

### **PROGUARD Coffee**

Reverse Osmosis (RO) and Mineralisation System



Handbuch	deutsch
Manual	english
Mode d'emploi	français
Handboek	nederlands
Manuale	italiano
Manual	español
Podręcznik	polski
Manual	dansk
Руководство по эксплуатации	русский язык

### English

### Page 45-84

- 1 Introduction
- 2 Operating and Safety Instructions 3 General Product Information 4 Installation Requirements

- 5 Installation
- 6 Maintenance
- 7 Long Term System Shutdowns
- 8 Disassembly 9 Troubleshooting
- 10 Technical Data
- 11 Information For The End-user

### 1 Introduction

### 1.1 Function and Application Area

PROGUARD Coffee is a non-electric system that combines several water treatment technologies. It is designed for the desalination of potable water and its subsequent mineralisation for the production of water of high sensory quality. The water thus produced is intended to be used as feed water for coffee, espresso and hot drinks machines only. The targeted mineralisation allows the aroma of hot drinks to fully develop. The previously performed desalination protects the hot drinks machine from particles, limescale, gypsum and corrosion.

### 1.2 List of Abbreviations

RO	Reverse Osmosis
°dH	Degree of German hardness
TDS	Total dissolved solids
μs/cm	Microsiemens/cm
	Application for computing devices such as notebooks, tablets or smartphones, hereinafter referred to as "App".

### 1.3 Definition of Terms

Reverse Osmosis (RO)	A water filtration method that separates the incoming raw water into so-called permeate and concentrate. Within the scope of PROGUARD Coffee, a semi-permeable membrane is used that acts as a separator by allowing only water molecules and gases like carbon dioxide to pass while retaining larger molecules and ions. The RO-process is described in more detail in chapter 3.1: How Reverse Osmosis Works in PROGUARD Coffee.		
Raw water	Water that is prowater).	vided by the municipal water main (usually untreated drinking	
Permeate	The share of RO-treated water that passed through a semi-permeable membrane is called permeate. The membrane of PROGUARD Coffee retains 97% of all salts in the water. Thus, permeate is very pure water that consists almost exclusively of water molecules.		
Concentrate	The share of RO-treated water that did not pass through a semi-permeable membrane is called concentrate. In addition to the original salinity of the raw water, concentrate also contains all those salts that have been retained by the semi-permeable membrane.		
Filtrate	Permeate that has been post-filtered by a mineralisation cartridge in order to add the desired type of minerals in the desired degree.		
Water hardness	The sum of calcium and magnesium ions in the water. These ions can cause deposits like scale or gypsum.		
	One can differentiate between two different types of water hardness: Carbonate hardness and permanent hardness.		
Water hardness	Carbonate hardness	Depending on the amount, carbonate hardness, also known as temporary hardness, can cause limescale deposits (kettle rock)	
types and other salts	Permanent hardness	Depending on the amount, permanent hardness can cause gypsum deposits	
	Total hardness	Sum of carbonate hardness and permanent hardness	
		Apart from the total hardness, water also contains non- hardness, mainly sodium chloride and sodium sulphate	
Salt water	Salt water contains a high share of non-hardness. It bears a much heightened risk of corrosion and has an adverse impact on the taste of coffee products.		

Conductivity	The conductivity level is determined by the amount of all salts present in the water. Together with the measured degree of carbonate hardness, it serves as a relatively good indicator to determine whether the local raw water causes, if untreated, an increased chance of corrosion in a downstream installed coffee machine.	
Indicates the sum of the dissolved solids (salts) in the water. The TDS value derived from the measured conductivity.		
Mineralisation	Within the scope of the PROGUARD Coffee product concept, mineralisation means the addition of the desired type of minerals (calcium hydrogen carbonate) to the previously desalinated water. Depending on the local raw water conditions, the mineralisation level can be customised to various degrees, resulting in low, medium or highly mineralised water, each degree with a different effect on the coffee taste.	
Арр	The App makes a recommendation as to whether PROGUARD Coffee or any other solution of the BRITA Professional Filter portfolio is the appropriate product for the intended use. With regard to the installation of PROGUARD Coffee, the App is essential for determining various configuration criteria. For more information, refer to chapter 5.1: App (BRITA Professional Filter Service).	

### 1.4 Disposal and Recycling

Make sure the disposal of PROGUARD Coffee, its refill components (e.g., cartridges) and its spare parts (e.g., non-electric pump) is in accordance with the local regulations. PURITY C filter cartridges can be returned to BRITA free of charge for recycling.

### 1.5 Warranty Provisions

PROGUARD Coffee is subject to the statutory warranty to the original end user. The warranty period commences on the date of purchase and is administered as follows:

- For a period of TWO YEARS the entire system and replaceable components (excluding all PURITY C filter cartridges)
- For a period of ONE YEAR all PURITY C filter cartridges

With the exception of the PURITY C filter cartridges, the non-electric pump and the tank, the PROGUARD Coffee system has a limited life-time of FIVE years and must be replaced after this period.

- PURITY C filter cartridges have a limited life-time of ONE year maximum and must be replaced after this period at the latest.
- The tank has a limited life-time of TWO years maximum and must be replaced after this
  period at the latest.
- The non-electric pump has a limited life-time of THREE years maximum and must be replaced after this period at the latest.

Certain elements of PROGUARD Coffee must be checked regularly by a service technician and/or the end user (see chapter 6: *Maintenance*). Failure to follow the recommended measures of the service technician will void warranty.

A warranty claim may only be asserted if all instructions in this manual are followed and observed.

### 1.6 Liability Exclusion

The installation of PROGUARD Coffee and the replacement of filter cartridges and spare parts must be performed precisely in accordance with the descriptions in this Installation and Operating Manual. BRITA shall not be held liable for any damage, including subsequent damage, arising from the incorrect installation or use of the product.

BRITA reserves the right to alter its non-legally prescribed commitments or any other information provided in this manual without informing any of its customers.

### 2 Operating and Safety Instructions

Read, understand, and follow all safety information contained in these instructions prior to installation and use of any PROGUARD Coffee component.

### General

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- To reduce the risk associated with the ingestion of contaminants:
- · Water used as intake water for PROGUARD Coffee must be of drinking water quality
- In the case of an official order, for instance from local authorities, to boil tap water, BRITA-filtered water must be boiled as well. When the requirement to boil water comes to an end, all filter cartridges must be replaced and the PROGUARD Coffee system including all connections and hoses be cleaned thoroughly.
- It is generally recommended to boil tap water for certain groups of people (e.g. people with weakened immune systems, babies). This also applies to filtered water.
- Installation and maintenance of PROGUARD Coffee, its refill components and its spare part MUST be carried out by specialist staff with an understanding of local and regional regulations/ codes that may affect the installation requirements.
- To reduce the risk of physical injury: Depressurise PROGUARD Coffee as well as the PURITY C filter cartridges when maintaining or disassembling the unit as described in chapter 5: Installation and chapter 8: Disassembly.

### **∧** Caution

To reduce the risk associated with property damage including but not limited to water leakage:

- Read and follow this Installation and Operating Manual before installation and use of this system.
- Installation and use MUST comply with all state and local laws and regulations including plumbing regulations/codes.
- All parts must be installed in accordance with the country-specific guidelines on the installation of drinking water facilities. A backflow must be prevented according to EN 1717 at least by backflow preventer Type EA.
- The appliance is intended to be **permanently connected** to the **mains water supply.**
- Take care when using pliers or pipe wrenches to tighten plastic fittings, as damage may occur if
  overtightening occurs.
- · Ensure all tubing and fittings are secure and free of leaks.
- The disposable PURITY C filter cartridges MUST be replaced every 12 months or at the rated capacity, whatever comes first, see chapter 5.1: App (BRITA Professional Filter Service). The filtrate should be tested periodically to verify that the system is working properly (see chapter 6: Maintenance).
- PROGUARD Coffee contains replaceable components that are critical to the efficiency of the system.
   Replacement of the reverse osmosis components MUST be done with the original BRITA refill components or spare parts defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.
- The flawless function of the non-electric pump (built-in) is critical for the desired water quality.
   Unless the water tank is already fully filled with filtrate (no more required), a regular and audible click sound indicates its proper functioning.
- Regularly clean the outside of the RO system with a soft, damp cloth. Caution: Do not use any abrasive chemicals, cleaning solutions or astringent cleaning agents.

### (i) Information

The **food grade quality** provided by PROGUARD Coffee has been **tested and confirmed** by independent institutes. Product-specific certifications are located on the respective cartridge label.

### **PURITY C filter cartridges**

### **∧** Caution

- Note for people with kidney disease or dialysis patients: During the filter process the potassium levels may increase slightly. If you suffer from kidney disease and/or have to stick to a special potassium diet, we recommend you to consult your doctor beforehand.
- The filter system (filter cartridge and filter head) must not be opened or dismantled during operation. The filter cartridge must not be opened.

### **PURITY C500 MinUp**

**Avoid strong impact once installed.** In the event of strong impacts, **brownish residues** in the filtrate may appear. In this case, **flush** the PURITY C500 MinUp cartridge in the PURITY C pre-filter head **until the water gets cleared** (see chapter 9: *Troubleshooting*).

### Storage tank

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- The tank pressure should be checked at least (!) yearly (see chapter 6: Maintenance).
- Details concerning manufacturer, year of manufacture, serial number and the technical data are
  provided on the name plate which is located at the top of the tank.
- An inert gas, for instance nitrogen, MUST be used for the gas recharge.

### 3 General Product Information

### 3.1 How Reverse Osmosis Works in PROGUARD Coffee

PROGUARD Coffee uses the mains water pressure to force water molecules through a semi-permeable membrane. The concentrate of PROGUARD Coffee with its concentrated amount of scale, gypsum, sodium chloride and sodium sulphate will be released to the drain. The permeate however is nearly free of ions and molecules other than water and carbon dioxide.

After being produced, the permeate gets mineralised afterwards to allow the coffee aroma to fully develop. The mineralised water is called filtrate. Depending on the local water conditions, the level of mineralisation can be customised to various degrees, resulting in rather low, medium or highly mineralised water. All mineralisation degrees have a different effect on the taste of coffee.

Level of mineralisation	Carbonate hardness (°dH) of the filtrate
Low	approximately 2-3
Medium	approximately 3-5
High	approximately 5-6

### 3.2 Role and Functionality of The Main Components of PROGUARD COFFEE

### Pre-filter cartridge: PURITY C Quell ST (option 1 of 2)

Uses ion exchange technology to reduce the carbonate hardness of the raw water, thus preventing scale deposits in the downstream equipment. During the ion exchange process, carbon dioxide is formed in the water, resulting into the formation of carbonic acid. The properties of this carbonic acid are later used to increase the amount of minerals that can be released from the mineralisation cartridge PURITY C500 MinUp. The level of carbon dioxide can be varied by adjusting the bypass setting on the filter head of the PURITY C Quell ST cartridge. This results in up to three possible mineralisation levels that can be selected.

Besides the use of ion exchange resin, activated carbon is used in the PURITY C Quell ST pre-filter as filter medium to protect the membrane in the PURITY C150 PROGUARD cartridge.

### Pre-filter cartridge: PURITY C50 Fresh (option 2 of 2)

Activated carbon is used in the PURITY C50 Fresh pre-filter as a filter medium to protect the membrane in the PURITY C150 PROGUARD cartridge. With PURITY C50 Fresh as pre-filter, only one mineralisation level can be achieved.

The type of pre-filter (PURITY C Quell ST or PURITY C50 Fresh) and the choice of possible mineralisation level(s) is calculated by the App and determined by the local water quality.

### Membrane cartridge: PURITY C150 PROGUARD

Removes 97% of all salts in the water, e.g., sodium chloride and sodium sulphate. The resulting water is called permeate.

### Mineralisation cartridge: PURITY C500 MinUp

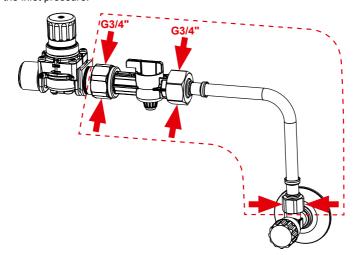
Increases the carbonate hardness in the water by releasing calcium hydrogen carbonate into the permeate. The resulting water is called filtrate. Depending on the local raw water quality, up to three carbonate hardness levels can be selected: low, medium or high. From the choices available, the coffee machine operator can select the degree of mineralisation that he likes to taste.

### Post-filter cartridge: PURITY C50 Fresh

Uses activated carbon to avoid the risk of any potential taste and smell impairment.

### Pump (non-electric)

A built-in non-electric pump is powered by the mains water pressure to pump the filtrate into the downstream storage tank and releases the concentrate-effluent to the drain. A minimum mains water pressure of 3 bar (dynamic) is required. In case of insufficient pressure, an electric booster pump must be installed at any position between the mains water supply and the pressure reducer that controls the inlet pressure.



Regardless of the mains pressure level, an electric booster pump can be installed to increase the filtrate output of PROGUARD Coffee. The maximum inlet pressure must not exceed 8.6 bar. The maximum pressure the RO can be operated with is 6 bar. A pre-installed pressure reducer reduces the inlet pressure to the maximum permissible operating pressure of 6 bar. Pay attention to chapter 4.1: *Operating Specifications*.

Operating pressure	3 bar	4 bar	5 bar	6 bar
Filtrate output	~10 l/h	~13 l/h	~16 l/h	~20 l/h

### Storage tank

Acts as a filtrate reservoir to provide sufficient filtrate when the coffee machine's water demand exceeds the regular filtrate output of PROGUARD Coffee.

### Manometer

Measures the pressure of the storage tank bladder. The pressure needle must lie within the specified parameter of 1.7–2.8 bar to ensure the flawless supply of filtrate. Explanations and measures for deviations from the normal range are given in chapter 9.1: *Errors, Root Causes and Measures For The Service Technician*.



### Valve for the automatic bypass

Ensures sufficient feed water to run the coffee machine at any time. The valve for the automatic bypass is installed after the pre-filter and opens automatically if the tank has run empty and the coffee machine's current water (filtrate) demand exceeds the filtrate production rate of PROGUARD Coffee. The valve must never be turned off during operation of PROGUARD Coffee.

### 4 Installation Requirements

### 4.1 Operating Specifications

The operating operations				
Inlet Pressure				
Minimum	The minimum required inlet pressure is 3 bar. If 3 bar cannot be met by the local mains water supply, an electric booster pump must be installed in front of PROGUARD Coffee. For more information see chapter 5.3: Specification and Installation of an Electric Booster Pump.			
Willimituiti	Regardless of the level of the mains water supply pressure, an electric booster pump can be installed to increase the filtrate production rate of PROGUARD Coffee (litres/hour; see chapter 3.2 Role and Functionality of The Main Components of PROGUARD Coffee, Pump [non-electric])			
Maximum (dynamic and/or static)	The maximum inlet pressure must not exceed 8.6 bar. The maximum pressure the RO can be operated with is 6 bar. A pre-installed pressure reducer reduces the inlet pressure to the maximum permissible operating pressure of 6 bar.			
Outlet Pressure				
Minimum	The minimum filtrate outlet pressure provided by PROGUARD Coffee is 1.3 bar. Make sure that the spatial distance (distance, height difference) between PROGUARD Coffee and the coffee machine is not too large in order to keep the resulting pressure loss as low as possible.			
Maximum The maximum filtrate outlet pressure provided by PROGUARD is 2.7 bar.				

Filtrate With	drawal		
Minimum The minimum required filtrate withdrawal amounts to 10 litres/day (preferably continuous rather than sporadic withdrawal).		,	
Nominal The nominal filtrate output is specified with 10 litres/hour at 3 bar operating pressure.		· · ·	
(at 6 bar operating pressure).  Maximum  The maximum permissible filtrate withdrawal amounts to 80 litres day or 30,000 litres/year (preferably continuous rather than spor		The maximum possible filtrate withdrawal amounts to 20 litres/hour (at 6 bar operating pressure).  The maximum permissible filtrate withdrawal amounts to 80 litres/day or 30,000 litres/year (preferably continuous rather than sporadic withdrawal).	
Feed Water	Specification	n	
Water intake temperature		4 – 30°C	
Ambient	Operation	4 – 40°C	
temperature during	Storage/ transport	7 – 32°C	

### **4.2 Required Tools and Accessories**

The tools and accessories listed below are required for the successful installation of PROGUARD Coffee and are not included in the scope of delivery.

	· · · · · · · · · · · · · · · · · · ·	
Hose	To link the mains water supply (the thread size depends on the local conditions) to the shutoff valve G 3/4" male thread	
Hose	To connect the FlowMeter G 3/8" male thread with the coffee machine's water connection (the thread size depends on the coffee machine)	
Backflow	At least backflow preventer type EA. For more information, refer to chapter 2:	
preventer	Operating and Safety Instructions	
Allen key	To set the bypass on the pre-filter head (PURITY C Quell ST, PURITY C50	
(size 4mm)	Fresh)	
Bucket (~10 litres)	To catch the water when flushing the filter cartridges	
Drinking glass	To catch ≥200 ml of water from the sampling valve	
Carbonate	To measure the carbonate hardness of the raw water and the filtrate	
hardness test kit	To measure the carbonate naturiess of the raw water and the intrate	
Conductivity meter	To measure the conductivity of the filtrate	
2 water pump plier	To tighten fittings or the like to threads	
Collet locking tool,	Aid to push-back the fitting's collet in order to release hoses or blind plugs from	
DMfit	the fitting. Alternatively, a collet locking tool from John Guest can be used	
Tube cutter	To shorten tubes. Don't use scissors!	
Towel	To soak up spilled water	

### 5. Installation

### 5.1 App (BRITA Professional Filter Service)

The App is a tool that can be downloaded free of charge from App stores (Android, iOS) and from https://www.brita.net. The App is required for the installation and maintenance process. It is the only option to determine the following configuration criteria:

Configuration criteria	Output values
Type of PROGUARD Coffee	PROGUARD Coffee 300 PROGUARD Coffee 500 PROGUARD Coffee 1100 PROGUARD Coffee 50
Bypass setting of the pre-filter head	0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%
Replacement date of the filter cartridges	Replacement date (always within the next 12 months)

### The App requires the following input values:

Input value	Unit		
Mains water supply pressure	bar		
Carbonate hardness	°dH (alternatively °fH, °e)		
Total hardness	°dH (alternatively °fH, °e)		
Water consumption*	water in litre	coffee powder in kg (conversion in litres)	size and amount of cups (conversion in litres)
Preferred mineralisation level	low, medium, high		

<sup>\*</sup> Note this figure as you are required to enter it later into the FlowMeter during the installation process.

### 5.2 Installation and Putting The System Into Operation

### Step Preparation and positioning #1 • Make sure all installation requirements are met (see chapter 4: Installation Requirements) • Use the App to determine the suitable type and size of the pre-filter • Use the App to **determine** the recommended **bypass setting** of the pre-filter head • In case the App indicates the need of an electric booster pump, further information about it can be found in chapter 5.3: Specification and Installation of an Electric Booster Pump. 1.1 Make sure to have sufficient space available for PROGUARD Coffee and its pre- and post-filter at the intended place of operation 370 mm 320 mm 1.2

### Step Preparation and positioning #1 • Unpack PROGUARD Coffee and all supplied components · Double check the parts and quantities provided # Name 1 Housing 1x PURITY C150 PROGUARD 1x 3 PURITY C500 MinUp 1x C300/C500/C1100 Quell ST 4 1x or C50 Fresh PURITY C50 Fresh 5 1x PURITY C pre-filter head 0-70 % G3/8" (with wall 1x mounting bracket) Manual 1x Flushing head 8 1x PROGUARD Coffee Shutoff valve G3/4" - G3/4" 1x 1.3 Pressure reducer 10 1x G3/4" - G3/4" Waste water tube, LLDPE, 11 1x 9 10 John Guest. 2 m. 5/16" Hose DN8 1.5 m 12 1x G3/8" - G3/8" Hose DN8 1.5 m 13 1x G3/4" - G3/8" Hose DN8 1.5 m 14 1x G3/8" - G3/8" with bend Tube, LLDPE, John Guest, 15 1x 25 cm, 5/16" 12 11 13 14 15 16 16 Cable tie 1x 17 FlowMeter G3/8" - G3/8" 1x PURITY C 90° angle bend 18 1x G3/8" - G3/8" 90° angle DMT fitting with 17 18 19 20 19 1x security clip 20 Threaded insert 2x

### Step Preparation and positioning #1 · Remove the metal cover at the front Place PROGUARD Coffee in front of its intended place of operation 1.4 Required accessories that are not included in the scope of delivery: Hose (2x): • To link the mains water supply (the thread size depends on the local conditions) to the shutoff valve G 3/4" male thread • To connect the PURITY C50 Fresh filter head's G 3/8" male thread with the coffee 1.5 machine's water inlet connection (the thread size depends on the coffee machine) Backflow preventer (1x): • Make sure to install a backflow preventer that matches the local regulations. For more information refer to chapter 2: Operating and Safety Instructions • Install the backflow preventer at any position between the mains water supply and the pre-filter head's male thread (inlet) Checking the local waste water connection: • Make sure in advance that you can later hang the waste water tube deeply into the water drain (syphon) • Make sure you can later fix the waste water tube with the cable tie OK? 16 OK?

### Step Connection of PROGUARD Coffee #2 Removal of blind plugs How to remove the blind plugs at the indicated spots: Remove the John Guest locking clip · Use DMfit's collet locking tool to push-back the collet and remove the blind plug · Keep the locking clips and the blind plugs well for later use 2.1 · Plug the two threaded inserts into the water inlet connection and the filtrate outlet connection • Plug the 90° angle DMT fitting into the waste water outlet 2.2 3x · Shut off the mains water supply valve • Use the self-selected hose (step 1.5) to connect the mains water supply with the shutoff valve. · Make sure the shutoff valve is closed 2.3

### Step Connection of PROGUARD Coffee #2 Screw the pressure reducer on the shutoff valve \*\*\* Make sure the imprinted arrow on the pressure reducer points <u>away</u> from the shutoff valve and goes with the water flow \*\*\* 24 Connecting PROGUARD Coffee via the pre-filter head: • Use the hose DN8 G 3/4" - G 3/8" to connect the pressure reducer's G 3/4" male thread with the G 3/8" male thread of the **pre-filter head** (inlet) • Do not yet connect the pre-filter cartridge (PURITY C Quell ST or PURITY C50 Fresh) to the pre-filter head • Make sure the **pre-filter head's flush valve** is **closed**. The flush valve is closed when the grey slider is pushed inwards • Use the hose DN8 G 3/8" - G3/8" with bend to connect the G 3/8" male thread of the pre-filter head (outlet) with the threaded insert that is plugged into the water inlet connection of PROGUARD Coffee (step 2.2) 2.5

# Step #2 - Make sure the locking handle of PURITY C150 PROGUARD's firmly mounted filter head is open. Open the locking handle by bringing its two blue handles in an inclined position - Make sure the bleed valve is closed - Make sure the flushing head valve is closed - Make sure the filtrate outlet valve is closed - Make sure the valve for the automatic bypass is closed

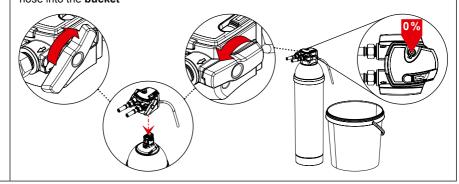
### • Flushing of the mineralisation cartridge PURITY C500 MinUp

Step • Connection of the enclosed flushing head to the membrane cartridge
#3 PURITY C150 PROGUARD

Flushing of the post-filter cartridge PURITY C50 Fresh

### Preparations for the flushing process:

- Make sure the locking handle of the pre-filter head is open. The locking handle is open
  when the two blue handles are in an inclined position
- Insert the mineralisation cartridge into the pre-filter head. Close the locking handle of the pre-filter head by bringing its two blue handles in a horizontal position
- Set the **bypass** of the **pre-filter head** to **0%** (Allen key size 4mm)
- Place a bucket (~10 litres) close to the mineralisation cartridge and hang its grey flushing hose into the bucket



3.1

### Flushing of the mineralisation cartridge PURITY C500 MinUp

### Connection of the enclosed flushing head to the membrane cartridge PURITY C150 PROGUARD

Flushing of the post-filter cartridge PURITY C50 Fresh

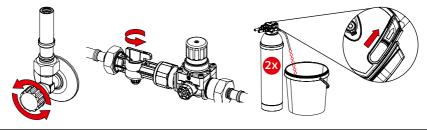
Flushing of the mineralisation cartridge:

- · Open the mains water supply valve
- · Open the shutoff valve
- Flush the mineralisation cartridge: **Open** the **flush valve** of the **pre-filter head** by pushing the grey slider outwards. **Flush 2 bed volumes** (1 bed volume equals 5.4 litres). While flushing, **continue with step 3.3**

3.2

Step

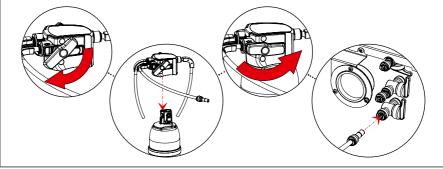
#3



Connecting the enclosed flushing head to the membrane cartridge PURITY C150 PROGUARD while the mineralisation cartridge is being flushed in the pre-filter head (step 3.2):

- Make sure the locking handle of the flushing head is open. The locking handle is open when the two blue handles are in an inclined position.
- Connect the flushing head to the membrane cartridge. Close the locking handle of the flushing head by bringing its two blue handles in a horizontal position
- Insert the longest of the three tubes of the flushing head into the flushing head valve

3.3



### Flushing of the mineralisation cartridge PURITY C500 MinUp

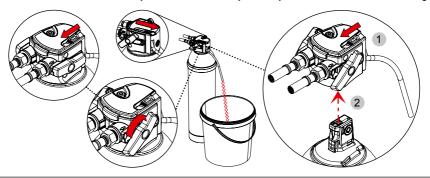
- Connection of the enclosed flushing head to the membrane cartridge PURITY C150 PROGUARD
- · Flushing of the post-filter cartridge PURITY C50 Fresh

### Detachment of the mineralisation cartridge from the pre-filter head:

- After being sufficiently flushed, close the flush valve of the pre-filter head by pushing the grey slider inwards
- Open the locking handle of the pre-filter head by bringing its two blue handles in an inclined position. Do not close the shutoff valve!
- Open the flush valve of the pre-filter head to release the remaining inner pressure of the cartridge by pushing the grey slider on the pre-filter head outwards. Catch the coming out water with the bucket
- · Close the flush valve of the pre-filter head and pull the pre-filter head off the cartridge

3.4

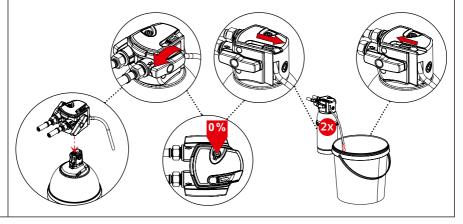
Step #3



- Insert the post-filter into the pre-filter head.
- Close the pre-filter head's locking handle by bringing its two blue handles in a horizontal position
- Make sure that the **pre-filter head's bypass** is set to **0%** (Allen key size 4 mm)
- Place a bucket close to the cartridge (~10 litres) and hang the cartridge's grey flushing hose into the bucket
- Flush the post-filter cartridge: Open the pre-filter head's flush valve by pushing the grey slider outwards. Flush 2 bed volumes

Size of post-filter	1 x bed volume (in litre)	2x bed volume (in litre)
PURITY C50 Fresh	1	2





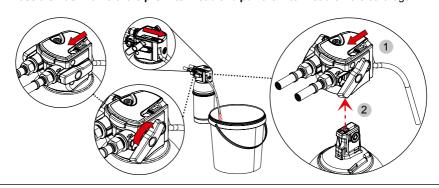
### Flushing of the mineralisation cartridge PURITY C500 MinUp

### Connection of the enclosed flushing head to the membrane cartridge PURITY C150 PROGUARD

· Flushing of the post-filter cartridge PURITY C50 Fresh

### Detachment of the post-filter cartridge from the pre-filter head:

- After being sufficiently flushed, close the flush valve of the pre-filter head by pushing the grey slider inwards
- Open the locking handle of the pre-filter head by bringing its two blue handles in an inclined position. Do not close the shutoff valve!
- Open the flush valve of the pre-filter head to release the remaining inner pressure of the cartridge by pushing the grey slider on the pre-filter head outwards. Catch the coming out water with the bucket
- Close the flush valve of the pre-filter head and pull the filter head off the cartridge



3.5

Step

#3

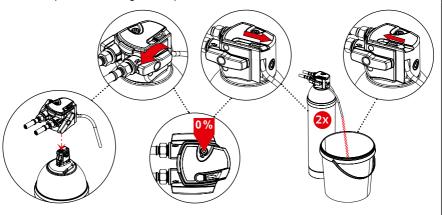
### Step • Flushing of the pre-filter (PURITY C Quell ST or PURITY C50 Fresh) #4 • Setting of the pre-filter head's bypass to its final position

- Insert the pre-filter into the pre-filter head.
- Close the pre-filter head's locking handle by bringing its two blue handles in a horizontal position
- Make sure that the **pre-filter head's bypass** is set to **0%** (Allen key size 4mm)
- Place a bucket close to the cartridge (~10 litres) and hang the cartridge's grey flushing hose into the bucket
- Flush the pre-filter cartridge: Open the pre-filter head's flush valve by pushing the grey slider outwards. Flush 2 bed volumes

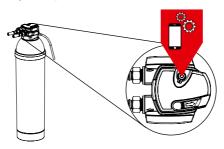
Size of pre-filter	1 x bed volume (in litre)	2x bed volume (in litre)
PURITY C300 Quell ST	2.9	5.8
PURITY C500 Quell ST	5.4	10.8
PURITY C1100 Quell ST	8.7	17.4
PURITY C50 Fresh	1	2

 After being sufficiently flushed, close the flush valve of the pre-filter head by pushing the grey slider inwards.

Leave the pre-filter cartridge in the pre-filter head



Set the **bypass** of the **pre-filter head** to its **final position** that has been **calculated by the App** (see step 1.1, Allen key size 4)



4.2

### • Flushing of the membrane cartridge PURITY C150 PROGUARD

· Connection of the waste water tube

Connection of the FlowMeter

Flushing of the membrane cartridge (continuation of step 3.3):

- Place the bucket (~10 litres) close to the cartridge and hang the two tubes of the flushing head into the bucket
- · Open the flushing head valve
- The membrane cartridge will now start to be flushed. **Flush** the cartridge for **30 minutes**. While flushing, carry out installation step 5.2 5.5

Note: It takes around 10 seconds until waste water flows out of one of the two flushing head's outlet tubes and around another 20 seconds until permeate flows out of the other outlet tube

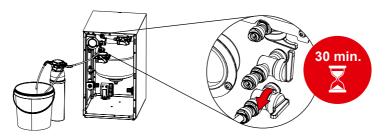
### Hint:

5.1

Step

#5

In case of time critical installations at the customer's site, the membrane cartridge can be pre-flushed in the PROGUARD Coffee system 1–2 days in advance (no longer!) at the service technician's premises. Before installing the cartridge at its intended place of operation, it is **critical** to store it intermediately in vertical position to prevent dehydration and leakage



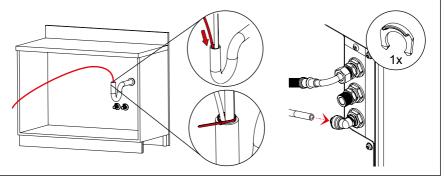
Carry out installation step 5.2 – 5.5 while the membrane cartridge is being flushed (step 5.1)

Usage of the waste water tube to connect the water drain with the 90° angle DMT fit-

ting that is plugged into the waste water outlet of PROGUARD Coffee:

- Hang the waste water tube deeply into the drain to prevent noise resulting from the out coming water streams
- Secure the position of the waste water tube with the cable tie at the water drain
- If necessary, shorten the tube to the required length Note: Use a tube cutter, not scissors!
- Plug the waste water tube into the 90° angle DMT fitting at the waste water outlet of PROGUARD Coffee

5.2



### • Flushing of the membrane cartridge PURITY C150 PROGUARD

· Connection of the waste water tube

· Connection of the FlowMeter

Step

5.3

#5

### Connection of the FlowMeter:

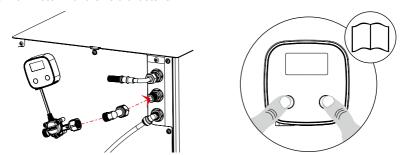
• Screw the G 3/8" female thread of the 90° angle bend on the threaded insert that has previously been plugged into the filtrate outlet connection of PROGUARD Coffee (step 2.2)

• Screw the FlowMeter on the 90° angle bend G 3/8" male thread

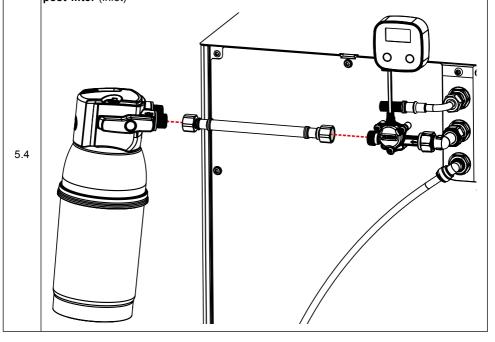
\*\*\* Make sure the imprinted arrow on the FlowMeter points <u>away</u> from the 90° angle
bend and goes with the water flow \*\*\*

Use the separately supplied FlowMeter manual to start programming the FlowMeter.
 You will be asked to enter the estimated yearly water consumption of the operated
 coffee machine into the FlowMeter. Make sure to enter exactly the same figure that you
 previously entered into the App (see chapter 5.1: App - BRITA Professional Filter Service).

• Put the FlowMeter on the top of the housing of PROGUARD Coffee. Do <u>not</u> yet attach the FlowMeter with the velcro fastener



Use the hose DN8 G 3/8" – G 3/8" to connect the FlowMeter with the filter head of the post-filter (inlet)

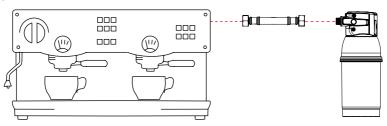


### Step • Flushing of the membrane cartridge PURITY C150 PROGUARD

· Connection of the waste water tube

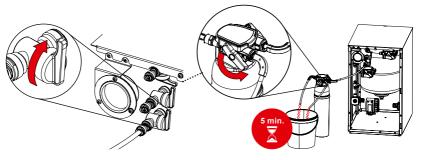
· Connection of the FlowMeter

Use the other of the two self-selected hoses (step 1.5) to connect the G 3/8" male thread of the post filter with the coffee machine's water inlet connection



After 30 minutes flushing, detachment of the flushing head from the membrane cartridge PURITY C150 PROGUARD:

- · Shut the flushing head valve
- Open the locking handle of the flushing head by bringing its two blue handles in an inclined position
- Wait until the remaining water that is still coming out of the flushing head's two tubes has ceased to flow. This can take up to 5 minutes. Alternatively, you can immediately pull-off the flushing head to speed up the process, resulting in water splashing out of the cartridge.

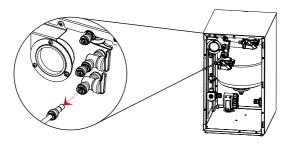


5.6

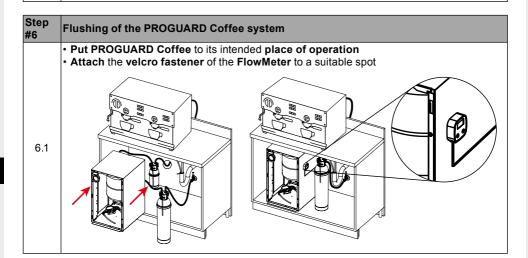
#5

5.5

Use DMfit's collet locking tool to push-back the collet of the flushing head valve and **pull** the **flushing head's tube off** 



## Step #5 • Flushing of the membrane cartridge PURITY C150 PROGUARD • Connection of the waste water tube • Connection of the FlowMeter Pull the flushing head off the membrane cartridge and store it on the bottom of the housing of PROGUARD Coffee for the next servicing job. Do not store the wet flushing head in a plastic bag!

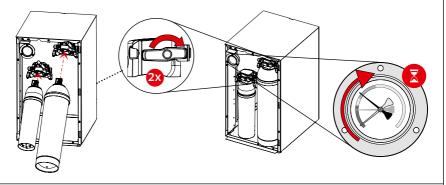


### Step #6 Flushing of the PROGUARD Coffee system

Insertion of the membrane cartridge and the mineralisation cartridge into the firmly mounted filter heads of PROGUARD Coffee:

- Insert the PURITY C150 PROGUARD cartridge (left side) and the PURITY C500 MinUp cartridge (right side) into their respective filter head
- Close the filter heads' locking handles by bringing the two blue handles in a horizontal position respectively
- As a result, a **regular click-sound** made by the non-electric pump should be **noticeable**. PROGUARD Coffee is now put into operation
- Within the next minutes, the **pressure indicating needle** of the **manometer** should gradually move upwards into the **green range**

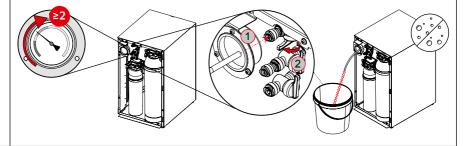
6.2



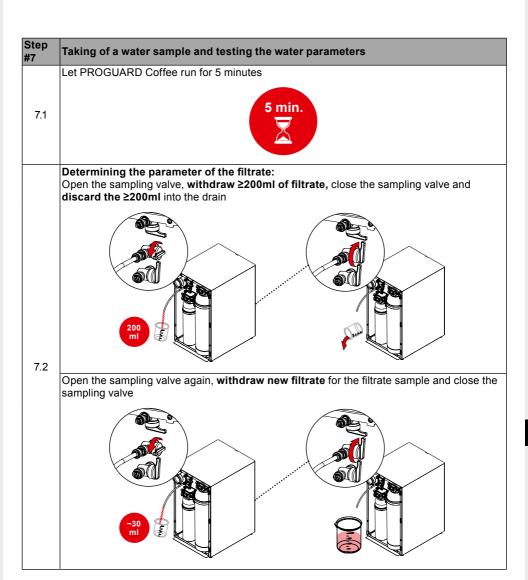
### Bleeding of PROGUARD Coffee:

- Wait until the pressure needle of the manometer shows a value of at least 2 bar
- · Insert the 25cm black tube into the bleed valve
- Place a bucket under the tube and open the bleed valve until the effluent is clear of any air bubbles

6.3



### Step Flushing of the PROGUARD Coffee system #6 Close the bleed valve and remove the 25cm black tube 6.3 Depending on the local mains water supply pressure wait 20 - 40 minutes until the tank is fully filled with filtrate. Once the tank is fully filled, the "click"-sound that was produced by the non-electric pump up to this point in time is silenced. 6.4 min. Releasing of the accumulated tank water (filtrate): · Insert the black 25cm tube into the sampling valve • Place a bucket (~10 litres) beneath the tube • Open the sampling valve and wait until all storage water has been released from the tank • Close the sampling valve and discard the collected tank water into the drain 6.5

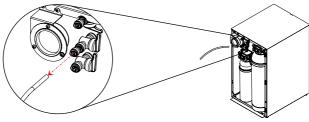


7.3

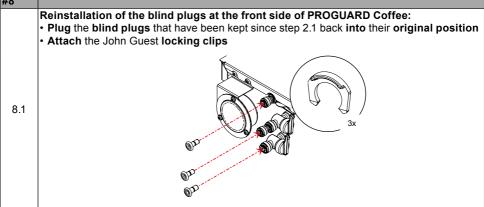
### Step Taking of a water sample and testing the water parameters #7 · Use a carbonate hardness test kit to check whether the filtrate sample's carbonate hardness level lies within the desired range Use a conductivity meter to check whether the filtrate sample's electrical conductivity lies within the desired range. Discard the filtrate sample after the test 7.2 Desired mineralisation TDS Carbonate Conductivity level of the filtrate hardness (°dH) (µS/cm) (mg/l) approximately 2-3 60-120 40-80 Low Medium 120-180 80-130 approximately 3-5 Hiah approximately 5-6 180-210 130-150

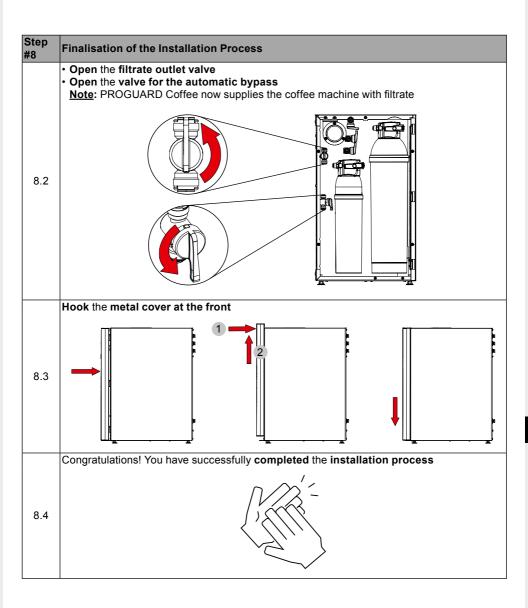
The given conductivity and TDS values are standard values. Small deviations of the filtrate sample are of no concern. In case of clear deviations, refer to chapter 9: Troubleshooting

Remove the black 25cm tube from the sampling valve



Step **Finalisation of the Installation Process** #8 Reinstallation of the blind plugs at the front side of PROGUARD Coffee: · Attach the John Guest locking clips





### 5.3 Product Specification Electric Booster Pump

To find out under what conditions the installation of an electric booster pump is advised or even necessary for the smooth operation of PROGUARD Coffee, refer to chapter 3.2: *Role and Functionality of The Main Components of PROGUARD Coffee* >> Pump (non-electric).

The following specification simply acts as a guideline to identify an electric booster pump that meets the technical requirements to help PROGUARD Coffee operate successfully.

Feature	Requirement	
	3 bar to max.	8,6 bar
Outlet water pressure	Note: The electric booster pump must be installed in front of the pressure reducer that is connected to the shutoff valve. The pressure reducer will reduce the (increased) inlet pressure to the maximum permissible operating pressure of 6 bar	
		n required flow rate that the electric booster pump needs to DGUARD Coffee at the given line pressure is specified in the
	Pressure	Flow rate
Flow rate	3 bar	0.35 litre/minute
İ	4 bar	0.5 litre/minute
	5 bar	0.7 litre/minute
	6 bar	0.85 litre/minute
	to switch the lipressure. Inst	ectric booster pump is chosen that is equipped with a sensor pooster pump on or off, depending on the storage tank's water all the sensor at the provided connection at the rear side of Coffee (John Guest 5/16")
Switch-on/switch-off function		SENSOR
	but no must-h	booster pump you chose is equipped with a sensor (ideally, ave), it is the sensor that has to be connected at the rear side D Coffee (not the booster pump itself).

### 6 Maintenance

The PROGUARD Coffee system as a whole, its spare parts as well as its refill-parts is subject of regular maintenance. In order to ensure the reliable function of the RO as well as the operated downstream device (coffee machine) and to prevent potential damage, it is important to adhere to the maintenance cycle outlined below.

Maintenance to be performed	Who	How often
Replacement of PURITY C filter cartridges	Service technician	According to exchange dates provided by the App
Double-check if the bypass position of the pre-filter head is set to the recommended position	Service technician	At least 1x year
Tank pressure (tank needle on manometer, pre-pressure on tank air valve)	Service technician	At least 1x year
Measure filtrate quality (conductivity, carbonate hardness)	Service technician	At least 1x year
Check for leaks and kinks (hoses, tubes, adapters)	Service technician	At least 1x year
Replacement of storage tank	Service technician	At least 1x in 2 years
Replacement of non-electric pump	Service technician	At least 1x in 3 years
<ul> <li>Tank pressure</li> <li>Check if the manometer's pressure needle is positioned in the green area</li> <li>The pressure gauge must not display a value above 2.8 bar. If so, call a service technician for recalibration or exchange of the manometer to ensure staying in the Pressure Equipment Directive</li> <li>If the pressure gauge displays a value of 1.3 – 1.7 bar, this indicates a high filtrate demand. Check again later, preferably not during peak usage times. Call service technician if the pressure needle is still within this range or very often in this range</li> <li>If the pressure gauge displays a value of &lt;1.3 bar, call a service technician Explanations and measures for deviations from the normal range are given in chapter 9.1: Errors, Root Causes and Measures For The Service Technician.</li> </ul>	End-user	At least 1x month
Check for a regular click-sound of the non-electric pump (preferably after the withdrawal of filtrate)	End-user	At least 1x month

### 7 Long Term System Shutdowns

BRITA recommends not to decommission PROGUARD Coffee components for long periods. During extended periods of non-use, turn off the water supply to the unit and remove the PURITY C filter cartridges. When restarting the unit, the cartridges are to be reinstalled and flushed per instructions. The entire PROGUARD Coffee system is to be flushed thoroughly as well (see chapter 5.2: *Installation and Putting The System Into Operation*).

BRITA recommends flushing the filter cartridge with the volume of water indicated in the table below.

		Flushing volume after 4 weeks stagnation
PURITY C300 Quell ST	6 litres	60 litres
PURITY C500 Quell ST	10 litres	100 litres
PURITY C1100 Quell ST	18 litres	180 litres
PURITY C50 Fresh	2 litres	20 litres
PURITY C150 PROGUARD	3 litres	30 litres
PURITY C500 MinUp	0 litres	0 litres

### 8 Disassembly

To change the place of operation or to disassemble and store PROGUARD Coffee, carry out the steps described below. PROGUARD Coffee <u>must be reinstalled within the next 72 hours</u> after disassembly.

Steps	Instructions
1	Close the mains water supply valve
·	Remove the metal cover at the front
2	Discharge of the water tank:  Removal of the blind plug from the sampling valve: Remove the John Guest locking clip Use the collet locking tool of DMfit to push-back the collet and remove the blind plug Keep the locking clip and the blind plug well Insert the black 25cm tube into the sampling valve Place a bucket (~10 litres) beneath the tube Open the sampling valve and wait until all storage water has been released from the tank Close the sampling valve and discard the collected tank water into the drain Remove the 25cm tube from the sampling valve Plug the blind plug back into the sampling valve Attach the John Guest locking clip
3	Close the filtrate valve
4	<ul> <li>Pulling off the pre-filter cartridge:</li> <li>Open the locking handle of the pre-filter head by bringing its two blue handles in an inclined position</li> <li>Place a bucket close to the cartridge (~10 litres) and hang the cartridge's grey flushing hose into the bucket</li> <li>Open the flush valve of the pre-filter head to release the remaining inner pressure of the cartridge by pushing the grey slider on the pre-filter head outwards</li> <li>Close the flush valve of the pre-filter head and pull the pre-filter head off the cartridge</li> </ul>
5	Pulling off the post-filter cartridge: Proceed in the same way as for the pre-filter cartridge.
6	<ul> <li>Pulling off the membrane and the mineralisation cartridge:</li> <li>Note: In case the new place of operation is not located very closely from the previous one, the cartridges must be pulled off in order to prevent damage to the installed mounts</li> <li>Open the locking handles of the two firmly mounted filter heads. The locking handles are open when their respective two blue handles are in an inclined position</li> <li>Pull off both cartridges from their respective filter head Note:  Before reinstallation at their new place of operation, it is critical to store both cartridges intermediately in vertical position to prevent dehydration and leakage</li> </ul>

### Disassembling of hoses: Disassemble the hose that connects PROGUARD Coffee with the mains water supply Pull the waste water tube out of the water drain Disassemble the hose that connects PROGUARD Coffee with the coffee machine If necessary for transport, disassemble all hoses from the rear side of PROGUARD Coffee Installation of PROGUARD Coffee: Follow the installation procedure as described in chapter 5: Installation and Putting The System Into Operation Note: PROGUARD Coffee must be reinstalled within the next 72 hours

### 9 Troubleshooting

### 9.1 Errors, Root Causes and Measures For The Service-technician

The following table lists possible errors, their likely root causes and the recommended measures to fix the respective problem. The problem solving measures may only be carried out by a service technician.

#	Error	Root cause	Measures service technician
		Water supply turned off	Ensure water supply
1	No water	Shutoff valve and/or filtrate outlet valve turned off	Open shutoff valve ("M") and/or filtrate outlet valve ("D")
2	Insufficient water	Valve for the automatic bypass turned off	Open valve for the automatic bypass ("E")
		Customer is dissatisfied with the taste result of the chosen mineralisation level	Check and apply the possible mineralisation options in the App
	Dissatisfaction with coffee taste	Can RO-external influencing factors, e.g., use of other coffee beans, degree of grinding etc. be excluded?	Check with customer, if external factors can be excluded
3		Filter capacity of pre-filter is exhausted (PURITY C Quell ST, PURITY C50 Fresh)	Compare assumed and actual water consumption with the FlowMeter. If the actual water consumption is greater than assumed: Adjust the amount of water consumption in the App and the FlowMeter and replace the PURITY C pre-filter
		Subsequent change of PURITY C Quell ST's bypass setting	Set the bypass to its original position If unknown, use the App to calculate the recommended bypass and adapt the bypass setting of the pre-filter head accordingly Note the result in the service log
		Change of raw water quality	Measure the raw water quality     Use the App to calculate the recommended pre-filter and bypass setting     Note the output values in the service log

#	Error	Root cause	Measures service	ce technician
			Make sure that the usual water consumption of the coffee machine meets the specifications of PROGUARD Coffee	
			Minimum required filtrate withdrawal	10 litres/day
			Maximum	80 litres/day
		Water consumption outside of product specification (too low,	permissible filtrate withdrawal	30,000 litres/year
3 Dissatisfaction with coffee taste	too high)	The water consumption of the coffee machine should not exceed the maximum filtrate production per hour (depending on the inlet pressure) too often, otherwise the bypass valve will open too often.		
			3 bar	~10l/h
			4 bar	~13I/h
			5 bar	~16l/h
			6 bar	~20I/h
		Regular supply of bypass water during peak demand	Measure the line pressure     If the line pressure is <3 bar, install a booster pump     Even at a line pressure of 3–5 bar, an installation is possible to increase the filtrate production per hour	
		Membrane clogged	Replace the PUR PROGUARD cart	
		(Non-electric) pump defective	Replace the (non	
4	Discolouration of filtrate (brownish or milky)	PURITY C500 MinUp was subjected to an impact	Flush the PURITY cartridge until the the filtrate has va	discolouration in nished
	Issue with	Insufficient line pressure	Check the line proline pressure is < electric booster p	3 bar, install an
5 (corrosion limescale	deposits, gypsum	Capacity of pre-filter is exhausted (PURITY C Quell ST, PURITY C50 Fresh)	consumption with If the actual wate greater than assu amount of water of	er consumption is imed: Adjust the consumption in the Meter and replace

#	Error	oot cause Measures service technician		
		Make sure that the usual water consumption of the coffee machine meets the specifications of PROGUARD Coffee		
			Minimum required filtrate withdrawal	10 litres/day
			Maximum	80 litres/day
		Water consumption outside of product specification (too low, too high)	permissible filtrate withdrawal	30,000 litres/year
5	Issue with coffee machine (corrosion, limescale deposits, gypsum		the maximum filt per hour (depend	should not exceed rate production ding on the inlet en, otherwise the
	deposits)		3 bar	~10l/h
			4 bar	~13I/h
			5 bar	~16l/h
			6 bar	~20I/h
		In case of limescale deposits: Bypass of the PURITY C Quell ST pre-filter not set correctly	<ul> <li>Measure the raw water quality</li> <li>Use the app to calculate the recommended bypass setting</li> <li>If necessary, adjust the bypass of the pre-filter head and note the result it in the service log</li> </ul>	
		Membrane clogged	Replace the PURITY C150 PROGUARD cartridge	
		(Non-electric) pump defective	Replace the (non	-electric) pump
	Pressure needle on manometer: • Pressure	Insufficient line pressure		essure. If the line r, install an electric
	regularly <1,7 bar • Pressure <1,2 bar	(Non-electric) pump defective	Replace the (non	,, ,
6	Temporary pressure drop into the red area (<1.3 bar)	Time-limited pressure drop into the red area is possible if the storage is empty AND water is drawn from the coffee machine at the same (via the now automatically opened bypass valve) since the flow pre (dynamic pressure) is lower than the back pressure (static pressure soon as water is no longer drawn off from the coffee machine, the n moves back into the yellow range. The phenomenon is normal and i a problem.		at the same time the flow pressure atic pressure). As achine, the needle
	Permanent pressure rise into the yellow area (>2.8 bar)	A very quick, sudden stop of the wat machine can lead to an increased properties a result, the pressure needle remains until water is drawn from the coffeedue to the design of the coffee mach	ressure display on t s in the upper yellow machine again. Th	the manometer. As w area (> 2.8 bar) ne phenomenon is

#	Error	Root cause	Measures service technician
	No click sounds of the (non-electric)	Storage tank is fully filled	Check the manometer: "Okay", if the pressure needle is positioned within the green range
7		Membrane clogged	Replace the PURITY C150 PROGUARD cartridge
		(Non-electric) pump defective (the manometer's pressure needle is constantly positioned within the yellow coloured range)	Replace the (non-electric) pump
8	Leakage	Leakage at junction	Fix the leak (replace the affected hoses and fittings)
-	Applies to all error types	Root cause cannot be identified on site	Complaint process via your local BRITA sales partner

### 9.2 Troubleshooting Instructions For Service-technicians

The instructions below describe the steps the service-technician has to undertake in order to correctly carry out the proposed measures provided in chapter 9.1.

### Replacement of PURITY C50 Fresh (post-filter)

Step #	Instructions	
-	Note: During the cartridge replacement, the coffee machine's water demand can only be served by the filtrate that is being stored in PROGUARD Coffee's storage tank at that point in time. If necessary, wait a while until the tank has been further filled	
1	Open the locking handle of the filter head of the PURITY C150 PROGUARD cartridge by bringing its two blue handles in an inclined position	
2	Open the locking handle of the pre-filter head	
3	Release the remaining pressure from the pre-filter (PURITY C300/C500/C1100 Quell ST or C50 Fresh):  Open the flush valve of the pre-filter head by pushing the grey slider outwards  Catch the coming out water with a bucket  Close the flush valve	
4	Pull the pre-filter head off the pre-filter cartridge	
5	Insert a new PURITY C50 Fresh cartridge into the pre-filter head	
6	Close the locking handle of the pre-filter head by bringing its two blue handles in a horizontal position	
7	Make sure the bypass position in the pre-filter head is set to 0 %. Take a note of the former setting	
8	Open the flush valve of the pre-filter head and flush 2 bed volumes (1 bed volume equals 1 litre)	
9	Open the locking handle of the pre-filter head	
10	Release the remaining pressure from the PURITY C50 Fresh cartridge:  Open the flush valve to release the remaining pressure  Close the flush valve, once the pressure has been released	
11	Pull the pre-filter head off the PURITY C50 Fresh cartridge	
12	Replacement of the exhausted PURITY C50 Fresh cartridge:  Release the remaining pressure from the post-filter PURITY C50 Fresh  Open the locking handle of the filter head  Exchange the cartridge  Close the locking handle of the filter head	
13	Insert the pre-filter into the pre-filter head and close the pre-filter head's locking handle	

Step #	Instructions
14	Set the bypass position in the pre-filter head to its original value (see step #7)
15	Close the locking handle of the filter head of the PURITY C150 PROGUARD cartridge

### Repl acement of PURITY C500 MinUp

Step #	Instructions
-	Note: During the cartridge replacement, the coffee machine's water demand can only be served by the filtrate that is being stored in PROGUARD Coffee's storage tank at that this point in time. If necessary, wait a while until the tank has been further filled
1	Open the locking handle of the filter head of the PURITY C150 PROGUARD cartridge by bringing its two blue handles in an inclined position
2	Open the locking handle of the pre-filter head
3	Release the remaining pressure from the pre-filter (PURITY C300/C500/C1100 Quell ST or C50 Fresh):  Open the flush valve of the pre-filter head by pushing the grey slider outwards  Catch the coming out water with a bucket  Close the flush valve
4	Pull the pre-filter head off the pre-filter cartridge
5	Insert a new PURITY C500 MinUp cartridge into the pre-filter head
6	Close the locking handle of the pre-filter head by bringing its two blue handles in a horizontal position
7	Make sure the bypass position in the pre-filter head is set to 0 %. Take a note of the former setting
8	Open the flush valve of the pre-filter head and flush 2 bed volumes (1 bed volume equals 5.4 litres)
9	Open the locking handle of the pre-filter head
10	Release the remaining pressure from the PURITY C500 MinUp cartridge:  Open the flush valve to release the remaining pressure  Close the flush valve, once the pressure has been released
11	Pull the pre-filter head off the PURITY C500 MinUp cartridge
12	Replacement of the exhausted PURITY C500 MinUp cartridge:  Open the locking handle of the filter head Exchange the cartridge Close the locking handle of the filter head
13	Insert the pre-filter into the pre-filter head and close the pre-filter head's locking handle
14	Set the bypass position in the pre-filter head to its original value (see step #7)
15	Close the locking handle of the filter head of the PURITY C150 PROGUARD cartridge

### Replacement of The PURITY C Pre-Filter (C300/C500/C1100 Quell ST or C50 Fresh)

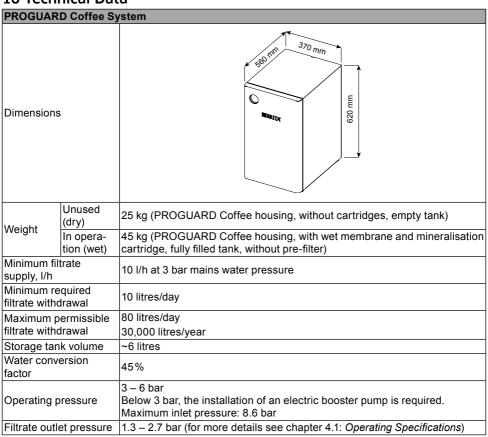
Step #	Instructions
-	Note: During the cartridge replacement, the coffee machine's water demand can only be served by the filtrate that is being stored in PROGUARD Coffee's storage tank at that point in time. If necessary, wait a while until the tank has been further filled
1	Open the locking handle of the filter head of the PURITY C150 PROGUARD cartridge by bringing its two blue handles in an inclined position
2	Open the locking handle of the pre-filter head

Step #	Instructions		
3	Release the remaining pressure  Open the flush valve of the pre Catch the coming out water with Close the flush valve	-filter head by pushing the gre	ey slider outwards
4	Pull the pre-filter head off the ex	hausted PURITY C pre-filter of	cartridge
5	Insert a new pre-filter cartridge i handle	nto the pre-filter head and clo	se the pre-filter head's locking
6	Set the bypass position in the	pre-filter head to 0%. Take	a note of the former setting
	Flushing of the PURITY C pre-fi Open the flush valve of the pre After flushing, close the flush v	-filter head and flush 2 bed vo	olumes
	Size of pre-filter	1 x bed volume (in litre)	2x bed volume (in litre)
7	PURITY C300 Quell ST	2.9	5.8
	PURITY C500 Quell ST	5.4	10.8
	PURITY C1100 Quell ST	8.7	17.4
	PURITY C50 Fresh	1	2
8	Set the bypass position in the	pre-filter head to its origina	al value (see step #6)
9	Close the locking handle of th	e filter head of the PURITY	C150 PROGUARD cartridge

### Replacement of PURITY C150 PROGUARD

Step #	Instructions
-	Note: Flushing of a new PURITY C150 PROGUARD cartridge has no impact on the water supply that is being delivered by PROGUARD Coffee to the coffee machine during this process
1	Insert a new PURITY C150 PROGUARD cartridge into the flushing head (the flushing head should have been stored at the bottom of the housing of PROGUARD Coffee)
2	Close the locking handle of the flushing head by bringing its two blue handles in a horizontal position
3	Remove the blind plug from the flushing head valve. Insert the longest of the three tubes of the flushing head into the flushing head valve
4	Open the flushing head valve and <b>flush the PURITY C150 PROGUARD cartridge for 30 minutes.</b> Catch the coming out water with a bucket
5	Close the flushing head valve  Note: Wait until the remaining water that is still coming out of the flushing head's two tubes has ceased to flow. This can take up to 5 minutes. Alternatively, you can immediately pull-off the flushing head to speed up the process, resulting in water splashing out of the cartridge
6	Remove the flushing head's tube from the flushing head valve and re-insert the blind plug. Pull the flushing head off the PURITY C150 PROGUARD cartridge
7	Store the flushing head on the bottom of the housing of PROGUARD Coffee for the next servicing job. Do <u>not</u> store the wet flushing head in a plastic bag!
8	Replace the exhausted PURITY C150 PROGUARD cartridge:  Open the locking handle of the filter head Exchange the cartridge Close the locking handle of the filter head

### 10 Technical Data



PURITY C filter cartrid	lges	C300 Quell ST	C500 Quell ST	C1100 Quell ST	C50 Fresh	C150 PROGUARD	C500 MinUp
Technology		Decarboni carbon filtr	sation and ation	activated	Activated carbon filtration	Desalination	Mineralisation
Water inlet a connection	nd outlet		G 3/8" m	ale thread		John Gu	est 8 mm
Empty filter cartridge volume		2.91	5.4	8.71	11	1.9 I	5.4
Weight	dry	2.8 kg	4.6 kg	7.7 kg	0.7 kg	0.9 kg	7.6 kg
vveignt	wet	4.2 kg	6.9 kg	12.5 kg	1.5 kg	2.5 kg	10.1 kg
Dimensions (Width/	Filter cartridge	119 mm/ 119 mm/ 457 mm	144 mm/ 144 mm/ 548 mm	184 mm/ 184 mm/ 548 mm	108 mm/ 108 mm/ 259 mm	104 mm/ 104 mm/ 410 mm	144 mm/ 144 mm/ 548 mm
Depth/ Height)	Filter system (cartridge and head)	125 mm/ 119 mm/ 466 mm	144 mm/ 144 mm/ 557 mm	184 mm/ 184 mm/ 557 mm	119 mm/ 108 mm/ 268 mm	n.a.	144 mm/ 144 mm/ 557 mm

### 11 Information For The End-user

### 11.1 General Product Information

PROGUARD Coffee is a non-electric system that combines several water treatment technologies. It is designed for the desalination of potable water and its subsequent mineralisation for the production of water of high sensory quality. The water thus produced is intended to be used as feed water for coffee, espresso and hot drinks machines only. The targeted mineralisation allows the aroma of hot drinks to fully develop. Depending on the local water conditions, the level of mineralisation can be customised to various degrees, resulting in rather low, medium or highly mineralized water. All mineralisation degrees have a different effect on the taste of coffee.

Level of mineralisation	Carbonate hardness (°dH) of the filtrate
Low	approximately 2–3
Medium	approximately 3-5
High	approximately 5-6

The previously performed desalination protects the hot drinks machine from particles, limescale, gypsum and corrosion.

### 11.2 Disposal and Recycling

Make sure the disposal of PROGUARD Coffee, its refill components (e.g., cartridges) and its spare parts (e.g., non-electric pump) is in accordance with the local regulations.

### 11.3 Warranty Provisions

PROGUARD Coffee is subject to the statutory warranty to the original end user. The warranty period commences on the date of purchase and is administered as follows:

- For a period of TWO YEARS the entire system and replaceable components (excluding all PURITY C filter cartridges)
- For a period of ONE YEAR all PURITY C filter cartridges

With the exception of the PURITY C filter cartridges, the non-electric pump and the tank, the PROGUARD Coffee system has a limited life-time of FIVE years and must be replaced after this period.

- PURITY C filter cartridges have a limited life-time of ONE year maximum and must be replaced after this period at the latest.
- The tank has a limited life-time of TWO years maximum and must be replaced after this period at the latest.
- The non-electric pump has a limited life-time of THREE years maximum and must be replaced after this period at the latest.

Failure to follow the recommended measures of the service technician will void warranty.

A warranty claim may only be asserted if all instructions in this manual are followed and observed.

### 11.4 Liability Exclusion

The installation of PROGUARD Coffee and the replacement of filter cartridges and spare parts must be performed precisely in accordance with the descriptions in this Installation and Operating Manual. BRITA shall not be held liable for any damage, including subsequent damage, arising from the incorrect installation or use of the product. BRITA reserves the right to alter its non-legally prescribed commitments or any other information provided in this manual without informing any of its customers.

### 11.5 Operating and Safety Instructions

Read, understand, and follow all safety information contained in these instructions.

### General

### 

- To reduce the risk associated with the ingestion of contaminants:
  - In the case of an official order, for instance from local authorities, to boil tap water, BRITA-filtered water must be boiled as well. When the requirement to boil water comes to an end, all filter cartridges must be replaced and the PROGUARD Coffee system including all connections and hoses be cleaned thoroughly.
  - It is generally recommended to boil tap water for certain groups of people (e.g. people with weakened immune systems, babies). This also applies to filtered water.
- <u>Installation and maintenance</u> of PROGUARD Coffee, its refill components and its spare part <u>MUST be carried out by specialist staff with an understanding of local and regional regulations/codes</u> that may affect the installation requirements.

### **∧** Caution

- The appliance is intended to be **permanently connected** to the **mains water supply**.
- The disposable PURITY C filter cartridges MUST be replaced every 12 months or at the rated capacity, whatever comes first.
- The flawless function of the non-electric pump (built-in) is critical for the desired water quality. Unless
  the water tank is already fully filled with filtrate (no more required), a regular and audible click sound
  indicates its proper functioning.
- Regularly clean the outside of the RO system with a soft, damp cloth. Caution: Do not use any abrasive chemicals, cleaning solutions or astringent cleaning agents.

### **PURITY C filter cartridges**

### **∧** Caution

Note for people with **kidney disease or dialysis patients:** During the filter process the potassium levels may increase slightly. If you suffer from kidney disease and/or have to stick to a special potassium diet, we recommend you to **consult your doctor** beforehand.

### **PURITY C500 MinUp**

**Avoid strong impact once installed.** In the event of strong impacts, **brownish residues** in the filtrate may appear (see chapter 9: *Troubleshooting*).

### 11.6 Maintenance

The PROGUARD Coffee system as a whole, its spare parts as well as its refill-parts is subject of regular maintenance. In order to ensure the reliable function of the RO as well as the operated downstream device (coffee machine) and to prevent potential damage, it is important to adhere to the maintenance cycle outlined below.

Maintenance to be performed	Who	How often
Tank pressure  Check if the manometer's pressure needle is positioned in the green area  The pressure gauge must not display a value above 2.8 bar. If so, call a service technician for recalibration or exchange of the manometer to ensure staying in the Pressure Equipment Directive  If the pressure gauge displays a value of 1.3 – 1.7 bar, this indicates a high filtrate demand. Check again later, preferably not during peak usage times. Call service technician if the pressure needle is still within this range or very often in this range  If the pressure gauge displays a value of <1.3 bar, call a service technician  Explanations and measures for deviations from the normal range are given in Chapter 9.1: Errors, Root Causes and Measures For The Service Technician.		At least 1x month
Check for a regular click-sound of the non-electric pump (preferably after the withdrawal of filtrate)	End-user	At least 1x month

### 11.7 Long Term System Shutdowns

BRITA recommends not to decommission PROGUARD Coffee components for long periods (see chapter 7: Long Term System Shutdowns). In case of extended periods of non-use, call a service technician.

### 11.8 Troubleshooting

Possible problems with PROGUARD Coffee can be identified at the reverse osmosis unit itself, the downstream installed coffee machine or the coffee taste. To find out more about the potential causes of the detected or perceived fault, check if the issue is listed in the error directory of chapter 9.1: *Errors, Root Causes and Measures For The Service Technician*. Call and consult a service technician. Keep in mind that <u>defects may only be solved by specialist staff with an understanding of local and regional regulations/codes</u> that may affect the installation and re-installation requirements.

٥	Date	Measured parameters		Estimated bypass consumption filter head	Chosen bypass setting pre- filter head	Choice of pre-filter	Installation date	ate	Replacement date calculated by App <i>BRITA Professional</i> Filter Service	e calculated ofessional	Name & signature
1		(нр.) ну				C300 Quell ST Pre-filter	Pre-filter		C300/500/1100 Quell ST or C50 Fresh	dd.mm.yyyy	
		тн (°ан)		litres	%	C500 Quell ST PROGUARD	C150 PROGUARD		C150 PROGUARD	dd.mm.yyyy	Max Miller
		Conductivity (µs/cm)				C1100 Quell ST C500 MinUp	C500 MinUp		C500 MinUp	dd.mm.yyyy	Max Miller
		Inlet pressure (bar)				C50 Fresh	C50 Fresh		C50 Fresh	dd.mm.yyyy	
		Use of softener	□ yes	Personal notes:							

Date	Measured parameters		Estimated bypass annual water setting preconsumption filter head	Chosen bypass setting pre- filter head	Choice of pre-filter	Installation date	ate	Replacement date calculated by App <i>BRITA Professional</i> Filter Service	e calculated ofessional	Name & signature
	(нр.) ну				□ C300 Quell ST Pre-filter	Pre-filter		C300/500/1100 Quell ST or C50 Fresh	dd.mm.yyyy	
	(нр.) нт		litres	%	C500 Quell ST C150 PROGUARD	C150 PROGUARD	dd.mm.yyyyy	C150 PROGUARD	dd.mm.yyyy	Max Miller
dd.mm.yyyy	Conductivity (µs/cm)				C1100 Quell ST C500 MinUp	C500 MinUp		C500 MinUp	dd.mm.yyyy	Max Miller
	Inlet pressure (bar)				□ C50 Fresh	C50 Fresh		C50 Fresh	dd.mm.yyyy	
	Use of softener	□ yes	Personal notes:							

Date	Measured param	rameters	Estimated bypass annual water consumption filter head	Chosen bypass setting pre- filter head	Choice of pre-filter	Installation date	ate	Replacement date calculated by App BRITA Professional Filter Service	e calculated ofessional	Name & signature
	(нр.) ну				□ C300 Quell ST   Pre-filter	Pre-filter		C300/500/1100 Quell ST or C50 Fresh	dd.mm.yyyy	
	тн (°ан)		litres	%	C500 Quell ST C150 PROGUARD	C150 PROGUARD	dd.mm.yyyyy	C150 PROGUARD		Max Miller
dd.mm.yyyy	Conductivity (µs/cm)				C1100 Quell ST C500 MinUp	C500 MinUp		C500 MinUp	dd.mm.yyyy	Max Miller
	Inlet pressure (bar)				C50 Fresh	C50 Fresh		C50 Fresh	dd.mm.yyyy	
	Use of softener	□ yes	□ yes Personal notes:							

Date	Measured param	ımeters	Estimated bypass annual water setting preconsumption filter head		Choice of pre-filter	Installation date	ate	Replacement date calculated by App <i>BRITA Professional</i> Filter Service	e calculated ofessional	Name & signature
	(нр.) ну				C300 Quell ST Pre-filter	Pre-filter		C300/500/1100 Quell ST or C50 Fresh	dd.mm.yyyy	
	тн (°ан)		litres	%	C500 Quell ST PROGUARD	C150 PROGUARD	dd.mm.vvvv	C150 PROGUARD	dd.mm.yyyy	Max Miller
	Conductivity (µs/cm)				C1100 Quell ST C500 MinUp	C500 MinUp		C500 MinUp	dd.mm.yyyy	Max Miller
	Inlet pressure (bar)				□ C50 Fresh	C50 Fresh		C50 Fresh	dd.mm.yyyy	
	Use of softener	ou 🗅	Personal notes:							

Date	Measured param	rameters	Estimated bypass enting preconsumption filter head	Chosen bypass setting pre- filter head	Choice of pre-filter	Installation date	te	Replacement date calculated by App <i>BRITA Professional</i> Filter Service	e calculated ofessional	Name & signature
	(нр.) ну				C300 Quell ST Pre-filter	Pre-filter		C300/500/1100 Quell ST or C50 Fresh	dd.mm.yyyy	
	(нр.) нт		litres	%	C500 Quell ST PROGUARD	C150 PROGUARD	dd.mm.vvvv	C150 PROGUARD	dd.mm.yyyy	Max Miller
	Conductivity (µs/cm)				C1100 Quell ST C500 MinUp	C500 MinUp		C500 MinUp	dd.mm.yyyy	Max Miller
	Inlet pressure (bar)				C50 Fresh	C50 Fresh		C50 Fresh	dd.mm.yyyy	
	Use of softener	u yes	□ yes Personal notes:							

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