-proof and liquid-resistant)
	Wear safety goggles with side shields
	General information

2.5 Safety instructions and warning notices

This section provides an overview of all the important safety aspects for personal protection as well as for the safe and problem-free operation of the product and accessories.

The following sections list the dangers posed by this product and the accessories even with intended use. To minimize the risk of personal injury and property damage and to avoid dangerous situations, observe the safety instructions listed and adhere to the warning notices in the other sections of this manual.

Basic warning notices and the necessary qualifications of skilled technical personnel are always listed at the beginning of the section in the “Warning notices“ section.

Warning notices related to specific actions are printed directly before potentially hazardous procedures or sequences of actions.

As well as causing personal injury, failure to observe safety instructions and warning notices may result in malfunctions, disruption to operations, and property damage.

2.5.1 Basic safety instructions

- Before starting work, refer to the technical documentation for the entire system and observe the overall operating instructions.
- Carry out a risk assessment before starting work on site (last minute risk assessment).
- Use suitable personal protective equipment for all work.
- Set up a safety area around the working area during all installation, maintenance and repair work.
- Use existing system-specific protection procedures (e.g., LOTO procedure) in order to safely de-energize and isolate the system or system sections.

2.5.2 Safe operation

The following actions may result in serious injury or death:

- Setting up and operating the product and accessories outside the permissible limits and operating parameters
- Unauthorized interference and unauthorized modifications of the product and accessories

To guarantee the safe operation of the product and accessories, observe the following:

- Observe the limits and operating parameters specified on the type plate and in the manual.
- Check whether the permissible operating parameters have been changed or restricted by the use of accessories.
- Observe the installation conditions and the ambient conditions.
- Adhere to the maintenance intervals.

2.5.3 Sudden escape of pressurized fluids

The following situations may result in serious injury or death:

- Contact with fast or suddenly escaping fluids
- Bursting system components
- Pressurized hose and pipe whipping as a result of disconnection

For the safe handling of pressurized systems, observe the following:

- Observe the following safety rules during all work:
  1. Shut down the system or system section.
  2. Secure the system or system section against restarting.
  3. Reduce the pressure in the system or all system sections to the ambient pressure, e.g. by slowly releasing the pressure in a controlled manner via relief valves
  4. Lock out and tag out the system or system section so that it cannot be pressurized again.
- Check the pressurized system or system section for safety, contamination and possible damage.
- Before pressurization, check all system connections for leak tightness and tighten if necessary.
- Make absolutely sure to charge the system or system section with pressure slowly.
- Avoid pressure blows and high differential pressures.
- Compensate any vibrations occurring in the pipe network by using vibration dampers.

2.5.4 Transportation and storage

Improper transportation and improper storage may result in personal injury or property damage.

In order to ensure safety during the transportation and storage of the product and accessories, observe the following:

- Use personal protective equipment for all work with packaging material.
- Handle packaging, the product and accessories carefully.
- Transport and handle the product and accessories according to the markings on the packaging.
- Only use suitable transportation equipment, hoisting gear, and slinging gear that is in proper working condition and that is sized for the product's total weight.
- Always adhere to the permissible transportation and storage parameters.
- Store the product and accessories only outside of areas exposed to direct sunlight, heat sources and splash water.

2.5.5 Installation

Improper physical or electrical installation of the product and accessories may result in personal injury and property damage as well as impair operation.

For safe physical and electrical installation, observe the following:

- Assemble the product and all the parts, accessories and materials used free of mechanical stress.
- Check all plug-type connections for a correct fit.
- Avoid stumbling risks by routing cables and hoses accordingly.
- Avoid mechanical stress on the cables.
- Fix and fasten hoses in such a way that they cannot flap around.
- Install the inlet and drain lines as fixed pipes.

2.5.6 Maintenance

Improperly carrying out maintenance and repair work may result in serious injury or death.

For safe maintenance and repairs, observe the following:

- Before starting work, depressurize the pressurized product and accessories and secure them against unintentional pressurization.
- Before starting work, isolate the product and accessories from the power source and secure them against being switched back on again unintentionally.Only use materials approved for the respective application.
- Use only suitable tools that are in proper working order.
- Only use cleaned pipes and hoses that are free of dirt and corrosion.
- Never use abrasive or aggressive cleaning agents or solvents which could damage the outer coating (e.g. markings, type plate, corrosion protection, etc.).
- Never clean the device with hard or pointed implements.
- Use only the specified materials and media for cleaning.
- Observe statutory, local and in-house hygiene regulations.
- Pay attention to order and cleanliness during maintenance and repair work. Prevent contamination from entering the opened product or accessories. Store disassembled components and accessories directly in a safe place.
- After completing maintenance and repair work, remove all tools, cleaning agents, and parts no longer required from the work area.
- Only dispose of the product and accessories when they have been cleaned and are free of any residual fluids.
- Dispose of all components, parts, operating and auxiliary materials as well as cleaning agents professionally and in accordance with all locally applicable legal requirements and regulations.
- Dispose of electrical and electronic components through a specialized disposal company or return them to the manufacturer.

2.5.7 Handling hazardous substances

Contact with condensate containing substances which endanger health and the environment can pose a health hazard, causing irritation and/or damage to the eyes, skin and mucous membranes. In addition, polluted condensate must be prevented from entering the sewerage system, waters or the ground.

For the safe handling of polluted condensate, observe the following:

- Use suitable personal protective equipment when handling condensate.
- Collect and dispose of leaked or spilled condensate in accordance with the locally applicable legal requirements and regulations.

2.5.8 Use of spare parts, accessories or materials

Use of incorrect spare parts, accessories, materials, auxiliary and operating materials, may result in death or serious injury. Malfunction, device failure or material damage may occur.

- Only use undamaged original parts, auxiliary and operating materials which are specified by the manufacturer to complete all work.
- Only use the materials approved for the respective application and suitable tools in proper working order.
- Only use cleaned pipes that are free of dirt and corrosion.

2.6 Warning notices

Warning notices warn against dangers when handling the product and accessories.

Failure to observe warning notices may result in personal injury, damage to property, and impairment to operations.

Structural set up:

SIGNAL WORD	Type and source of danger
 Symbol	Possible consequences if the danger is ignored • Measures to prevent the danger

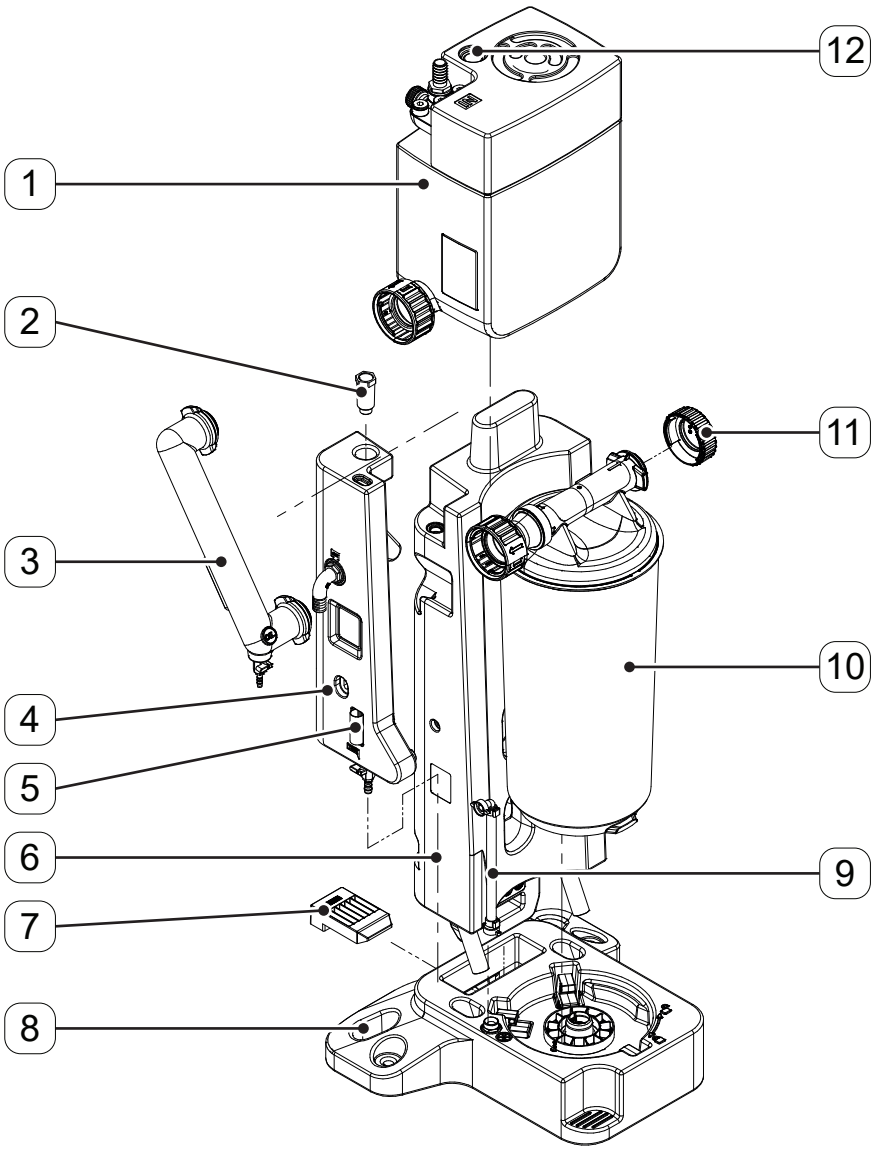
Signal words:

DANGER	**Imminent hazard** Consequences of non-compliance: Death or serious personal injury
WARNING	**Imminent hazard** Consequences of non-compliance: Death or serious personal injury are possible
CAUTION	**Potential hazard** Consequences of non-compliance: Personal injury or damage to property are possible
NOTICE	**Additional information** Consequences of non-compliance: Damage to property, malfunction and device failure are possible. No hazard to people or endangerment of safe operation.

3. Product information

3.1 Product overview

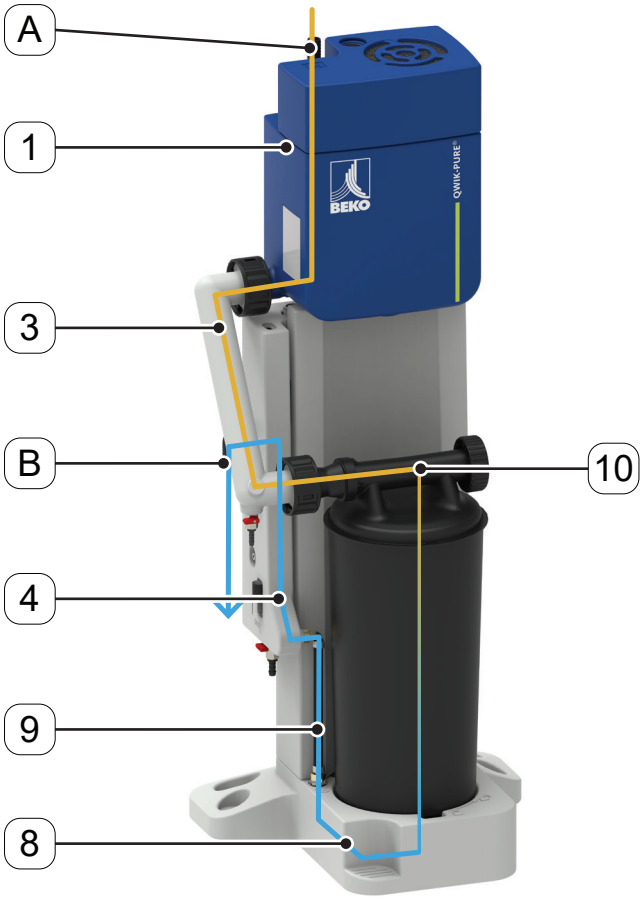
3.1.1 QWIK-PURE® CS 400



No.	Description / explanation
[1]	Pressure relief chamber
[2]	Fixing screw
[3]	Connecting pipe
[4]	Clean water tank
[5]	Reference turbidity tube
[6]	Foot

No.	Description / explanation
[7]	Locking device
[8]	Collector
[9]	Riser duct
[10]	Filter cartridge
[11]	End cap
[12]	Level indicator

3.2 Function description



The condensate is conveyed from the condensate collection line through the condensate inlet **[A]** into the pressure relief chamber **[1]**. In the pressure relief chamber **[1]**, entrained compressed air is separated before the condensate flows through the connecting pipe **[3]** into the filter cartridge **[10]**.

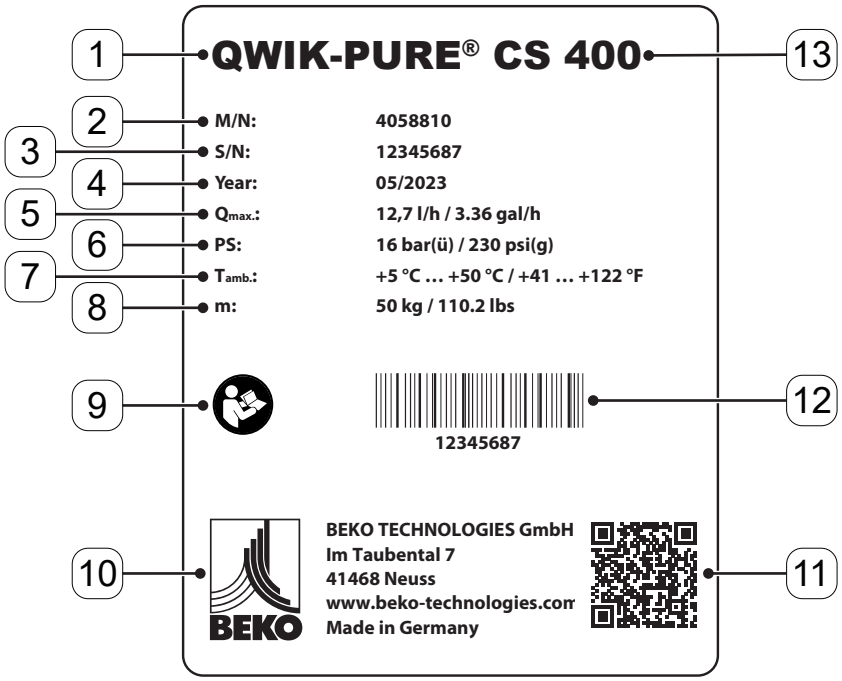
The condensate flows through the filter cartridge **[10]** into the collector **[8]**.

The purified condensate is conveyed from the collector **[8]** through the riser duct **[9]** into the clean water tank **[4]**. The purified condensate is conveyed into the wastewater connection through the condensate drain port **[B]** of the clean water tank **[4]**.

If the filter cartridge **[10]** is saturated with oil, the filter cartridge **[10]** will need to be replaced (see section “9.3.2 Replace filter cartridges” on page 43).

A level indicator **[12]** is integrated into the pressure relief chamber **[1]**. If the fill level in the pressure relief chamber **[1]** rises as a result of impaired condensate flow (please refer to section “14. Troubleshooting” on page 65), the level indicator **[12]** will be pushed up so that the red marking on the level indicator **[12]** will become visible.

3.3 Type plate



No.	Description / explanation
[1]	Product name
[2]	Material number
[3]	Serial number
[4]	Month and year of manufacture
[5]	Maximum condensate flow rate
[6]	Maximum operating pressure
[7]	Ambient temperature
[8]	Weight
[9]	“Read and understand the installation and operating manual” instruction symbol
[10]	Manufacturer contact information
[11]	QR code for downloading the product-specific documentation
[12]	Bar code
[13]	Size

3.4 Scope of delivery

The size and further delivery details are provided in the contractual documents.

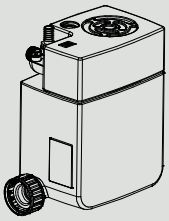
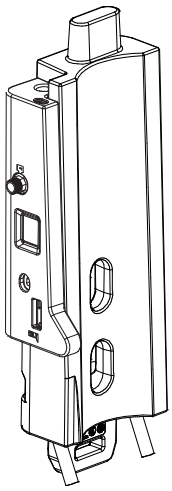
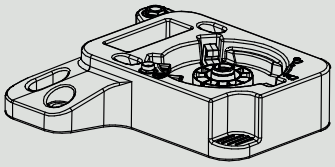
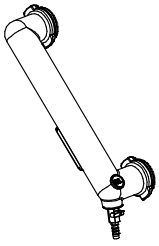
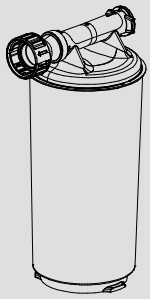
Figure	Description / explanation
	Quick Start Guide
	Pressure relief chamber
	Foot
	Collector 1 x 1 filter cartridge
	Connecting pipe

Figure	Description / explanation
	Filter cartridge
	Elbow connector with union nut and flat gasket
	Fixing screw
	Riser duct
	End cap
	Locking device, foot
	Reference turbidity tube 5 mg/l (5 ppm) / 10 mg/l (10 ppm)

4. Technical data

4.1 Operating parameters

Parameters	QWIK-PURE® CS 400
Relative ambient air humidity	≤10 ... 80 %, without condensation
Maximum operating altitude above sea level[*1]	2000 m 2187.23 yd
Maximum operating pressure at condensate inlet	16 bar(g) 230 psi(g)
Minimum / maximum operating temperature, fluids and environment	+5 ... +50 °C +41 ... +122 °F
Maximum condensate flow rate[*2]	12.7 l/h 3.36 gal/h
Condensate inlet port	3 x G1/2", male, 1 x G1", male, Barbed hose fitting: 1 x 25 mm (0.98 in), male , 1 x 13 mm (0.52 in), male
Condensate outlet port	25 mm (0.98 in), male Barbed hose fitting
Media	Compressor condensate, oil-contaminated
Maximum operating weight	50 kg 110.2 lbs
Maximum oil concentration at condensate drain port[*2]	10 mg/l 10 ppm

4.2 Storage parameters

Parameters	QWIK-PURE® CS 400
Minimum / maximum temperature	+5 °C ... +50 °C +33.8 °F ... +122 °F
Relative ambient air humidity	≤10 ... 80 %, without condensation
Empty weight	13.5 kg 29.8 lbs

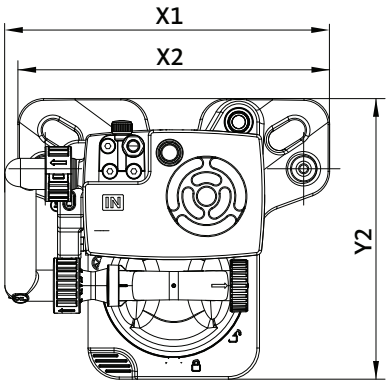
1 Will continue to operate up to a maximum of 3000 m (3280.84 yd) above sea level

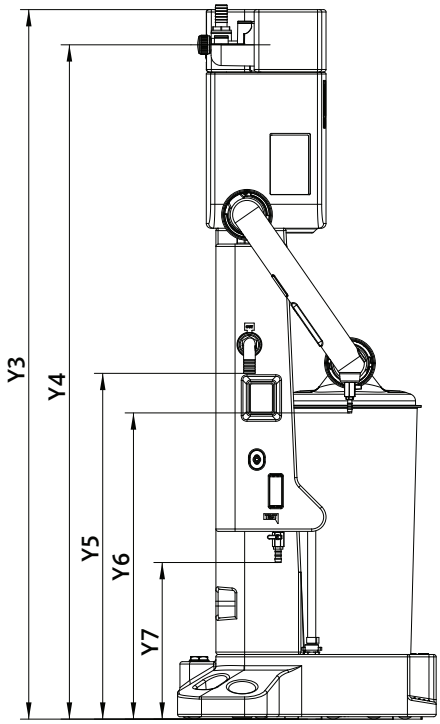
2 Provided that the reference conditions published by DIBt (Deutsches Institut für Bautechnik) are adhered to

4.3 Materials

Component	Material
Filter cartridge	Plastic blend and cellulose
Pressure relief chamber	PE
Condensate inlet	PA/PP/VA
Connecting pipe	PE
Clean water tank	PE
Foot	PE
Collector	PE

4.4 Dimensions

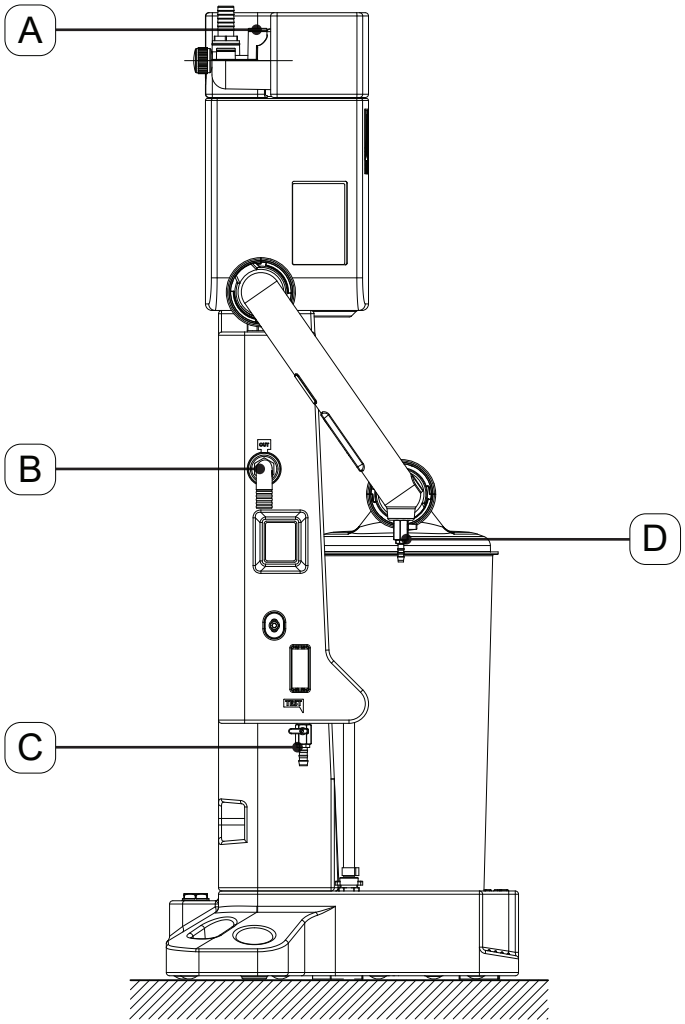




No.	[mm]	[in]
[X1]	625	24.61
[X2]	600	23.62
[X3]	--	--
[Y1]	--	--
[Y2]	540	21.26

No.	[mm]	[in]
[Y3]	1482	58.35
[Y4]	1408	55.43
[Y5]	722	28.43
[Y6]	639	25.16
[Y7]	327	12.87

4.5 Connections

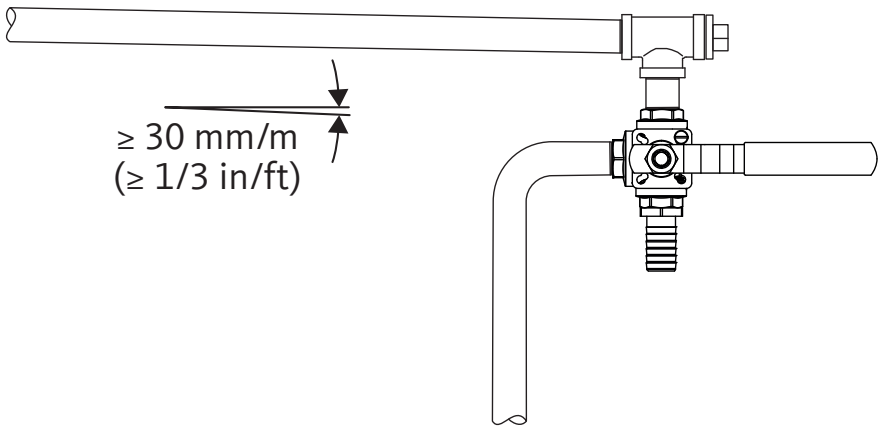


No.	Connection	Qty.	Description / explanation
[A]	25 mm (0.98 in)	1	Hose connection, connection for the condensate inlet
	13 mm (0.52 in)	1	Hose connection, connection for the condensate inlet
	G1/2"	2	Connection for the condensate inlet
[B]	25 mm (0.98 in)	1	Elbow connector, connection for draining the purified condensate
[C]	12 mm (0.47 in)	1	Service valve and hose connection
[D]	12 mm (0.47 in)	1	Drain valve with hose connection

4.6 Installation conditions

Observe the following conditions when setting up and selecting the place of installation:

- The place of installation must meet the following conditions:
  - → Indoors
  - → Protected from mechanical loads
  - → Protected from splash water
  - → Protected from direct sunlight and areas exposed to heat sources
  - → Protected from frost
  - → Outside of hazardous locations
- The setup area must be level (gradient ≤10 mm/m (1/8 in/ft)) and smooth.
- The setup area's load capacity must be suitable for the maximum operating weight of the product (please refer to section "4.1 Operating parameters" on page 20).
- The mounting surface must be sealed, or a suitable spill protection basin must be in place.
  - → In the event of damage, no untreated condensate or oil may get into the sewer system or the soil.
  - → All locally applicable legal requirements and regulations regarding the protection of bodies of water must be complied with.
- Bumper guards must be installed if the product is being set up in the vicinity of traffic routes.
- A compressed air supply line provided by the customer must be available and equipped with a maintenance unit (pressure reducer and filter).
- The cross-sectional area of the condensate collection line must be greater than G1" (Ø = 25 mm).
- Route the condensate collection line with a downward gradient ≥30 mm/m (1/3 in/ft) to where the product is being installed.
- The manufacturer recommends installing a P-trap at the wastewater connection in order to prevent unpleasant odors.
- The manufacturer recommends installing a 3-way valve at the tapping point on the condensate collection line to divert the condensate inlet into a separate container during maintenance work.
- The power supply must have a disconnect device that is easily accessible in the proximity of the product. This disconnect device must disconnect all live cables.



Example

5. Transportation and storage

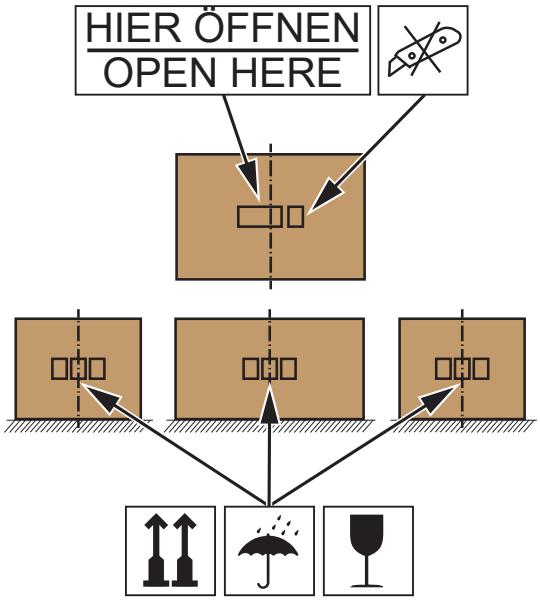
Personnel
Skilled technical personnel specialized in transportation and storage (see section “2.3 Target group and personnel” on page 8)

5.1 Warning notices

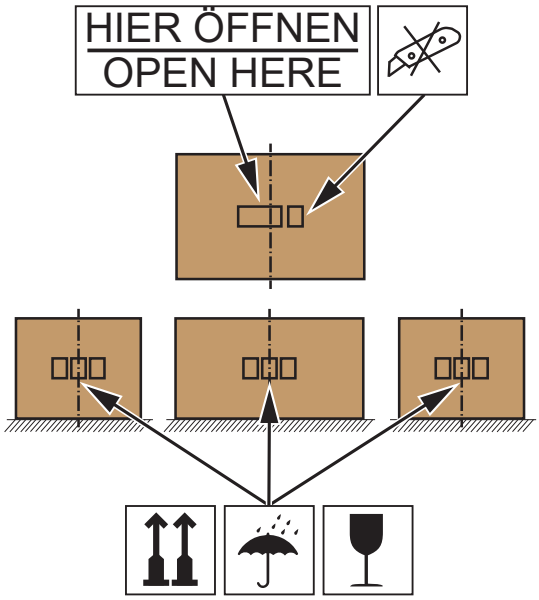
CAUTION	Improper transportation or storage
	Improper transportation or storage may result in personal injury.
	• Use personal protective equipment for all work with packaging material. • Handle packaging, the product and accessories carefully. • Use only proper transportation, lifting and lashing equipment that is in proper working order.

NOTICE	Handling packaging materials
	Inappropriate disposal of packaging materials can cause environmental damage.
	• Dispose of the packaging material in accordance with the applicable legal requirements and provisions of the country and place of use.

5.2 Transportation

Transportation work	
Figure	Description / explanation
	• Pack the product and accessories exclusively in their original packaging or with padding and other suitable materials that will prevent shocks. • Transport and handle the product and accessories according to the markings on the packaging. • Secure the product and accessories in an upright position on a pallet so that they will not fall or shift during transportation. • Do not tilt the product or the accessories.

5.3 Storage

Storage work	
Figure	**Description / explanation**
	• Only store the product and accessories in their original, undamaged packaging. • Observe the storage conditions in section “4.2 Storage parameters”. • The storage location is dry, frost-free and lockable. • Protect the product and accessories from external weather influences, direct sunlight and sources of heat. • Secure the product and accessories at the storage location so that they will not topple over or vibrate.

6. Installation

Personnel
Skilled technical personnel - pressure equipment and systems (see section “2.3 Target group and personnel” on page 8)

6.1 Warning notices

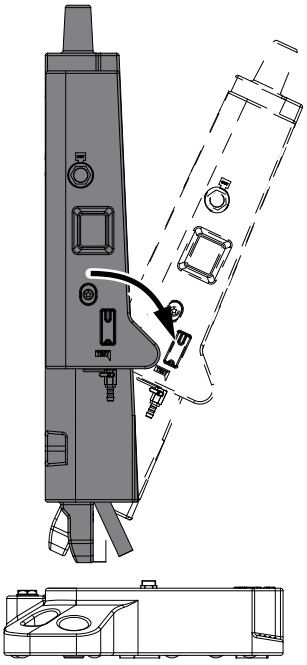
DANGER	Sudden escape of pressurized fluids
	There is a danger of death or serious personal injury resulting from contact with fast or suddenly escaping fluids or through bursting system parts.
	• Before starting work, depressurize the pressurized system and secure it against unintentional pressurization. • Assemble all pipes and hoses free of mechanical stress.

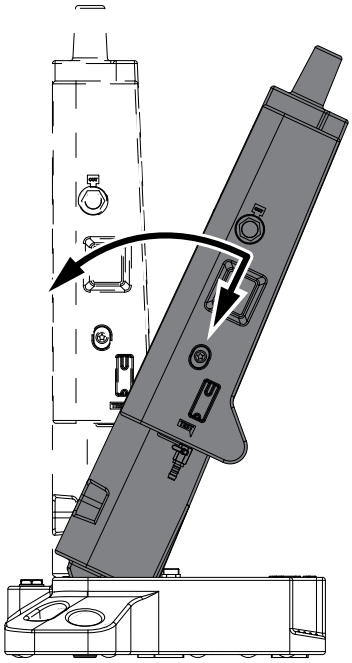
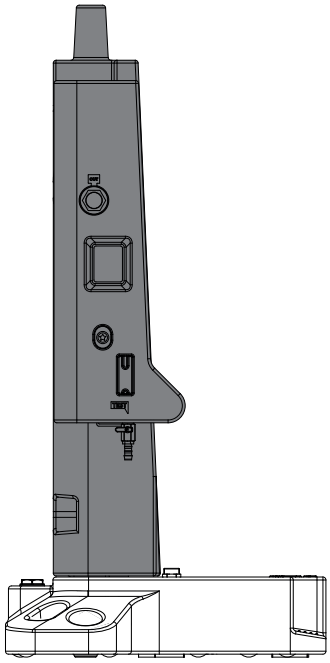
6.2 Installation work

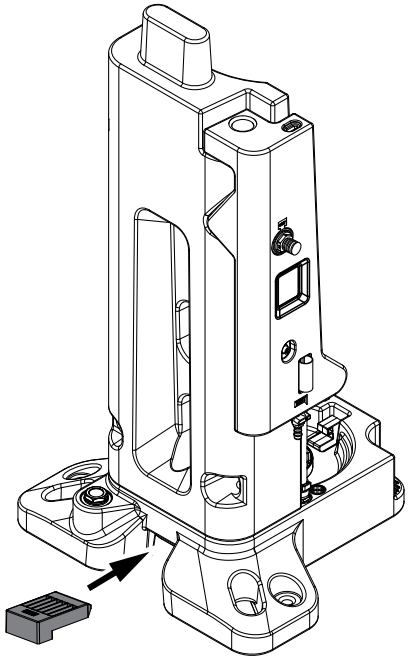
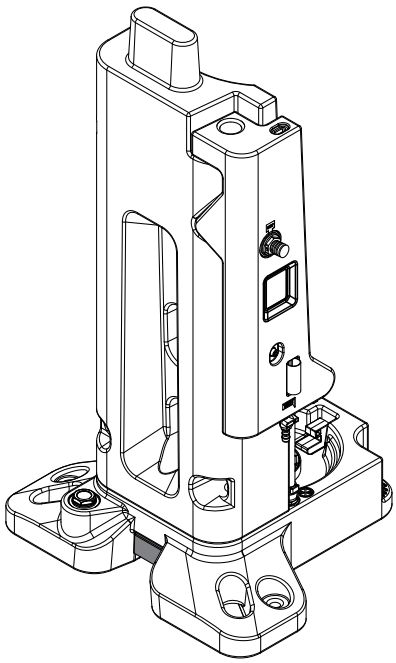
For installation work to be carried out, the following prerequisites must be fulfilled and the preparatory tasks must have been completed.

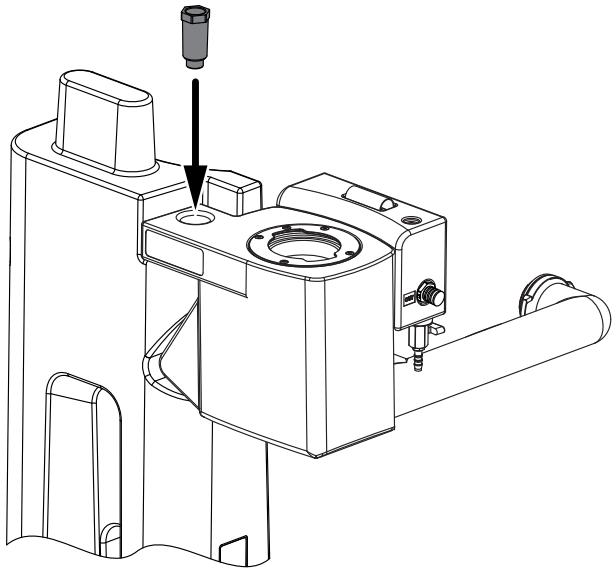
Prerequisites		
Tools	**Material**	**Protective equipment**
• Adjustable wrench • Water pump pliers • Spirit level	• Sealing material (e.g. PTFE tape) for sealing the condensate connections provided by the customer • Hose clamps • Hose for condensate	**To be worn at all times:** 

Preparation work	
1.	Select and set up the place of installation according to the specifications in section “4.6 Installation conditions” on page 23.
2.	The condensate inlet line provided by the customer must be depressurized and locked and tagged out to prevent unintentional pressurization.
3.	Have the necessary tools and materials ready.
4.	Prepare the required connection materials suitable for the pressure and temperature range.
5.	Check the product for damage. Use the product only in undamaged condition.

Installation work	
Figure	**Description / explanation**
	1. Position the collector on a flat surface. 2. Align the foot with the positioning tubes facing downwards and position it over the assembly opening. 3. Tilt the upper end of the foot towards the filter cartridge holder until the positioning tubes are vertical.

Installation work	
Figure	**Description / explanation**
	4. Carefully insert the foot into the installation openings while straightening it at the same time.
	

Installation work	
Figure	**Description / explanation**
	5. Align the locking device with the heel facing downwards and insert it into the locking device opening in the collector.
	6. Press the locking device into the locking device opening as far as it will go.

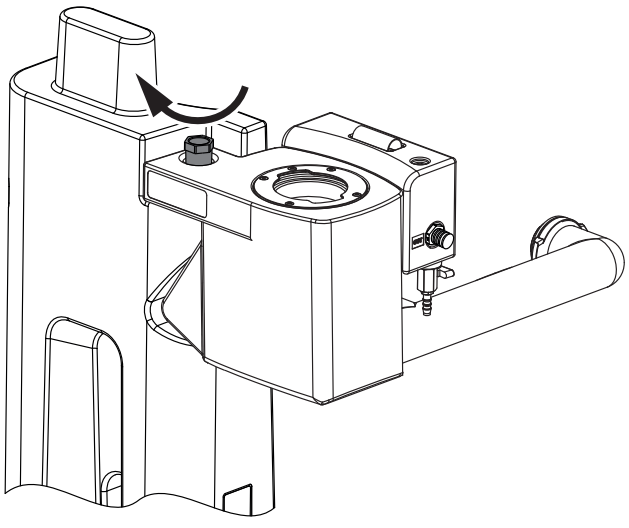
Installation work	
Figure	**Description / explanation**
	7. Insert the fixing screw into the fixing hole of the measuring chamber.

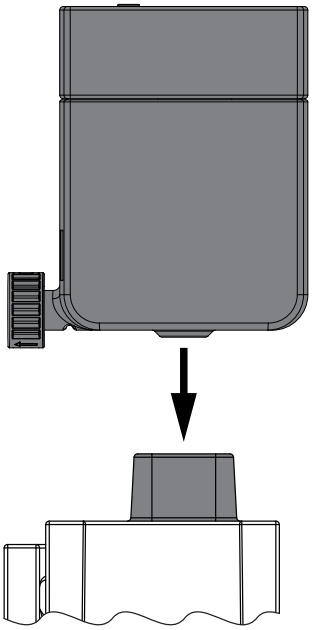
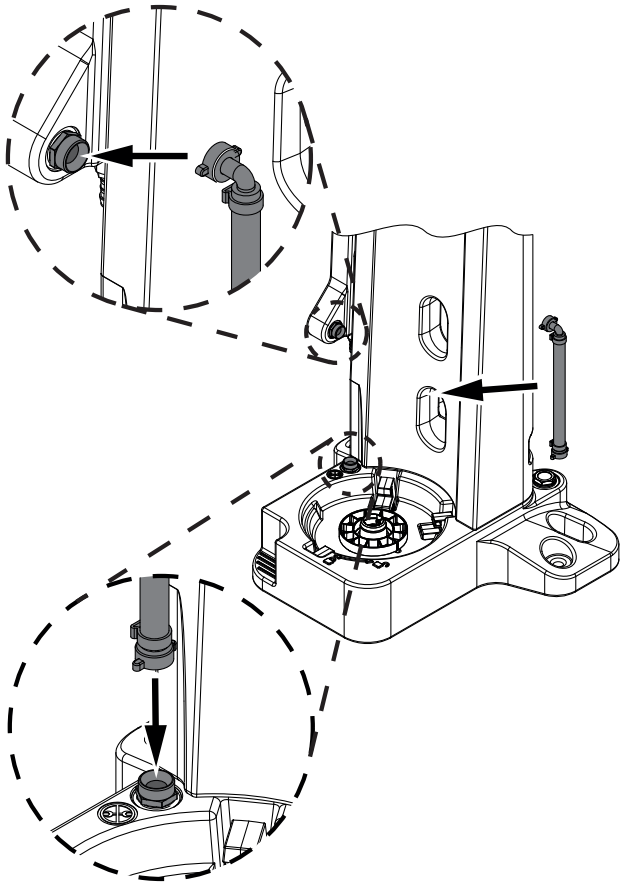
NOTICE

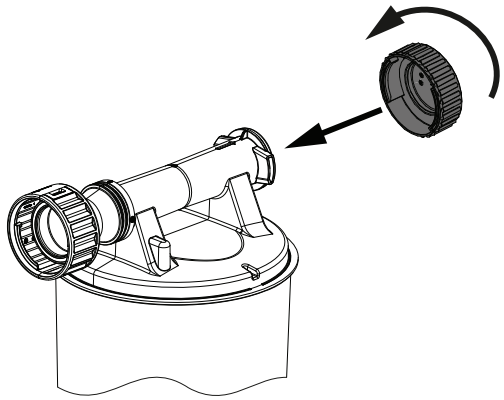
Thread overloading

Using tools to tighten the fixing screw, or tilting it when positioning it, can overload the thread on the fixing screw and in the foot and cause serious damage (e.g., plastic parts breaking, the thread being pulled out).

- Place the fixing screw vertically and screw it in.
- Tighten the fixing screw by hand only.

	8. Screw in the fixing screw clockwise by hand all the way and tighten hand-tight.

Installation work	
Figure	**Description / explanation**
	9. Place the pressure relief chamber on the foot. → Align the connection in the direction of the clean water tank.
	10. Install the riser duct between the collector and the clean water tank. → Place the riser duct's straight fitting on the connection in the collector and tighten it clockwise by hand. → Place the riser duct's elbow fitting on the connection of the clean water tank and tighten it clockwise by hand.

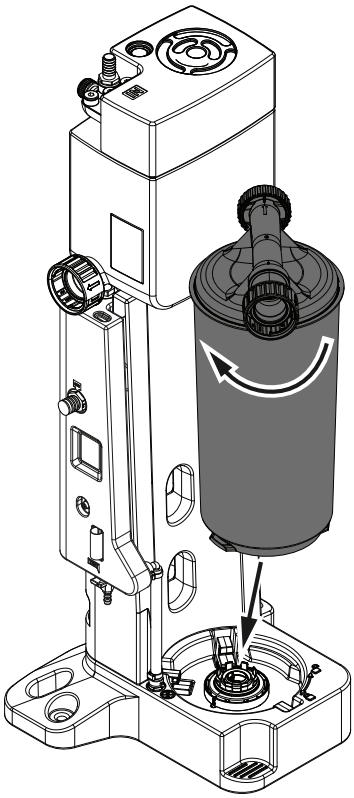
Installation work	
Figure	**Description / explanation**
	11. Place the end cap on the filter cartridge and turn it clockwise all the way.

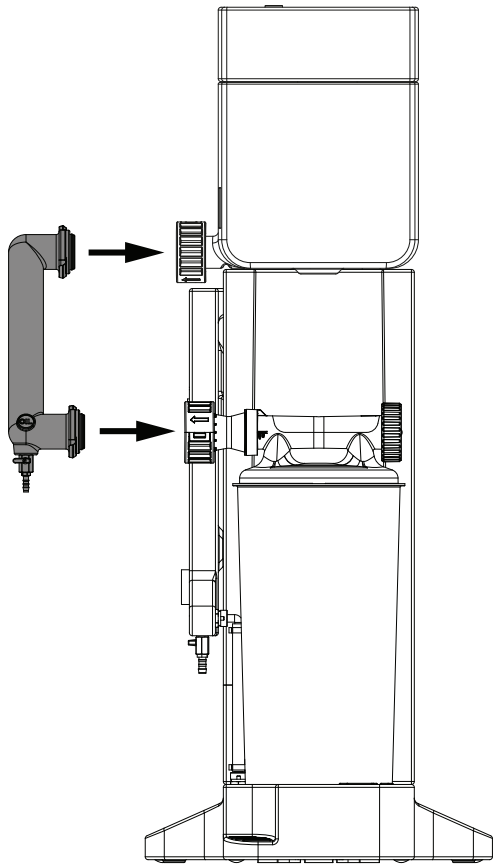
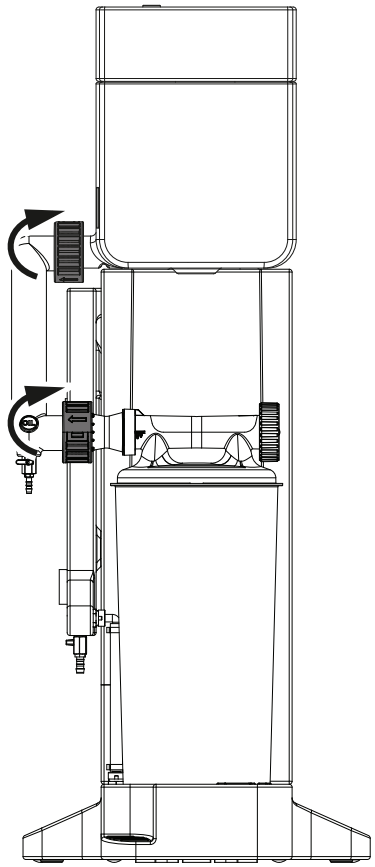
NOTICE

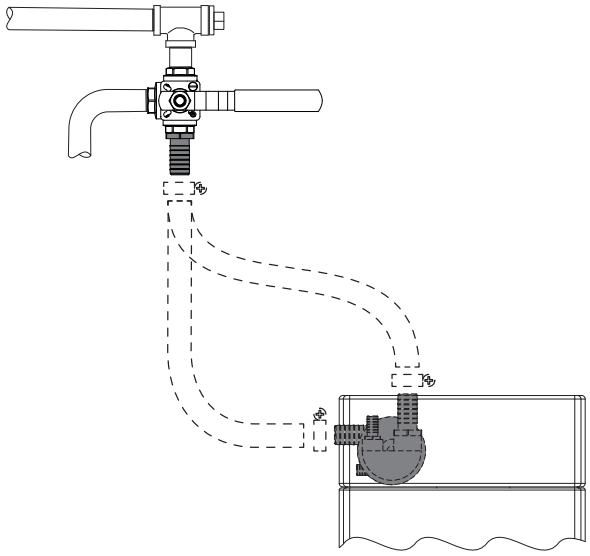
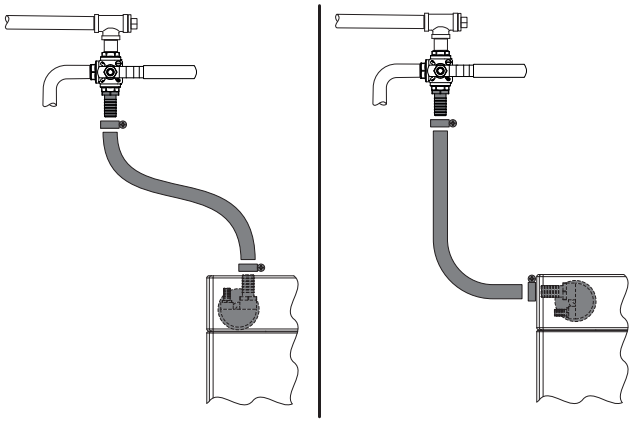
Filter cartridge insertion

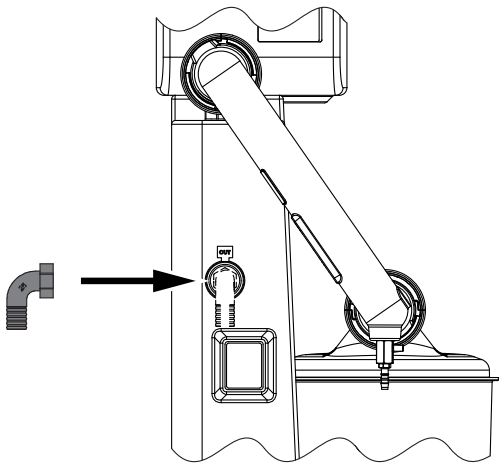
Use of incorrect filter cartridges or incorrect insertion of the filter cartridges can cause damage or leakage to the collector and the filter cartridges.

- Before inserting the filter cartridges, check to make sure that the filter cartridge is the right one for the product.
  → The color of the cap at the bottom of the filter cartridge must be identical to the color of the cap in the collector.
- Insert the filter cartridges vertically and carefully into the collector.

	12. Insert the filter cartridge into the mount on the foot with the bayonet mount facing the clean water tank. 13. Turn the filter cartridge clockwise all the way.

Installation work	
Figure	**Description / explanation**
	14. Check the sealing surfaces in the connecting pipe for damage and dirt. → Remove any dirt. → If there is any damage, contact the manufacturer's service department (please refer to section "1.1 Contact" on page 4). 15. Insert the connecting pipe into the connection for the pressure relief chamber. → Point the connecting pipe's drain valve downwards. 16. Align the connecting pipe's connection with the filter cartridge's connection. 17. Insert the connecting pipe into the filter cartridge connection.
	18. Slide the bayonet mounts over the connections and turn them all the way clockwise.

Installation work	
Figure	**Description / explanation**
NOTICE 	**Damage due to incorrect hose routing** Incorrect hose routing can result in material and environmental damage, as well as impaired operation. • Route all hoses in the shortest possible way. • Install all hoses in such a way that they are free of mechanical stress and without any kinks. • Route all hoses in such a way that no mechanical stress will be transmitted to the condensate inlet and that the minimum bending radii of the respective hose are adhered to. • Do not lay the hoses in a slack manner (sagging).
	19. Set up the assembled **QWIK-PURE®** at an offset from the tapping point. → In order to be able to route the hose optimally, you can loosen the knurled head screw in order to turn the condensate inlet up to 90 degrees by hand. After turning it, tighten the knurled head screw hand-tight.
	20. Connect the tapping point with the condensate inlet of the pressure relief chamber with a hose and secure it against slipping with a hose clamp. → Do not lay the hose in a slack manner (sagging). 21. Tighten the hose clamps hand-tight.

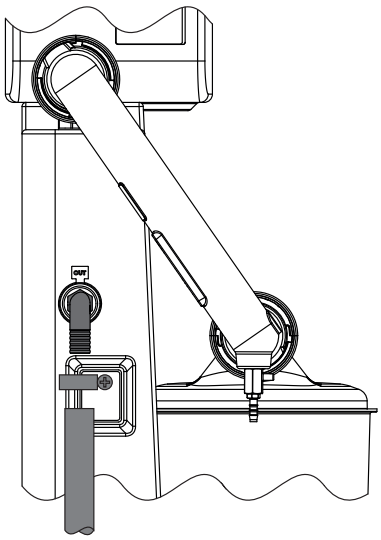
Installation work	
Figure	**Description / explanation**
	22. Screw the supplied elbow connector with the mounted flat gasket clockwise as far as it will go onto the condensate drain and position it in such a way that the outlet is pointing downwards.

NOTICE

Clean water tank overflow

If there is no gradient towards the wastewater system connection, or if there are cross-sectional constrictions in the water outlet hose, this can lead to the clean water tank overflowing.

- The connection to the wastewater system is located below the condensate outlet.
- Route the water outlet hose with a steady slope and without any kinks to the connection to the wastewater system.

	23. Attach a water outlet hose to the angled elbow connector on the condensate outlet and secure it against slipping off with a hose clamp. 24. Tighten the hose clamp hand-tight. 25. Route the water outlet hose with a steady slope and without any kinks to the connection to the wastewater system.

Concluding work	
1.	Before pressurization, check all system connections for leak tightness and tighten if necessary.
2.	Slowly pressurize the system.

7. Commissioning

Personnel
Skilled technical personnel - pressure equipment and systems (see section “2.3 Target group and personnel” on page 8)

7.1 Warning notices

DANGER	Sudden escape of pressurized fluids
	There is a danger of death or serious personal injury resulting from contact with fast or suddenly escaping fluids or through bursting system parts.
	• Before pressurization, check all system connections for leak tightness and tighten if necessary. • Slowly pressurize the system.

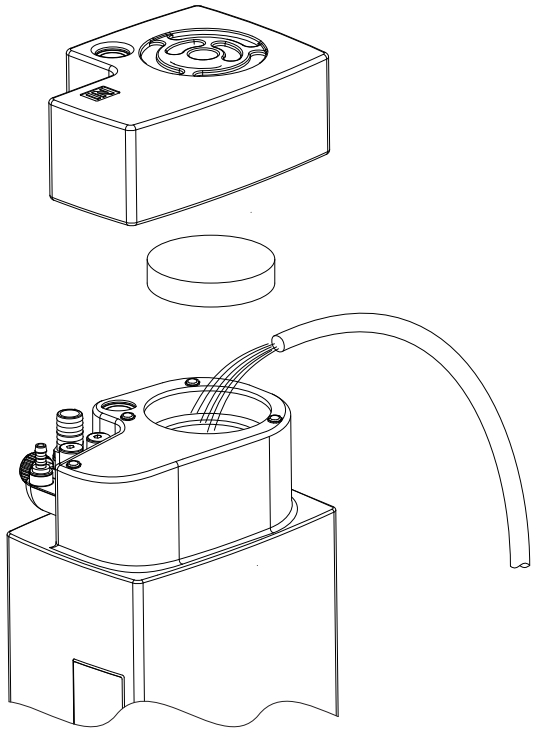
NOTICE	Reduced filter cartridge performance
	When the clean water tank’s ventilation opening is closed, the draining water will produce a negative pressure in the clean water tank. This negative pressure will result in the condensate being sucked through the filter cartridges in an uncontrolled manner. This uncontrolled flow will reduce the performance of the filter cartridges.
	• Keep the clean water tank’s ventilation opening open.

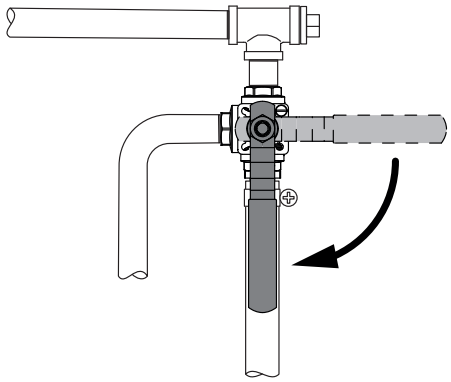
7.2 First time putting the product into operation

Before the first time the product is put into operation, the following prerequisites must be fulfilled and the preparatory tasks must have been completed.

Prerequisites		
Tools	**Material**	**Protective equipment**
• No tool necessary	• No material necessary	**To be worn at all times:** 

Preparation work	
1.	The product's installation must have been completed.

Commissioning work	
Figure	**Description / explanation**
	1. Remove the cover from the pressure relief chamber and remove the activated carbon mat from the vent of the pressure relief chamber. 2. Fill the pressure relief chamber with tap water via the vent. → Stop filling it as soon as water comes out from the condensate outlet. 3. Insert the activated carbon mat into the vent of the pressure relief chamber and place the cover on the pressure relief chamber.

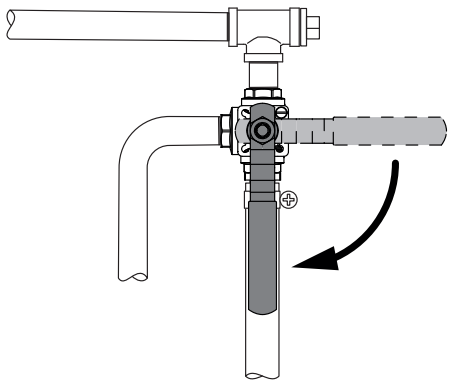
Commissioning work	
Figure	**Description / explanation**
	4. Slowly open the condensate feed. 5. Check all hoses and connections for leaks (see section “9.3.5 Leak test” on page 53). 6. The product is now successfully set up and fed condensate will be treated.

7.3 Recommissioning

For recommissioning work to be carried out, the following prerequisites must be fulfilled and the preparatory tasks must have been completed.

Prerequisites		
Tools	**Material**	**Protective equipment**
• No tool necessary	• No material necessary	**To be worn at all times:** 

Preparation work	
1.	All work and troubleshooting must have been completed.

Commissioning work	
Figure	**Description / explanation**
	1. Slowly open the condensate feed.

8. Operation

Personnel
Operating personnel (see section “2.3 Target group and personnel” on page 8)

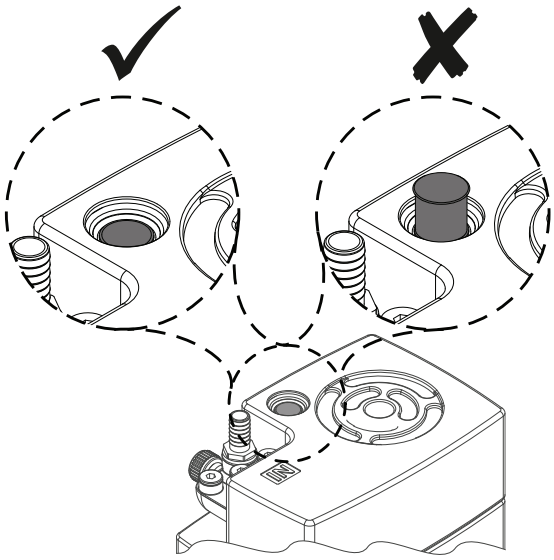
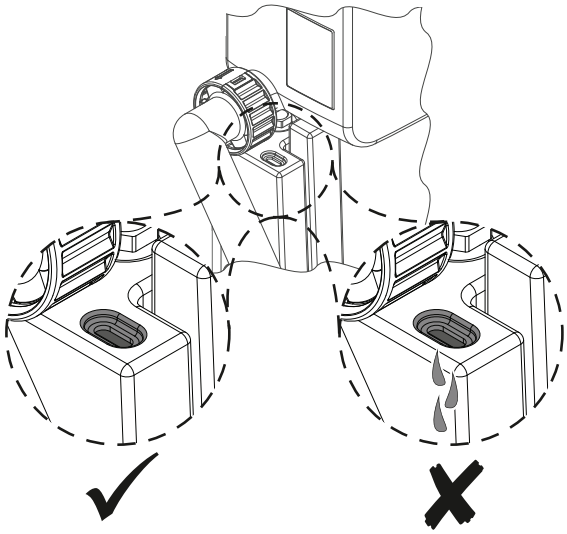
8.1 Warning notices

NOTICE	Reduced filter cartridge performance
	When the clean water tank’s ventilation opening is closed, the draining water will produce a negative pressure in the clean water tank. This negative pressure will result in the condensate being sucked through the filter cartridges in an uncontrolled manner. This uncontrolled flow will reduce the performance of the filter cartridges.
	• Keep the clean water tank’s ventilation opening open.

8.2 Working during operation

Preparation work	
1.	The product has been installed and connected to the condensate collection line and the drain.
2.	The product must have been successfully set up.

Prerequisites		
Tools	**Material**	**Protective equipment**
• No tool necessary	• No material necessary	**To be worn at all times:** 

Figure	Description
	1. Check the level indicator. **The level indicator is flush with the pressure relief chamber:** → The product is working properly. **The level indicator's red marking is visible:** → The pressure relief chamber's maximum filling level has been reached. → The condensate flow has been disrupted (see section "14. Troubleshooting" on page 65).
	2. Check the clean water tank's ventilation opening. **The ventilation opening is dry:** → The product is working properly. **Water is coming out from the ventilation opening:** → The water drainage has been disrupted (see section "14. Troubleshooting" on page 65).

9. Maintenance

Personnel
Qualified service technicians (see section “2.3 Target group and personnel” on page 8)

9.1 Warning notices

DANGER	Sudden escape of pressurized fluids
	There is a danger of death or serious personal injury resulting from contact with fast or suddenly escaping fluids or through bursting system parts.
	• Before starting work, depressurize the pressurized system and secure it against unintentional pressurization.

9.2 Maintenance plan

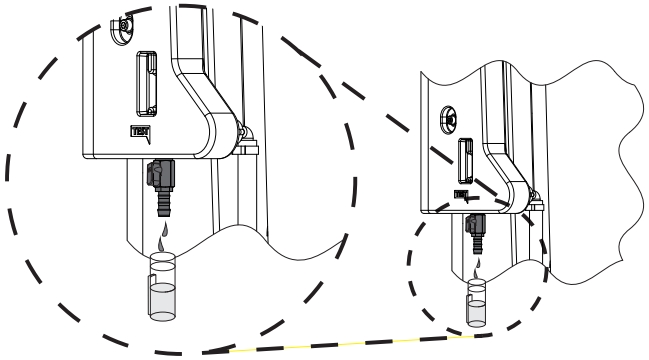
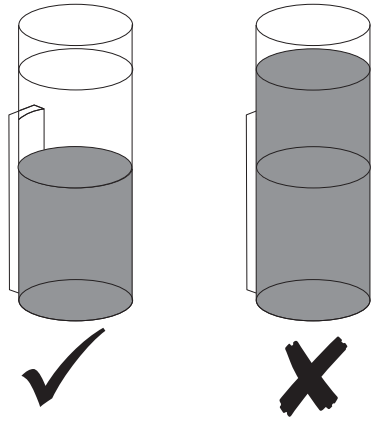
Maintenance	Interval
Turbidity test of wastewater and documenting the result	• Weekly
Replace filter cartridge	• Mandatory in case of a negative result of the turbidity test • If the level indicator’s red marking is visible • At least annually
Cleaning assemblies	• As part of troubleshooting
Visual inspection	• Weekly
Leak test	• Recommendation: After all installation and maintenance work on the product

9.3 Maintenance work

For maintenance work to be carried out, the following prerequisites must be fulfilled and the respective preparatory tasks must have been completed.

9.3.1 Turbidity test of the purified condensate

Prerequisites		
Tools	**Material**	**Protective equipment**
• No tool necessary	• No material necessary	**To be worn at all times:** 

Figure	Description
	1. Remove the reference turbidity tube from the holder and fill it with a water sample from the service valve.
	2. Compare the sample with the reference turbidity on the lower half of the reference turbidity tube. **The sample is clearer than the reference turbidity:** → The product is working properly. **The sample is equally or more turbid than the reference turbidity** → Replace the filter cartridges immediately. 3. Document the result of the turbidity test.

NOTICE	High condensate turbidity
	If the condensate at the condensate outlet has a high degree of turbidity, clean the device – please refer to section “9.3.3 Cleaning” on page 48.

9.3.2 Replace filter cartridges

Prerequisites		
Tools	**Material**	**Protective equipment**
• No tool necessary	• Filter cartridges • Can for flushing • Approx. 40 l of tap water • Can for collecting the flushing water	**To be worn at all times:** 

Preparation work	
1.	Have the required number of new filter cartridges ready to go next to the product.
2.	Remove the plugs from the new filter cartridges' packaging and set them down close to the product.

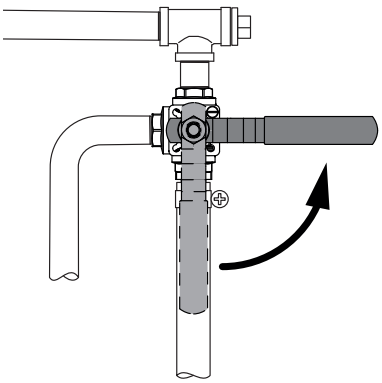
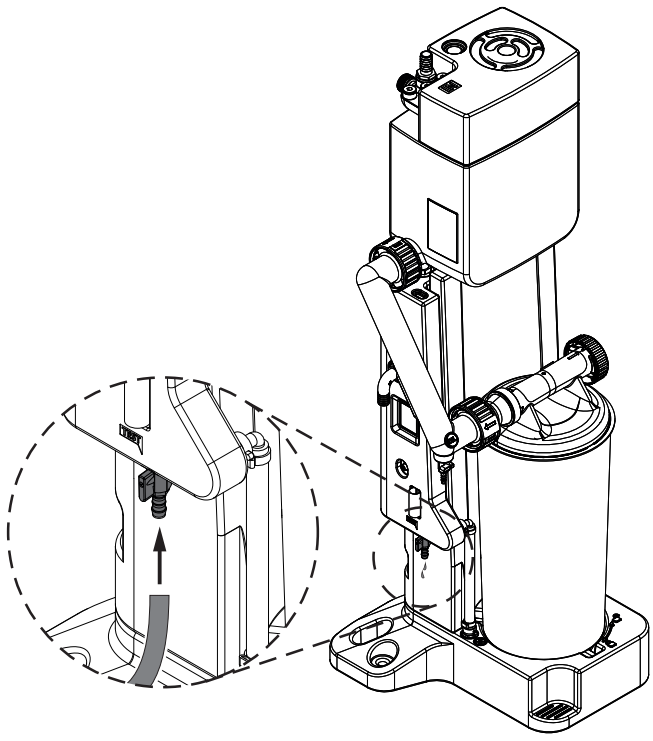
Figure	Description / explanation
	1. Shut off the condensate feed and divert the condensate into a separate container.
	2. Connect the service valve on the clean water tank to a collecting container and open the service valve. → Close the service valve the moment that condensate stops coming out.

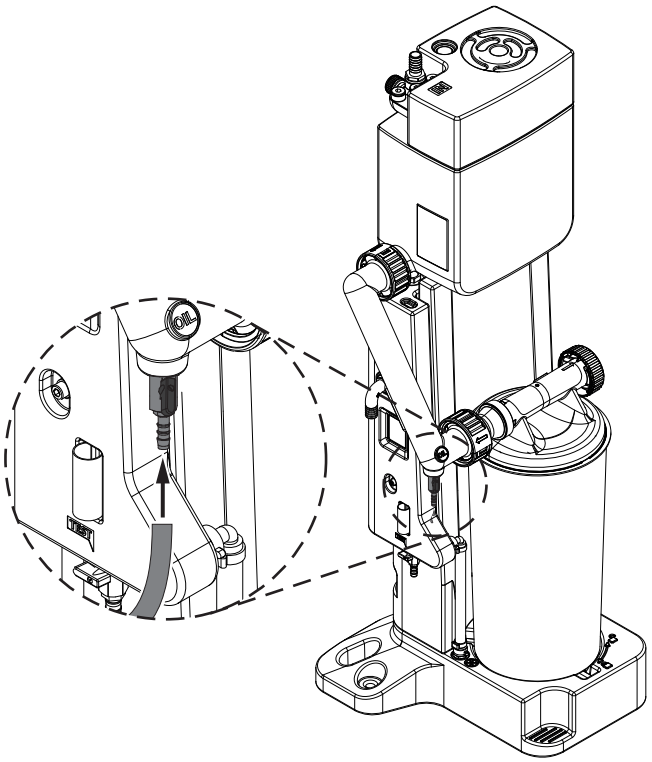
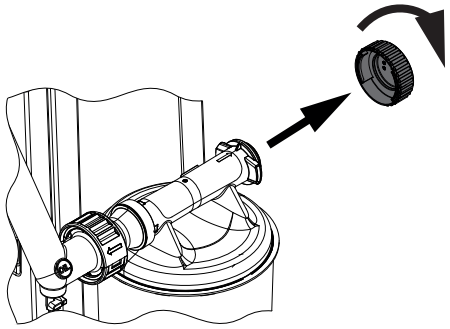
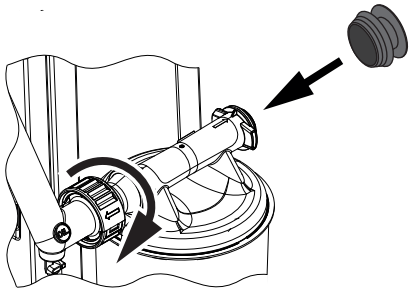
Figure	Description / explanation
	3. Connect the drain valve on the connecting pipe to a collecting container and open the drain valve. → Close the drain valve the moment that condensate stops coming out. → Collect and dispose of leaked or spilled condensate in accordance with the locally applicable legal requirements and regulations.
	4. Turn the end cap on the filter cartridge anticlockwise and remove it. → Put the end cap to the side, as you will be screwing it back onto the new filter cartridge.
	5. Use the plug to seal the filter cartridge.

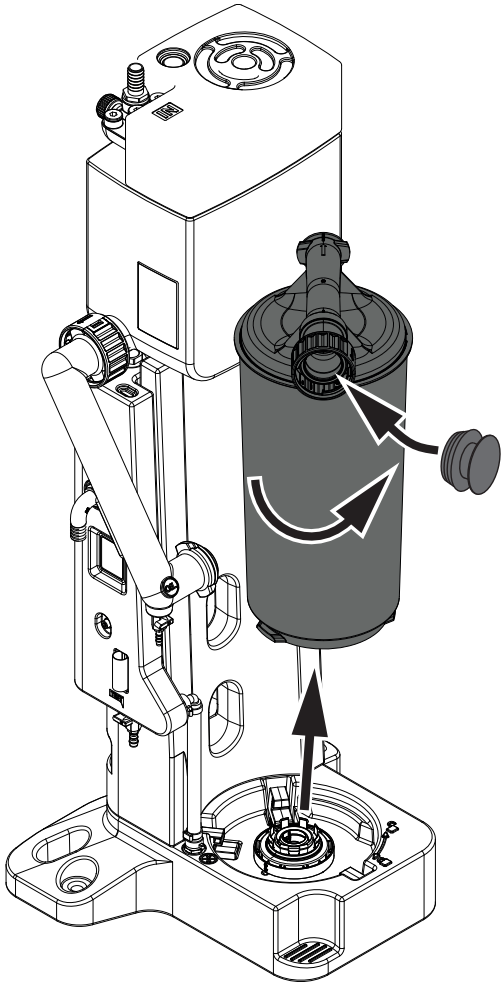
Figure	Description / explanation
CAUTION 	**Lifting heavy load** Lifting the full filter cartridge in an ergonomically incorrect manner may result in personal injury. • Lift the full cartridge in an ergonomically correct manner close to your body. • Use two people to lift the full cartridge over obstacles.
	6. Turn the bayonet mount of the filter cartridge anticlockwise and pull it off from the connection at the measuring chamber outlet. 7. Turn the filter cartridge 45 degrees anticlockwise and seal it with the plugs. 8. Lift the filter cartridge out of the collector and dispose of it properly (see section “13. Disposal” on page 64). 9. Check the sealing surface of the connecting pipe connection for damage and dirt. → Remove any dirt. → If there is any damage, contact the manufacturer’s service department (please refer to section “1.1 Contact” on page 4).

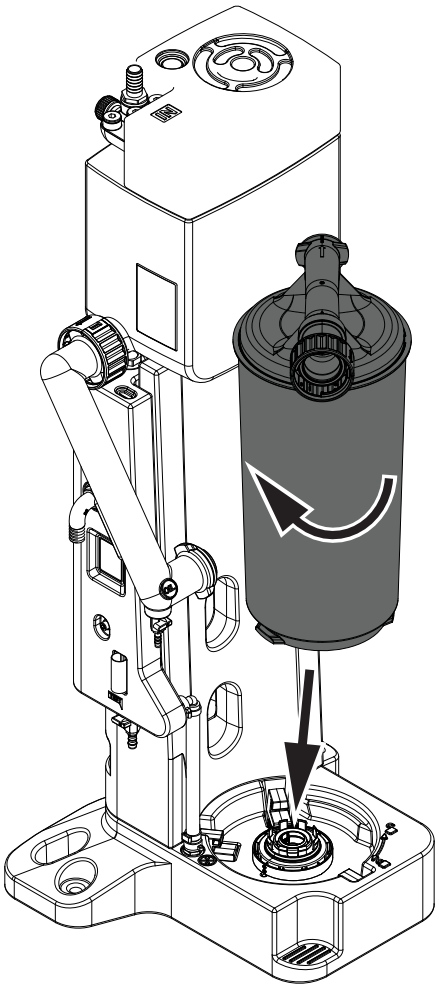
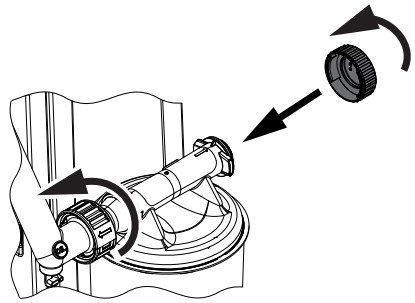
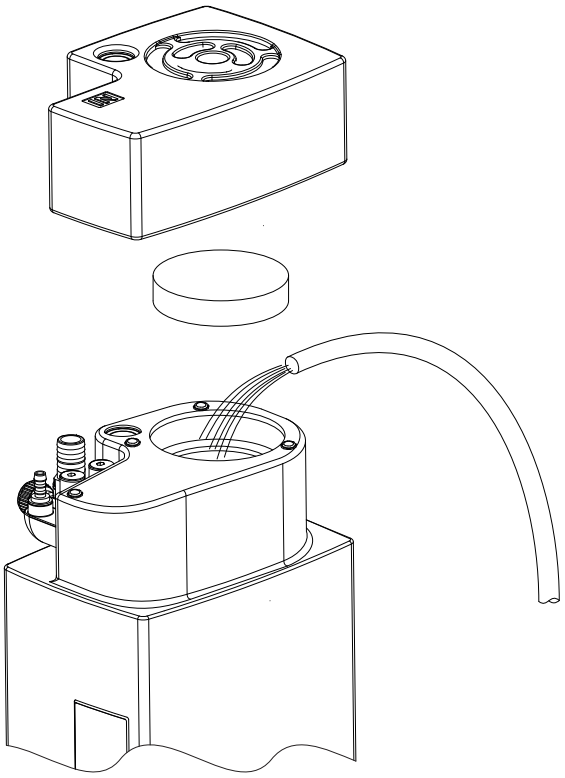
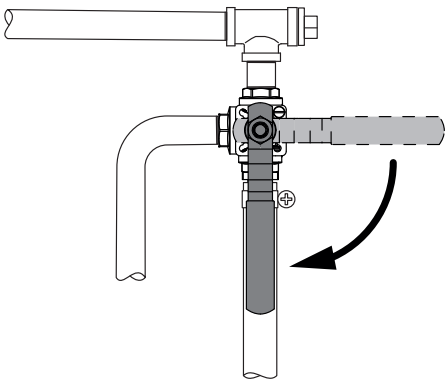
Figure	Description / explanation
NOTICE	**Filter cartridge insertion** Use of incorrect filter cartridges or incorrect insertion of the filter cartridges can cause damage or leakage to the collector and the filter cartridges. • Before inserting the filter cartridges, check to make sure that the filter cartridge is the right one for the product. → The color of the cap at the bottom of the filter cartridge must be identical to the color of the cap in the collector. • Insert the filter cartridges vertically and carefully into the collector.
	10. Insert the filter cartridge into the mount on the foot with the bayonet mount facing the connecting pipe. 11. Turn the filter cartridge clockwise all the way. 12. Align the filter cartridge's connection with the connection on the connecting pipe. 13. Slide the bayonet mount over the connection and turn it clockwise as far as it will go.

Figure	Description / explanation
	14. Place the end cap on the filter cartridge and turn it clockwise all the way.
	15. Remove the cover from the pressure relief chamber and remove the activated carbon mat from the vent of the pressure relief chamber. → Check the activated carbon insert to see if it is very dirty (e.g., mold, oil saturation) and replace it if necessary. 16. Fill the product with tap water via the vent. → Stop filling it as soon as water comes out from the condensate outlet. 17. Insert the activated carbon mat into the vent of the pressure relief chamber and place the cover on the pressure relief chamber.
	18. Slowly open the condensate feed. 19. Check all hoses and connections for leaks (see section “9.3.5 Leak test” on page 53). → Retighten if necessary 20. Slowly pressurize the system.

9.3.3 Cleaning

9.3.3.1 Warning notices

CAUTION	**Personal injury caused by the improper use of cleaning agents**
	Improper use of cleaning agents may result in minor injuries and damage to health.
	• Use personal protective equipment. • Use cleaning agents in accordance with the manufacturer's instructions.

NOTICE	**Damage due to improper cleaning**
	Improper cleaning can result in damage to components.
	• Flush the product only with non-pressurized water. • Never clean the device with hard or pointed implements. • Do not clean the product with a pressure washer or steam cleaner.

NOTICE	**Observe all local hygiene regulations**
	In addition to the cleaning instructions listed, any regionally applicable or company-specific hygiene regulations must be observed.

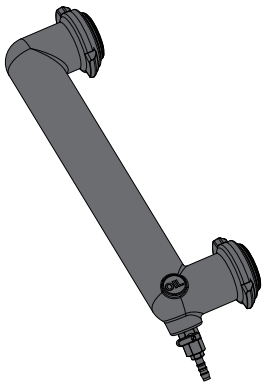
NOTICE	**Improper disposal of cleaning water**
	Do not convey cleaning water containing detergent back into the device. If cleaning water containing detergent enters the device, the corresponding surfactants may result in the filter cartridges not working correctly.
	• Properly dispose of cleaning water in accordance with all locally applicable legal requirements and regulations.

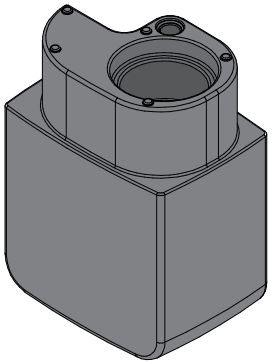
INFORMATION	**Extremely heavy soiling and deposits in the collector**
	If the collector is very heavily soiled with solid deposits and very large amounts of oil, replace it.

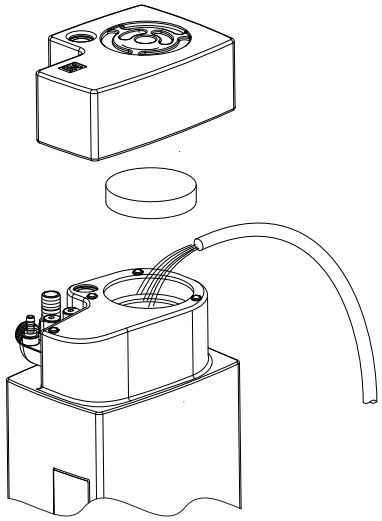
9.3.3.2 Cleaning work

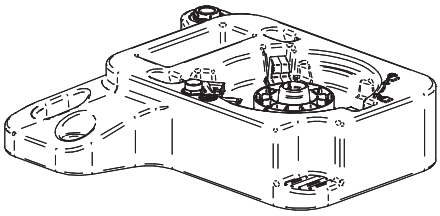
For cleaning work to be carried out, the following prerequisites must be fulfilled and the respective preparatory tasks must have been completed.

Prerequisites		
Tools	**Material**	**Protective equipment**
If there is heavy soiling: • Collecting container	**If there is mild soiling:** • Warm water • Cotton cloth or disposable cloth **If there is heavy soiling:** • Warm water • Standard dish detergent	**To be worn at all times:** 

Degree of soiling	Figure	Description / explanation
Soiled connecting pipe		**Preparation work:** 1. The product must have been shut down. 2. The assembly you will be cleaning must have been disassembled (please refer to section “12. Disassembly” on page 57). 3. Bring the assembly unit to be cleaned to a washing station with an integrated oil separator.
		Cleaning: • Flush the connecting pipe with warm water.
		Concluding work: 1. Dry the cleaned assembly with a cotton cloth. 2. Take the cleaned and dried assembly to where the product has been installed and install it (please refer to section “6. Installation” on page 26). 3. Put the product back into operation (please refer to section “7. Commissioning” on page 36).

Degree of soiling	Figure	Description / explanation
Soiled pressure relief chamber		**Preparation work:** 1. The product must have been shut down. 2. The assembly you will be cleaning must have been disassembled (please refer to section “12. Disassembly” on page 57). 3. Bring the assembly unit to be cleaned to a washing station with an integrated oil separator. **Cleaning:** • Flush the pressure relief chamber with warm water. **Concluding work:** 1. Dry the cleaned assembly with a cotton cloth. 2. Take the cleaned and dried assembly to where the product has been installed and install it (please refer to section “6. Installation” on page 26). 3. Put the product back into operation (please refer to section “7. Commissioning” on page 36).

Degree of soiling	Figure	Description / explanation
Mildly soiled collector, high water turbidity at condensate outlet		**Preparation work:** 1. Remove the cover from the pressure relief chamber and remove the activated carbon mat from the vent of the pressure relief chamber. **Cleaning:** • To clean, pour approximately 40 l of tap water in through the vent to flush the system with it. → Collect the corresponding condensate until you get the desired degree of turbidity. → During flushing, keep the water level as high as possible and let the water drain freely. **Concluding work:** 1. Fill the product with tap water via the vent. → Stop filling it as soon as water comes out from the condensate outlet. → Feed the condensate back in through the vent. 2. Insert the activated carbon insert into the pressure relief chamber's vent and install the cover on the pressure relief chamber.

Degree of soiling	Figure	Description / explanation
Heavily soiled collector, deposits and large amounts of oil in collector		**Preparation work:** 1. The product must have been shut down. 2. The assembly you will be cleaning must have been disassembled (please refer to section “12. Disassembly” on page 57). 3. Bring the assembly unit to be cleaned to a washing station with an integrated oil separator.
		Cleaning: 1. Open the cap (if any) on the collector’s outlet and empty the collector. → Collect or siphon off the condensate. 2. Mix tap water with dish detergent and pour it into the outlet. 3. Carefully shake the collector, with the outlet pointing up, until the deposits come loose. → Please note that you might need a second person to help with this depending on the collector’s size and weight. 4. Pour fresh water into the collector and let it drain out multiple times until you get the desired cleaning results. → Collect the resulting flushing water and dispose of it separately. 5. Close the collector’s outlet with the cap.
		Concluding work: 1. Install the product with new cartridges (please refer to section “9.3.2 Replace filter cartridges” on page 43).

9.3.4 Visual inspection

During the visual inspection, check all components for mechanical damage and leaks. Replace damaged components immediately.

9.3.5 Leak test

A leak test is only possible if the product is completely filled with water.

1. Pour tap water into the product through the vent until water comes out from the outlet.
2. Check all hose and other connections for leaks.

Error or fault pattern	Measure
Leaky hose connection	• Tighten the hose clamp. • Replace hardened hose and respective hose clamps.
Bayonet catch leaking	• Check the fit of the seal and correct if necessary. • Check the seal for damage and replace if necessary. • Tighten the bayonet fitting. • Check the seal for damage and replace if necessary.
End cap leaking	• Check the fit of the seal and correct if necessary. • Check the seal for damage and replace if necessary. • Tighten the end cap.

10. Consumables, accessories and spare parts

10.1 Order information

The manufacturer's service team will need the following information when handling inquiries or orders:

- Product name and size (see the type plate)
- Serial number (see type plate)
- Material number and designation of the accessory
- Desired number of accessories to be supplied

The contact information for the manufacturer's service team is listed in section "1.1 Contact" on page 4.

10.2 Wear parts

Designation	Material number
Filter cartridge, including two plastic plugs	4051809
Activated carbon mat, pressure relief chamber	4058539

10.3 Accessories

Designation	Material number
QWIK-PURE® CS 400 spill protection basin 900 mm x 800 mm (35.43 in x 31.5 in)	4047642
Alarm sensor, changeover contact	4058541
High pressure relief chamber	2801292
Expansion kit for turning **QWIK-PURE® CS 400** into **QWIK-PURE® iCS 550**	4058650

10.4 Spare parts

Designation	Material number
Pressure relief chamber 25 l (6.6 gal)	4058519
Pressure relief chamber cover	4059531
Pressure relief chamber float	4058544
Condensate inlet, rotatable, including fixing screw	4058538
QWIK-PURE® CS 400 clean water tank, 2.5 l (0.66 gal)	4058527
Foot	4058517
Collector, 1 x 1 filter cartridge	4058532
Plug for collector	4058545
Connecting pipe	4058524
5 ppm reference turbidity tube	4012341
10 ppm reference turbidity tube	4001475
Elbow connector with union nut, reducer fitting and flat gasket	4059172
Fixing screw	4059164
Riser duct	4058551
End cap	4058550
Locking device, foot	4058548
Bayonet insert, collector	4058542
M12 4-pin connector	4055860
NEMA power cord	4056045
Seal kit: • Gasket G1" • Condensate inlet O-ring • Filter cartridge seal • Clean water tank outlet seal • Pressure relief chamber outlet seal	4058536

11. Removal from service

Personnel
Qualified service technicians (see section “2.3 Target group and personnel” on page 8)

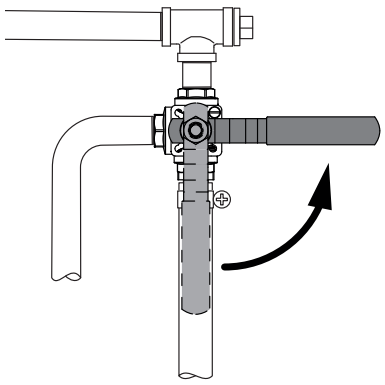
The product must be removed from service for prolonged periods of non-operation, e.g.:

- Repairs to the product or accessories
- Longer standstill of the entire system due to planned work (e.g. conversion work, major repairs, decommissioning of the overall system)

11.1 Warning notices

DANGER	Sudden escape of pressurized fluids
	There is a danger of death or serious personal injury resulting from contact with fast or suddenly escaping fluids or through bursting system parts.
	• Before starting work, depressurize the pressurized system and secure it against unintentional pressurization.

11.2 Removal from service

Figure	Description / explanation
	1. Shut off the condensate feed and divert the incoming condensate into a separate container.

12. Disassembly

Personnel
Qualified service technicians (see section “2.3 Target group and personnel” on page 8)

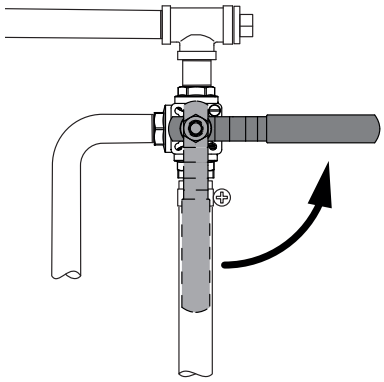
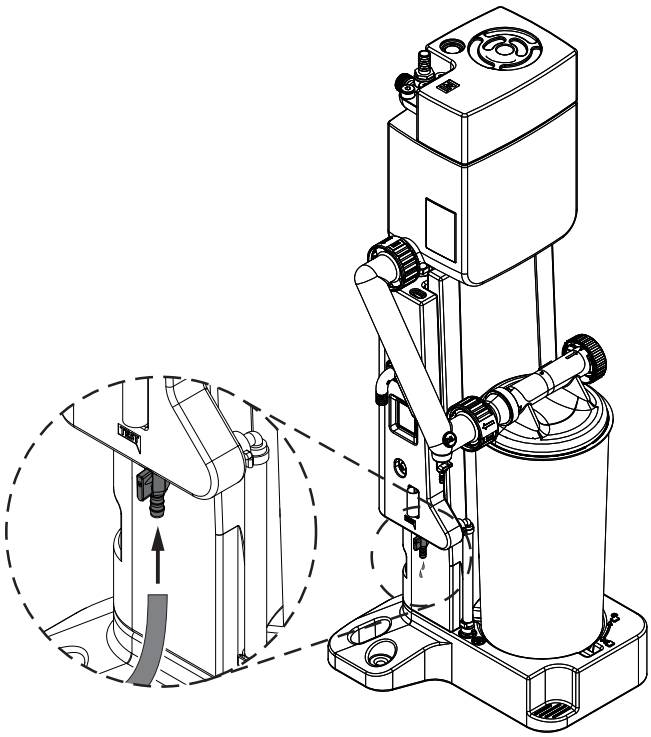
12.1 Warning notices

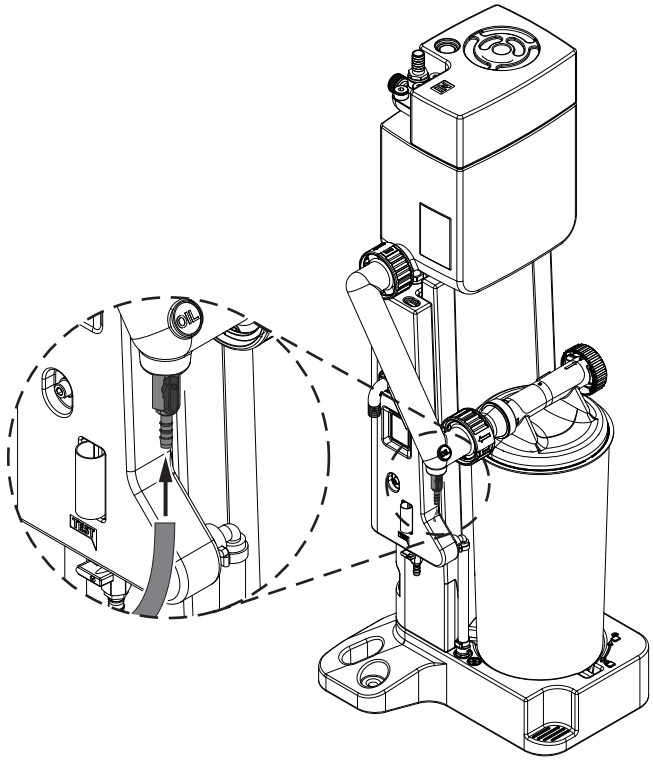
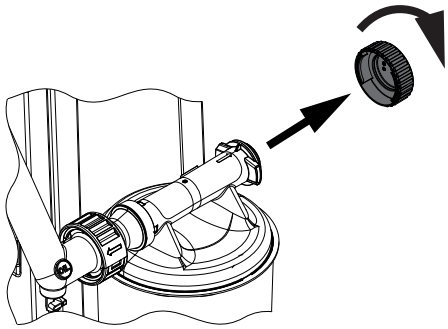
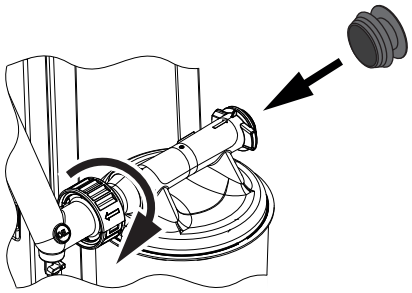
DANGER	Sudden escape of pressurized fluids
	There is a danger of death or serious personal injury resulting from contact with fast or suddenly escaping fluids or through bursting system parts.
	• Before starting work, depressurize the pressurized system and secure it against unintentional pressurization.

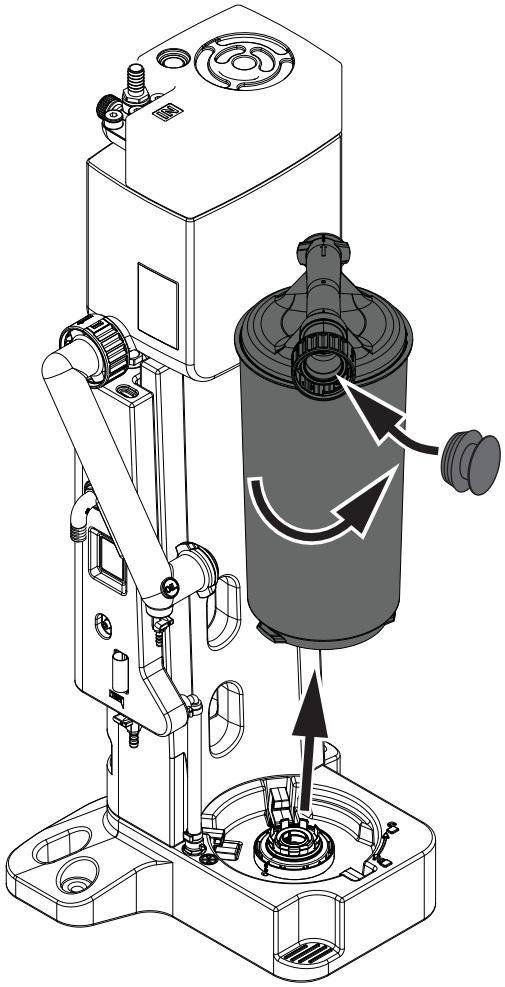
12.2 Disassembly steps

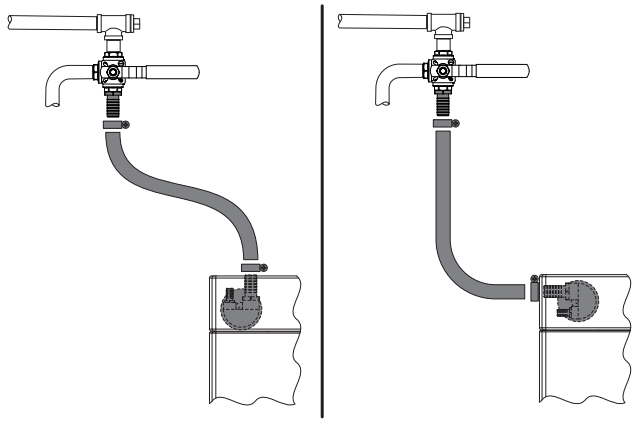
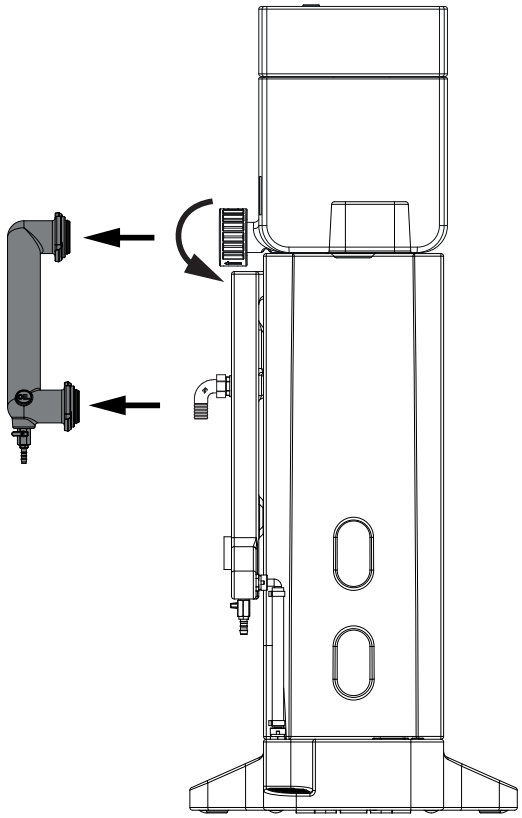
For disassembly work to be carried out, the following prerequisites must be fulfilled and the preparatory tasks must have been completed.

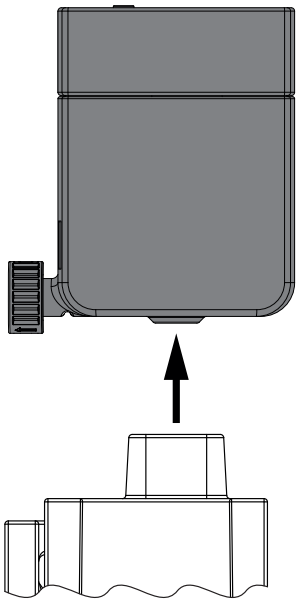
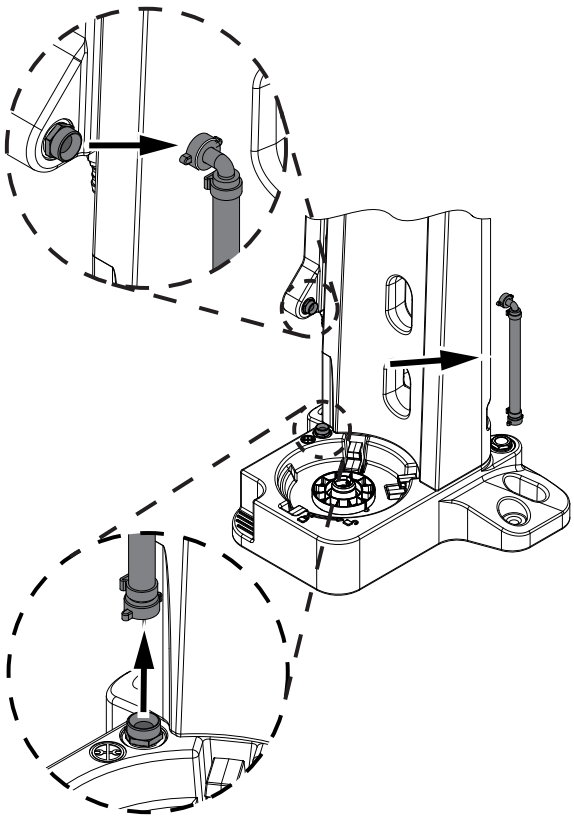
Prerequisites		
Tools	**Material**	**Protective equipment**
• Adjustable wrench • Water pump pliers	• No material necessary	**To be worn at all times:** 

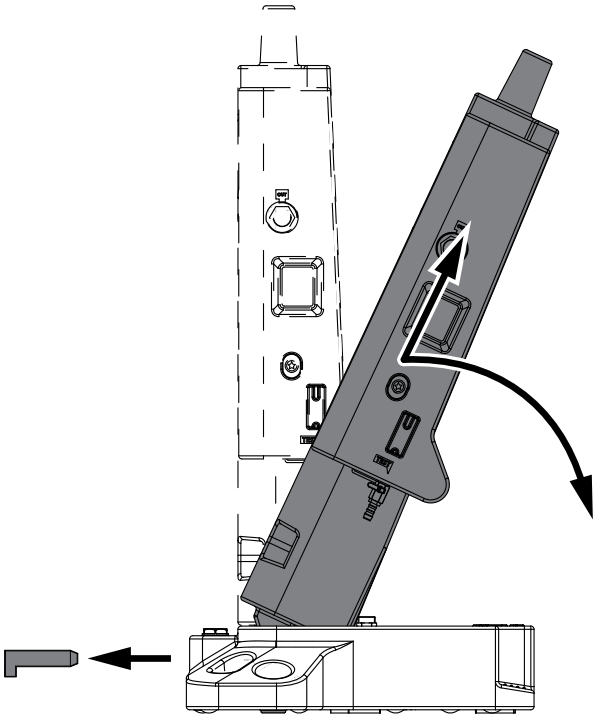
Disassembly steps	
Figure	**Description / explanation**
	1. Shut off the condensate feed and divert the incoming condensate into a separate container.
	2. Connect the service valve on the clean water tank to a collecting container and open the service valve. → Close the service valve the moment that condensate stops coming out.

Disassembly steps	
Figure	**Description / explanation**
	3. Connect the drain valve on the connecting pipe to a collecting container and open the drain valve. → Close the drain valve the moment that condensate stops coming out. → Collect and dispose of leaked or spilled condensate in accordance with the locally applicable legal requirements and regulations.
	4. Turn the end cap on the filter cartridge anticlockwise and remove it. → Put the end cap to the side, as you will be screwing it back onto the new filter cartridge.
	5. Use the plug to seal the filter cartridge.

Disassembly steps	
Figure	**Description / explanation**
CAUTION 	**Lifting heavy load** Lifting the full filter cartridge in an ergonomically incorrect manner may result in personal injury. • Lift the full cartridge in an ergonomically correct manner close to your body. • Use two people to lift the full cartridge over obstacles.
	6. Turn the bayonet mount of the filter cartridge anticlockwise and pull it off from the connection at the measuring chamber outlet. 7. Turn the filter cartridge 45 degrees anticlockwise and seal it with the plugs. 8. Lift the filter cartridge out of the collector and dispose of it properly (see section “13. Disposal” on page 64).

Disassembly steps	
Figure	**Description / explanation**
	9. Remove the hose between the tapping point and the pressure relief chamber.
	10. Empty and remove the connecting pipe. 11. Clean the connecting pipe (see section “9.3.3 Cleaning” on page 48).

Disassembly steps	
Figure	**Description / explanation**
	12. Empty and remove the pressure relief chamber. 13. Clean the pressure relief chamber (see section “9.3.3 Cleaning” on page 48).
	14. Remove and clean the riser duct.

Disassembly steps	
Figure	**Description / explanation**
	15. Remove the locking device from the foot. 16. Remove the foot from the collector. Make sure to tilt the foot in the direction of the filter cartridge mount. 17. Empty and clean collector. 18. Dispose of the dismantled components properly (see section “13. Disposal” on page 64).

13. Disposal

The product and accessories must be properly disposed of at the end of their useful life, e.g., by a specialized company. Materials such as glass, plastics and some chemical compounds are mostly recoverable, reusable or recyclable.

NOTICE	Improper disposal
	The improper disposal of parts, components, operating and auxiliary materials, and cleaning agents can cause environmental damage.
	• Dispose of all components, parts, operating and auxiliary materials as well as cleaning agents professionally and in accordance with all locally applicable legal requirements and regulations. • Dispose of electrical and electronic components through a specialized disposal company or return them to the manufacturer. • In case of doubt, consult a local disposal company before disposal.

NOTICE	Improper storage
	The improper storage of parts, components, operating materials and auxiliary materials, as well as cleaning agents, can cause environmental damage.
	• Store all components, parts, operating and auxiliary materials as well as cleaning agents properly and in accordance with all locally applicable legal requirements and regulations. • Store used filter cartridges in one spill protection basin only.

14. Troubleshooting

In the event of any malfunctions that are not described, malfunctions that cannot be fixed, or questions, contact the manufacturer's service department (please refer to "1.1 Contact" on page 4).

Error or fault pattern	Possible cause	Measure
The level indicator's red marking is visible.	1. The filter cartridge cannot absorb any more oil.	Replace the filter cartridge (see section "9.3.2 Replace filter cartridges" on page 43).
	2. The filter cartridge is clogged.	Replace the filter cartridge (see section "9.3.2 Replace filter cartridges" on page 43).
	3. The riser duct is clogged.	Clean or replace the riser duct
Water is coming out from the ventilation opening of the clean water tank.	1. The water outlet hose on the elbow connector is clogged.	Clean or replace the water outlet hose.
	2. The connection to the wastewater system is clogged.	Check and clean the connection the wastewater system.

15. Notes

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