

PRO

Water purifier



Complete User Manual

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Contents

INTRODUCTION.....	03
About this manual	03
Limited warranty	03
Environment information.....	03
Disposal	03
Safety instructions	03
Safety information	04
PRODUCT OVERVIEW.....	05
Models.....	05
Pro outside	05
Pro inside.....	07
Move the water purifier	07
SYSTEM OVERVIEW.....	08
System description	08
Leak protection system.....	10
Low pressure protection.....	10
Water production.....	11
INSTALLATION	12
Before installation.....	12
Position Pro.....	13
Affix information decal.....	13
Install clean water faucet	14
Install feed water connection	14
Install drain water connection.....	15
Connect water purifier.....	16
After installation.....	17
Calibration.....	18
MAINTENANCE.....	19
Each month.....	19
Each 4-6 months.....	20
Each year.....	23
Other.....	23
TECHNICAL INFORMATION.....	28
Technical data	28
Requirements on feed water to water purifier	29
TROUBLESHOOTING.....	30
How to solve simple problems	30

INTRODUCTION

About this manual

This manual contains complete user instructions for the Pro. It gives you the necessary instructions to safely install, operate, do maintenance and do troubleshooting on the device.

Original language

The original language of this instruction is English, all other languages are translations of the original instruction.

Printing options

This manual is made to be printed as a double sided A4 or A5 booklet.

Limited warranty

Refer to www.bluewatergroup.com for more information on Limited warranty.

Environment information



80% of the the water purifier components and its packaging have a label to help you recycle and discard it correctly. The water purifier is more efficient when it cleans water for longer periods. Example: do not fill a glass with water. Fill a jug instead.

Disposal

At the end of the water purifier's life, disconnect the plug from the electrical supply and cut the cable at the point where it enters the appliance. Make sure that children do not play with the left-over cable. Contact your local authority for information about where the water purifier can be left, or contact your dealer.



Appliances bearing this symbol must be deposited at the designated local reception point for the disposal of electrical and electronic equipment. This product may not be disposed of using the normal household refuse collection processes.

Safety instructions

Before you install or operate the device, you must read the safety information. Obey the instructions in this manual to prevent injuries or damage to the equipment. This manual contains CAUTIONS and NOTICES that are applicable for the safe operation of the device.



A CAUTION identifies conditions that can cause injury or, damage to the equipment. Obey the instructions and do not continue until all conditions are accepted and engaged.



A Note identifies important information for a trouble free and optimal use of the water purifier.

Safety information



Install the water purifier in accordance with local regulations. If you are not sure, contact a Bluewater dealer for aid. Bluewater has no responsibility for installation of the water purifier.



Only use the cleaned water when the lights “Purification level II and/or III” on the control panel are on.



This appliance can be used by children who are more than 8 years old. It can also be used by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction about the use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



Do not repair or modify parts of the water purifier. This can make it operate incorrectly, and lead to injury and damage not covered by warranty.



Only approved Bluewater staff can do servicing and repairs on the water purifier. Only use original replacement cartridges and parts from Bluewater.



The water to be cleaned must obey the requirements in “Technical information”. Check the cleaned water when the water purifier is installed if the water does not obey these requirements. Test the water one time every year. If the water is not clean, tastes, or smells bad, do not drink it.



Installation must comply with applicable local plumbing codes and regulations.



Connect the water purifier to an earthed electrical supply. Use a plug that is easy to access after installation. Only an approved electrician must do permanent wiring on the system. A safety switch must be installed on the system. Incorrect installation can lead to damage, or make the water purifier dangerous to use.



Do not use the power cord if there are visible signs of damage on it. If the power cord is damaged, a qualified electrician must replace it in order to prevent danger.



Do not use Pro without a filter. To do so can cause damage. When Pro is cleaned or put in storage, the filter can be removed.



If the water purifier is disconnected from water and electricity for more than a week, store it as described in Complete User manual “Storage”.

PRODUCT OVERVIEW

Models

Model	Capable of handling higher TDS, including brackish inlet water	Suitable for commercial use without an automatic shutoff	Clean water rinse valve suitable for environments where extra high water quality is required
Pro 400B-HR	✓		
Pro 400C-HF		✓	
Pro 400C-HR		✓	
Pro 400BC-HR	✓	✓	
Pro 400CV-HR		✓	✓
Pro 400BCV-HR	✓	✓	✓
Pro 600C-HF		✓	
Pro 600CV-HR		✓	✓

Pro outside

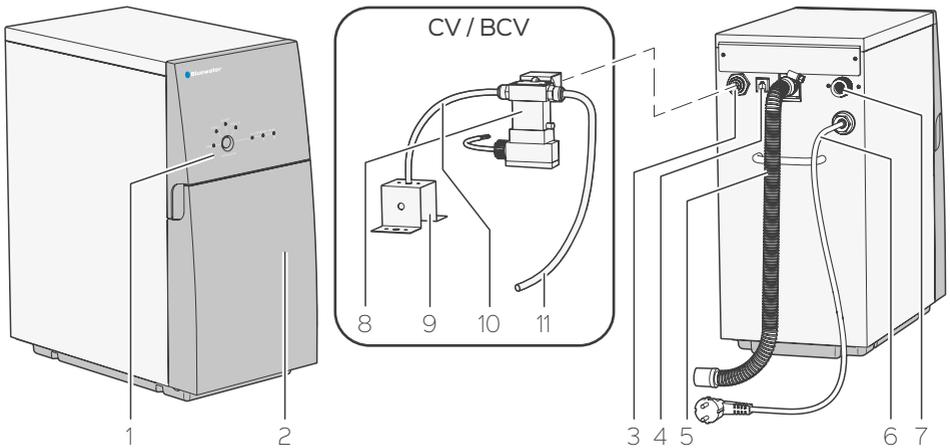


Figure 1. Pro outside

Pos	Description	Pos	Description
1	Control panel	7	Feed water connection with grid filter
2	Front cover	8	Clean water rinse valve (CV-models)
3	Clean water connection	9	Air gap bracket
4	Electrical connection for faucet (optional)	10	Rinse water tube
5	Drain water hose	11	Pure water tube
6	Power cord		

Control panel



For information about combinations of lights that flashes/are on, see “Troubleshooting”.

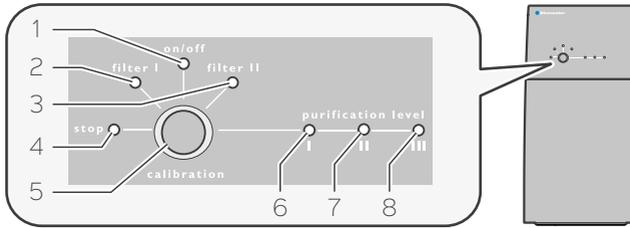


Figure 2. Control panel

Pos	Light/button	Description
1	on/off	On: The water purifier is connected to power Off: The water purifier is not connected to power
2	filter I	On: The filter must be replaced.
3	filter II	On: The filter must be replaced.
4	stop	Flashes/On: Something is wrong, see “Troubleshooting” on page 12.
5	calibration	calibration button, various functions see “Calibration” on page 17..
6	purification level I	On: Purification level I-III indicates clean water purification level. Low level I to high level III
7	purification level II	
8	purification level III	

Data plate

The data plate is located on the rear side of the water purifier.

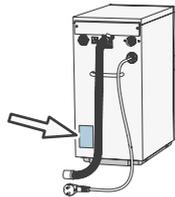


Figure 3. Data plate

Pro inside

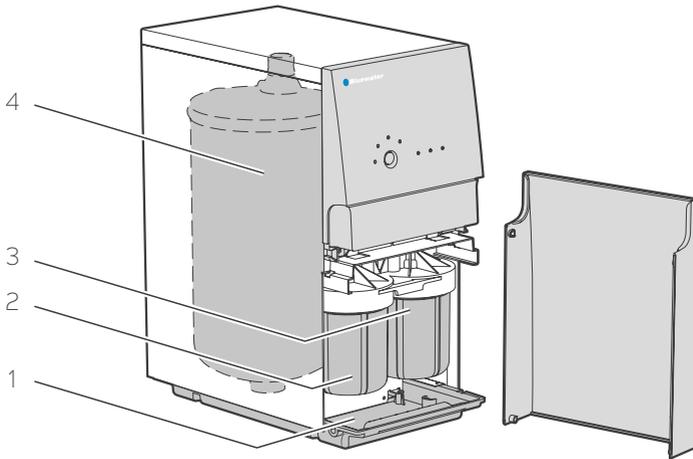


Figure 4. Pro inside

Pos	Description	Pos	Description
1	Base plate	3	Pre-filter II
2	Pre-filter I	4	Reverse osmosis membrane

Move the water purifier



Always transport the water purifier upright. Install according to "Installation" on page 12.



Only calibrate the water purifier if the quality of the feed water has changed, or if the membrane was replaced.



Put the water purifier into storage if it will not be used for four months or more, or if it is to be disconnected from the water and electricity for some days, see "Put into storage" on page 25.

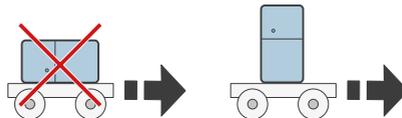


Figure 5. Move the water purifier

SYSTEM OVERVIEW

System description

Without clean water rinse valve

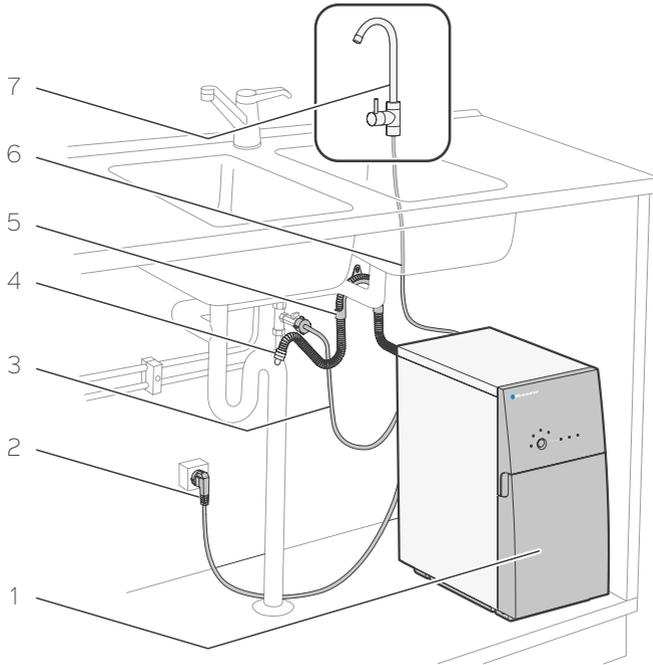


Figure 6. System overview

Pos	Description	Pos	Description
1	Water purifier	5	Bracket for drain water hose
2	Power cord	6	Clean water hose
3	Feed water hose	7	Clean water faucet (optional Pro 400 series)
4	Drain water hose		

Without clean water rinse valve

Figure 7. System overview

Pos	Description	Pos	Description
1		5	
2		6	
3		7	
4			

Leak protection system

A sensor at the bottom of the water purifier senses water leaks. If there is a leak, the feed water supply is stopped. The water purifier cannot be started again until the leak has been repaired.

Low pressure protection



If Pro stops because of low pressure, the cause of the low pressure must be removed. If not, the pump can be permanently damaged.



When Pro has stopped because of a low pressure problem (feed water), water production can be started manually by pushing the calibration button.

Low pressure restart function



Only included in models suitable for commercial use.

The low pressure restart is a function to ensure maximum availability of water.

Pro starts automatically when it has stopped because of low pressure. It tries to start three times: after 3 minutes, after 20 minutes and after 4 hours. If the water pressure is not sufficiently high after three tries, Pro will stop.

Water production



Only use the cleaned water when the lights “Purification level II and III” on the control panel are on. It can take up to 60 seconds before the water purifier indicates good water quality.



For models suitable for commercial use the faucet could be replaced by for example a valve or a tank.

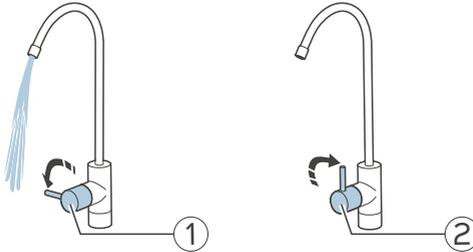


Figure 8. Water production on/off

Automatic flush



The length of the flush process varies between 5-120 seconds, depending on how long the previous drawing of water lasted.

An automatic flush will be performed if one of the conditions below are fulfilled:

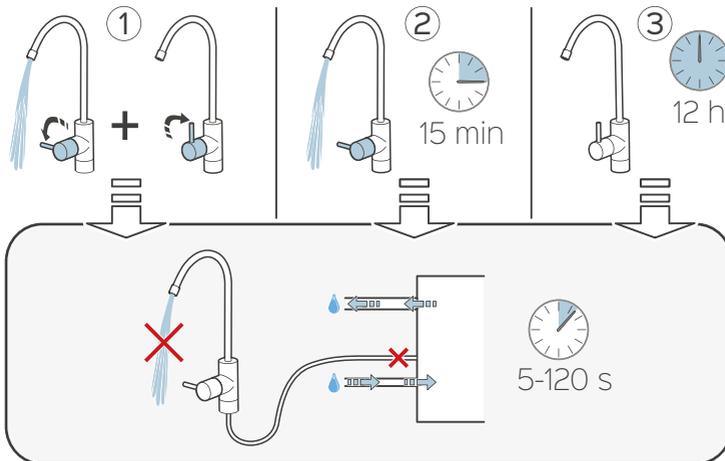


Figure 9. Automatic flush

Pos	Description
1	Flush after drawing water. Every time after drawing water.
2	Flush when drawing water. After maximum operation time 15 minutes. (Pro 400B must be manually restarted)
3	Water purifier in standby mode. Pro is connected to water and power. Flush is performed every 12 hours, regardless of when clean water was last produced.

INSTALLATION



Install the water purifier in accordance with local regulations. If you are not sure, contact a Bluewater dealer for aid. Bluewater has no responsibility for installation of the water purifier.



Install the water purifier in a vertical position on a horizontal surface. Make sure that hoses and cables can move freely when the water purifier is installed.



Plumbing must be done by an approved plumber. Obey local rules for plumbing and sanitation if you do work yourself.



Use the hose set that is supplied with the water purifier. Do not use used hose sets again.

Before installation

Unpack Pro



Hold the rear handgrip and the plastic bag to lift Pro. To hold in other places when Pro is lifted can cause damage to Pro. Warning! Discard the packing material. It can cause injury to children if they play with it.



Make sure that Pro shows no signs of damage, and that no accessories are missing. Tell the Bluewater dealer about missing parts, damage and other problems. Tell the transport company immediately if Pro is damaged during transport.

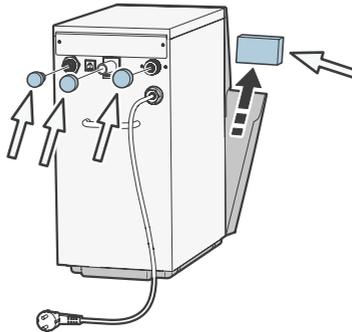


Figure 10. Remove the plugs

Position Pro



Put Pro in a vertical position on a horizontal surface below the kitchen sink. Make sure that the surface can support Pro

Position Pro near the cold water supply, the drain and an earthed electrical supply.

- Make sure that it is easy to see the control panel.
- Make sure that the front cover can be opened to get access to the prefilters.
- Hoses and cables can go in all directions from the connection point. Make sure that nothing can crush them or cause damage to them.

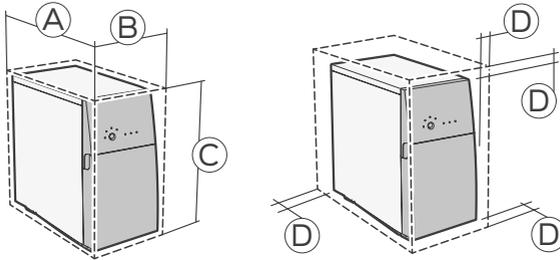


Figure 11. Position Pro

Pos	Description	Pos	Description
A	460 mm	C	482 mm
B	190 mm	D	min. 20 mm

Affix information decal

The accessory box contains an adhesive sheet with information decals in various languages. Select the required language and affix the decal at the indicated place.

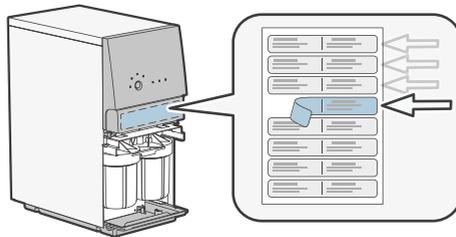


Figure 12. Affix information decal

Install clean water faucet

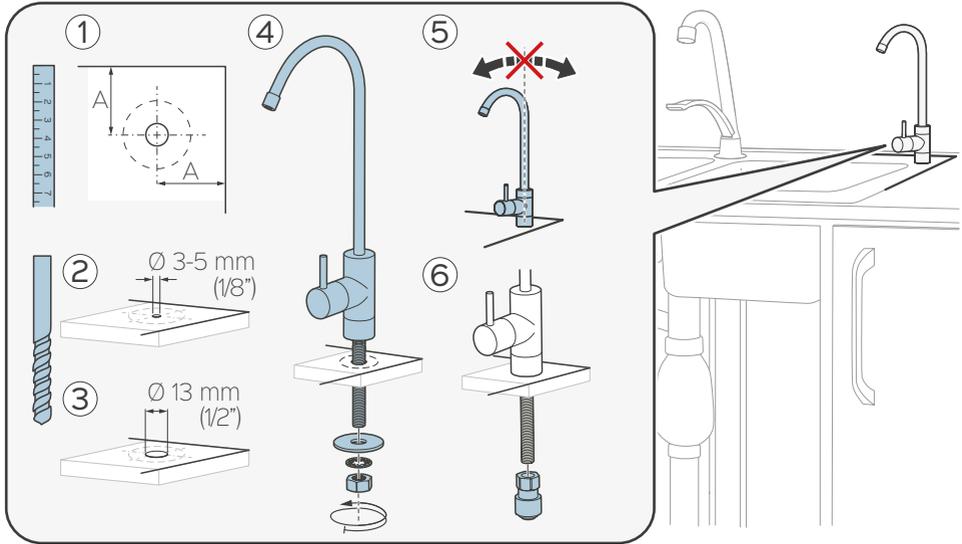


Figure 13. Install clean water faucet

Measurement	Quarterturn
A	The measurement A is found in the specification that comes with the clean water faucet.

Install feed water connection

The water purifier is connected to cold water (2 - 40 °C) via the feed water hose.

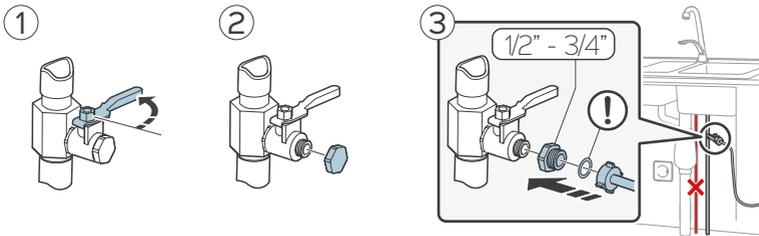


Figure 14. Install feed water connection

Install drain water connection



The flushed water goes through the drain water hose to the drain water outlet. This hose can be a maximum of four meters long. The minimum internal diameter is 13 mm.

Without clean water rinse valve

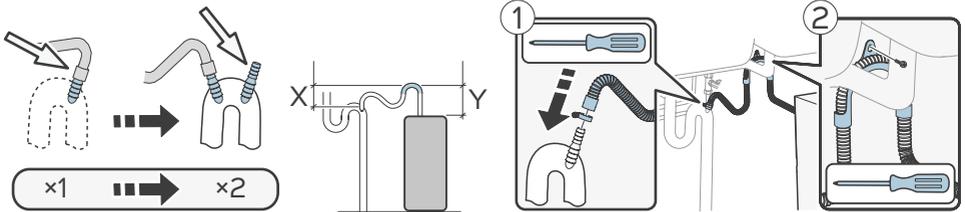


Figure 15. Install drain water connection

	Minimum	Maximum
X	50 mm	500 mm
Y	50 mm	500 mm

With clean water rinse valve

Figure 16. Install drain water connection with air gap

Connect water purifier



Do not connect the clean water hose to equipment before Pro has been flushed.

Without clean water rinse valve

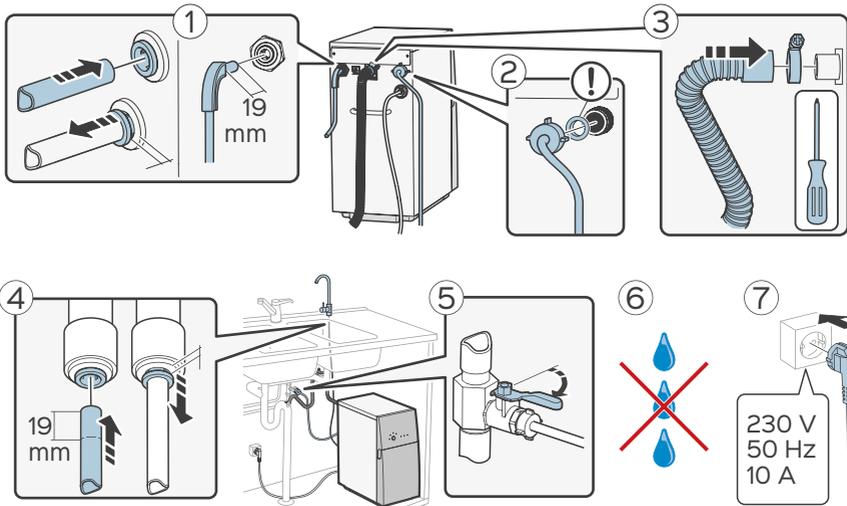


Figure 17. Connect water purifier

With clean water rinse valve

Figure 18. Connect water purifier with clean water rinse valve

After installation



When Pro is installed, and after each maintenance, the following procedures must be performed before operation.

Flush Pro



Do not drink the water when the water purifier flushes. It is not safe to use.

The water purifier should always be flushed:

- when it is new and has not been used,
- when it is installed again after storage/freeze protection
- when it has been cleaned
- when the membrane has been replaced.

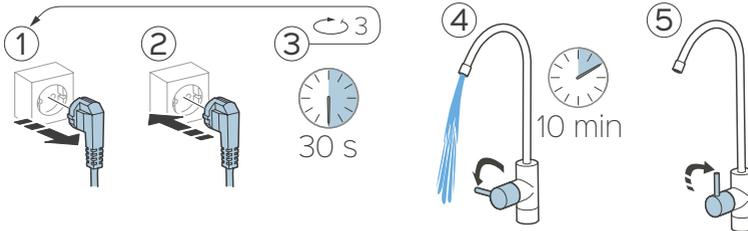


Figure 19. Flush Pro

Do a check for leaks



The tubing connections must be tight!

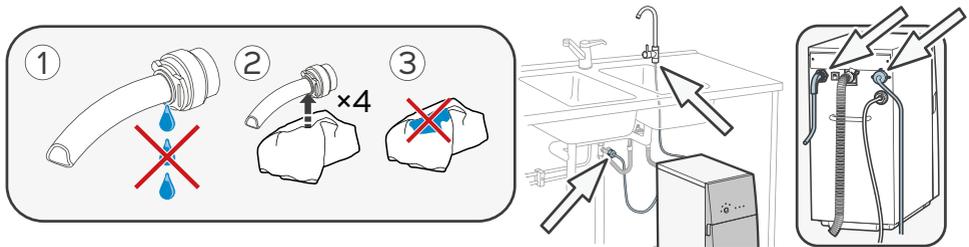


Figure 20. Check for leaks

Calibration



Do not drink the water that is produced when the water purifier is calibrated. It is not safe to use.



If any of the purification level lights I-III does not go out, go through the checkpoints under Flushing and restart the calibration.



If the purification level lights I-III does a wandering flashing light, restart the calibration.

Calibrate (reset) the water purifier, to achieve a starting position for the degree of purification based specifically on your water.

Only calibrate the water purifier if:

- it is new and has not been used before.
- the feed water quality changed (for example when the water purifier has been moved).
- the membranes were replaced.
- the emergency stop must be reset.

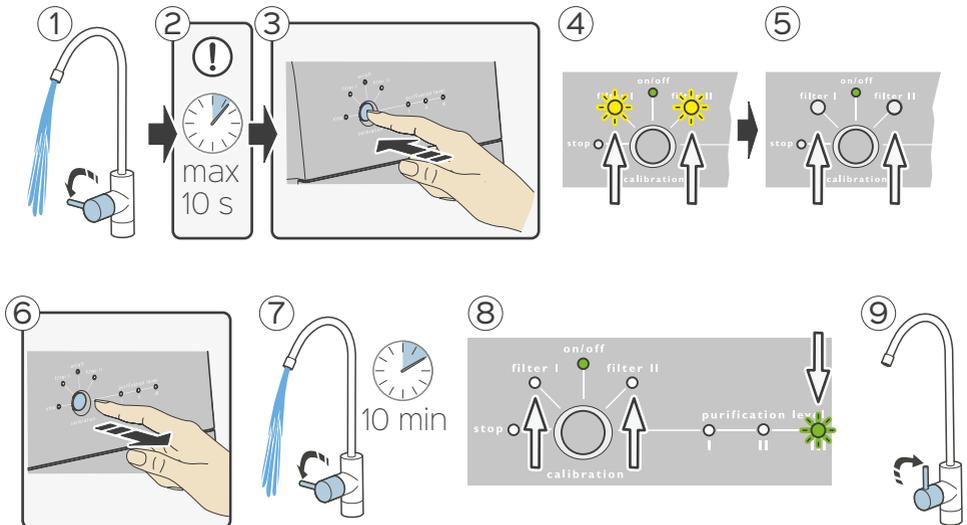


Figure 21. Calibration

MAINTENANCE



After each maintenance, all procedures in chapter “After installation” on page 16, must be performed before operation.



Regular maintenance is important for correct function and long term operation. Only educated and approved personnel can do the maintenance.



The water quality controls the maintenance frequency. If the feed water contains high levels of suspended solids, more frequent maintenance can be necessary.

Each month

Do a check for leaks



The tubing connections must be tight!

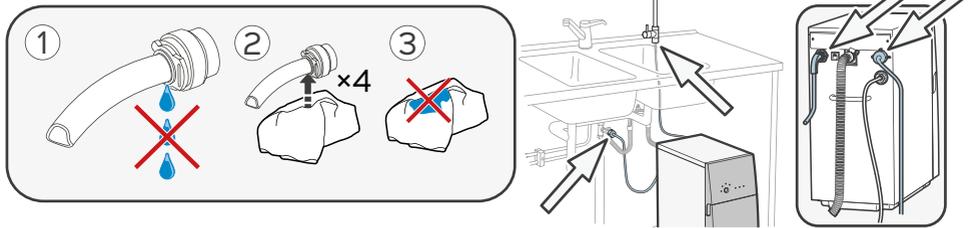


Figure 22. Check for leaks

Repair leaks

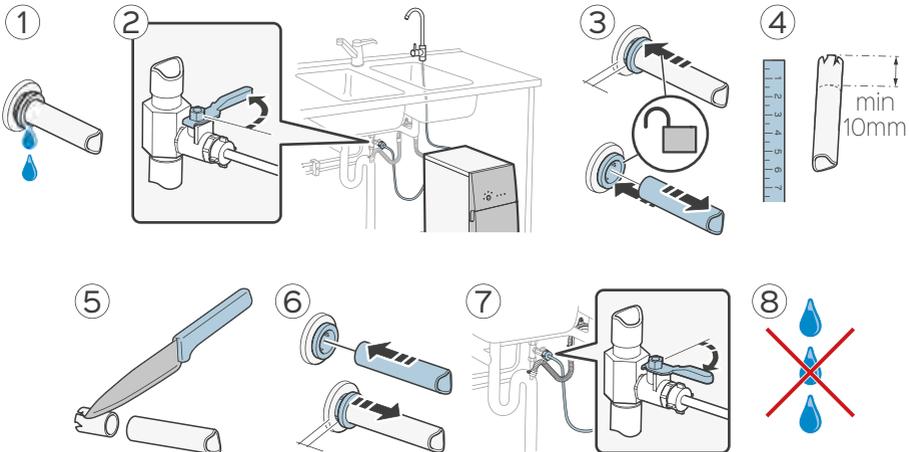


Figure 23. Repair leaks

Wipe off condensation from base plate

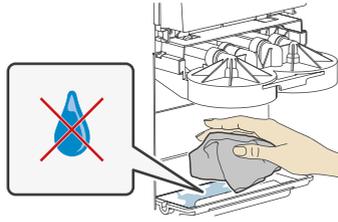


Figure 24. Wipe off condensation from base plate

Each 4-6 months

Descale



The descaling product is harmful. Keep it where children cannot get it. Clean your hands when you have used it.



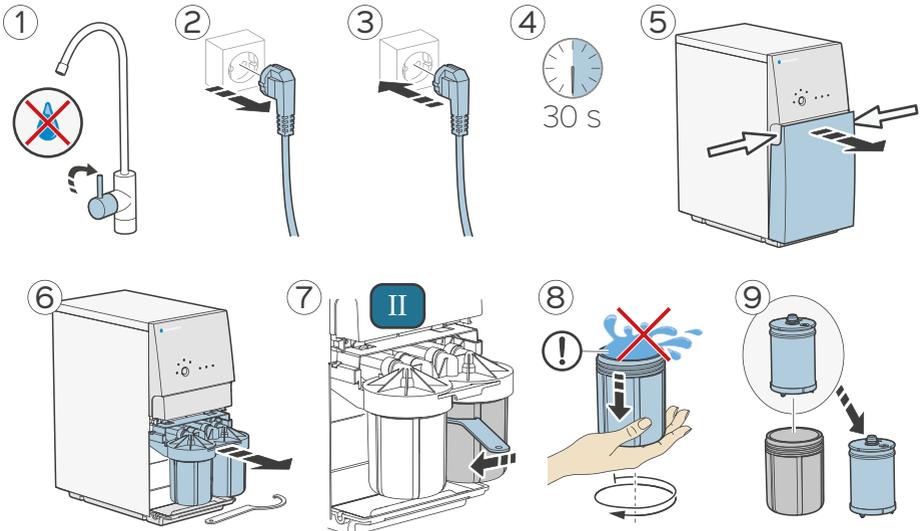
Frequency depending on water quality and usage!
To extend the water purifier lifetime: Descale Pro with 6 month intervals or when the flow is decreased.



If Pro has been descaled and the filters have been replaced, but the water flow cannot be restored, contact your Bluewater dealer.



The descale takes approximately 10 hours. Do not use the water purifier during this time. Order the descaling product from Bluewater



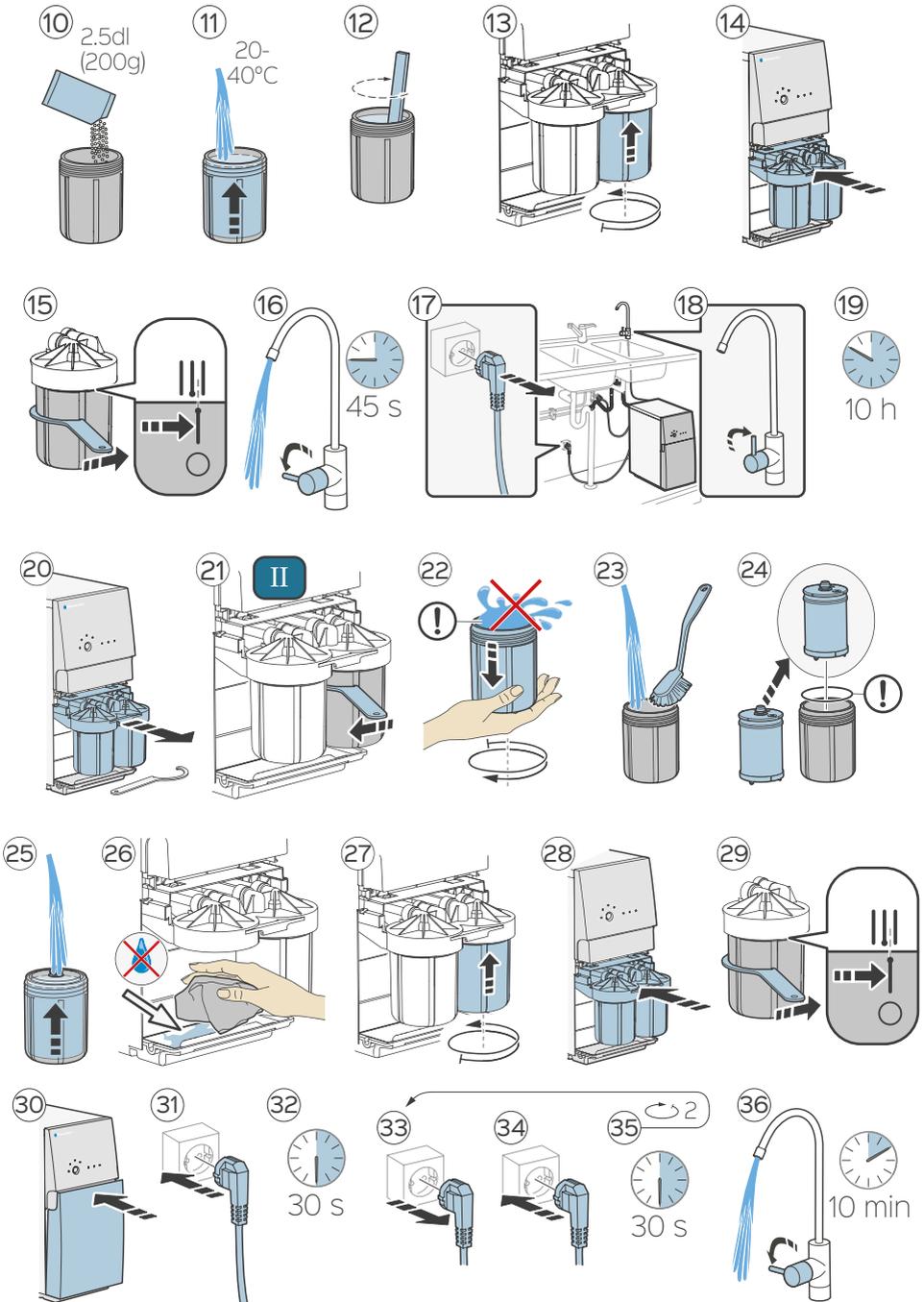


Figure 25. Descal

Replace prefilter



Always flush the water purifier after the prefilter is replaced. See “Flush Pro” on page 17.



If the filter is replaced before the filter light shows that it is necessary, reset/calibrate Pro as given in step 18. The filter light will go on and then go out when Pro is started.

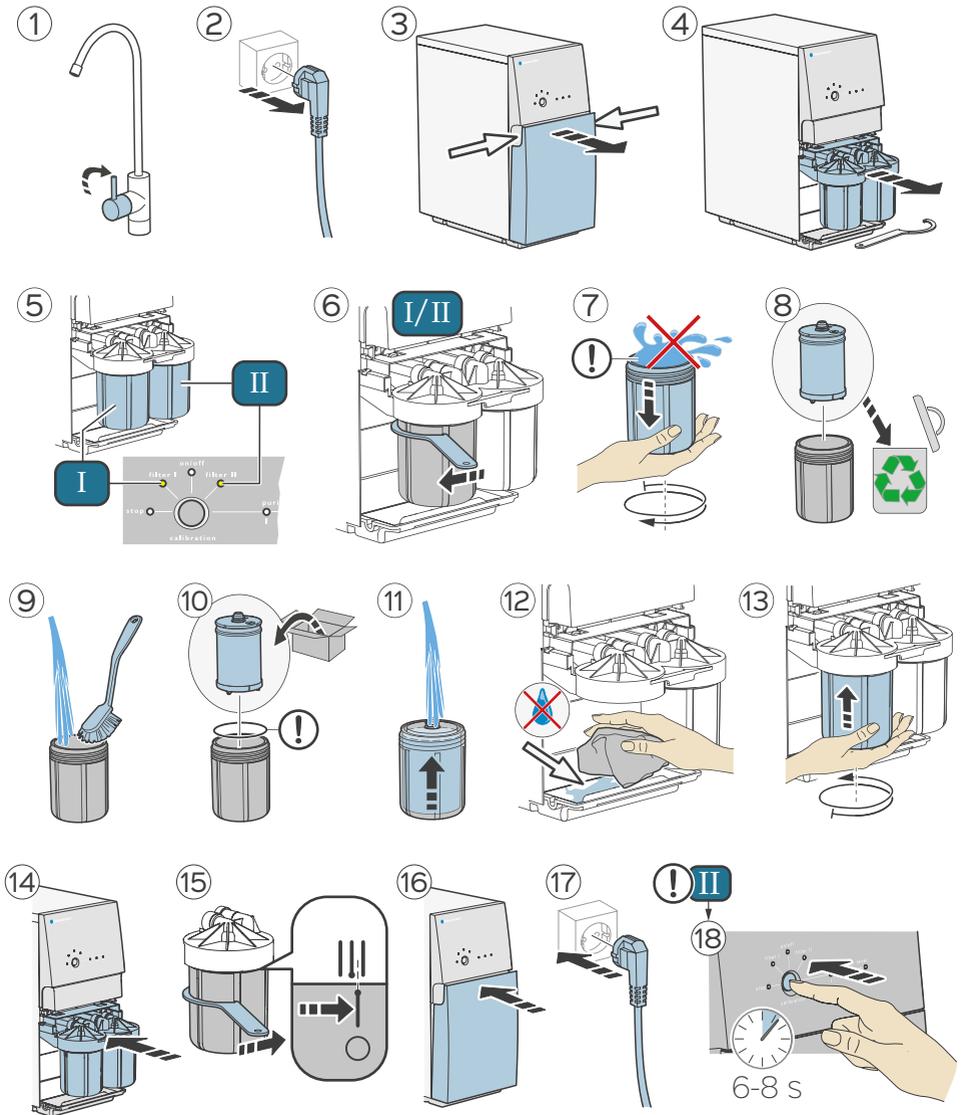


Figure 26. Replace prefilter

Each year

Test the water



An approved lab must do a test of the water that is cleaned by Pro one time each year, if the feed water has been classed as unfit.

Other

Clean the grid filter



The grid filter in the feed water connection catches larger particles. If the flow is decreased or if Pro makes a noise, the grid filter can be blocked.

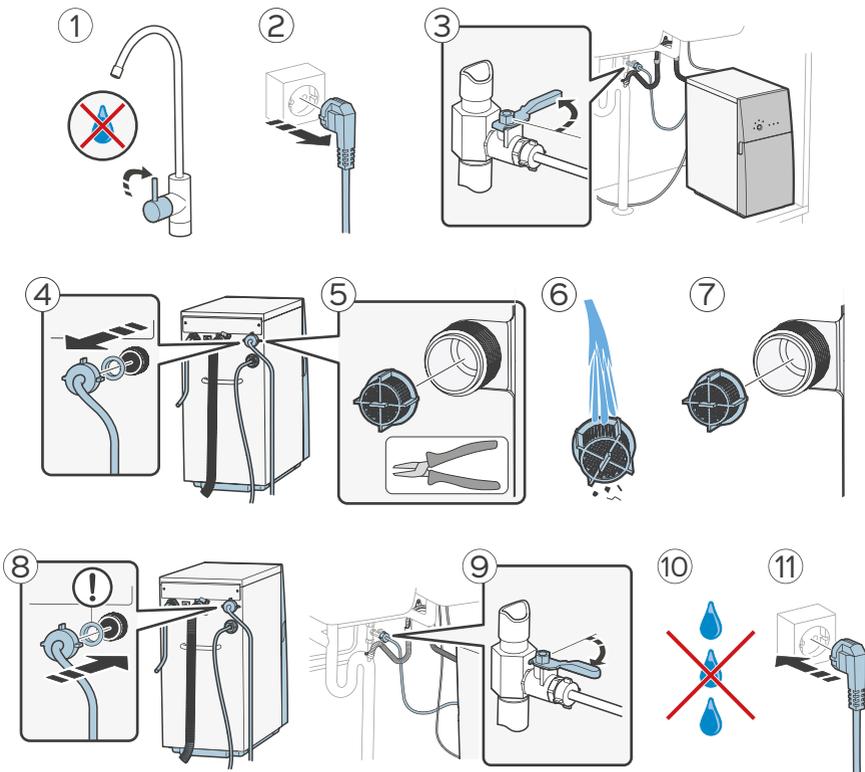


Figure 27. Clean the grid filter

Use disinfectant to clean the system



Disinfectant is harmful! Keep it where children cannot get it. Clean your hands when you have used it.

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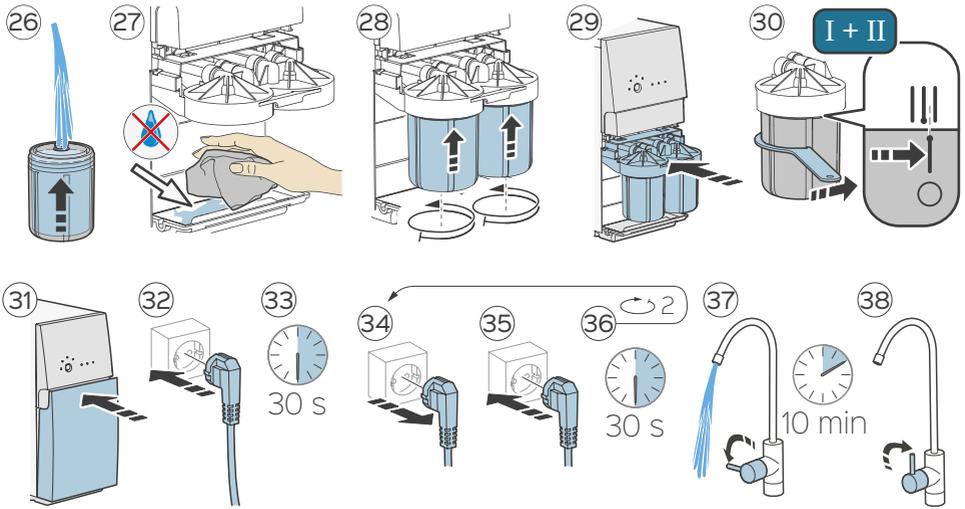


Figure 28. Use disinfectant to clean the system

Put into storage



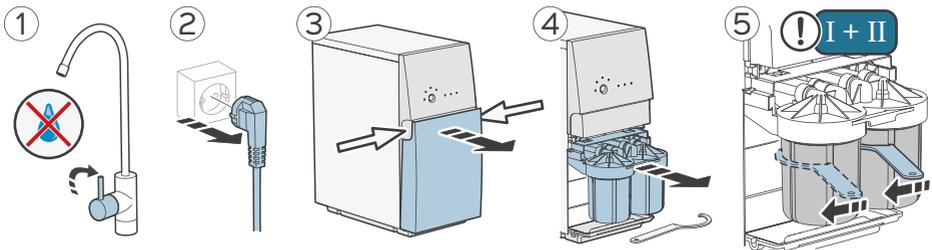
Preserving agent is harmful! Keep it where children cannot get it. Clean your hands when you have used it.



Put the water purifier into storage if it will not be used for four months or more, or if it is to be disconnected from the water and electricity for some days.

Anti-freeze/preserving agent dosage

Preserving agent [L]	Water [L]	Protection against freezing
2	4	down to -15 °C
3	3	down to -30 °C



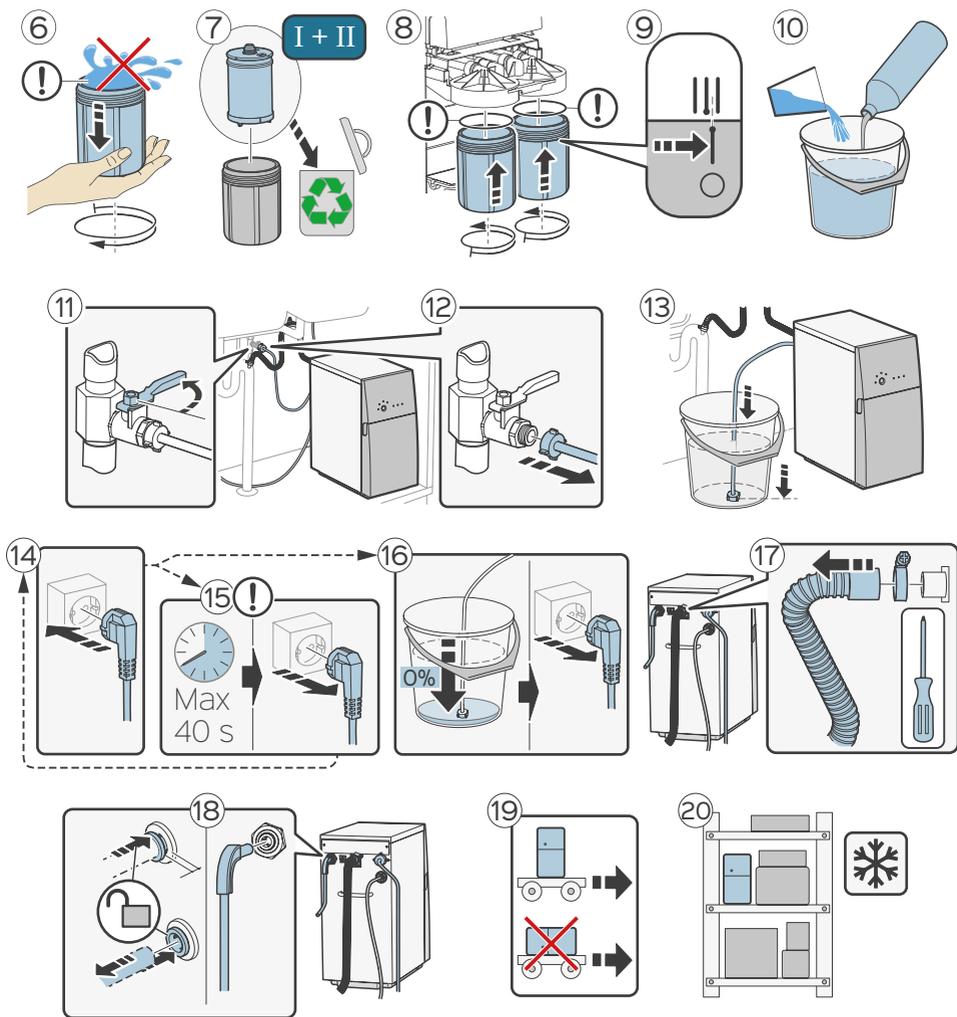


Figure 29. Put into storage

Reinstall after storage



Preserving agent is harmful! Keep it where children cannot get it. Clean your hands when you have used it.

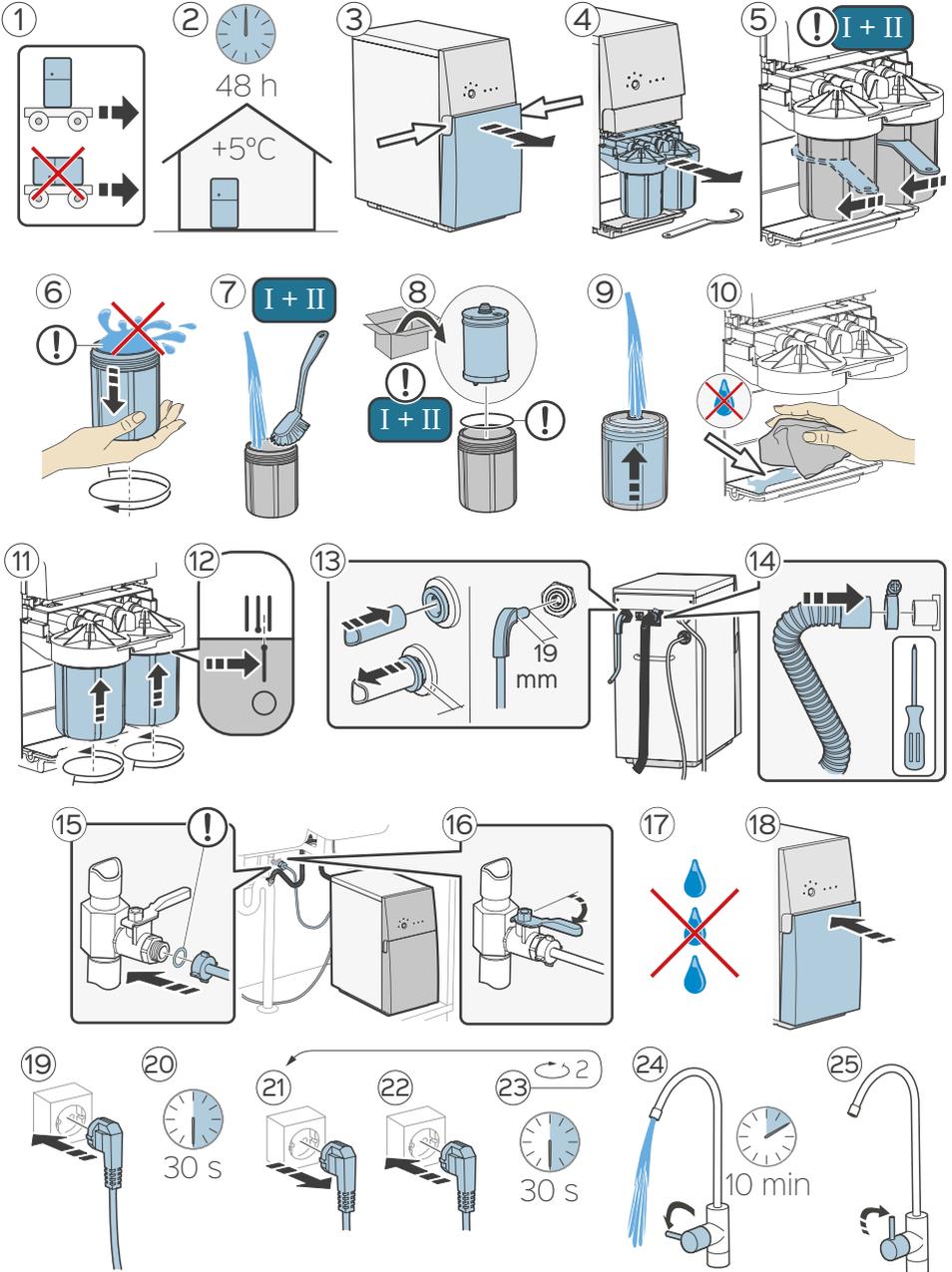


Figure 30. Reinstall after storage

TECHNICAL INFORMATION

Technical data

Model Parameter	Size W×H×D [mm (inch)]	Weight [kg (lbs)]	Power (US) [W (A)]	Power supply earthed (US)	Purified water flow rate [l/min (gal/min)]	Sound level [dB(A)]
Pro 400B-HR	225×466×460 (8.9×18.3×18.1)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.1 ±0.5 (0.8 ± 0.13)	< 60
Pro 400C-HF	225×466×460 (8.9×18.3×18.1)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.5 ±0.5 (0.9 ± 0.13)	< 60
Pro 400C-HR	225×466×460 (8.9×18.3×18.1)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.1 ±0.5 (0.8 ± 0.13)	< 60
Pro 400BC-HR	225×466×460 (8.9×18.3×18.1)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.1 ±0.5 (0.8 ± 0.13)	< 60
Pro 400CV-HR	225×466×470 (8.9×18.3×18.5)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.0 ±0.5 (0.79 ± 0.13)	< 60
Pro 400BCV-HR	225×466×470 (8.9×18.3×18.5)	29 (64)	530 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	3.0 ±0.5 (0.79 ± 0.13)	< 60
Pro 600C-HF	225×466×460 (8.9×18.3×18.1)	29 (64)	720 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	5.2 ±0.5 (1.4 ± 0.13)	< 60
Pro 600CV-HR	225×466×470 (8.9×18.3×18.5)	29 (64)	720 (xx)	230V 50-60 Hz, 10A (120V, 60Hz, ?A)	4.5 ±0.5 (1.2 ± 0.13)	< 60

Model Parameter	Recovery [%]	Rejection [%]	On/Off [bar (psi)]	Membrane 6310C	Prefilter	Operation sequence (production/flush) [minutes]
Pro 400B-HR	50-60	97-99	0.5/2 (7.3/29)	High rejection	Particle Granulated carbon	Max 15
Pro 400C-HF	60-70	95-99	3/4.5 (43.5/65.3)	High flow	Particle Granulated carbon	15/2
Pro 400C-HR	50-60	97-99	3/4.5 (43.5/65.3)	High rejection	Particle Granulated carbon	15/2
Pro 400BC-HR	50-60	97-99	0.5/2 (7.3/29)	High rejection	Particle Granulated carbon	15/2
Pro 400CV-HR	50-60	97-99	3/4.5 (43.5/65.3)	High rejection	Particle Granulated carbon	15/2
Pro 400BCV-HR	50-60	97-99	0.5/2 (7.3/29)	High rejection	Particle Granulated carbon	15/2
Pro 600C-HF	60-70	95-99	3/4.5 (43.5/65.3)	High flow	Carbon block	15/2
Pro 600CV-HR	60-70	97-99	3/4.5 (43.5/65.3)	High rejection	Carbon block	15/2

Requirements on feed water to water purifier



Do not install the water purifier if the water is microbiologically unsafe!

Model	Parameter	Pressure [flowing bar (psil)]	Water flow [l/min (gal/min)]	TDS (Total Dissolved Solids) [mg/l (ppm)]	Conductivity [µS/cm, 25 °C (77 °F)]	Temperature [°C (°F)]	Hardness [°dH (grains/gallon)]	Iron Fe ^{II} /Fe ^{III} [mg/l (ppm)]	Turbidity [FNU]
Pro 400B-HR		1.5-10 (21.7-145)	> 8 (> 2.1)	< 7500	< 13 000	2-30 (36-86)	< 20 (<20.9)	< 1.5/< 0.3	< 0.5
Pro 400C-HF		1.5-10 (21.7-145)	> 8 (> 2.1)	< 1500	< 2000	2-35 (36-95)	< 20 (<20.9)	(< 1.5/< 0.3)	< 0.5
Pro 400C-HR		1.5-10 (21.7-145)	> 8 (> 2.1)	< 1500	< 2000	2-35 (36-95)	< 20 (<20.9)	< 1.5/< 0.3	< 0.5
Pro 400BC-HR		1.5-10 (21.7-145)	> 8 (> 2.1)	< 7500	< 13 000	2-30 (36-86)	< 20 (<20.9)	< 1.5/< 0.3	< 0.5
Pro 400CV-HR		1.5-10 (21.7-145)	> 8 (> 2.1)	< 1500	< 2000	2-35 (36-95)	< 20 (<20.9)	< 1.5/< 0.3	< 0.5
Pro 400BCV-HR		1.5-10 (21.7-145)	> 8 (> 2.1)	< 7500	< 13 000	2-30 (36-86)	< 20 (<20.9)	< 1.5/< 0.3	< 0.5
Pro 600C-HF		2-10 (29-145)	> 10 (> 2.6)	< 1500	< 2000	2-35 (36-95)	< 20 (<20.9)	< 1.0/< 0.3 (< 1.0/< 0.3)	< 0.5
Pro 600CV-HR		2-10 (29-145)	> 10 (> 2.6)	< 1500	< 2000	2-35 (36-95)	< 20 (<20.9)	< 1.0/< 0.3 (< 1.0/< 0.3)	< 0.5

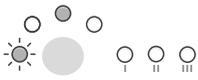
TROUBLESHOOTING

How to solve simple problems



If Pro stops because of an emergency, disconnect it from power and connect it again, or press calibration button to reset the emergency stop.

Symptom	Cause	Solution
	Filter I must be replaced.	See "Replace prefilter" on page 22.
	The grid filter is blocked.	See "Clean the grid filter" on page 23.
	The feed water pressure is too low.	Make sure that the feed water pressure is sufficient. If necessary, increase the pressure.
	Filter II must be replaced.	See "Replace prefilter" on page 22.
	The feed water pressure is too low. The water purifier has stopped. It waits and must be started again.	The water purifier will try to start automatically. Make sure that the feed water pressure is sufficient. If necessary, replace the filters. See "Replace prefilter" on page 22.. Push the calibration button to start the water purifier. Release the button when the filter I light and the stop light go out.
		filter I or filter II are blocked.
The grid filter is blocked.		See "Clean the grid filter" on page 23.
There is a water leakage or condensation on the base plate.		Make sure that all connections are water tight. Tilt the water purifier forward, and dry the base plate with a cloth.
The feed water pressure is too low.		Install a pump with increased pressure for the feed water. Do a check of the parts that have an effect on the feed water pressure (the water line, the coarse filter, the extra pre-filter).
	The water purifier has stopped. The clean water quality has become too low.	New water purifier: calibrate it, see "Calibration" on page 17. Used water purifier: Disconnect it from power. Connect it again to start the automatic flush. Do this 2 or 3 times.
		Calibration not carried out correctly
	Water quality meter does not work correctly.	Disconnect the water purifier from power. Connect it again to start the automatic flush. Do not use the water purifier for 2 hours.

Symptom	Cause	Solution
	<p>The tap has been on for more than 15 minutes. The water purifier has stopped. (Pro 400B)</p>	<p>Turn off the tap and wait at least 30 minutes.</p>
		<p>Disconnect the water purifier from power. Connect it again to start the automatic flush.</p>
<p>The flow rate from the clean water faucet is low.</p>	<p>The clean water hose is tensioned or jammed.</p>	<p>Make sure that the clean water hose can move freely.</p>
	<p>The water purifier needs to be descaled.</p>	<p>See "Descale" on page 20.</p>
<p>The water purifier starts and stops again (short starts).</p>	<p>The water pressure between the water purifier and the faucet/valve/tank is below the starting pressure level.</p>	<p>Examine the connections.</p>
		<p>Make sure that the ends of the water hose are circular and have no burrs.</p>
		<p>Make sure that the faucets and the valves are water tight when they are closed.</p>
<p>There is a bad smell from the water purifier.</p>	<p>Microbial growth in the water because the water purifier has not been used for a week or longer.</p>	<p>Flush the water purifier, see "Flush Pro" on page 17.</p>
		<p>Clean the water purifier, see "Use disinfectant to clean the system" on page 24.</p>



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