LabTower EDI Consumables Replacement Information

External/Internal Pretreatment (Front White Canister)

Pretreatment is important for the life of the RO membrane and EDI cell. 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.
Softened water is required as a pretreatment to ensure optimal system operation. Refill brine tank with salt pellets as necessary.
Note: When using a water softener, a hardness stabilizer cartridge is NOT necessary. Substitute another pretreatment filter in its place.

- ❑ 06.5201 5 µm filter with carbon cartridge: Replace based on chlorine level, see chart below.
- ❑ 06.5101 10" 1 µm prefilter: 4 months or when flow rate is reduced.

	Consumable	Part #	Estimated Life Time *	When To Change
System Consumables	**LabTower EDI 15 – RO membrane**	Qty 2 22.0046	Up to 2 years	• Replace when permeate conductivity limit is reached or "Lim.val. permeate" displayed
	LabTower EDI 30 – RO membrane	Qty 2 22.0087		
	Ultrapure cartridge	09.2005	Up to 12 months	• Purity drops below acceptable purity level, or "Lim.val.pure w." displayed or • Annually, whichever comes first
	0.2 micron final filter (Used on system or remote hand dispenser)	09.1003	Up to 12 months	• Low flow • When changing DI cartridge • Bacteria are present in product water
	System UV lamp	50139226	Up to 2 years	• Replace every 2 years • UV duration displayed • UV lamp not lighting
Reservoir Consumables	**CO_2 vent filter**	06.5002	Up to 12 months	• Replace every 12 months • Indicator changes to blue
	0.2 micron 10" filter (Rear canister on system)	06.5555	Up to 12 months	• Replace when DI cartridge is replaced • Bacteria is present in product water • Once a year minimum
Maintenance	**Cleaning solution**	CMX25	n/a	• DI cartridge is replaced • 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 EDI 15	500
LabTower EDI 30	400

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

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LabTower EDI System

Find out more at **thermofisher.com/purewater**

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Barnstead LabTower EDI System Quick Reference Guide

Please refer to operation manual for complete instructions

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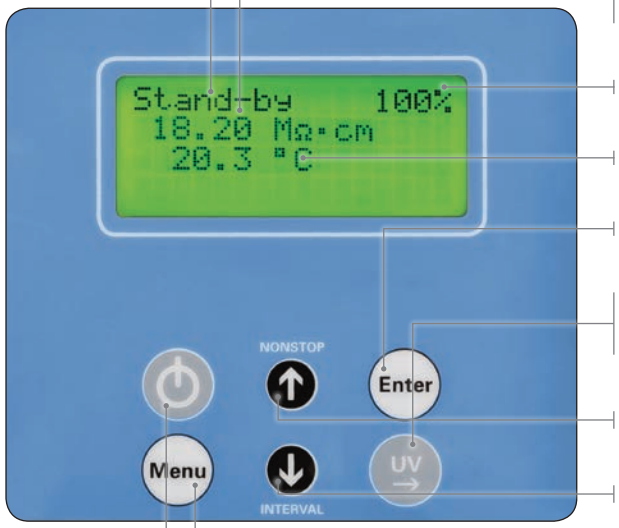
Display Functionality Keys and Readout



Current operating mode: Stand-by or Production.

Real time resistance of ultrapure water. Display can show conductivity when option selected in menu.

% level of storage tank.

Ultrapure water temperature.

Enter confirms and saves selections.

UV: Turns UV light on. UV light should be on during working hours; also moves cursor to the right.

↑ **Nonstop:** Increases a value on display.

↓ **Interval:** Decreases a value on display.

Menu switches the menu to the next menu point.

On/Off

Maintenance

- Regular maintenance is important for consistent purity. Change ultrapure cartridge and final filter when purity has dropped to limit value, at a minimum of once a year.
- Clean system before changing the ultrapure cartridge using reusable 09.2201 cleaning cartridge and cleaning solution.
- Water in storage tank should be turned over every 1-2 days.
- Weekly monitoring can indicate changes in system performance. It is suggested that a maintenance log be kept for the following parameters: conductivity/resistivity of RO permeate, EDI pure water, temperature, RO concentrate flow rate, operating hours for pretreatment and UV.
- Pretreatment cartridges must be replaced at regular intervals to protect the RO membrane.
- 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 to return to main display.

Operation

- **Start Up:** Plug system into power supply and press On/Off button. Tank 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 EDI 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 1 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 and EDI module.
  - **RO Membrane:** Reduces feed water impurities up to 99 % and protects EDI module.
  - **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 EDI 15 produces approximately 15 LPH of permeate to fill 100 L tank.
  - **EDI Module:** Purifies RO water to Type II water before storing in 100 L tank.
  - **Ultrapure Cartridge:** Polishes water to Type 1.
  - **100 L Storage Tank:** Stores purified water. System automatically enters production mode to refill storage tank based on water level settings.
  - **Recirculation Pump:** Maintains 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 ultrapure cartridge.
- **Pretreatment:** Replace pretreatment cartridges and reset the operating hours counter.
- **UV Duration:** Replace the UV lamp and reset the operating hours counter.
- **Lim.val.EDI:** The conductivity of the RO permeate is too high or EDI needs replacement.