

# Thermo Scientific™ Barnstead™ LabTower TII 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. <b>Note:</b> 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 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 TII 20 – RO membrane	Qty 1 22.0046	Up to 2 years	<ul style="list-style-type: none"> <li>Replace when permeate conductivity limit is reached or "Lim.val.permeate" displayed</li> </ul>
	LabTower TII 40/60 – RO membrane	40LPH Qty 2 22.0087 60LPH Qty 2 22.0087 Qty 2 22.0046		
	DI cartridge	02.2850-LAB	Up to 12 months	<ul style="list-style-type: none"> <li>Purity drops below acceptable purity level, or "Lim.val.pure w." displayed or</li> <li>Annually, whichever comes first</li> </ul>
	0.2 micron final filter (Used on system or remote hand dispenser)	09.1003	Up to 12 months	<ul style="list-style-type: none"> <li>Low flow</li> <li>When changing DI cartridge</li> <li>Bacteria are present in product water</li> </ul>
	System UV lamp, optional (317 mm long)	50139226	Up to 2 years	<ul style="list-style-type: none"> <li>Replace every 2 years</li> <li>UV duration displayed</li> <li>UV lamp not lighting</li> </ul>
Reservoir Consumables	Vent filter	50135142	Up to 12 months	<ul style="list-style-type: none"> <li>Replace every 12 months</li> </ul>
	0.1 micron 10" filter, optional (Optional filter installed in system's back canister)	06.5557	Up to 12 months	<ul style="list-style-type: none"> <li>Replace when DI cartridge is replaced</li> <li>Bacteria is present in product water</li> <li>Once a year minimum</li> </ul>
	UV lamp for storage tank, option for 230 V only	09.5002	Up to 2 years	<ul style="list-style-type: none"> <li>Replace every 2 years</li> </ul>
Maintenance	Cleaning solution	CMX25	n/a	<ul style="list-style-type: none"> <li>DI cartridge is replaced</li> <li>Bacteria is present in product water</li> <li>Once a year minimum</li> </ul>

**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



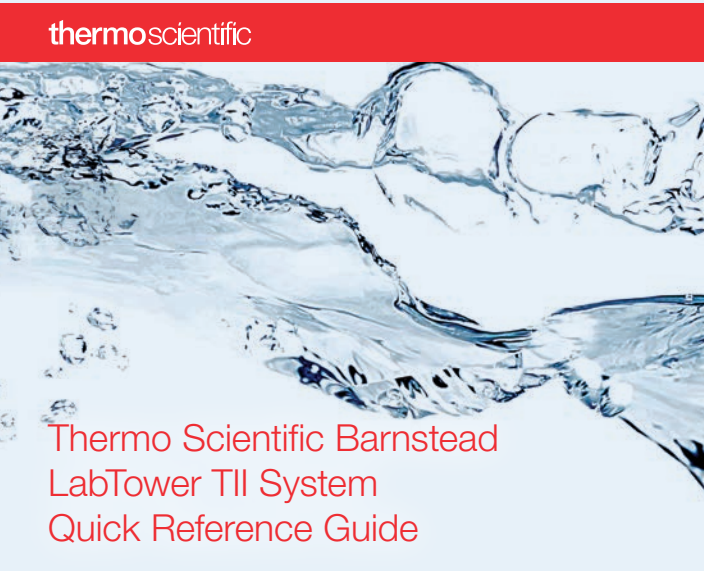
## thermo**scientific** LabTower TII System



Find out more at [thermofisher.com/purewater](http://thermofisher.com/purewater)

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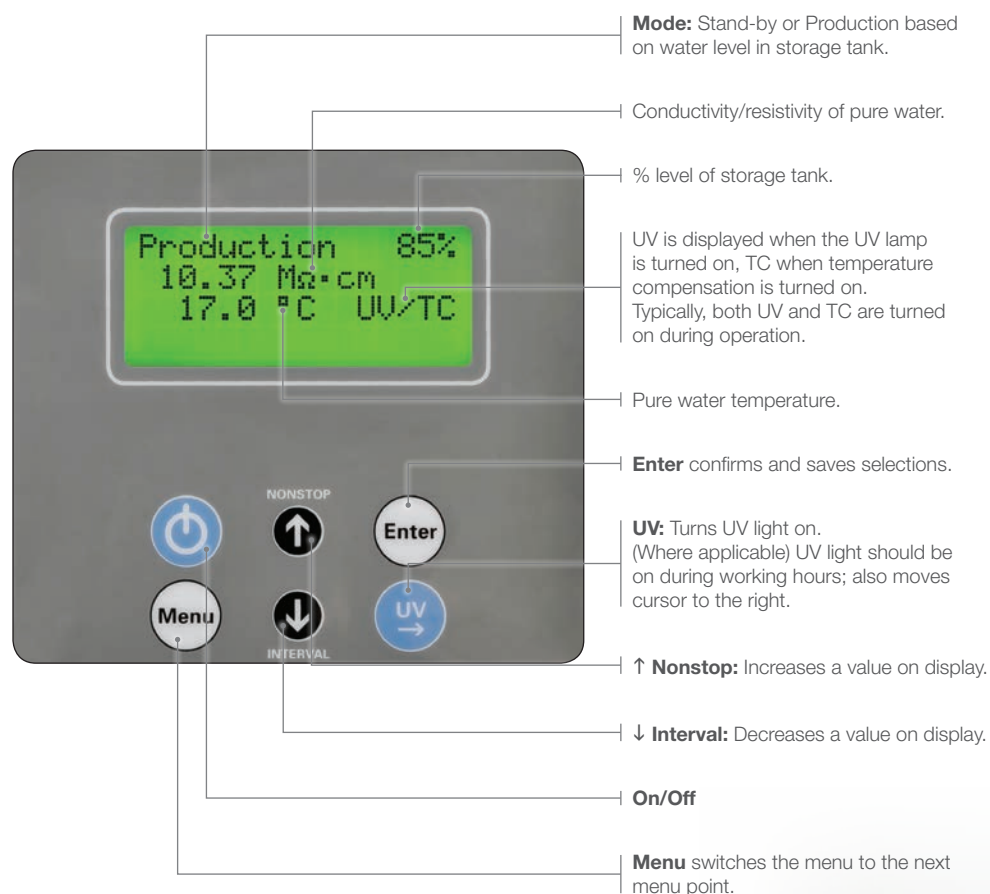
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Please refer to operation manual for complete instructions

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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.
- Weekly monitoring can indicate changes in system performance. It is suggested that a maintenance log be kept for the following parameters: conductivity/resistivity of pure water, temperature, RO permeate purity, concentrate flow rate, operating hours for pretreatment and UV.
- Pretreatment cartridges must be replaced at regular intervals to protect the RO membrane.
- Clean system before changing the DI cartridge, at a minimum of once a year.
- Change UV light on a regular schedule.
- To reset UV and/or Pretreatment timers, press Menu until "Code" displays. Enter 0150, press Enter, then press Menu and UV buttons simultaneously. Press Menu to New UV? Or New Pretreatment? Press Enter to reset, then press Menu until you return to main display.
- DI cartridge can be replaced or resin exchanged. Check with Thermo Scientific Customer Service for local options.



## Operation

- **Start Up:** Plug system into power supply and press On/Off button. Recirculation 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.
  - **Recirculation:** System automatically recirculates water in storage tank through DI cartridge at adjustable, regular intervals.
  - **Tank Volume:** If lab usage requires smaller volumes of water to be stored, LabTower TII 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 pure water 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:** Type 2 water by manually turning the flow control knob counter-clockwise to open to the desired flow. Note: Do not over tighten dispense knob to close.
- Type 2 water outlet at bottom of system can deliver pressurized water to accessory equipment in the lab. Additional 1" outlet at the side of tank.
- **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 TII 20 produces approximately 20 LPH of permeate to fill 100 L tank.
  - **DI Cartridge:** Polishes RO water to Type 2 before storing water in storage tank.
  - **100 L Storage Tank:** Stores purified water. System automatically enters production mode to refill storage tank based on water level settings.
  - **Recirculation Pump:** Maintains Type 2 purity with recirculation through DI cartridge. Also is 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.
- **Lim.val.pure.w:** Displayed when purity has reached pure water limit value. Replace DI cartridge.
- **Pretreatment:** Replace pretreatment cartridges and reset the operating hours counter.
- **UV Duration:** Replace the UV lamp and reset the operating hours counter.