

Thermo Scientific™ Barnstead™ LabTower RO Consumables Replacement Information

External/Internal Pretreatment (Front White Canister)				
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. Note: Pretreatment may vary based on feed water. <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 chlorine level, see chart below. <input type="checkbox"/> 06.5101 10" 1 µm prefilter: 4 months or when flow rate is reduced. <input type="checkbox"/> 06.5204 10" 5 µm filter with hardness stabilizer cartridge: Check every 3-4 months.				
	Consumable	Part #	Estimated Life Time *	When To Change
System Consumables	LabTower RO 20 – RO membrane	Qty 1 22.0046	Up to 2 years	<ul style="list-style-type: none"> Replace when permeate conductivity limit is reached or "Lim.val.permeate" displayed
	LabTower RO 40/60 – RO membrane	40LPH Qty 2 22.0087 60LPH Qty 2 22.0087 Qty 2 22.0046		
	0.2 micron final filter (Used on remote hand dispenser option)	09.1003	Up to 12 months	<ul style="list-style-type: none"> Low flow Bacteria are present in product water
Reservoir Consumables	Vent filter	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	Up to 2 years	<ul style="list-style-type: none"> Replace every 2 years
Maintenance	Cleaning solution	CMX25	n/a	<ul style="list-style-type: none"> Bacteria is present in product water Once a year minimum

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:

	Hours of Use 1 ppm Chlorine
LabTower 20	500
LabTower 40	400
LabTower 60	200

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



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LabTower RO System



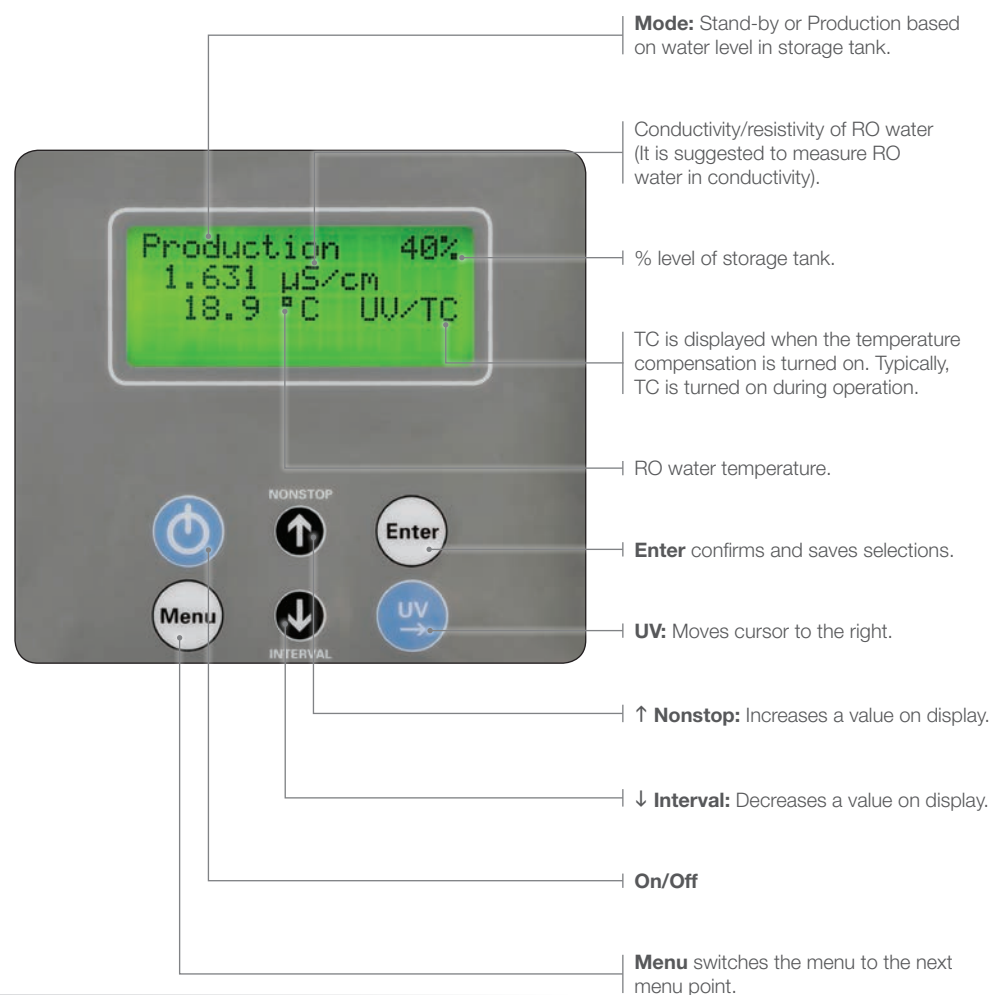
Find out more at thermofisher.com/purewater

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Please refer to operation manual for complete instructions

Display Functionality Keys and Readout



Maintenance

- Water in storage tank should be turned over every 1-2 days.
- Disinfect system at least once a year per operation instructions.
- Regular maintenance is important for optimal performance.
- 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.
- 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. Tank pressure 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, LabTower 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 operation manual for settings.
 - **Nights and Weekends:** Leave your RO system on over the weekend and during holidays. The system will perform a periodic membrane rinse to prevent build-up of impurities and bacteria on the RO module.
- **Dispense:**
 - Optional dispense using remote hand dispenser.
 - RO water outlet at bottom of system can deliver pressurized water to accessory equipment in the lab. Additional 1" outlet at the side of tank for gravity flow or hooking up an additional external pump.
- **Key Components:**
 - **External/Internal Pretreatment:** Protects RO membrane.
 - **RO Membrane:** Reduces feed water impurities 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 the system functions" in the operation manual.
 - **Permeate:** RO product water to fill storage tank. For example, LabTower RO 20 produces approximately 20 LPH of permeate to fill 100 L tank.
 - **100 L Storage Tank:** Stores purified water. System automatically enters production mode to refill storage tank based on water level settings.
 - **Pressure Pump:** Used to provide a pressurized feed water to external lab systems with flow of 1.5 LPM at 1.2 - 2 bar (17 - 29 psi).

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.