

Thermo Scientific™ Barnstead™ Pacific TII 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. Note: Pretreatment may vary based on feed water.			
System Consumables	Consumable	Part #	Estimated Life Time *	When To Change
	Pacific TII 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 TII 20 – two RO membranes			
	Pacific TII 40 – two RO membranes	22.0087		
	DI cartridge	09.4011	Up to 12 months	<ul style="list-style-type: none"> Replace when purity has dropped below acceptable limits or "Lim.val.pure w." is displayed
	Pacific TII System optional UV lamp	50139226	When applicable – up to 2 years	<ul style="list-style-type: none"> Replace every 2 years UV duration displayed UV bulb not lighting
	0.2 micron final filter for hand dispenser option	09.1003	Up to 6 months	<ul style="list-style-type: none"> Low flow When changing DI cartridge Bacteria is present in product water
	CO ₂ adsorber for storage tank	06.5002	Up to 12 months	<ul style="list-style-type: none"> Color indicator changed from white to blue
	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	Cleaning solution	CMX25	n/a	<ul style="list-style-type: none"> DI cartridge is replaced 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 TII 3	1000
Pacific TII 7	900
Pacific TII 12	600
Pacific TII 20	500
Pacific TII 40	300

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



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Pacific TII System



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Thermo Scientific Barnstead Pacific TII System Quick Reference Guide

Please refer to operation manual for complete instructions



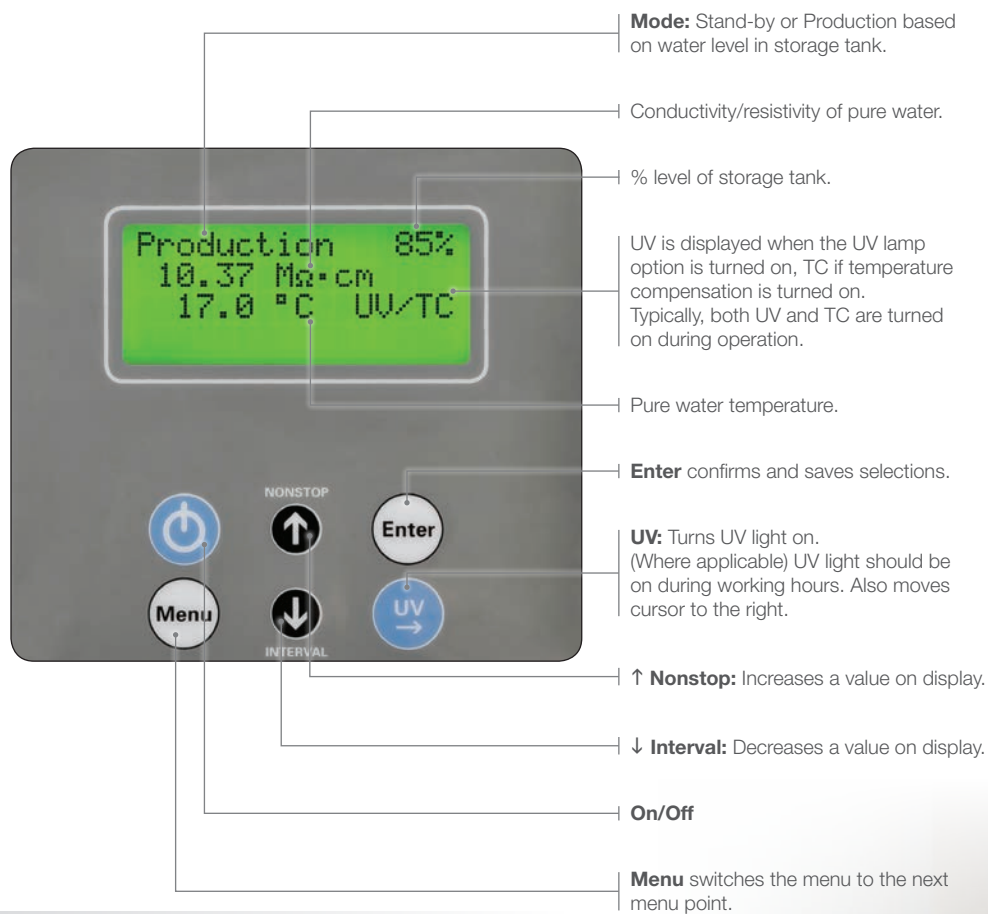
Find out more at thermofisher.com/purewater

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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.
- 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.



Operation

- **Start Up**: Plug system into power supply and press On/Off button. Pacific storage tanks with 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**: If storage tank has pump option, 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, Pacific 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 the operation manual for settings.
 - **Nights and Weekends**: Leave your pure water 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**: Type 2 water from front tank outlet. Additional ¾" port on right side of tank. 100 L tank with additional 1" outlet.
 - **Recirculation/Pressure Pump**: If tank has a recirculation/pressure pump, Pacific TII 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.
- **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 TII functions" in the operation manual.
 - **Permeate**: RO product water to fill storage tank. For example, Pacific TII 12 produces approximately 12 LPH of permeate to fill storage tank.
 - **DI Cartridge**: Polishes RO water to Type 2 before storing water in storage tank.
 - **Storage Tank**: Stores purified water. System automatically enters production mode to refill storage tank based on water level settings.
 - **Recirculation Pump**: Storage tank with pump option maintains Type 2 purity with recirculation through DI cartridge, and is used to provide pressurized feed water to external lab systems.

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.