



Quality Tools for Smart Cleaning



**RO S**  
**(RO20C)**



**READ THE OPERATING INSTRUCTIONS BEFORE SWITCHING ON THE SYSTEM!**

**KEEP IT IN THE IMMEDIATE VICINITY OF THE MACHINE AT ALL TIMES!**

Original operating instructions

# OPERATING INSTRUCTIONS

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# **1 Introduction**

## **1.1 General information**

This manual allows you to use the HydroPower RO S safely and efficiently.

The operating instructions are part of the HydroPower RO S and must be kept accessible to the personnel in the immediate vicinity of the HydroPower RO S at all times.

Before starting work, the personnel must have read and understood this manual. All safety instructions and instructions for use stated in this manual must be followed for safe operation.

The current version of the HydroPower RO S is described in this manual. If changes or additions become necessary over time, the operating instructions will be accompanied by a supplement which will be incorporated into the next revision.

The respective revision status of the operating instructions is displayed on the cover sheet. The first user manual has the revision status „1.0“. The status is increased by „1“ for each revision.

## **1.2 Intellectual and industrial property rights**

All contents of this manual are the intellectual property of Unger Germany GmbH and are protected by copyright law.

The product, as well as the word / image mark, are legally protected.

Any duplication, processing, distribution or transfer to third parties - including, but not limited to - any kind of exploitation outside of the copyright limits require the written consent of Unger Germany GmbH.

In the case of infringements, Unger Germany GmbH reserves the right to take legal action at any time.

We reserve the right to make changes to this manual, as well as changes to technical details, with regard to the specifications and illustrations in this manual.

## **1.3 Property and legal deficiencies**

Claims for material and legal deficiencies presuppose that the operator shall submit the defect in writing without delay, but at the latest within two working days.

Unger Germany GmbH is in no case responsible for damage to the system itself, or damage caused by the unit due to improper handling of the product.

In particular, Unger Germany GmbH is not responsible for failures or errors caused by modifications to the unit by the customer or other persons.

If Unger Germany GmbH is responsible for a defect, Unger Germany GmbH shall repair or replace the unit at its discretion.

Claims for material and legal deficiencies will be nullified in the case of non-compliance with the individual regulations of this manual, the relevant legal provisions, as well as further recommendations given by Unger Germany GmbH.

# Explanation of signs

## 1.4 Explanation of signs

### 1.4.1 Instructions for use

Instructions for use are shown as follows:

To perform an action, proceed as follows:

1. Do this.
  2. Do that.
    - ▶ This is the intermediate result.
  3. Do that.
- ✓ You have completed the action.

### 1.4.2 Enumerations

Enumerations are shown as follows:

- List of first order,
  - Second order,
  - Second order,
- List of first order.

## 1.4.3 Hazard classes

Safety instructions are shown in this manual with standardized illustrations and symbols. Depending on the probability of the occurrence and severity of the consequence, the following hazard classes are used:

### **DANGER**



**Indicates a hazardous situation that can lead to serious injury or death.**

- ▶ Here you will find measures to avoid the danger.

### **CAUTION**



**Indicates a potentially hazardous situation, which can lead to minor injuries.**

- ▶ Here you will find measures to avoid the danger.

### **ATTENTION**

**Indicates a situation which can lead to material damage.**

- ▶ Here you will find measures to prevent material damage.

### **NOTE**



Here you can find application tips and other useful information.

# Explanation of signs

## 1.4.4 Warning signs



Warning of a hazard.

---



Warning of electrical voltage.

---



Warning of overpressure in containers.

---



Warning of hot surfaces.

---



Warning of suspended loads.

---



Warning of injury to the limbs.

---

## 1.4.5 Mandatory signs



Application tips and other useful information.

---



Use protective gloves.

---



Use safety shoes.

---

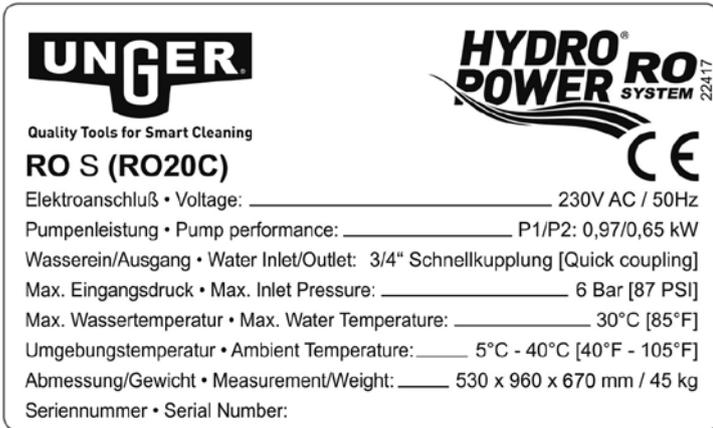


Use protective goggles.

---

## 1.5 Nameplate

Each HydroPower RO S from Unger Germany GmbH has a nameplate on the back.



Pic. 1 Nameplate

## 1.6 Obligation of the operator

The HydroPower RO S is used in the commercial sector. The operator must adhere to the statutory obligations to work safety.

The operator is obliged to have only persons working on the HydroPower RO S that:

- are familiar with the basic regulations on work safety and accident prevention
- have been trained in the handling of the HydroPower RO S
- have read and understood the safety instructions and safety regulations in this manual

The operator is obligated to ensure that all warnings on the HydroPower RO S are always legible.

## 1.7 Obligation of personnel

Working with the HydroPower RO S is only permitted if the operating instructions have been read and understood.

### 1.7.1 Requirements for staff

Only persons who perform their work reliably, should be authorized as personnel for this unit. Persons whose reactions and judgement are affected, e.g. by drugs, alcohol or medication, are NOT permitted to operate this unit.

#### NOTE



The operator is recommended to have this confirmed in writing.

# HydroPower® RO S

## Obligations

### 1.5.2 Training for staff

These operating instructions are aimed at staff with the following professional qualifications:

The staff will be able to carry out the tasks assigned to them and to recognize and avoid possible dangers independently on the basis of their professional training, experience and knowledge, as well as the knowledge of relevant provisions.

### 1.6 Storing the operating instructions

This instruction manual must be kept in the immediate vicinity of the HydroPower RO S and must be available to the entire staff at all times. The operator must inform the personnel about the location of these operating instructions.

If the user manual has become illegible due to constant use, the operator must obtain replacement from the manufacturer.

These operating instructions can also be downloaded as a PDF at [www.ungerglobal.com/downloads](http://www.ungerglobal.com/downloads).

#### NOTE



When transferring or reselling the HydroPower RO S to third parties, the following documents must be passed on to the new owner:

- ▶ this manual,
- ▶ the documentation of the repair work,
- ▶ proof of maintenance work.

### 1.7 Contact address

Unger Germany GmbH

Piepersberg 44  
42653 Solingen  
Germany

Telefon: (49) 0212 / 22 07-0

Fax: (49) 0212 / 22 07-2 22

[service@ungerglobal.com](mailto:service@ungerglobal.com)

[www.ungerglobal.com](http://www.ungerglobal.com)

## 2 About HydroPower RO S

### 2.1 Using the HydroPower RO S

#### 2.1.1 Intended use

The HydroPower RO S is used for the filtration of drinking water by demineralisation for the purpose of glass and surface cleaning.

The HydroPower RO S is intended for commercial use only.

The HydroPower RO S may only be connected to drinking water lines.

#### 2.1.2 Foreseeable misuse

The use of the HydroPower RO S in any way other than described in the chapter „2.1.1 Intended use“ is considered to be non-compliant and thus unlawful.

This applies in particular to the use of the HydroPower RO S for bacteria removal.

### 2.2 Technical specifications

#### 2.2.1 Operating conditions

Ambient temperature [°C]	5 ... 40
Water temperature [°C]	5 ... 25

#### ATTENTION

##### Material damage due to improper handling.

Ensure that the incoming water corresponds to the national drinking water regulations.

The drinking water must be free of iron, manganese and heavy metals (max. 0.2 ml / l iron, 0.05 mg / l manganese), the maximum silicate (SiO<sub>2</sub>) content must not exceed 20 mg / l. It must also not contain barium and strontium.

#### 2.2.2 Electrical specifications

Primary electrical connection [V / Hz]	230 / 50
Power consumption	0,97 kW

#### 2.2.3 Protection types of electrical components

Electric motor	IP 54
Pump Control	IP 65

# Technical specifications

## 2.2.4 Pressure ratings

Input pressure [bar]	1... 6
Max. operating pressure [bar]	10

## 2.2.5 Dimensions quick overview

Height [mm]	960
Width [mm]	530
Depth [mm]	670
Empty weight [kg]	45 kg

## 2.2.6 Media connections

Standard feedwater connection thread ["]	3/4
Standard concentrate connection thread ["]	3/4
Standard permeate connection thread ["]	3/4

## 2.2.7 Water quality

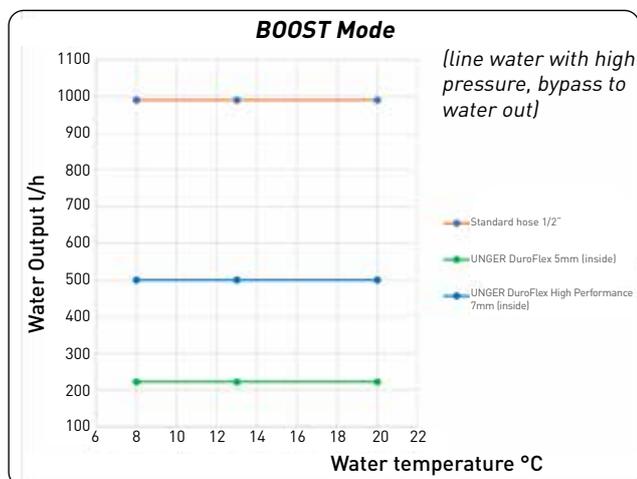
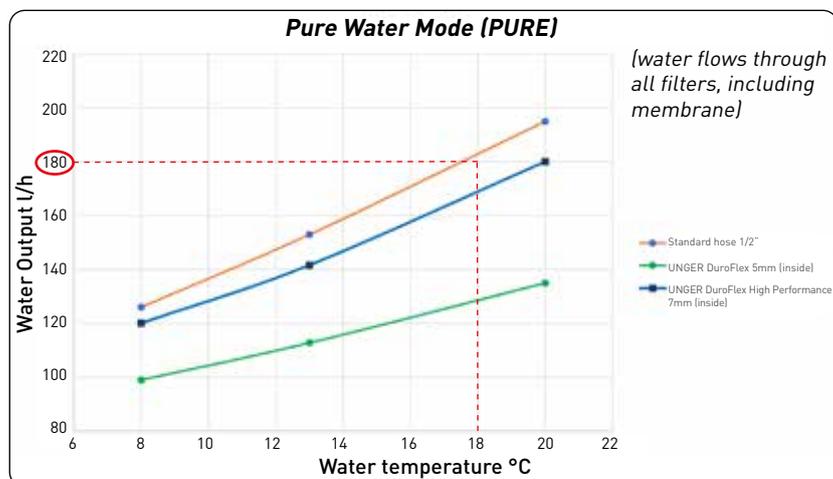
Max. salt content in incoming water [ppm]	1000
SiO <sub>2</sub> content in incoming water [mg/l]	20

## 2.3 Water output quantity

The water flow depends on factors like water temperature, hose length and hose diameter.

### Measuring Setup:

- Hose length: each 25m
- 3 different hose diameters: 5mm / 7mm / 1/2"
- 3 different water temperatures: 8 / 13 / 20°C
- Line pressure: 4 bar



## 2.4 Scope of delivery

The following is included in each delivery:

- HydroPower RO S
- Filter key
- Concentrate hose
- Suction pipe for membrane care,
- Instruction manual
- Test report

## 3 Safety

### 3.1 General safety regulations

#### 3.1.1 Basic principles

Special safety regulations may apply to certain activities. Safety instructions and warnings are given in the respective sections of the operating instructions.

Operate the HydroPower RO S only:

- in accordance with the operating instructions for safety and driving safety
- if the HydroPower RO S is in a technically sound condition.

This includes:

- The safety stickers attached to the HydroPower RO S must always be complete and in good readable condition. Renew damaged or unreadable signs.
- Carry out cleaning and maintenance work on the HydroPower RO S only if it is disconnected from electricity.  
Turn off the main power switch and unplug the power cord.
- Carry out maintenance on the filter vessels only if they are depressurized.
- Clean the HydroPower RO S after use of dirt and impurities.



#### **Use personal protective equipment to avoid personal injury:**

- ▶ protective gloves,



- ▶ safety shoes,



- ▶ safety goggles.

#### 3.1.2 Unit protection

##### Overheat protection

If the pump overheats, the overheat protection is triggered automatically and the HydroPower RO Switches off.

# General safety regulations

## 3.2 Mechanical hazards



### Crushing due to incorrect operation and / or carelessness.

- ▶ Do not reach between the ground surface and the HydroPower RO S.
- ▶ Do not place objects in the openings of the HydroPower RO S.



- ▶ Place the HydroPower RO S on an even surface only.
- ▶ Ensure sufficient stability and secure the HydroPower RO S against tipping over or rolling away.
- ▶ In the case of faults and emergencies, immediately turn off the unit by turning the lower switch to OFF.
- ▶ Wear safety shoes.

## 3.3 Electrical hazards



### Electric shock and burns due to live parts.

- ▶ Before each use, perform a visual inspection of the power cable for damage. If you notice any damage, contact your distributor.
- ▶ Maintenance on the electrical components of the system may only be carried out by employees of Unger Germany GmbH or their authorized specialist dealers / technicians.

## 3.4 Thermal hazards



### Burns due to hot surfaces.

- ▶ The housing of the pump motor as well as the coils of the valves can become hot during operation. Allow the system to cool down sufficiently before touching components marked with this symbol.



- ▶ Wear protective gloves.

## 3.5 Hazards due to pressure



### Injuries from pressurized containers.

- ▶ The 3 filter cartridges are pressurized during operation.
- ▶ Never open/remove a filter cartridge or any hose during operation.

## 3.6 Hazards from materials and substances

The safety data sheets of the materials and substances can be found online at [www.ungerglobal.com/service/downloads/safety-data-sheet](http://www.ungerglobal.com/service/downloads/safety-data-sheet).



### Materials used in the product

- ▶ This product contains lead and diethylhexyl phthalate (SVHC > 0.1 %). (REACH Art. 33)
- ▶ The HydroPower RO S is registered in the SCIP database (database for substances of concern in products)
- ▶ For further questions, please contact [compliance@ungerglobal.com](mailto:compliance@ungerglobal.com).



### Irritation to the eyes, skin and respiratory tract through carelessness.



- ▶ Avoid any contact with the resin when replacing the DI resin cartridge.
- ▶ In case of contact with eyes, remove contact lenses and rinse immediately with plenty of water.
- ▶ Wash hands after finishing work.
- ▶ Use protective gloves and goggles.



### Irreversible injury due to slipping.



- ▶ If resin is spilled, carefully clean it up immediately as there is a high risk of slipping.
- ▶ Wear safety shoes.



### Irritation to eyes, skin and respiratory tract through membrane care.



- ▶ Avoid any contact and swallowing of the membrane care liquid (sold separately).
- ▶ In case of contact with eyes, remove contact lenses and rinse immediately with plenty of water.
- ▶ Keep the membrane care liquid sealed and inaccessible to children.
- ▶ Use protective gloves and goggles.



# HydroPower® RO S

## System overview

### 4 Preparing for use

#### 4.1 Construction of the HydroPower RO S



- 1 Manometer
- 2 TDS-Meter
- 3 Switch WORK/RO FLUSH
- 4 Switch TAP BOOST / OFF / PURE
- 5 Water inlet
- 6 Water outlet
- 7 Water meter
- 8 Carbon/sediment combi pre-filter
- 9 Membrane
- 10 DI resin filter
- 11 Pump ventilation slot



ENGLISH

#### 4.2 Interfaces



The **TDS meter** shows the water quality at water outlet for the Pure and the Boost Mode.

**PURE:** TDS metre shows the value of the filtered water after RO Membrane and DI resin. It should ideally show a value of 0. At the latest when it shows 10, the resin should be replaced.

**TAP BOOST:** TDS metre shows the value of the tap water.



The **water meter** measures the water flow at the inlet. This is particularly important for the combination pre-filter, as it must be replaced after approx. 30,000l.



The **manometer** shows the water pressure behind the pump. Ensure that the water inlet pressure is at least 1 bar. The optimum is 4 bar, maximum should not exceed 6 bar. The pump increases the pressure by approx. 4 bar. Accordingly, the pressure in operation should not exceed 10 bar.



On the front is 1 connection for attaching the hose for the water fed pole and 1 connection for the water supply. These are standard hose connections.

Make sure that water cannot flow back into the tap water line, e.g. through a backflow prevention device.



The water outlet for the concentrate is located at the back. Pour the concentrate down the drain using the enclosed concentrate hose.

### 4.3 Transport and storage

#### 4.3.1 Transport

The HydroPower RO S is delivered on a pallet by a forwarding company.

The HydroPower RO S is carefully tested and packaged before shipment. However, damage during transport cannot be ruled out.

Therefore, immediately check the HydroPower RO S for integrity in the presence of the dealer.

Check the completeness of the delivery, see chapter „2.3 Scope of delivery“.

Carry out a visual inspection of the HydroPower RO S for transport damage.

If the HydroPower RO S has been damaged during transport, show the damage to the company delivering HydroPower RO S on behalf of your dealer.

**Complaints due to transport damage cannot be accepted without written confirmation by the dealer or with unreserved acceptance!**

In the case of transport of the HydroPower RO S for use at height, e.g. on a house roof:



**DANGER**



**Severe injuries and property damage due to the HydroPower RO S falling are possible.**



- ▶ Do not walk or grab under the suspended load.
- ▶ Use only the fixing points provided for fixing the hoist.
- ▶ Only use a suitable hoist.
- ▶ Secure the HydroPower RO S to the transport.
- ▶ Observe the weight and maximum dimensions of the HydroPower RO S.
- ▶ Wear protective gloves and safety shoes.



When transporting, ensure that the HydroPower RO S is properly secured and cannot move in the transport. Protect the HydroPower RO S from external damage.

Use the fixing points of the frame during transport, or if the HydroPower RO S is lifted with a crane, in order to avoid damage.

## Operating the HydroPower RO

### 4.3.2 Storage

If the unit is not in use for more than 7 days, the membranes must be protected according to the storage instructions, see chapter „7.2.4 Membrane protection“.

### 4.3.3 Operating the HydroPower RO



- 1 Water inlet
- 2 Carbon/sediment combi pre-filter
- 3 RO membrane
- 4 DI resin filter
- 5 Water outlet

#### What is Pure Water?

Pure Water is water in its purest form, physically processed to remove the minerals that would otherwise lead to limescale spots and streaks. Such impurities are referred to as TDS (Total Dissolved Solids) and are measured in ppm (parts per million). The water is considered 100 % demineralised (pure) when its TDS is measured at 0 ppm, whilst the 180 ppm is considered as average water hardness.

#### Flow of water purification

The water enters the HydroPower RO S via the water inlet (1).

The carbon/sediment combi pre-filter (2), which filters out the largest impurities and chlorine from the water and thus protects the membranes, sits before the membrane.

The membrane filter (3) removes up to 98% of the minerals from the water in the HydroPower RO S.

The resin filter (4) sits after the membrane, which removes the last 2% of the minerals from the water in the HydroPower RO S.

Pure water is discharged from the water outlet (5) into a hose connected to a water fed pole for cleaning glass surfaces without chemicals.

The 3 filter cartridges (2-4) can be easily removed and replaced (see page 27).

## 4.4 Commissioning

### CAUTION



#### Slight injuries due to pressurized containers possible.

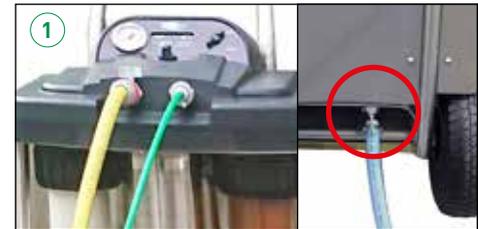
- ▶ The 3 filter cartridges are pressurized during operation.
- ▶ Never remove a filter vessel during operation.
- ▶ Check if the hoses and tubes are water-tight and fit properly before commissioning the system.
- ▶ Use protective gloves.



**ATTENTION:** For new or conserved units, the resin filter is removed from the unit and must be inserted! See next page.

To start the HydroPower RO S, proceed as follows:

1. Connect the two hoses. Do not forget the concentrate hose at the back of the unit.
  2. Connect the power cord to the power supply.
  3. Turn on the water supply
  4. Put upper switch to the position „WORK“
  5. Turn the lower switch from OFF > PURE to work with pure water.
  6. The pre-filter cartridges must fill completely with water before 100% efficiency can be achieved.
- ▶ *The red RESTART button on the pump control on the back restarts the pump in case of low pressure. As the system is only just filling with water at this point, press the **RESTART button until the filling process for both filter cups is complete.** The excess air escapes through the water and concentrate outlets.*
- ✓ The HydroPower RO S is now ready for use.
- ▶ *Info: When you select „TAP BOOST“, unfiltered tap water with increased pressure comes out to flush surfaces and remove stubborn dirt.*



# HydroPower® RO S

## Commissioning

### 4.4.1 Commissioning of new or preserved HydroPower RO S:

The pre-filter and the resin filter are not inserted in new or preserved units, as they must not come into contact with the diaphragm care agent.

Before using the resin filter, the membrane maintenance agent must be completely rinsed out.

1. Open the water line and start the HydroPower RO S by setting the upper switch to „RO FLUSH“ and the lower switch to „PURE“. Rinse out the membrane care agent for about 15 minutes.
  2. Switch off the HydroPower RO S: turn the lower switch to OFF.
  3. Disconnect the water supply.
  4. Unscrew the resin cartridge and insert the resin filter (RORE2). Make sure that the orientation is correct, the blue filter inlet must be on top!
  5. Screw the cartridge back on with help of the included filter key.
  6. Start the HydroPower RO S by setting upper switch to WORK and lower switch to PURE.
- ✓ The HydroPower RO S is now ready for use.



## 5 Operation of the HydroPower RO

### 5.1 General information

Working with the HydroPower RO S is only permitted if the operating instructions have been read and understood.



#### **DANGER**



**Severe injuries and property damage due to the HydroPower RO S falling are possible.**



- ▶ Place the unit on a level surface only.
- ▶ Make sure the unit is standing securely. If necessary secure the wheels with a wedge, before operating the system.
- ▶ Wear safety shoes.



#### **CAUTION**



**Slight injuries due to pressurized containers possible.**



- ▶ The 3 filter cartridges are pressurized during operation.
- ▶ Never remove a filter cartridge or hose during operation.
- ▶ Check if the system is watertight before commissioning.
- ▶ Wear protective gloves.

# Operation

## 5.2 Cleaning surfaces with the HydroPower RO S

The HydroPower RO S has two water out modes: PURE and TAP BOOST.

**PURE:** This mode is used for spotless cleaning of windows and facades and gives out up to 180l/h of pure water with 4 bar (at 18°C water temperature with a 1/2" hose).

**TAP BOOST:** The boost function allows a strong tap water-jet on demand for prewashing of heavy soiled or horizontal surfaces. It will also remove cobwebs and dirt from corners that cannot be reached with a brush. It delivers up to 1.000l/h of tap water with 8-10 bar.



### NOTE



The longer the hose from the water outlet to the water fed pole, the larger the diameter of the hose should be.

## 5.3 Interruption of work

If you need to interrupt your work with the HydroPower RO S, you can switch off the device by setting the lower switch to OFF. You can also control the unit by the water pressure:

- The pump control switches off automatically after some seconds in case of negative pressure. To start it again, press the red RESTART-button at the pump control for at least 5 seconds.
- **Example 1: You switch off the tap water line:**  
The pump stops after about 30 seconds.  
When you switch the tap water line on again, you have to press the red RESTART button at the pump control on backside for about 5 seconds. Try if the pump stays running. If not, repeat pressing the button again for 5 seconds as long as enough water is in the system and the pump runs continuously.
- **Example 2: You interrupt the water consumption at the water fed pole.**  
In this case the pump will stop after about 10 seconds. After opening the water line again, the pump starts to work again immediately.



### NOTE



As long as the HydroPower RO S is connected to water but not switched on, no water runs through the system because the „TAP BOOST“ and „PURE“ valves are closed.

## 5.4 Switching off the HydroPower RO S

To switch off the HydroPower RO S after finishing the work, proceed as follows:

1. For a longer service life, the membrane should be flushed for approx. 5 minutes after work. To do this, set the upper rotary switch to „RO FLUSH“ and the lower switch to „PURE“.
    - ▶ Info: During this process, pure water continues to be dispensed to the bar in a slightly reduced quantity. You can therefore continue to work while doing this.
  2. Switch off the unit with the lower switch.
  3. Disconnect the power supply and the water supply.
  4. Remove the hoses from the front connections.
- ✓ The HydroPower RO S is switched off and can be transported.



## 6 Malfunctions

### 6.1 Procedure for accidents

Turn the lower switch of the HydroPower RO S to OFF to turn off the system:

- In case of danger of injury,
- Risk of damage to the HydroPower RO S.

In the event of an accident, take immediate action and call the local emergency number.

### 6.2 Procedure for malfunctions

During operation, the following faults may occur:

#### Water pressure too low

- ▶ The inlet pressure from the water pipe is too low to provide the desired filter performance. The pump switches off.
- ▶ Check whether the inlet hose is kinked or if there is too little pressure on the water pipe.
- ▶ To start the pump, press the red RESTART button on the backside of the housing for about 5 seconds.



#### Overpressure

Overpressure can occur if the water pressure from the pipe is more than 6 bar.

To check the water pressure in the pipe, proceed as follows:

- ▶ The pressure gauge indicates the line pressure.
- ▶ As soon as the pump is switched on, the pressure increases by 4 bar. If the inlet pressure is too high, connect a pressure reducer to the water inlet and regulate the pressure down.



# HydroPower® RO S

## Malfunctions

### Overheating

Always ensure that the HydroPower RO S is well ventilated and is not too close to objects or walls which could cause air circulation prevent.

1. If the pump motor overheats, the HydroPower RO S automatically stops.
2. Switch off the system at the lower switch.
3. Let the HydroPower RO S cool down.
4. Start the HydroPower RO S with the lower switch (e.g. PURE).
5. If the pump does not start, press the red RESTART button on the backside of the casing for about 5 seconds.
  - ▶ The HydroPower RO Starts again.  
If the system does not start, let the HydroPower RO S cool down even further.



## 7 Maintenance and servicing

### 7.1 General information



#### DANGER



#### Electric shock possible through live parts.

- ▶ Maintenance on the electrical components of the system should only be carried out by employees of Unger Germany GmbH or their authorized specialist dealers / technicians.



#### CAUTION



#### Burns due to hot surfaces possible.

- ▶ The housing of the pump motor can become hot during operation. Allow the system to cool down sufficiently before touching components marked with this symbol.
- ▶ Wear protective gloves.



#### ATTENTION

#### Damage caused by improper cleaning of the HydroPower RO S possible.

- ▶ Do not use aggressive cleaning agents and / or solvents.
- ▶ Observe the safety instructions for the cleaning and solvent of the respective manufacturer.

#### ATTENTION

#### Material damage due to insufficient maintenance possible.

- ▶ Before each use, perform a visual inspection of the power cord for damage. If you notice any damage, contact your distributor.

# Maintenance and servicing

## Membrane protection during storage

If the unit will not be in use for more than 7 days, the membrane must be protected according to the storage instructions, see chapter „7.2.4 Membrane protection.“

If the membrane is not regularly flushed or protected with the UNGER membrane care agent, there is a risk of blockage and thus a strong performance limitation or damage.

## Frost protection

Never store the HydroPower RO S below 5°C.

## 7.2 Maintenance and maintenance plan

Check the condition of the HydroPower RO S filter regularly to ensure long life.

### 7.2.1 Daily inspection

Check the performance of the **resin filter**:

Observe the indication on the TDS-display. It provides information about the filter performance or the filtered water quality. Press the yellow „on“ button to switch on.

- It shows the TDS value behind the resin filter (in PURE mode).
- ▶ If this value is at or above 10, the resin filter must be replaced.

### 7.2.2 Monthly examination

- Check the performance of the **membrane**:
- Switch to TAP BOOST mode and observe the value in the TDS display
- Now the value of the tap water is displayed
- To determine the current measured value of the membrane, remove the resin filter (right) and screw the empty filter cup back on.  
Start the water supply in PURE mode and switch on the TDS meter. Note the value.
- ▶ If the values of the measurement in TAP BOOST mode and the membrane measurement in PURE differ by less than 95%, this is an indication of a defective membrane, which may then have to be replaced.
- Replace the **combi-prefilter** regularly. It protects the membranes from chlorine.  
From a water flow of approx. 30,000l with a chlorine content of 2ppm, the carbon filter is used up and can no longer guarantee this protection.
- ▶ Observe the water meter at the side of the housing.
- ▶ A water flow of 30,000l is reached after about 4 weeks if you work with the RO-filter 5 days a week for 6 hours at a time, for example.

### 7.2.3 Membrane protection



#### CAUTION



#### Irritation to eyes, skin and respiratory tract through membrane care possible.

- ▶ Avoid any contact and swallowing of the membrane care fluid.
- ▶ In case of contact with eyes, remove contact lenses and rinse immediately with plenty of water.
- ▶ Keep the membrane care product sealed and inaccessible to children.
- ▶ Wear protective gloves and goggles.

The membrane achieves its optimal life with regular water flow or flushing.

If the HydroPower RO S is not in use for an extended period of time (longer than 7 days), the membrane must be protected against blockage.

For this purpose, there is the UNGER Membrane Care Agent (Order No. 15436). You need one bottle (1l) for the membrane. This preserves the current state of the membrane and prevents reduced performance and/or damage after sitting for a longer period of time. Alternatively, you can run the unit once a week for approx. 30 minutes to rinse the membrane.

#### To protect the membrane, proceed as follows:

1. Switch off the HydroPower RO S.
  2. Remove the two filter cartridges (left and right) and dump the water. Use the filter key to loosen the cartridges. Store pre-filter and resin filter protected from dust and dirt.
  3. Insert the grey suction pipe into the left blue housing of the pre-filter. The holes must be on bottom of the tube.
  4. Fill the pre-filter cartridge with membrane care liquid.
  5. Fix the two cartridges again to the unit and fix them with the filter key.
  6. Set the upper switch to WORK and the lower to PURE. Start tap water supply. Wait until the pre-filter cartridges is no more green and filled with clear water. This takes about 5-10 seconds.
  7. Stop the unit immediately by switching it to OFF.
- ✓ The membrane is protected and the HydroPower RO S can be stored.



#### Re-commissioning

1. Connect the water in hose.
  2. Connect the power supply and start water supply.
  3. Set the upper switch to RO FLUSH and the lower switch to PURE.
  4. Allow the system to flush for approximately 15 minutes until the outcoming water is clear.
  5. Switch the system OFF again at the lower switch.
  6. Unscrew the two cartridges, empty the water.
  7. Remove the grey pipe from the pre-filter housing and insert the pre-filter and resin filter back to the cartridge and fix them to the unit. Pay attention to the correct filter positions.
- ✓ The HydroPower RO S is ready to work.



# Replacing filter cartridges

## 7.3 Repair and replacement of parts

You will find a spare part list on the Unger website „[www.ungerglobal.com/service/downloads/product-assortment](http://www.ungerglobal.com/service/downloads/product-assortment)“ with parts that you can change yourself.

For any further repairs, please contact your dealer.

### 7.3.1 Replacing filter cartridges



#### CAUTION



#### Irritation to the eyes, skin and respiratory tract possible.



▶ In the right filter cartridge, there is resin for the final demineralization of the water.

▶ Avoid any contact with the resin when working on the filter cartridges.

▶ Wear protective gloves and goggles.



▶ In case of contact with eyes, remove contact lenses and rinse immediately with plenty of water.

▶ Wash hands after finishing work.

If the display shows a value of 10 ppm or more, the resin filter filter must be replaced (see point 7.2.1). In addition, the performance of the membrane should be monitored monthly (see point 7.2.2). The combi-pre-filter should also be changed regularly (approx. every 30,000 litres) to ensure membrane protection, especially against chlorine (see point 7.2.2). Changing all 3 filter cartridges is quick and easy:

#### Changing the combi-pre filter



1. Switch off the HydroPower RO S and disconnect the power supply.
  2. Unscrew the left filter cartridge with the filter key and dump the water.
  3. Remove and replace the filter insert. The direction doesn't matter.
  4. Screw in the cartridge again to the unit and fix it with the filter key.
- ✓ The filter cartridge is replaced.



# Replacing filter cartridges

## Changing the RO Membrane



1. Place the unit on its back
2. Unscrew the two screws on front and remove the bottom black plastic cover.
3. Remove the remaining two screws on the bottom plate and remove the plate.
4. Unscrew the clamp fixing on bottom of the membrane housing.
5. Remove the black plastic cap.
  - ▶ Use a big screwdriver for support.
6. Pull the membrane out and replace with a new membrane.
  - ▶ The RO-membrane has an imprint indicating the flow direction, the **arrow must point upwards**.
  - ▶ The **rubber seal** must always be at the **bottom**
7. Re-assemble the system vise-versa.

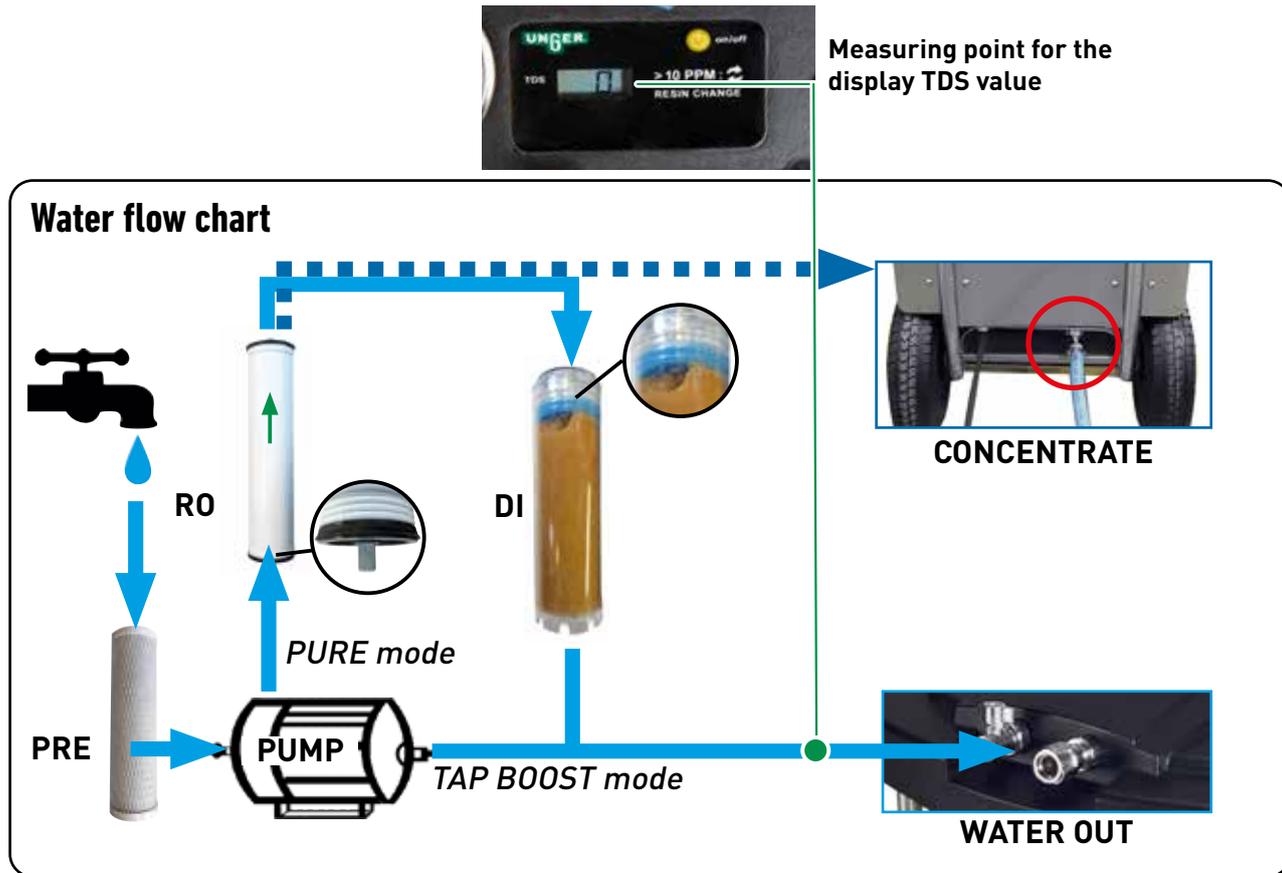


## Changing the DI resin filter.

1. Unscrew the right filter cartridge with the filter key and dump the water.
  2. Remove the resin filter.
  3. Insert the new filter the right way round (**blue insert up**). If it is the wrong way round, water cannot flow through and backwater will occur.
  4. Screw in the cartridge again to the unit and fix it with the filter key.
- ✓ The filter cartridge is replaced.



# Switching off the device



## 8 Switching off the device

### 8.1 Disassembly and storage

**⚠ DANGER**



**Electric shock and burns due to live parts possible.**

- ▶ Maintenance on the electrical components of the system may only be carried out by employees of Unger Germany GmbH or their authorized specialist dealers / technicians.

**⚠ CAUTION**



**Burns due to hot surfaces possible.**



- ▶ The housing of the pump motor can become hot during operation. Allow the system to cool down sufficiently before touching components marked with this symbol.
- ▶ Wear protective gloves.

## ATTENTION

### Material damage due to improper storage.

- ▶ Clean the system from dirt build up.
- ▶ Use only membrane care products from Unger Germany GmbH.
- ▶ Never store the HydroPower RO S below 5°C.

## NOTE



When storing for an extended period of time (e.g. winter, holidays), leave the filters in the HydroPower RO S, where they are optimally protected against weathering.

To prepare the HydroPower RO S for storage, proceed as described in chapter 7.2.4.

## 8.2 Recycling

Properly recycle all materials that can be recycled to help protect our environment.

The packaging material is to be separated. It consists of foam, wood, plastic and corrugate cardboard and is to be recycled individually according to recycling standards.

## 8.3 Disposal of waste

If the HydroPower RO S has reached the end of its life cycle, it must be disposed safely and professionally, particularly with regard to parts or substances harmful to the environment.

Before disposing of the HydroPower RO S, remove all 3 filter cartridges and dispose of them in accordance with the national regulations at your disposal company.

In order to avoid danger to the environment, an approved specialist company is to be commissioned to dispose of the filter cartridges. The local authority can provide information on this.

Return the HydroPower RO S for disposal to Unger Germany GmbH.

# Notes



The HydroPower RO S (R020C) is compliant with the provisions of the Machinery Directive 2006/42 / EC and the Directive on Electromagnetic Compatibility 2014/30 / EU.

The protection objectives of Directive 2014/35 / EU on electrical equipment have been upheld.

Applied harmonized standards:

- |                   |   |
|-------------------|---|
| EN ISO 12100:2011 | Security of machines -<br>General design principles - risk assessment<br>and risk reduction |
| EN 60204-1:2010   | Electrical equipment of machines -<br>General requirements                                  |

This is confirmed by the EC Declaration of Conformity.

Solingen, 01.02.2021

Kai Hirsch  
Director Advanced Technologies  
Unger Germany GmbH



**NOTE**



The system is only intended for professional use and operation at 230 V / 50 Hz in an industrial low-voltage network.

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