

# Thermo Scientific Barnstead LabTower TII water purification system

The Barnstead LabTower TII converts tap water into high-purity water and provides water storage for a complete Type 2 water solution.



## ROUTINE LABORATORY WORK

- Rinsing lab glassware
- Supplying autoclaves and ultrapure water systems
- Preparing and diluting buffers, reagents, and media

### Consistent water quality

- Type 2 laboratory water meets ASTM Type II, CSLS-CLRW and ISO 3696 international standards
- Designed to continuously recirculate purified reservoir water to preserve water quality even during periods of inactivity

### Compact mobile design

- Two system options with permeate flows of 20 or 40 L/hr
- Stand-alone design with integrated 100 L reservoir takes up zero bench space
- Castors allow easy relocation
- Systems can be upgraded later to accommodate growing water demands

### Two ways to dispense water

- Dispense directly from the system via the dispensing valve for calibration solutions, reagent preparation, filling of containers, general rinsing purposes, etc.
- Dispense from the reservoir to supply autoclaves, dishwashers, ultrapure water systems, etc.

### Integrated 100 L reservoir

- Up to 100 L of high purity water ready for dispensing when needed
- High purity polypropylene reservoir is opaque to light
- Conical bottom allows complete emptying for efficient cleaning and disinfection
- Adjustable setting for reservoir volume can be programmed for times when demand is low, allowing you to only store water that you can use

### Clear information on system display

- The large four-line display is code-protected to prevent accidental changes in system settings
- Illuminated and easily readable, the display provides information on resistivity or conductivity, operating mode status, such as “production”, “stand-by” or sanitization, and volume of the reservoir in %

### GLP-compliant documentation

- Developed to meet or exceed GLP requirements
- Recorded and traceable data can be obtained by print-out via the RS-232 interface and accessory printer
- Highly qualified and precise measurement of the conductivity is ensured by the cell constant of 0.01 cm<sup>-1</sup> to an accuracy of ± 0.1°C

# pure water system

## with integrated 100 L tank

Quick Look Comparison		
	LabTower TII system	LabTower TII + UV system
Pure water production at 15°C, L/hr	20 or 40	20 or 40
Resistivity at 25°C, MΩ·cm	10-1	10-1
Conductivity, µS/cm	0.1-1	0.1-1
Bacteria content, CFU/mL, with sterile filter	< 1	< 1
Particle content (0.2 µm) per mL with sterile filter	< 1	< 1

### Pretreatment

- 5 µm prefilter and activated carbon in the combi-filter cartridge protects the RO membrane from chlorine and particles
- Hardness stabilizing cartridge protects the reverse osmosis stage from hard water

### Reverse osmosis and reservoir

- Pretreated water is pressure-forced through the permeable reverse osmosis module removing 97– 99% of all inorganic ions, 99% of dissolved organic substances as well as microorganisms and particles
- The built-in 100 L reservoir has a conical bottom outlet to optimize cleaning and sanitization

### Ion exchange and UV

- RO membrane removes up to 99% of impurities. All remaining ions are removed by the low TOC, high-purity resins in the ion exchange cartridge.
- Irradiation with UV light (TII units with UV option only) eliminates any bacteria or germs that are present

LabTower TII with optional hand dispenser



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## Specifications and Ordering Information

Feed Water Specifications*	
Source	Potable tap water softened or hardness stabilized
Blocking index (SDI)	< 3, with higher values, an upstream pretreatment (model no. 09.4000) is to be installed
Conductivity, $\mu\text{S}/\text{cm}$	< 1500
Free chlorine, mg/L	< 0.1
Colloid index	< 3
ph-Range	4-11
Temperature, °C	2-35
Pressure, psi (bar)	29-87 (2 -6 )

\*complete list of feed water specifications can be found in the operational manual.

LabTower TII					
Operating pressure	Electrical requirements	Power consumption	Feed water connector	Dimensions W x D x H in (mm)	Ambient temperature
29-87 psi (2-6 bar)	90-240V, 50/60Hz	0.12kW	3/4" NPT	17.7 x 22.8 x 59 (450 x 580 x 1500)	2-35°C
System Options		UV option	LabTower TII 20	LabTower TII 40	LabTower TII 60
<b>LabTower TII Systems*</b> All systems include an RO membrane, a high purity water cartridge, 10 inch 5 $\mu\text{m}$ prefilter with hardness stabilizer cartridge, pressure regulator, 0.2 $\mu\text{m}$ filter, integrated 100 L reservoir and UV lamp where applicable		System with UV	50132193	50132141	50132394
		System without UV	50132191	50132196	50132393
Required Accessories					
<b>LabTower TII Pretreatment</b> Both cartridges are required for complete pretreatment		5 $\mu\text{m}$ filter with activated carbon and a 10" filter housing	50134022	50134022	50134022
		1 $\mu\text{m}$ filter with a 10" filter housing	09.4003	09.4003	09.4003
<b>Sterile vent filter for reservoir</b>			50135142	50135142	50135142
<b>Sterile overflow for reservoir</b>			50132714	50132714	50132714
Optional Accessories					
<b>UV lamp assembly for reservoir, 230V, 50Hz only</b> Includes holder and UV lamp			06.5006	06.5006	06.5006
<b>Water watcher</b> Alerts the user to leaks. Available as 230V, 50Hz only			16.0129	16.0129	16.0129
<b>Printer</b> Utilizes RS-232 interface for safe documentation of all measured values and faults with date and time in compliance with GLP-Guidelines		120V, 50/60Hz	AY1137X1	AY1137X1	AY1137X1
		230V, 50Hz	09.2207	09.2207	09.2207
<b>Qualification documents (IQ/OQ)</b>			IQQDOCE50134156	IQQDOCE50134156	IQQDOCE50134156
<b>Hand Dispenser Kit</b> Hand dispenser with 3 meter cord that connects to tank. Ships with a 0.2 micron final filter.			50138221	50138221	50138221
Replacement Consumables					
<b>High purity water cartridge</b>			02.2850-LAB	02.2850-LAB	02.2850-LAB
<b>Reverse Osmosis membrane</b> LabTower TII 20 and 40 require two membranes, and LabTower TII 60 requires four membranes, as indicated			22.0046 (must order 2)	22.0087 (must order 2)	22.0087 (must order 2) and 22.0046 (must order 2)
<b>System UV-lamp</b>			09.4002	09.4002	09.4002
<b>Sterile 0.2 <math>\mu\text{m}</math> filter</b>			09.1003	09.1003	09.1003
<b>Cleaning solution</b>		Europe/Asia Pacific	09.2202	09.2202	09.2202
		North America/Latin America	CMX25	CMX25	CMX25
<b>Activated carbon cartridge with 5 <math>\mu\text{m}</math> prefilter</b>			06.5201	06.5201	06.5201
<b>Hardness stabilizing cartridge</b>			06.5452	06.5452	06.5452
<b>Replacement UV lamp (reservoir, 230V, 50Hz only)</b>			09.5002	09.5002	09.5002
<b>5 <math>\mu\text{m}</math> prefilter and hardness stabilizer</b>			06.5204	06.5204	06.5204