

Thermo Scientific™ Barnstead™ Pacific RO Consumables Replacement Information

External Pretreatment Filter Options				
Pretreatment is important for the life of the RO membrane. One or more of the following pretreatment cartridges may be used, depending on feed water quality. Check the boxes below for the external pretreatment installed in conjunction with this system. Note: Frequency of replacement may vary based on feed water supply.				
<input type="checkbox"/> 06.5452 Hardness stabilizer: Replace when cartridge is half empty (Check every 3-6 months).				
<input type="checkbox"/> 06.5201 5 µm filter with carbon cartridge: Replace based on feed water chlorine level, see chart below.				
<input type="checkbox"/> 06.5101 10" 1 µm prefilter: Replace 4-6 months or when flow rate is reduced.				
Consumable	Part #	Estimated Life Time *	When To Change	
Pacific RO 3, 7, 12 – one RO membrane	22.0046	Up to 2 years	<ul style="list-style-type: none"> Replace when permeate conductivity limit is reached or "Lim.val.permeate" is displayed 	
Pacific RO 20 – two RO membranes	22.0087			
Pacific RO 40 – two RO membranes	09.1003	Up to 6 months	<ul style="list-style-type: none"> Low flow Bacteria is present in product water 	
0.2 micron final filter for hand dispenser option	09.1003	Up to 6 months		
Vent filter, storage tank	50135142	Up to 12 months	<ul style="list-style-type: none"> Replace every 12 months 	
UV lamp for storage tank, option for 230 V only	09.5002	When applicable – up to 2 years	<ul style="list-style-type: none"> Replace every 2 years 	
Cleaning solution	CMX25	n/a	<ul style="list-style-type: none"> Clean tank once a year minimum Bacteria is present in product water 	

Note: The actual life time of the consumables depend on the quality of the feed water and the amount of water used by the system. If feed water is chlorinated, carbon pretreatment is necessary. Set pretreatment timer in menu based on the following guidelines:

	Approximate Hours of Use 1 ppm Chlorine
Pacific RO 3	1000
Pacific RO 7	900
Pacific RO 12	600
Pacific RO 20	500
Pacific RO 40	300

Note: If chlorine level is 2 ppm, reduce hours of operation by half.



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Pacific RO System



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Thermo Scientific Barnstead Pacific RO System Quick Reference Guide

Please refer to operation manual for complete instructions



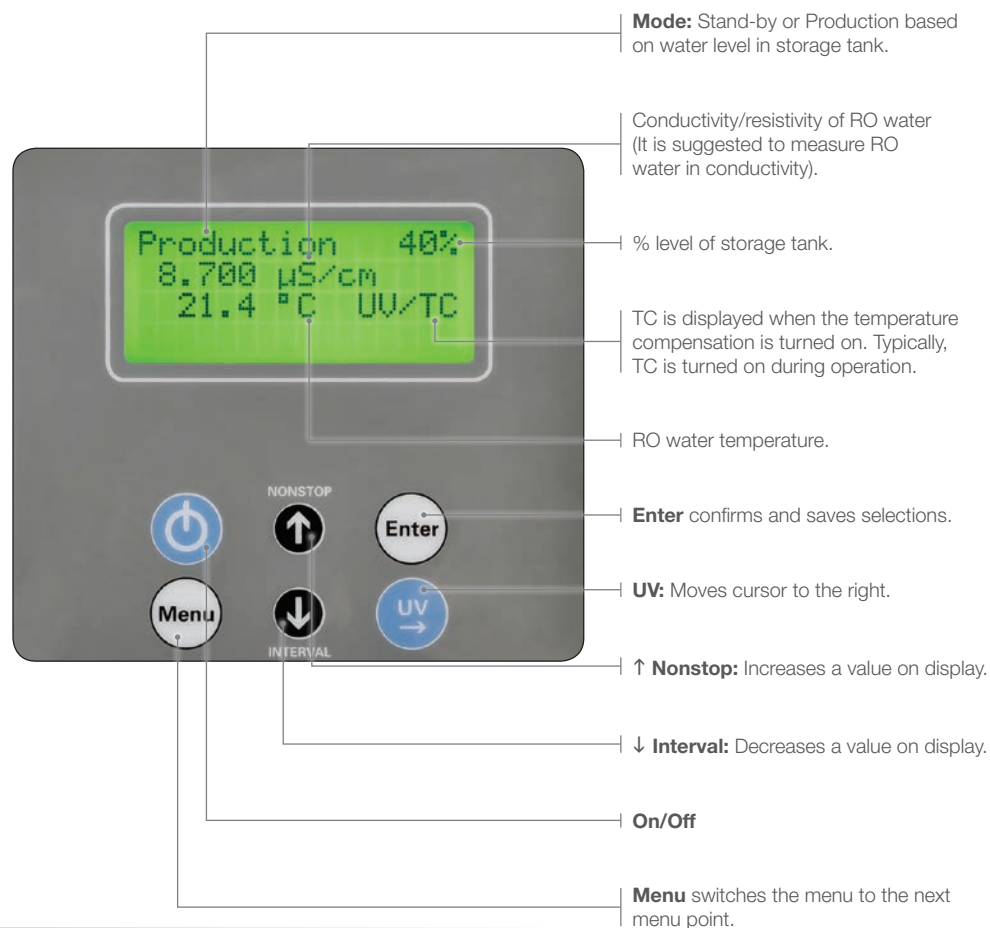
Find out more at thermofisher.com/purewater

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Display Functionality Keys and Readout



Maintenance

- Water in storage tank should be turned over every 1-2 days.
- Regular maintenance is important for optimal performance.
- Disinfect system at least once a year per operation instructions.
- Weekly monitoring can indicate changes in system performance. It is suggested that a maintenance log be kept for the following parameters: temperature, RO permeate purity, concentrate flow rate, operating hours for pretreatment.
- Pretreatment cartridges must be replaced at regular intervals to protect the RO membrane.
- Clean system storage tank at a minimum of once a year.
- To reset Pretreatment timers, press Menu until "Code" displays. Enter 0150, press Enter, then press Menu and UV buttons simultaneously. Press Menu to New Pretreatment? Press Enter to reset, then press Menu until you return to main display.



Operation

- **Start Up:** Plug system into power supply and press On/Off button. Pacific storage tanks with pump will start when unit is plugged into power supply.
- **Production Mode:** System is producing water to fill storage tank.
- **Standby Mode:** Displayed when storage tank level set point has been reached.
 - **Tank Volume:** If lab usage requires smaller volumes of water to be stored, Pacific RO system can be adjusted to only fill a certain percent of the total volume of the tank. See "Adjusting the float switch circuit hysteresis" in the operation manual for settings.
 - **Nights and Weekends:** Leave your RO system on over the weekend, evenings and holidays. The system will perform a periodic membrane rinse to prevent build-up of impurities and bacteria on the RO membrane.
- **Dispense:** RO water from front tank spigot or from optional hand dispenser. Additional $\frac{3}{4}$ " port on right side of tank. 100 L tank includes additional 1" outlet on back side for gravity flow or hooking up an additional external pump.
- **Key Components**
 - **External Pretreatment:** Protects RO membrane.
 - **RO Membrane:** Reduces feed water impurities by up to 99 %.
 - **Concentrate:** Rejected water from RO membrane. Concentrate will constantly flow to a drain during production mode. Concentrate flow should be checked and adjusted every 6 months. See "How Pacific RO functions" in the operation manual.
 - **Permeate:** RO product water to fill storage tank. For example, Pacific RO 12 produces approximately 12 LPH of permeate to fill storage tank.
 - **Storage Tank:** Stores purified water. System automatically enters production mode to refill storage tank based on water level settings.
 - **Pressure Pump (Optional):** If tank has a pressure pump, Pacific RO system can deliver pressurized water (1.5 LPM at 1.2 - 2 bar (17 - 29 psi)) to accessory equipment in the lab from right side of storage tank. Tanks without the pressure pump option deliver water at a gravity flow only.

Common Alerts

- **Lim.val.permeate:** Displayed when RO permeate limit is reached. Replace RO membrane.
- **Pretreatment:** Replace pretreatment cartridges and reset the operating hours counter.