cebion

User Manual



Member, Water Quality Association





System Tested and Certified by NSF International against NSF/ANSI Standard 58 for the reduction of TDS



Figure 3: Scheme of reverse osmosis system

Main water Water with sediment elimiated Water with Sediment and **Chlorine Eliminated** Drinking water Wastewater 1. Adapter 2. Pressure regulator 3. Water leakage shut off 4. Low pressure switch 5. 5 micron sediment filter 6. Pump (Pressure pump) 7. Granular activated carbon filter 8. 1 micron sediment filter 9. Automatic shut off valve 10. Membrane filter 11. Post carbon filter (with pH stabilizer) 12. Alkaline filter (option) 13. High pressure switch 14. Flow restrictor 15. Tank valve 16. Clean water tank 17. Clean water tap

COMPONENT FUNCTIONS

5 MICRON SEDIMENT FILTER - retains solids and particles up to 5 microns.

GRANULAR ACTIVATED CARBON (GAC) FILTER - retains free chlorine, chlorine compounds, organic matter and removes unwanted odor.

1 MICRON SEDIMENT FILTER - retains GAC carbon dust to prevent membrane clogging. Retains solids and particles down to 1 micron.

MEMBRANE FILTER - this is where reverse osmosis takes place. A long film made of semi-permeable material is spirally wrapped around a permeable tube to collect filtrate to produce a two-layer film. A mesh-shaped permeable channel separator placed between the layers to prevent sticking of the layers, and to allow clean water to pass between the layers into the openings on the tube. The tube is a plastic tube with one end closed, the other end allowing water coming from the film bag through the holes to drain into a reservoir or spigot. The two long sides and one short side, are welded together with a release material to prevent water leakage from the sides other than the tube side. The membrane film looks like a long bag where all sides, are welded and closed except the end on the tube side. The film bag with another separator in the form of a mesh wrapped around the tube together, the film and the separator form a spiral. This divider is a space between the turns of the film bag to allow water to pass through and reach the surface of the entire film. Some of the water penetrates the interior of the film bag under pressure, and drains from the opening at the outlet of the tube, while the contaminated water passes at a sliding angle across the surface of the film in a flow called flip flow, some water enters the interior of the film as pressurized fresh (drinking) water (Figure 3).

ALKALINE FILTER The alkaline filter helps to balance the pH level of the water.

THE CLEAN WATER TANK has an inner surface coated with a food contact safe plastic material that keeps the clean water hygienic.

THE PLASTIC VALVE OF THE TANK controls the inflow and outflow of water.

THE LAST CARBON FILTER enriches the water by adding minerals before

the fresh water contained in the tank comes directly from the membrane and flows through the faucet, and adjusts the pH level.

THE FLOW RESTRICTOR ensures that the required pressure is built up in the membrane by restricting the flow to perform the reverse osmosis process. It is installed in the line at the point where the wastewater is discharged.

DRINKING WATER TAP is the tap that draws clean water from the tank through the last carbon filter. Low pressure switch stops the pump when the water is turned off or low pressure (below 0.2 bar (3 PSI)) from the water supply.

WATER PUMP (PUMP) increases the pressure of the pre-filtration water to the level required for the membrane to function.

AUTOMATIC SHUTOFF VALVE controls the flow of water. This valve shuts off the flow of water when the required pressure difference between the tank pressure and the incoming pressure is reached to close the valve.

THE HIGH PRESSURE SWITCH stops the pump when the pressure in the tank filled with clean water reaches 2.7 bar (40 PSI).

THE TRANSFORMER is the power source of the pump, it converts the mains AC voltage into 24 V DC voltage.

FIELDS OF USE

This device is used to obtain drinking water from tap water that has gone through municipal treatment processes. This water must be microbiologically safe, having undergone the necessary disinfection. If the water parameters are within the following ranges, efficient operation of the appliance is ensured. Systems designed for sea water, well water, sludge water, etc. and for water with very high TDS (dissolved solids) values are also available.

Temperature	5 ℃ - 38 ℃ / (38 ℉ - 100 ℉)
Operating Pressure	40 psi-145 psi / (2,8 бар-10 бар) / (275 kPa - 1.000 kPa)
рН	6,5 - 9,5
Maximum Fe	0,2 (ppm=мг/л)
Максимум TDS	1250 (ppm=мг/л)
Turbidity	5 NTU
Hardness	17 °Fr-10 °dH - 170 мг/л СаСО3

TECHNICAL SPECIFICATIONS

Tank capacity	6,5 л (100 psi/689 kPa)
Air tank pressure	6-7 psi (40-48 kPa)
Daily capacity	67,04 галлонов в сутки (253,77 L/day)
Purification rate	%85 - %98
Pump flow rate	0,8 L/Mn-1,2 L/mn
Pump pressure	80 psi-110 psi (551-758 kPa)
Power supply pump	24 VDC, max. 1,2 A
Tank size	Diameter: 20 cm, Height: 26 cm
Device size (mm)	450x210x375 mm
Box size (mm)	470x450x380 mm
Total weight	11,2 kg

- Do not use this system with any microbiologically hazardous water that has not been properly disinfected before or after use, or its quality is unknown. This instrument, which is certified for microbial purification, may also be used in waters containing microorganisms despite disinfection.

- The Cebilon Reverse Osmosis System contains critical components that must be replaced periodically to effectively purify all dissolved solids (TDS). The water from the unit must be tested periodically to verify system efficiency.

- Your unit contains critical components that must be replaced periodically to maintain system efficiency. These critical components must be replaced with components and filters with the characteristics specified by the manufacturer so that the system can operate continuously with the same efficiency and performance.

OPERATING PRINCIPLE

The first filter in the system is a 5-micron sediment filter where solids settle. The water from the sediment filter enters the next stage of treatment in the carbon filter. The granular active carbon (GAC) filter retains organics, particularly free chlorine, and eliminates unwanted odors, carbon compounds, and other particles that may pass through the sediment filter, given that chlorine passes through the 1-micron sediment filter, and the assurance of filter cleaning before the membrane, which is fully compliant with the procedure. This is also a factor in the life of the membrane. Water, is treated in three pre-filters, dissolved metal ions in the water are filtered in the membrane, which is the basis of reverse osmosis water purification system; small particles, bacteria, viruses are retained to a large extent and discharged into the wastewater. Among these ions, there are many heavy metal ions, sodium, lead, arsenic, nitrates, asbestos, etc. While the wastewater containing high concentrations of undesirable substances is discharged from one line of the flip-flow membrane, the clean water from the other flip-flow line is collected in a pressurized clean water tank (tank). For the membrane to work properly and last long, the volume of wastewater must always be several times the volume of clean water. Through the accumulated water in the pressurized tank, water is delivered faster. The usable tank capacity of your unit is 6.5 liters (approximately 2.2 gallons)

INSTALLATION

Your unit is very practical in application and the water treatment unit can be easily installed anywhere. Your unit must be installed by Cebilon authorized service technicians. The Cebilon reverse osmosis system contains critical components that must be replaced periodically to purge all dissolved solids (TDS). The water from the unit should be tested periodically to verify system performance. Free chlorine can affect the structure of the membrane filter polymer that is inside the system. Please read the installation, operation, maintenance and warranty instructions. The installation diagram of the unit is shown in Figure 4.

WARNING

- 1. Measures must be taken to prevent the unit from freezing
- 2. Do not obstruct the free flow of waste water

3. In case of contaminated water (high content of mud and sludge) from the water supply network, it is necessary to cut off the water supply.

4. When using a water source other than the municipal water supply network, obtain an expert opinion on the suitability of the water source for drinking .5. Make sure that the water source is disinfected.

6. The warranty does not cover the filters of the device, as the filters are consumables.



- 1- Cebilon RO
- 2- Water supply valve
- 3- Water inlet on the unit
- 4- Waste water outlet
- 5- Reverse osmosis water outlet (clean water)
- 6- Clean water tank water outlet
- 7- Electricity connection
- 8- Waste water bracket
- 9- Clean water tap

Figure 4: Schematic diagram of the reverse osmosis unit

WATER CONNECTION

- Shut off the tap water supply.

 After draining the water remaining in the pipes from the proper places, install the three-way adapter on the water supply ensuring that it is sealed.

- First install the 1/4 ball valve on the three-way adapter, wrapping the Teflon tape in such a position that the valve opens and closes easily (Fig. 5.a).

- Connect the water supply hose to the ball valve (Fig. 5.b).

- Make sure the ball valve is closed (Fig. 5.c)
- .- Open the tap water, check for leaks (Fig. 5.d).

- Place the appliance in a suitable place under the counter in an upright position.

INSTALLING THE FAUCET

The clean water faucet must be properly installed for use and aesthetics. If the counter or kitchen sink will have to be drilled, the drilling process should be done after obtaining dimensions for installing washers, nuts, and connections under the kitchen sink counter (Figure 6). Otherwise, the drilled holes may not match. The area to be drilled can be granite, marble, concrete, or stainless steel sink. If the counter is granite, it must be drilled with a 20 mm diameter diamond or diamond-coated drill bit. The drill is attached to a drill, and set to low speed. Water is applied to the drilling surface (do not drill without water). Place the drill at a 45 degree angle and press lightly, it will leave a mark on the granite. It is then slowly raised to a vertical position without separating the drill from the surface. When it reaches the vertical position, drilling is completed by applying some force. If the drill is not held in a fixed position during drilling, pieces may break off from the granite surface. The o-ring on the mirror surface of the faucet does not provide a complete seal, which can cause water to leak from the counter. Marble countertops can be drilled with the same drill or drill bit. Concrete countertops are drilled with a contact tip and impact drill. If the concrete is tiled, pre-drilling is done with a small diameter drill bit to avoid cracking the tiles. A stainless steel sink drill is different. The hose should be carefully installed between the faucet mounted on the counter and the hole labeled "Clean Water" on the fixture.



aure 5. Fittings for water connection



Figure 6.

- 1 Faucet Pipe
- 2 Upper Body Part
- 3 Opening/Closing Handle
- 4 Hub Cover
- 5 Faucet Body
- 6 Body Bushing
- 7 Body Bushing O-ring
- 8 Mounting Parts
- 9 Mounting Plastic
- 10 Plastic Mounting Washer
- 11 Crinkled Spring Washer
- 12 Compression Nut
- 13 Faucet Screw
- 14 1/4" Hose



WASTE WATER CONNECTION

- If the sink drain pipe is not a corrugated hose but a 40 mm diameter plastic pipe, the drain hose is installed in a fixed position with a 3/8 " clamping collar (Fig. 7a).

- The drain is drilled out of the 8 mm diameter clamp hole on the same axis (Fig. 7b). One end of the 3/8" waste water socket is connected to this clamp and the other end is connected to the 3/8" waste water coupling collar.

- If the waste water hose is mounted to a waste water 50 unit, the 3/8" clamp will be installed and the waste water hose will be installed in its place above it. Sealant must be used when mounting the adapter to the wastewater unit.



Figure 7. Waste water connection

PRE-TESTS

- The clean water faucet is turned on.

- The tank shutoff valve must be closed.

- Tap water is supplied to the system by opening the 1/4 ball valve (Fig. 8).

- The valve is closed after a small amount of water flows out of the clean water tap.

- This system must be used after a 24-hour flushing process (installation is performed after this process has been performed by an authorized service).

- When the tank is filled with water for the first time, the tank must be drained at least once. The appliance is now ready for use.



Figure 8. Mains inlet valve

POINTS FOR ATTENTION

- The unit is designed for domestic use. Accessories such as clean water storage tank, waste water hose, taps are adapted to the indoor environment. Necessary measures must be taken to prevent freezing and waste water drainage.

- Use the appliance after taking the necessary measures in microbiologically unsafe or disinfected water.

- The appliance must be equipped with its own mains adapter from the manufacturer.

- If the appliance will not be used for a long time (e.g. more than 1 month), close the water inlet valve, drain the tank and disconnect the adapter; if it is switched on again, call an authorized service for disinfection.

- If no one is in the house bo Otherwise, the appliance is not covered by the warranty; these operations must be carried out by Cebilon authorized service.

- As the inlet water temperature changes, the amount of clean water received and the efficiency of operation may vary. Therefore, the volume of water received may be low in winter and high in summer.

- Under any unsatisfactory condition, close the water inlet valve (Fig. 8) and contact Cebilon authorized service.

!WARNING

The Cebilon is not recommended for use without a pump. Make sure that the power supply is connected, with the water inlet valve open.

MAINTENANCE SERVICE

Your unit must be serviced by Cebilon authorized service technicians. Devices that are not serviced by Cebilon authorized service are not covered by the warranty. The life of the filters used in a Cebilon reverse osmosis system varies depending on various factors in relation to the amount of water used. These major factors are water quality at the inlet, amount of chlorine, amount of sludge, etc. Filters are considered consumables and are not covered by the warranty. arsenic) at concentrations of 0.30 mg/L or less. This system reduces arsenic +5 (As + 5), but may not retain other forms of arsenic that may be present in the water. This system can be used in water systems with other forms of arsenic (other than As+5) only when a certain level of free chlorine is present in the water or in water systems in the absence of free chlorine only with pentavalent arsenic (As+5). Combined chlorine (chloramines) is not sufficient to provide complete inversion of trivalent arsenic (As + 3) to pentavalent arsenic (As + 5).

MANUFACTURER COMPANY:

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PERFORMANCE DATA SHEET

Do not use this system with any microbiologically hazardous water that has not been properly disinfected before or after use or the water quality is unknown. A device certified for microbial purification may also be used in waters containing microorganisms despite disinfection. The Cebilon Reverse Osmosis System contains critical components that must be replaced periodically to effectively purify all dissolved solids (TDS). The water from the unit must be tested periodically to verify the effectiveness of the system. Your unit contains critical components that must be replaced periodically for effective system operation. These critical components must be replaced with components and filters with characteristics specified by the manufacturer so that the system can operate continuously with the same efficiency and performance. This system is suitable for filtration of nitrite and nitrate concentrations not exceeding 27 mg/L nitrate and 3 mg/L nitrite in combination, measured as the nitrogen (N) of the inlet water. The Cebilon Reverse Osmosis System has been tested to treat water containing pentavalent arsenic (As + 5) As (V) (also known as arsenate or pentavalent

MODEL: CEBILON REVERSE OSMOSIS SYSTEM

Daily capacity	67,04 gpd (253,77 L/ day)
Operating pressure (minmax.)	40 -145 psi / 2,8 -10 bar /275- 1.000 kPa
Operating temperature (minmax.)	5 °C – 38 °C / (38 °F – 100 °F)
pH range	6,5 - 9,5
Maximum Fe	0,2 (ppm=mg/L)
Maximum TDS	1250 (ppm=mg/L)
Turbidity	5 NTU
Hardness	17 °Fr-10 °dH - 170 mg/L CaCO3

For the 101PT, the total dissolved solids content of the water is tested according to NSF/ANSI 58. The level of substances in the water inlet to the system, is contained in the water composition at the system outlet at less than or equal to the specified values according to NSF/ANSI 58. The tests were carried out under standard laboratory conditions and may vary under other conditions.

Substance	Influent Challenge Concentration	Average Influence (mg/L)	Average Effluent (mg/L	Average % Reduction	Maximum permissible product water concentration (mg/L)
Total dissolved solids (TDS)	750+400	770	30	96.0%	187

! RECOMMENDED FILTER REPLACEMENT PERIODS

Timely periodic maintenance of your appliance promotes the efficient use of the system over the long term. The following replacement periods represent the recommended operating periods for appliances used in the water mains under normal conditions.

The conditions of use of your appliance may vary depending on the properties of the water inlet, the amount of chlorine and sediment.

Our authorized services will perform the periodic maintenance required for the efficient operation of your system every six or twelve months, depending on the region.

FILTER NAME	REPLACEMENT PERIOD	DUTIES
5 Micron Sediment Filter	6-12	Sediment filtration is performed by taking coarse particles in water. Clears the water at a micron level. Its life varies depending on the nature of the inlet water.
Granuler Activated Carbon Filter	6-18	Keeps all the gas in water chemically in itself. The excess chlorine reduces the life of the carbon filter. Timely replacement protects from damage of chlorine and extends the life of the membrane filter.
1 Micron Sediment Filter	6-18	This filtration is performed by taking coarse particles in water. Clears the water at a micron level. Its life varies depending on the nature of the inlet water.
Membrane	2 – 3 yıl	This is where Reverse Osmosis occurs. Life of the filter will change depending on the ion concentration in the mains water, amount of the distilled water and whether the maintenance is carried out in a timely manner.
Mineral Carbon Filter	6-12	Regulates the pH by supplying mineral to water.

TOUCH INTERFACE FUNCTIONS

- When the unit is plugged in, the ON/OFF indicator light is dimmed (standby mode).
- The pump will not operate in standby mode. To turn the unit on, press and hold the ON/OFF button for 5 seconds and the indicators will light blue. Each light indicates the life of the corresponding cartridge.
- A blue light indicates that the cartridge life is sufficient. When the life of the corresponding cartridge has expired, the indicator will light red.
- In this case, the corresponding cartridge must be replaced.After 3 minutes of inactivity, all indicators except the ON/OFF indicator go into sleep mode. The ON/OFF indicator will remain lit and the unit will continue to operate.
- You can press the ON/OFF button to exit the sleep mode.



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	RECOMMENDED SOLUTION			
Foam in water or milky coloured water.	Air in the system	Air in the system is a normal occurrence after initial installation. Sometimes, air caused by the mains may exist. This will return to normal after usage for a while. There is no inconveniency for using this water.			
	Hose is kinked or cracked.	Check all the hoses connected to the appliance, eliminate bendings, if any.			
Low water from the	Pre-filter assembly is clogged.	Please consult the service.			
applience	Membrane does not perform well.	Please consult the service.			
	Inlet water temperature is low.	This is not a fault. Decrease in clean water is normal during winter			
	Check valve is defective.	Please consult the service.			
No water is received from the faucet despite the tank is full.	Tank storage air pressure is insufficient.	Insufficient air in the tank. Please consult the service			
	Regulator	If regulator setting pressure is equal to the mains water, this may make noise. The noise will stop when mains pressure is back to normal.			
There is noise in the appliance	Waste water hose may mase noise.	Make the position of the clamp attached to the flush and the waste water hose passing through it proper.			
	This may occur due to clogging and bending of the waste water hose	Clean the clogging of the drain hose or straighten the bended hose.			



Complies with WEEE Regulation

This symbol on the product or packaging shows that the product should not be disposed of with normal domestic waste and should be transmitted to the collection points for recycling the electrical and electronic appliances. If you dispose of this product correctly, you will be contributing to the protection of the nature and human health. Wrong disposal will be harmful to the nature and human health. You may find further information on recycling this product from your municipal, waste collection service or from the store you have purchased the appliance.

MAINTENANCE CARD

Custom	Customers Name Surname :			Installation Date :							
Addres	Address :					Number o	umber of People in the Family :			SERVICE TELEPHUNE	PRODUCT SERIAL NO.
Tel :	Tel:						ter TUS Val	ue :			
				RE	PLACED FIL	TERS					Signature
Order No.	Filter Replacement Date PRODUCT SERIAL NO.	Recommended Next Filter Replacement Date	Sediment Filter	Carbon Filter	3th Filter	Membran Filter	Mineral Carb. Filter	TDS Before Filter Replacement	efore TDS After er Filter ement Replacement	Service Personnel Name Surname	Ū
	First Installat	ion	-	-	-	-	-	-			
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PLEASE WARN US FOR TIMELY MAINTENANCE. DO NOT LOSE YOUR CARD

MAINTENANCE CARD

Custom	Customers Name Surname :			Installatio	on Date :						
Addres	Address :				Number of People in the Family :				SERVICE TELEPHONE	PRUDUCT SERIAL NU.	
Tel :	Tel:						ter TUS Va	ue :			
	ette per la constante de la co	Decommonded		RE	PLACED FIL	TERS					Signature
Order No.	Filter Replacement Date PRODUCT SERIAL NO.	Next Filter Replacement Date	Sediment Filter	Carbon Filter	3th Filter	Membran Filter	Mineral Carb. Filter	TDS Before Filter Replacement	TDS After Filter Replacement	Service Personnel Name Surname	
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THE CURRENT PAGE IS PICKED UP BY A SERVICE TECHNICIAN.

INSTALLATION CONTROL CARD

O. No	Points to Be Checked	Yes	No	
1	Have you measured the amount of chlorine in the mains water?			
2	Have you measured the hardness of water?			
3	Have you measured the TDS level of water?			
4	Have you measured the pressure of water?			
5	Is the tank pressure suitable?			
6	Have you counselled with the customer for the proper location of the appliance?			
7	Has the sealing been ensured for three-way adapter installation in full?			SALE
8	Have you counselled with the customer for the faucet mounting hole?			Offic
9	Is the driller suitable for the counter material?			onic
10	Is there any suitable plugs for the adapter of the appliance?			Addr
11	Have you checked the chlorine in the membrane inlet after installation?			
12	Have you checked clean water/waste water ratio?			
13	Have you selected the throttle based on the mains water hardness and have you used siliphos?			Tel
14	Have you performed solenoid valve checks?			Sale
15	Have you performed automatic closing valve checks?			Suic
16	Has the Low Pressure Switch run the pump?			
17	Has the Low Pressure Switch stopped the pump?			
18	Has the High Pressure Switch stopped the pump?			
19	Have you performed leakage checks?			PERS
20	Have you operated the pump of the appliance while performing these processes?			
21	Is the connection of waste water hose to the drainage proper?			
22	Is the customer informed that they should drain one tank of water?			Date
23	Has the maintenance card filled?			
				ady

SALES OFFICE DETAILS Dffice : Address :

Tel : Sale Date :

PERSONNEL PERFORMING THE INSTALLATION

Date	:	
Applian	ce Serial No	:

cebilon





