HYDROLAB®

EN | USER MANUAL FOR HLP SERIE R

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ENG

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MODELE OF R SERIE

Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R5	5	+	-	254	-	1 class	5DR-TOC-00
R5 UV	5	+	-	185/254	-	1 class	5DR-TOC-UV
R5 UF	5	+	-	185/254	+	1 class	5DR-TOC-UF

Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R10	10	+	+	254	-	1 class	10DR-TOC-00
R10 UV	10	+	+	185/254	-	1 class	10DR-TOC-UV
R10 UF	10	+	+	185/254	+	1 class	10DR-TOC-UF

Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R20	20	+	+	254	-	1 class	20DR-TOC-00
R20 UV	20	+	+	185/254	-	1 class	20DR-TOC-UV
R20 UF	20	+	+	185/254	+	1 class	20DR-TOC-UF

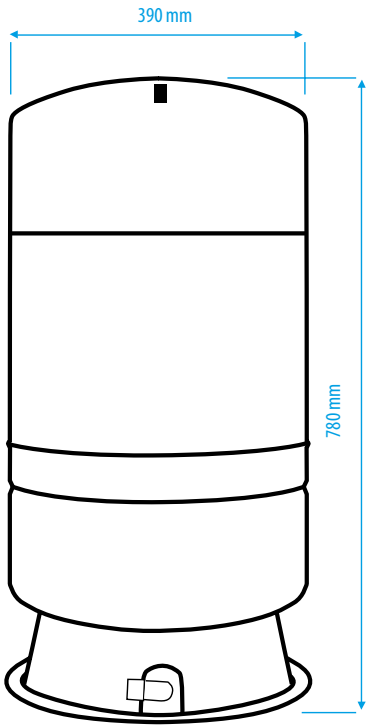
Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R30	30	+	+	254	-	1 class	30DR-TOC-00
R30 UV	30	+	+	185/254	-	1 class	30DR-TOC-UV
R30 UF	30	+	+	185/254	+	1 class	30DR-TOC-UF

Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R40	40	+	+	254	-	1 class	40DR-TOC-00
R40 UV	40	+	+	185/254	-	1 class	40DR-TOC-UV
R40 UF	40	+	+	185/254	+	1 class	40DR-TOC-UF

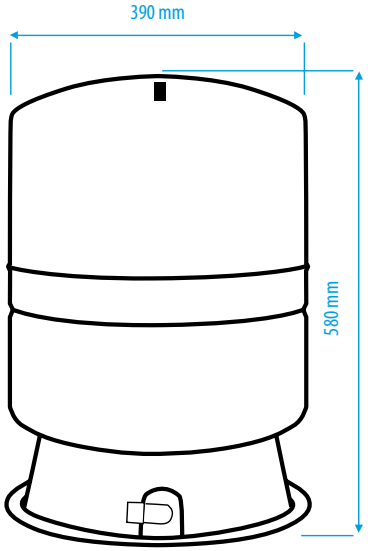
Model	Efficiency l/h	Microfiltration 0,2 µm	Pressure booster pump	UV lamp	Module UF	Standard PN-EN 3696:1999	Catalouge no.
R60	60	+	+	254	-	1 class	60DR-TOC-00
R60 UV	60	+	+	185/254	-	1 class	60DR-TOC-UV
R60 UF	60	+	+	185/254	+	1 class	60DR-TOC-UF

R5
R10
R20
R30

PRESSURE TANKS

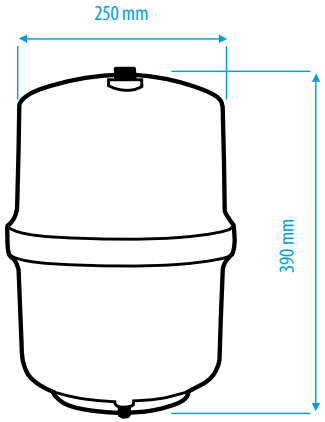


tank 80 l

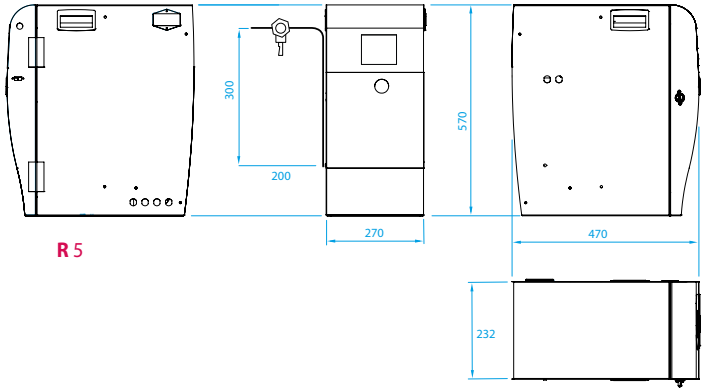


tank 40 l

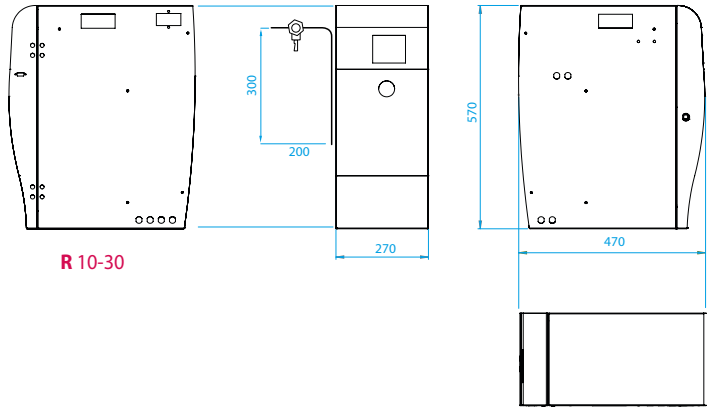
Model	Capacity	Catalogue no.
pressure tank	10 dm^3	**ZC-0010**
pressure tank	40 dm^3	**ZC-0040**
pressure tank	80 dm^3	**ZC-0080**
pressure tank	110 dm^3	**ZC-0110**
pressure tank	150 dm^3	**ZC-0150**
pressure tank	230 dm^3	**ZC-0230**
pressure tank	320 dm^3	**ZC-0320**
pressure tank	450 dm^3	**ZC-0450**



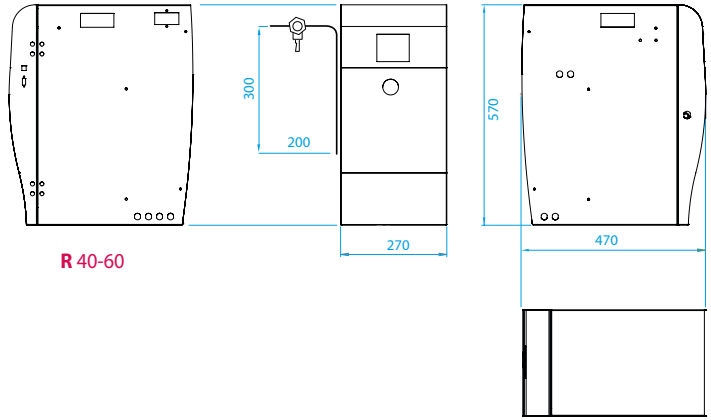
tank 10 l



R 5



R 10-30



R 40-60

1.0 INTRODUCTION

1.1 Safety of use

Please carefully read this manual before using. It contains all important information regarding safe installation, usage and maintenance of the device. Please keep this manual so you can use it in the future.

- After delivery please unpack the demineralizer and check if it is not damaged. In case of any damage please describe it in the delivery documentation.
- All installation and maintenance work may be done by the user.
- Repairs must be done only by the qualified personnel from an authorized service. The user must not attempt to repair the device by himself.
- Do not use the device if the plug, power cord or the device itself is broken or damaged.
- Check if the power cord has not been damaged after relocating the device.
- Caution, the demineralizer is heavy. Be very careful when relocating the device.
- Place the device in a suitable place.
- Perform regular maintenance tasks for a long-time and efficient operation.
- The manufacturer is not responsible for any damage caused by a wrong installation.

1.2 Feed water parameters

Devices are intended to purify tap or pre-cleaned water.

Pressure - from 4.0 bar (minimum) to 6.0 bar (maximum). A reduction may be used if necessary. If the pressure is too low, it is recommended to use a pressure pump.

Temperature - the temperature in the room should be between 5°C and 40°C. The feed water temperature should be between 4°C do 40°C.

Salinity (TDS) - should not exceed 1200 mg/dm^3.
Humidity - the humidity in the room should not exceed przekraczać 80%.

Hardness - should not exceed 250 mg CaCO3/dm^3.

Fe - should not exceed 0,2 mg/dm^3.

If any of these parameter requirements is not satisfied, it is recommended to extend the pre-filtration. Please contact our support.

1.3 Power supply parameters

Before connecting the device please make sure, that the voltage specifie on the device conforms with the voltage of your electrical grid.

- Voltage: 220-240V
- Frequency: 50Hz

2.0 GENERAL INFORMATION

The fully automated and unattended device has a microprocessor control and measurement system, that constantly monitors all the stages of water purification process. Obtained water fits the requirements of the PN-EN ISO 3696:1999, FP, ASTM standard for first water purity class.

It has extensive automation enabling work monitoring, data archiving, individual setting of alarm thresholds for parameters of feed water, reverse water osmosis and ultra-pure and control of the recirculation function and the automatic flushing of membrane modules.The systems are equipped with a number of safeguards allowing for comfortable operation of the device.

2.1 How it works

The demineralizer operates under tap water pressure. Water purification processes are fully automated and unattended. The purification process consists of the following stages:

1. Mechanical filtration
2. Sediment-carbon-softening filtration
3. Reverse osmosis (RO)
4. Mixed TOC bed demineralization
5. UV lamp 254 nm*
6. UV lamp 185 / 254 nm*
7. Microfiltration capsule
8. UF ultrafiltration module*

* depends on the model

2.2 Mechanical-sediment-softening filtration

5 µm pre-filter - sediment filter is used for preparing water for further treatment with the reverse osmosis. It consists of a polypropylene cartridge located in a transparent filter housing. It holds all types of mechanical contamination of a diameter larger than 5 µm.

Moduł A2 (sediment-carbon-softening):

- **Granulated activated carbon -** prepares water for the reverse osmosis process. It filters out all organical and chlorine-based contamination. Contaminants are sorped on the activated carbon.
- **Softening bed** removes calcium and magnesium ions, that are responsible for water hardness.
- **1 µm sediment filter** - the last element of pre-filtration, protecting the water for re-contamination. It filters out all of the mechanical contamination >1 µm.

2.3 Reverse osmosis module – RO

RO membrane holds up to 96-99% dissolved contamination (organic and non-organic), heavy metals, and radioactive elements of a 0.01 micron size. The osmotic water conductivity varies between 8-20 µS/cm. Semi-permeable osmotic membrane consists of many perforated layers wrapped around a core located inside the membrane. Contaminated water is pushed under pressure on the surface, where water particles by diffusion permeate through the membrane. The contamination is rejected and directed to the outflow. Purified water passes through pores to the core, and under pressure is directed outside the membrane.

2.4 Ion exchange bed demineralization

TOC ion exchange module - contains ion exchange beds in H^+/OH^- ion forms. Osmotic water is purified by deionization columns, where all remaining mineral salts are captured. In the ion exchange process ions and particles in water that have a particular current are bound by ion exchangers (ionites). After this process conductivity drops to 0,055 µS/cm.

The TOC series ion exchange modules are dedicated to research, where low organic carbon is required.

2.5 Lampa UV 254 nm*

The UV lamp is used for water disinfection. The device emits a radiation of 254 nm wave length, which causes a photochemical reaction that damages the DNA structure of microorganisms existing in water. The UV lamp consists of a radiation chamber, containing a UV radiator protected by a removable quartz cover installed inside. The water flows along the chamber between the lamp housing and the quartz cover. The UV lamp is used for water disinfection. The device emits a radiation of 185/254 nm wave length, which reduces TOC level by photooxidation of organic compounds.

2.7 Ultrafiltration module*

Ultrafiltration module reduces endotoxin R-nazis and D-nazis and suspended particle levels.

2.8 Microfiltration capsule 0,2 µm*

Microfiltration capsule - ready to use flow filter. Intended for sterilizing water. In a polypropylene housing there is a cascade membrane with 0,45and 2 µm pores. Working capacity is equal to amount of bacteria held on a defined area of membrane surface.

3.0 STRUCTURE

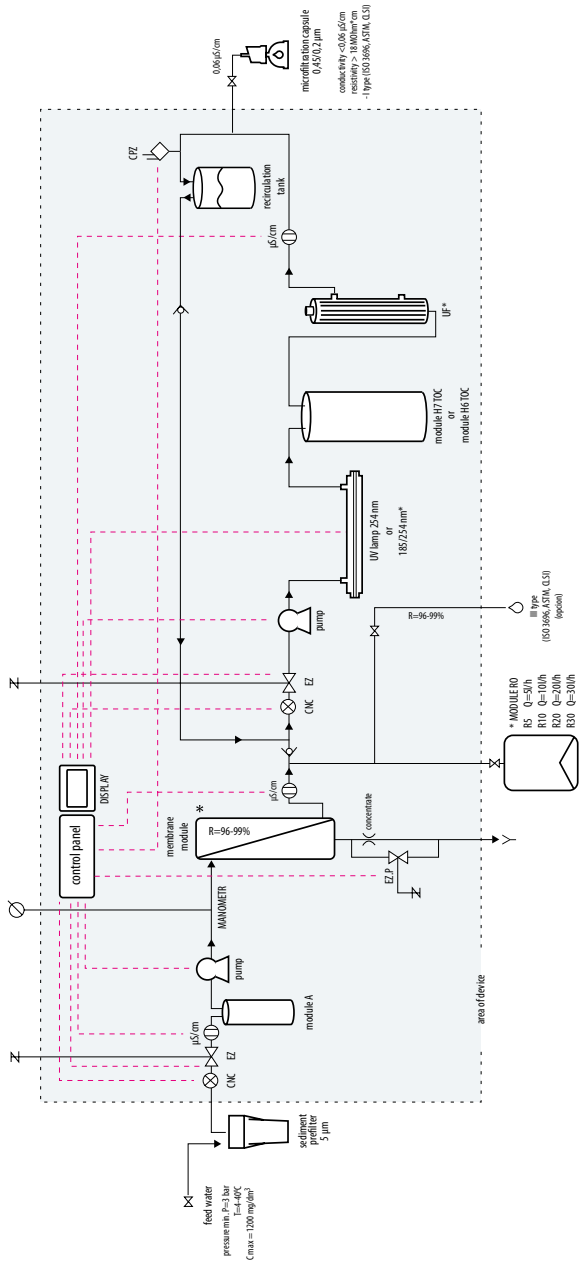
The device is equipped with:

- 5 µm sediment prefilter,
- module A2 (sediment-carbon-softening),
- membrane* and recirculation pump,
- membrane modules,
- ion exchange TOC module,
- reverse osmosis water storage tank,
- recirculation tank,
- 254 nm or 185/254 nm UV lamp*,
- conductometer measuring the feed/osmotic/demineralized water conductivity with an alarm informing about necessity to replace the ion exchange resins,
- manometer measuring the feed water pressure,
- low and high pressure sensors,
- microfiltration capsule,
- electrovalves,
- valves for the device cleaning and cutting off the feed water when idle,
- control system,
- ultrafiltration modules*,
- automated membrane modules cleaning,

** depends on the model*

- .....
- .....

3.1 Construction diagram of R serie



3.2 Type C automatics

- 24 V automatics with a microprocessor control and measurement system.
- Color LCD screen with Touch Panel.
- Conductometer measuring conductivity and temperature of feed/osmotic/purified water in µS/cm lub MOhm.
- Temperature compensated and uncompensated values view.
- Clock displaying date and time.
- System status information.
- Membrane module retention level.
- Tank fill level.
- Water dosing (option).
- Graphic and sound prealarms and alarms:
  - when need to change an A2 module (mechanical-carbon-softening),
  - when need to change an ion exchange module,
  - when need to change a UV lamp (in models containing a UV lamp),
  - when need to change a microfiltration capsule,
  - when need to change a ultrafiltration module.
- Service dates view.
- Built-in RS 232/USB to connect with a computer for individual adjustment of alarm levels and maintenance procedure frequencies.
- Software.
- Feed water manometer.

4. INSTALLATION

READ BEFORE INSTALLING

- The best results are achieved when the demineralizer is fed by softened water.
- The feed water must fit the requirements specified in the pt. 1.3 (temperature, pressure, etc.)
- Performing a quality analysis helps with selecting a proper initial purification.
- The cartridges should be replaced regularly with the frequency described further in this manual.

Please remember to put into tubes (ended by caps) attached inserts.
In case of quick-connectors just put an evenly cut tube into the connector.

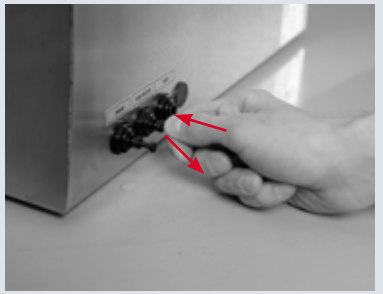
4.1 Device installation

Step 1

Unpack the device and place it in a suitable place.

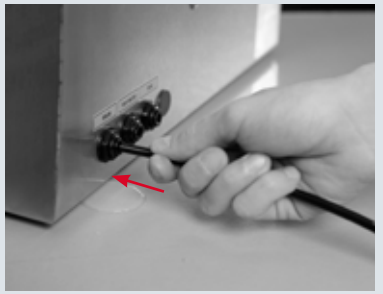
Step 2

Feed valve installation. Due to varying local conditions, the feed valve provided by the manufacturer has two reductions: ½" i ¾". Make sure that the main valve cutting off the feed water is closed and water in the feed pipe is not under pressure. Make sure that the demineralizer is fed by cold water.



Step3

Connectors to a tank, feed and waste water are located on the left side of the device: **FEED, REJECT, TANK**. They are protected by caps. To remove the cap, press the quick-connector ring and remove the caps.

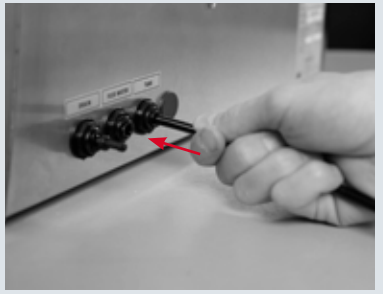


Step 4

5 µm sediment prefilter should be installed between the tap connection and the demineralizer in the place **FEED**.

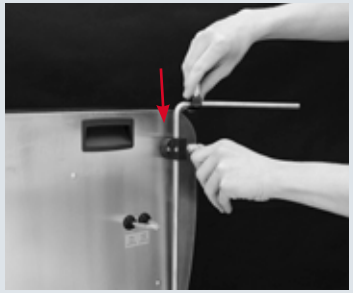
Step 5

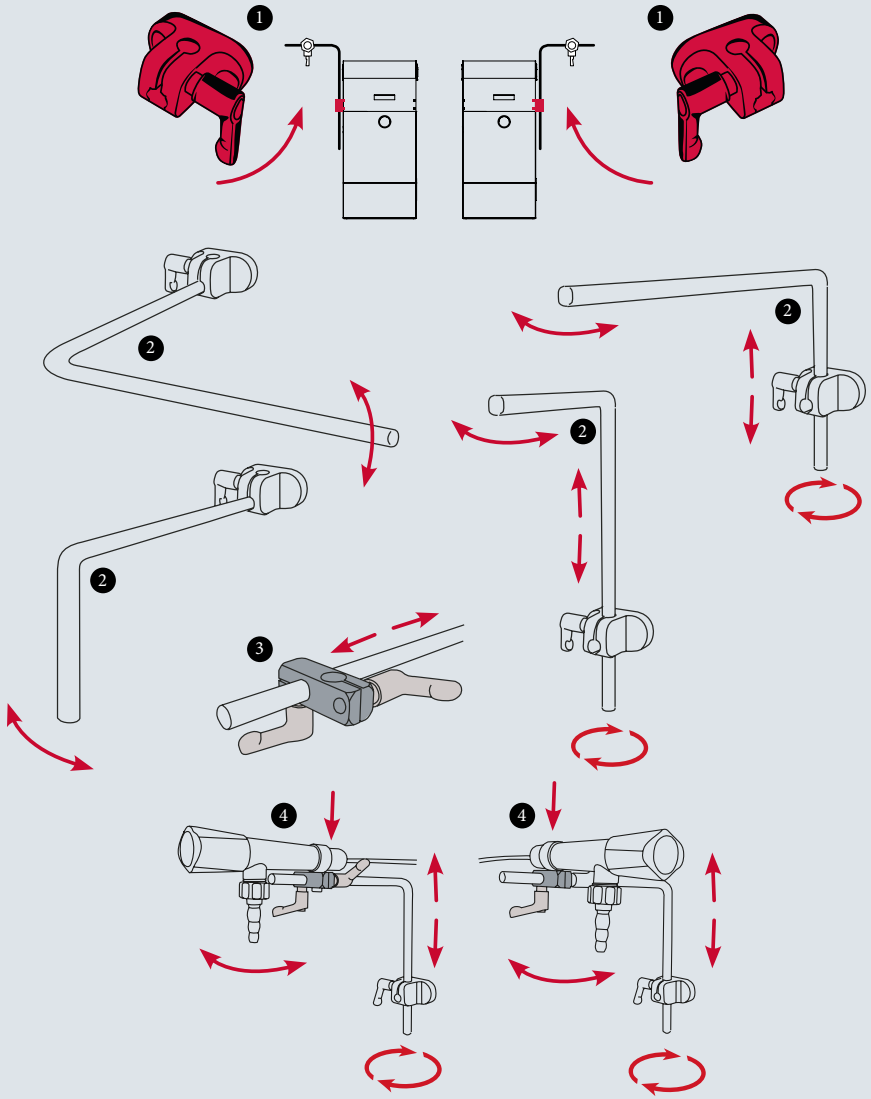
Tank installation. Pick a suitable place and connect the tank with the demineralizer in the place **TANK**. Screw the valve into the tank and turn it into **ON** position.



Step 6

The kit includes an INOX arm holder (1), which can be screwed on the right or left side of the device. The INOX arm (2) should be placed in the holder. It is used to attach the water tap. Then mount the tap handle (3) and the tap itself (4).



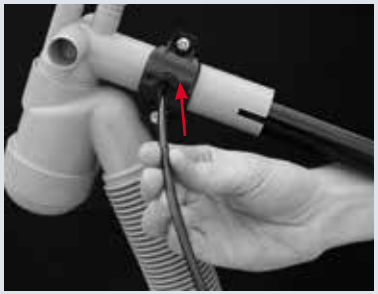


Step 7

Connect the demi water tap with the proper connector located on the demineralizer in the place **H2O TAP** and put it into the handle.

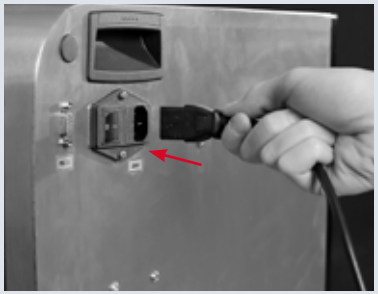
Step 8

Drainage connection. Drainage connector provided by the manufacturer is intended for using it with a pipe of a 50 mm diameter. Make a 4-5 diameter hole in the drainage pipe. Stick the gasket around the connection clasp and install it in the drainage pipe in the place, where the hole has been made. Using a pipe, connect the drainage clasp with the demineralizer in the place **REJECT**.



Step 9

Connect the power cord with the electric socket and the 230 V power supply socket.



Step 10*

Connect the breathing filter by pressing it into the „add filter" socket

CAUTION:

It is advised that the demineralizer should be operating every day for at least 15 minutes.

Step 10*

General laboratory water intake point

1- Connecting an additional tank

In the case when the system is equipped with an additional tank for storing water of the III degree of purity it should be connected to the system in the place marked **III degree of purity**.

2- Connection to dishwasher / autoclave / or other laboratory equipment

- Connect the attached connector to the dishwasher / autoclave / climate chamber or other.
- This connection has a corresponding reduction for connection to the device

3. Installation of an additional tap

- If the point contains also a tap for water collection install it in the inox arm.
- Connect the tap cord to the socket **III TYPE 3696.**

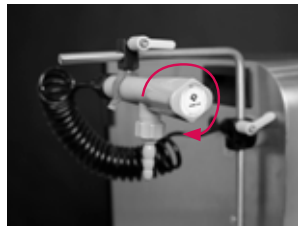
CAUTION:

Amount of purified water stored in a pressure tank depends on a sum of tap water and membrane pump pressure (if equipped). Differences in volume of stored water may be up to 30%.

5. TURNING THE DEMINERALIZER ON AND OFF

Step 1

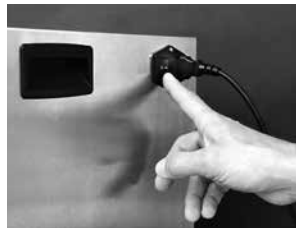
- Check all connections.
- Turn the power switch to "1".



Step 1

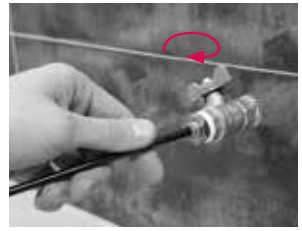
Pressure leakproofness test:

- open the feed water valve,
- open „TAP WATER". When water appears - close it,
- check if there are no leaks present.



Step 3

- Open the tank valve.



5.1 Turning off the device.

- Turn the power switch to "1",
- close the feed water valve,
- close the tank valve.

CAUTION!

If idle for longer periods of time main valve may be closed and the tank may be emptied.

6. MONITORING FUNCTIONS

Demineralizer has its own control system informing the user of necessity to replace particular cartridges. It also has a keyboard allowing to adjust maintenance procedures frequencies and alarm levels. A built-in conductometer measures the conductivity and temperature of purified water, and feed water pressure. Pressure value determines the system operation status (if it is operating, the value is equal to the pressure applied on RO module; if it is turned off, it equals zero)

6.1 Control and measurement panel

The device contains an automatics with a microprocessor control and measurement system that has Touch panel (models with automatics of type C)

> CAUTION!
> Reading all of the parameters displayed on the panel should take place during system operation (while collecting water - tap open). All alarms should be verified during water collection (tap open) - collect at least 0.5 l of water.

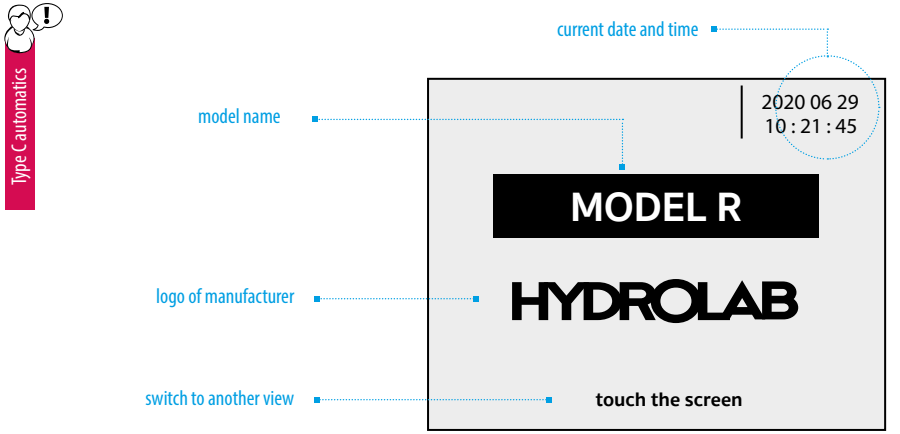
6.2 Protection

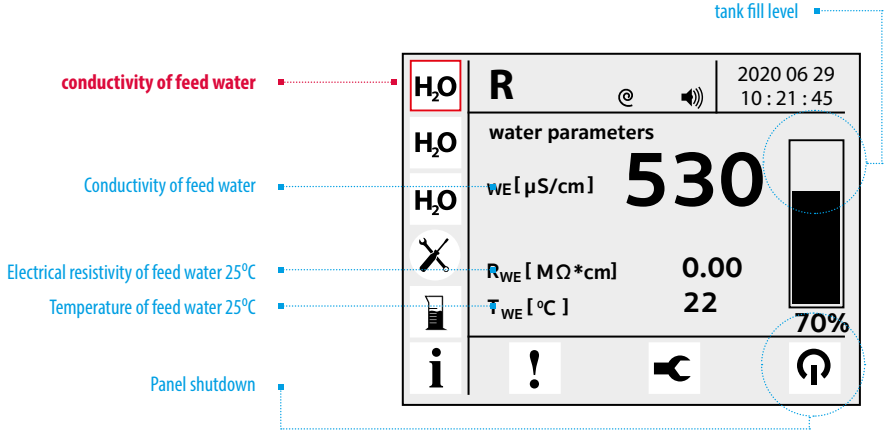
The demineralizer turns on automatically when it is delivering water and operates until it refills. When the tank reaches the proper pressure, the device will disconnect the feed water, and the manometer will indicate 0 bar. R series demineralizers are additionally equipped with a membrane pump and high/low pressure sensors for fully automated operation (without R5).

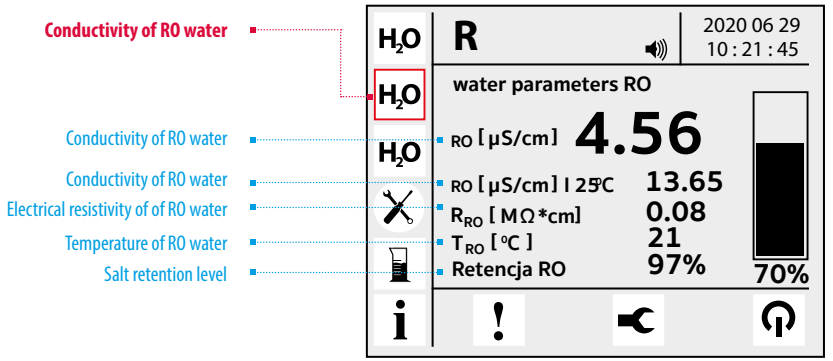
Automatic pump shutdown is triggered when:
- the pressure is too low,
- the tank is full,
- no tap water is being provided.

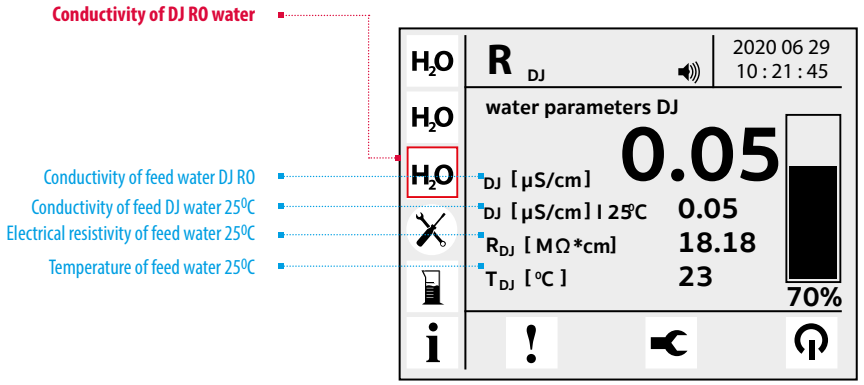
Thermal RO module operation protection, automated system shutdown when the feed water temperature is below 4˚C or above 40˚C. Pump can be shut down if any alarm occurs.

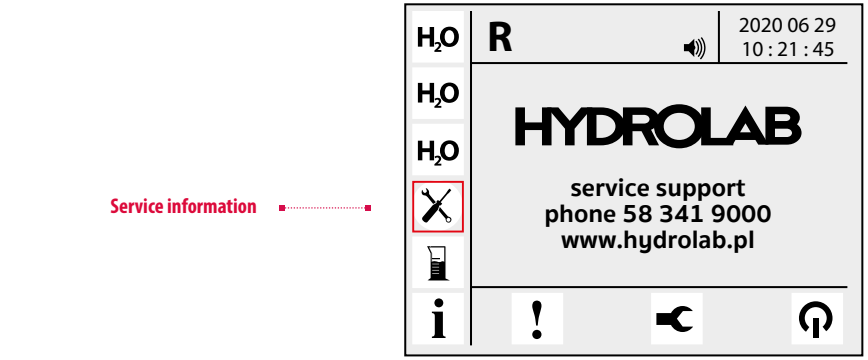
Type C automatics

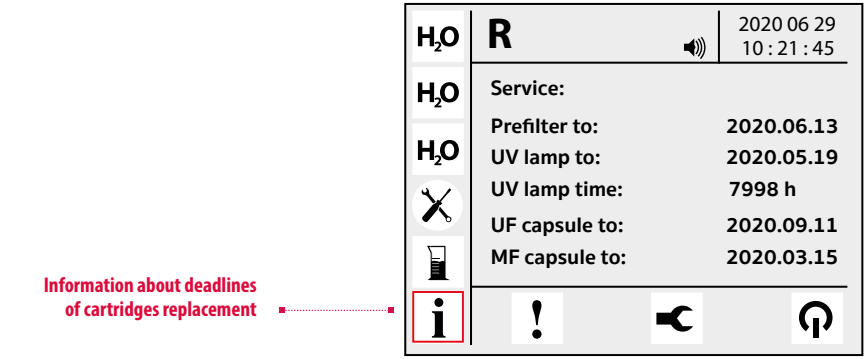


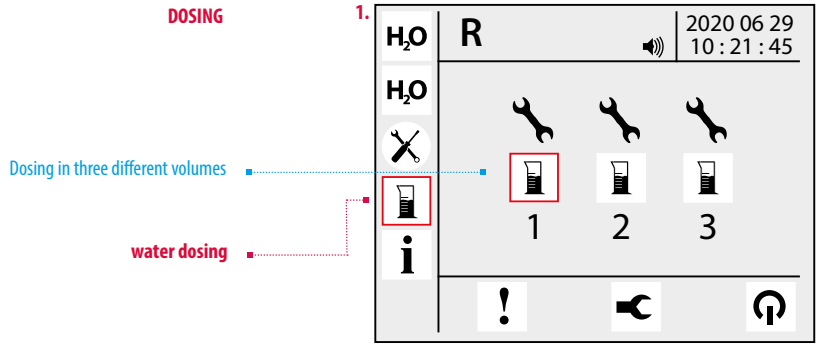


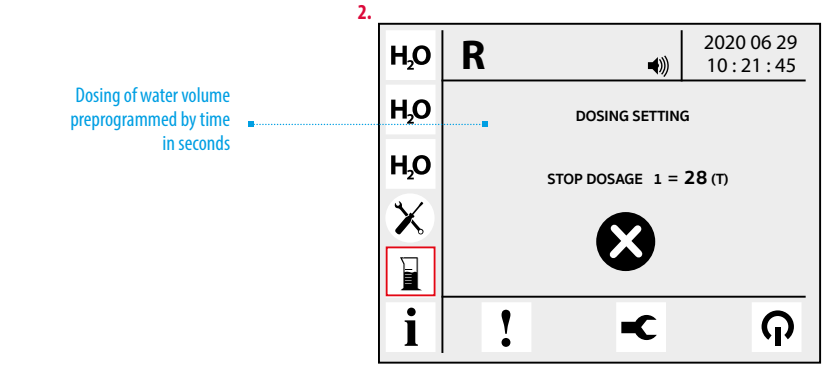


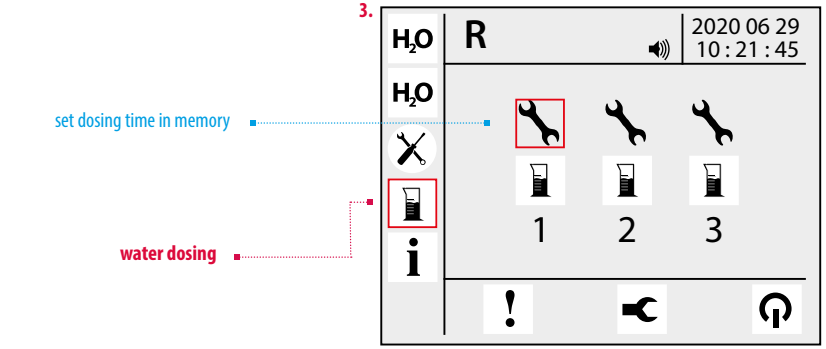

Conductivity of DJ RO water
Conductivity of feed water DJ RO
Conductivity of feed DJ water 25°C
Electrical resistivity of feed water 25°C
Temperature of feed water 25°C
R DJ
2020 06 29
10 : 21 : 45
water parameters DJ
0.05
DJ [µS/cm]
DJ [µS/cm] I 25°C 0.05
R DJ [MΩ*cm] 18.18
T DJ [°C] 23
70%


Service information
HYDROLAB
service support
phone 58 341 9000
www.hydrolab.pl

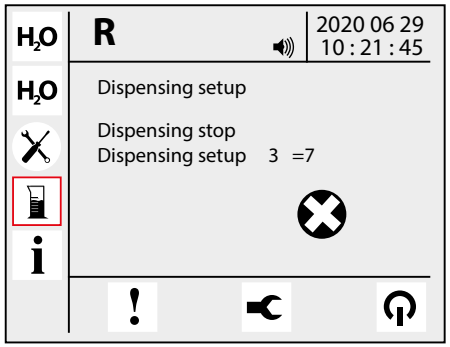

Information about deadlines of cartridges replacement
Service:
Prefilter to: 2020.06.13
UV lamp to: 2020.05.19
UV lamp time: 7998 h
UF capsule to: 2020.09.11
MF capsule to: 2020.03.15


DOSING
1.
Dosing in three different volumes
water dosing
1
2
3


2.
Dosing of water volume preprogrammed by time in seconds
DOSING SETTING
STOP DOSAGE 1 = 28 (T)


3.
set dosing time in memory
water dosing
1
2
3

4.

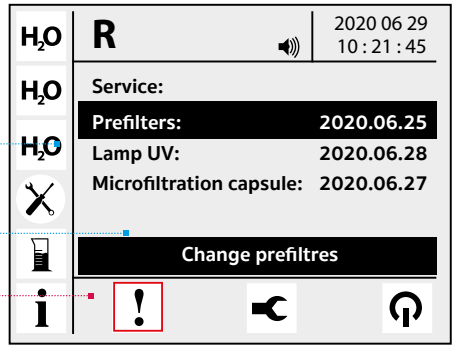


Change dosing time parameter
(3 different variants)

alarm list

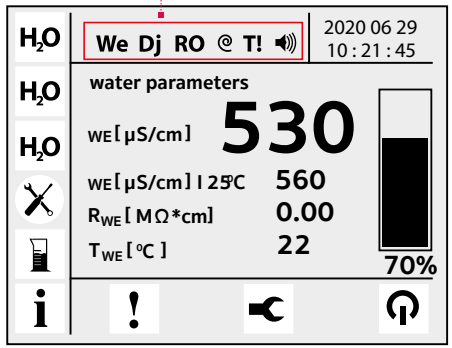
alarm set

system information

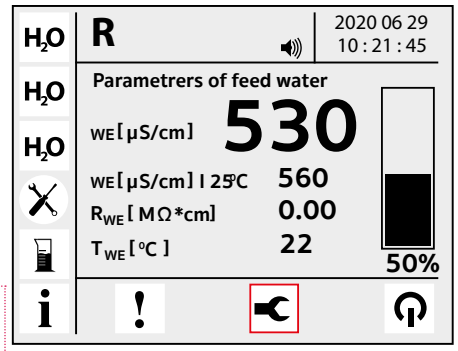


Icons

We - bad water quality
DJ - out of range
RO - out of range
@ - cleaning turned on
T! - uruchomione alarmy
- mute

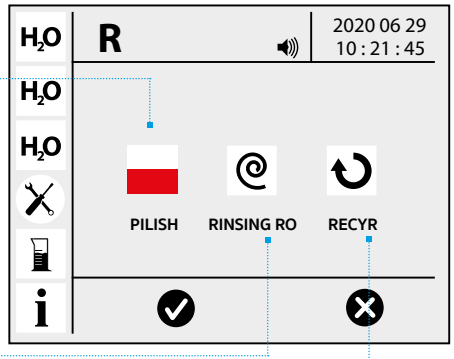


1.



set parameters

2.



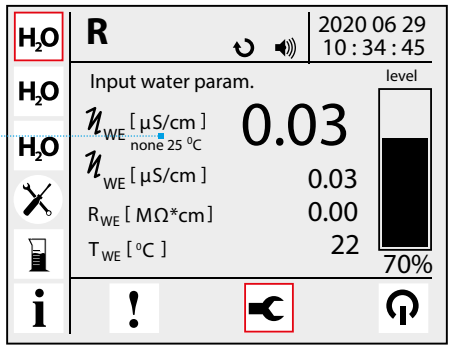
language select

RO membrane cleaning

Recirculation

COMPENSATION

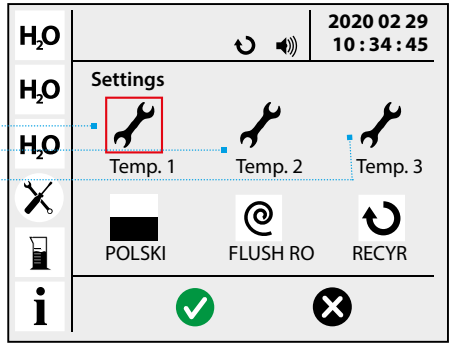
1.



NONE 25°C - compensation turned off

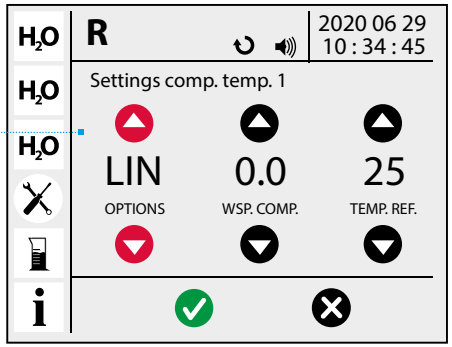
set parameters

2.



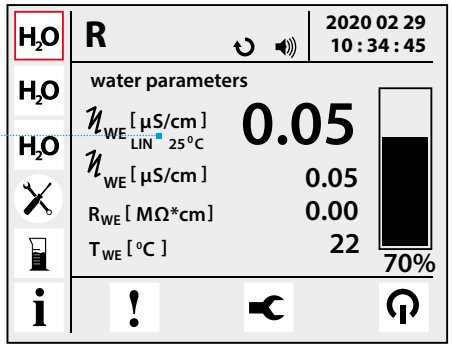
Temp. comp. 1 - feed water
Temp. comp. 2 - RO water
Temp. comp. 3 - Purified water

3.



Mode:
LIN - linear compensation
NONE - compensation turned off

4.



LIN 25°C - turned on compensation confirmation

7. MAINTENANCE

Maintenance procedures consist of replacing the filter cartridges.

These are:

- pre-filters: 5 µm, A2 module (sediment-carbon-softening),
- ion exchange module,
- microfiltration capsule 0.45/0.2 µm,
- RO module,
- UV lamp radiator,
- ultrafiltration module.

* depends of models

ATTENTION:

List of cartridges for particular demineralizer models is located at the end of this manual.

7.1 Pre-filters replacement

Prefilters are: 5 µm prefilter, module A2. Replacement frequency depends on the quality of feed water. Due to hygienic reasons, checking should be performed at least once every 6 months. This procedure may be performed by the user. About the necessity to replace the filters the user is informed by the display screen on the control system. It displays an information **Replace module A2** and triggers a **sound alarm.**

Step 1

Turn off the device and close the feed water valve.

Step 2

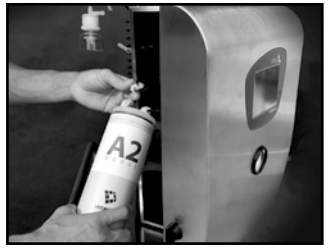
5 µm pre-filter cartridge replacement.

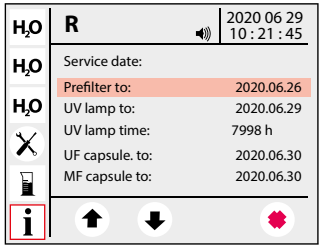
- Twist off the filter housing using a hand or a key.
- Inside the housing there is a rubber gasket - don't lose it.
- Take off the cartridge and put in a new one
- Twist in the housing with a new cartridge until a slight resistance, and then until the end.

Step 3

Module A2 replacement:

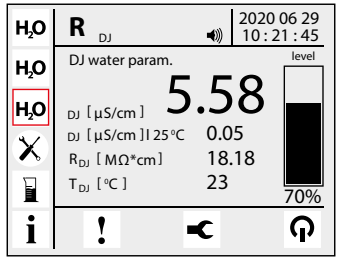
- open the front door of the device
- disconnect the exhausted module A2
- connect a new module, mind flow directions
- check that no cords are bent
- close the front door of the device

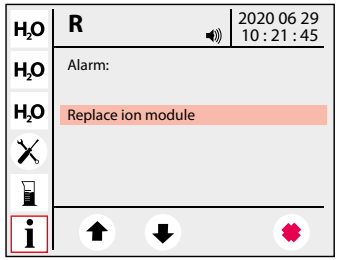




7.2 Ion exchange cartridges replacement

This should be done if purified water conductivity rises above 4 µS/cm. In such case the device displays an alert **DJ** and triggers a sound alarm, also the conductivity value indicator is colored in red.





CAUTION!

After replacing the ion exchange resin first 10 dm^3 of produced water should be wasted.

Step 1

- Turn off the device and close the feed water valve.
- Close the tank valve.

Step 2

Ion exchange module replacement:

- Open the front door and disconnect the exhausted ion exchange module.
- Connect a new module, mind the flow directions.
- Close the front door.

Step 3

- Open the main valve
- Check if there are no leaks.

Step 4

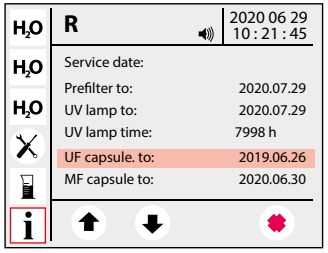
The message **replace module H7/H6** disappears automatically, when water conductivity drops below 4 µS/cm.

7.3 Microfiltration capsule replacement

The lifetime of a microfiltration capsule is 12 months. The system displays a notification **replace MF** and triggers a sound alarm when the capsule needs to be replaced. Microfiltration capsule can be regenerated during its operation. It is based on back-flushing and autoclaving the capsule in the max. temperature: 134°C (duration: 30 mins). A capsule may be regenerated up to 3 times.

To change the capsule:

- Disconnect the old capsule installed in the I class water quality tap.
- During the procedure the tap valve must be closed.
- Connect the new capsule.
- Reset the alarm in the **i** tab.



7.4 UV radiator replacement

After one year of lamp operation the system triggers a loud alarm reminding that the radiator needs to be changed to keep an optimal disinfection performance. This may be done by the user. On the display screen there is a highlighted in red alert **T!** and a sound alarm is triggered. To check the details enter the **i** tab which displays an alert highlighted in red **UV lamp to:** (date when it must be replaced). There is also a service suggestion below: **Replace UV lamp**.

Step 1

- Turn off the device and close the feed water valve.
- Close the tank valve.
- Open the front door.

Step 2

Disconnect the radiator from power supply. Twist off ground cable, take off the radiator joint. Slide off the radiator from the reaction chamber.

Step 3

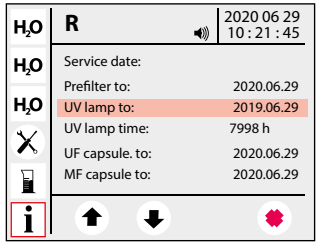
To install a new radiator, carefully take it out from the packing - do not touch its transparent surface (if there is any dirt on it, wash it with alcohol). Carefully slide it into the housing, put on the joint, screw in the ground cable and turn on the device.

CAUTION!

The radiator is very fragile. Be very careful with it.

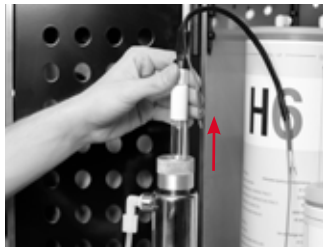
Step 4

- Open the feed water valve.
- Check that water is not leaking.
- Open the tank valve.



Step 5

- Turn on the demineralizer,
- Reset the radiator alarm in the **i** tab.



7.5 RO module replacement

The RO module can operate up to 3-4 years about. Lifetime of membrane cartridges varies depending on flow, its parameters and level of feed water contamination. Replacement procedure may be done by the user.

CAUTION

Do not attempt to repair the device by yourself.

Unauthorized repairs may seriously damage the device and be hazardous for users.

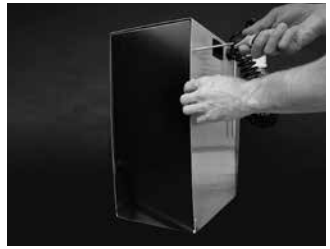
Symptoms of RO malfunctioning:

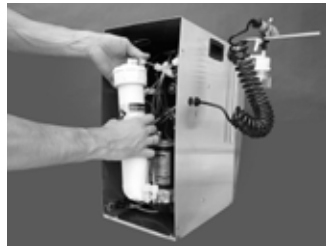
- Worse efficiency, slower flow rate.
- Shorter ion exchange columns lifetime.
- Higher conductivity of osmotic water (exceeding alarm level).

Replacement must take place when the osmotic water conductivity exceeds 30 µS/cm. The device informs the user when it occurs by showing an alert **RO** on the display screen and triggering a **sound alarm**. Also the conductivity value is colored in red. To check the details enter the **„i"** tab which displays an alert highlighted in red **Check RO module**.

To replace the RO module:

- open the back door - unscrew four screws on the sides first,
- disconnect the exhausted RO module from tubes and replace it with a new one, mind flow directions,
- close the back door and screw in the screws on the side.





7.6 UF ultrafiltration module replacement

The ultrafiltration module can operate up to 12 months. It can be replaced by the user. The device informs the user when this module must be replaced by showing an alert **T!** on the display screen and triggering a sound alarm. To check the details enter the **i** tab which displays an alert highlighted in red **UF capsule. to** (date when it must be replaced)". Below there is also a service suggestion **Replace UF capsule**.

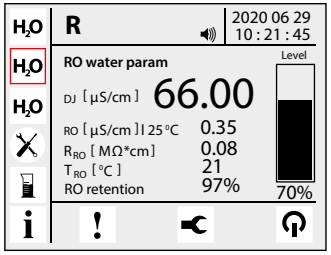
To replace a UF module:

Step 1

- Open the front door.
- Disconnect the exhausted UF module.
- Connect a new module, mind flow directions.
- Check that no tubes are bent.
- Close the front door.

Step 2

- Open the feed water valve.
- Check that no water is leaking.
- Reset the alarm in the „**i**" tab.



7.7 Sanitation

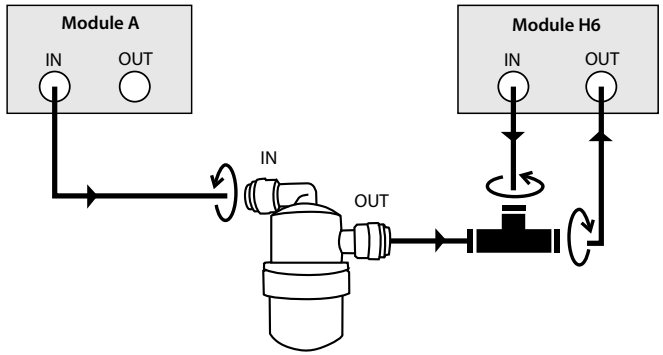
Sanitation must be performed when changing ion exchange resins and least every 12 months.
When sanitizing follow the instructions for safe use provided in the Sanitation Agent Specification Card.

Sanitation set:

- Sanitizazation chamber
- Sanitation agent: Chloramin T sodium salt.
- Connector set and backup tube.

Procedure:

- Close feed water valve.
- Fill sanitization chamber with sanitation agent -1 pack.
- Sanitize with empty tank. Empty the tank first.



- Close tank valve.
- Disconnect ion exchange module (H6 or H7).
- Disconnect module A2.
- Connect sanitation chamber (according to schema):
  - Tube "IN" from module A2 to sanitation chamber in place "IN".
  - Tubes "IN" and "OUT" from H6 module with T-connector in tube "OUT" to sanitation chamber.
- Open feed water valve.
- Open tank valve.
- Leave for 1-2 hours.

- Close feed water valve.
- Dismount microfiltration capsule.
- After given period empty the tank through H2O tap.
- Open feed water valve.
- Fill the tank to 100%.
- Empty the tank.

CAUTION

Repeat this procedure 2-3 times

After final tank emptying disconnect the sanitation chamber and connect tubes with connector provided in the sanitation set. Install new A2 and ion exchange modules. After service and sanitation first full volume of the tank should be wasted to clean new ion exchange module, tank and tubes.

CAUTION!

The user should not attempt to repair the device by himself.

Repairs done by an unauthorized personnel are hazardous to health and life.

8. WORK SAFETY REGULATIONS

In particular the user should not:

- touch the switches with wet hands,
- touch the tubes with sharp objects.

9. MALFUNCTIONS

Some kinds of damage occur due to not performing simple maintenance tasks or other overlooks and can be fixed without calling the service. Unnecessary service call to fix these kinds of damage will be charged, even during the warranty period.

CONSUMABLE **PARTS**

Model	Sediment filter 5 µm	Module A2	GAC 10	Module H7 TOC	Module H6 TOC	Microfiltration capsule 0,2 µm	UV lamp radiator 254 nm	UV lamp radiator 185/254 nm	Module UF
R 5	+	+	-	+	-	+	+	-	-
R 5UV	+	+	-	+	-	+	-	+	-
R 5UF	+	+	-	+	-	+	-	+	+
R 10	+	+	-	-	+	+	+	-	-
R 10UV	+	+	-	-	+	+	-	+	-
R 10UF	+	+	-	-	+	+	-	+	+
R 20	+	+	-	-	+	+	+	-	-
R 20UV	+	+	-	-	+	+	-	+	-
R 20UF	+	+	-	-	+	+	-	+	+
R 30	+	+	-	-	+	+	+	-	-
R 30UV	+	+	-	-	+	+	-	+	-
R 30UF	+	+	-	-	+	+	-	+	+
R 40	+	-	+	-	+	+	+	-	-
R 40UV	+	-	+	-	+	+	-	+	-
R 40UF	+	-	+	-	+	+	-	+	+
R 60	+	-	+	-	+	+	+	-	-
R 60UV	+	-	+	-	+	+	-	+	-
R 60UF	+	-	+	-	+	+	-	+	+
lifetime	6 months	6 months	6 months	2000 dm^3*	5000 dm^3*	12 months	8500 h.	8500 h.	12 months
Cat. no.	EO-005-10	EO-MA-12	EW-001-10	EJ-2000-1	EJ-5000-1	EM-SP-20	EUV-254-HLP	EUV-185-254-HLP	EU-HLP-01

CE

HYDROLAB®
SYSTEMY UZDATNIANIA WODY

DECLARATION OF CONFORMITY

Manufacturer: **Hydrolab Sp. z o.o. Sp. K.**
Manufacturer Adress: **ul. Wesoła 1, 83-010 Straszyn**

We hereby declare, that water purification systems (deminalizers) HLP
(models: R5, R5UV, R5UF, R10, R10UV, R10UF, R20, R20UV, R20UF, R30, R30UV, R30UF), conforms requirments of directives:

- Low Voltage Directive (LVD). Nr 73/23/EEC, 93/68/EEC, 2006/95/WE, 2014/35/EU
- Electromagnetic Compability Directive (EMC) Nr 89/336/EEC, 92/31/EEC, 93/68/EEC, 2014/30/EU

The conformity assessment used the following standards:

- PN-EN 61326 Electrical equipment for measurement, control and laboratory use - EMC requirements.
- PN-EN 61010 Safety requirments for electrical equipment for measurement, control and laboratory use.
- PN-EN 62311 Assesment of electronic and electrical equipment related to human exposure restrictions for Electromagnetic Fields (0 Hz - 300 GHz).

The last two digits of the year in which the CE marketing was done: 14.

HYDROLAB
Sp. z o.o Sp. K.
ul. Wesoła 1, 83-010 Straszyn
NIP 604-015-22-97 KRS 0000392441

Printed N. Przemysław Ganczarek

Przemysław Ganczarek

WARRANTY

1. The Hydrolab company provides a warranty for the demineralizer:

   Model: .....

   Serial no.: .....

   Membrane no. .....

2. Warranty period: 12 months.
3. The warranty is valid only if the user respects the parameters and usage instructions included in the manual.
4. In case of any malfunction it will be removed in:
   - 3 working days after delivery (cost covered by the warrant) to the service to the address: Hydrolab Sp. z o.o., ul. Wesola 1, 83-010 Straszyn, Poland
   - 10 working days on the user's location.
5. The warranty does not cover any mechanical damage and damage occurred due to:
   - wrong usage (ex. no servicing)
   - wrong installation
   - repairs performed by unauthorized people
   - feed water not matching the standards described in the manual
6. The warranty does not cover the disposable materials of lifetime depending on the flow rate, its characteristics, contamination type and level.
7. The warranty period is exceeded by the time the device remains at the warrant's location for repairing.
8. Repairing the device by unauthorized service renders the warranty invalid.
9. When receiving the demineralizer, the user is obliged to pay the costs occurred due to the user's fault.

date, signature and stamp of company

date and buyer's signature