



# WaterPro® BT™

WATER PURIFICATION SYSTEMS



**Fisher Science  
Education**



*Protecting your  
laboratory environment*

**LABCONCO®**



# WaterPro® BT Systems

## WaterPro® BT System produces both RO-purified and Type I water packaged in a compact all-in-one benchtop design

For laboratories needing 1-10 liters per day, the WaterPro BT System, delivers ultrapure Type I\*, up to 18.2 megohm-cm at a typical rate of >0.5 liter per minute\*\* at inlet water temperature of 25° C. Type I water is ideal for many applications including instrumental trace element analysis, mixing standardized acid/base solutions, and media solutions. An optional UV lamp further reduces the bacteria and TOC levels necessary for life science applications.

Reverse osmosis (RO)-purified Type III† water is produced and stored in the integral six liter tank. A tank outlet valve, accessible from the back, provides access to RO-purified water, produced at a rate up to 3 liters per hour (0.05 liters per minute). Type III water is ideal for non-critical laboratory applications such as reagent preparation and glassware rinsing.

Compact, lightweight and quick to install, the WaterPro BT may be easily transported and shared among labs. To install, the WaterPro BT requires only simple connection to a tap water supply, drain and electrical source. The Filter Pack bundles all water filter technologies (reverse osmosis, activated carbon filtration, and deionization) into one convenient twin cartridge package. Simply snap the Filter Pack into place and installation is complete.

**Attractive and durable** thermoplastic housing.

**Integral 6 liter storage tank** holds RO-purified water.

**The rear-mounted tank outlet valve** releases RO-purified Type III from the storage tank.



**Optional accessory final filter.** Two final filters are offered and attach to the dispensing valve. Select from a Hollow Fiber Filter that removes all particles and bacteria larger than 0.22 micron or an Ultrafilter Cartridge that removes pyrogens.



**Dispensing button.** Press once and release. Type I water dispenses continuously until the button is pressed again. Or, press and hold. Release to stop dispensing.

**User-friendly color LCD.** Shows water quality, system status, and maintenance or alarm messages. The screen can be rotated up or down for easy viewing from the user's location.

**Easy do-it-yourself installation.** From connecting to tap water and drain to installing the Filter Pack, the WaterPro BT may be set up in minutes.

**Full one year warranty**

**Visual alarms** alert the user when filter change is required, resistivity is below setpoint, and other important status reports.

**Keypad.** Provides access to change display settings such as water quality unit of measure, resistivity setpoint, and temperature values. It also provides a means to set functions such as volume dispensed, dispensing time, flowrate calibration and tank level calibration.

**Fixed volume delivery.** In the Auto-Dispense mode, a pre-set volume of Type I water may be dispensed. From 0.25 L to 9.75 L in 0.25 L increments may be selected.

**Removable front cover** provides easy access to the Filter Pack.

**Quiet operation** at 50 dB or less at a distance of 3 1/4 feet (1 meter).

**Optional UV lamp.** Some models include a 185/254 nm UV lamp to remove bacteria and certain organics.



**Optional remote dispenser.** Some models include a remote dispense module and stand to allow the WaterPro BT to be placed up to 6.5 feet (2 meters) away from the dispensing location. An optional Wall Mounting Bracket allows you to optimize bench space, while having the dispenser within easy reach.

\* Meets ASTM Type I water standard.

\*\*Until storage tank is within 10% of empty.

† Meets ASTM Type III water standard with feedwater purity of 100 µs or better.



## Specifications

### All Models Feature:

- Thermoplastic housing with removable thermoplastic cover.
- Dispensing valve that dispenses >0.5 liter per minute Type I water by pressing the dispense button.
- 6 liter capacity RO-purified water storage tank.
- Feedwater inlet tubing, 7' long, with 1/2" OD Male NPTM, BSPM or GAZ fitting and pre-filter screen.
- RO reject tubing, 80" long.
- 50 dB maximum noise level at a distance of 3 1/4 feet (1 m).
- Distribution pump.
- Continuous/intermittent recirculation.
- Color LCD for display of operating modes, operating parameters, maintenance or alarm messages and tank level. Alarms include filter cartridge change after set time has expired or amount of water has been reached, resistivity less than setpoint, incorrect filter installation, and water detected in tank while in Flush mode.
- Keypad for accessing display settings, function settings, and calibrations.
- One year warranty.
- Power cord and plug.
- Miscellaneous accessories: 10' (3 m) clear tubing and 3/8" ID hose barb for the Type I dispensing valve; 8 x 8 mm elbow connector and 3' (1 m) of 8 mm tubing with ball valve for the tank outlet; and two each 1 micron Air Vent Filters.
- UL\* listing.
- CE Conformity marking.
- Overall dimensions: 11.4" w x 16.6" d x 21.2" h (29.0 x 42.2 x 53.8 cm)

### UV Models also Feature:

- UV Lamp, 185 and 254 nanometers.

### Remote Dispense Models also Feature:

- Remote Dispenser with 6.5' (2 m) tether.
- White powder-coated steel dispenser stand, 14.0" w x 8.0" d x 23.0" high (35.6 x 20.3 x 58.4 cm). Overall height with remote dispenser: 25.0" (63.5 cm).
- Overall dimensions of housing: 11.4" w x 13.1" d x 23.8" h ( 29.0 x 33.4 x 60.5 cm)

### All Models Conform to:

- UL\* 61010-1
- CAN/CSA C22.2 No. 61010.1
- CE electrical safety and electromagnetic compatibility

### All Models Require:

- WaterPro BT Filter Pack S28407. See back cover.

### Optional Accessories Include:

- Hollow Fiber Final Filter S28408. See back cover.
- Ultrafilter Cartridge S28409. See back cover.
- Wall Mounting Bracket S28411. See back cover

\*UL® is a registered trademark of Underwriters Laboratories, Inc., Northbrook, IL.



## Ordering Information

Catalog Number	Electrical Specifications	Plug Type	UV Lamp	Remote Dispense	Shipping Weight
S28405	115 volts, 60 Hz, 2 amps	115 volts, 15 amps	—	—	38.8 lbs. (17.6 kg)
S28403	115 volts, 60 Hz, 2 amps	115 volts, 15 amp	•	—	40.2 lbs. (18.2 kg)
9015030 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Schuko (EU)	—	—	38.8 lbs. (17.6 kg)
9015130 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Schuko (EU)	•	—	40.2 lbs. (18.2 kg)
9015040 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	North America, 230 volts	—	—	38.8 lbs. (17.6 kg)
9015140 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	North America, 230 volts	•	—	40.2 lbs. (18.2 kg)
9015060 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	British (UK)	—	—	38.8 lbs. (17.6 kg)
9015160 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	British (UK)	•	—	40.2 lbs. (18.2 kg)
9015070 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Australia	—	—	38.8 lbs. (17.6 kg)
9015170 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Australia	•	—	40.2 lbs. (18.2 kg)
9015080 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	India	—	—	38.8 lbs. (17.6 kg)
9015180 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	India	•	—	40.2 lbs. (18.2 kg)
S28404	115 volts, 60 Hz, 2 amps	115 volts, 15 amps	—	•	44.7 lbs. (20.3 kg)
S28402	115 volts, 60 Hz, 2 amps	115 volts, 15 amps	•	•	46.1 lbs. (20.9 kg)
9015230 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Schuko (EU)	—	•	44.7 lbs. (20.3 kg)
9015330 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Schuko (EU)	•	•	46.1 lbs. (20.9 kg)
9015240 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	North America, 230 volts	—	•	44.7 lbs. (20.3 kg)
9015340 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	North America, 230 volts	•	•	46.1 lbs. (20.9 kg)
9015260 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	British (UK)	—	•	44.7 lbs. (20.3 kg)
9015360 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	British (UK)	•	•	46.1 lbs. (20.9 kg)
9015270 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Australia	—	•	44.7 lbs. (20.3 kg)
9015370 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	Australia	•	•	46.1 lbs. (20.9 kg)
9015280 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	India	—	•	44.7 lbs. (20.3 kg)
9015380 <sup>†</sup>	230 volts, 50/60 Hz, 2 amps	India	•	•	46.1 lbs. (20.9 kg)

### Plug Types



S28405, S28403, S28404, S28402

### Schuko



9015030, 9015130, 9015230, 9015330

### North America, 230 volts



9015040, 9015140, 9015240, 9015340

### British (UK)



9015060, 9015160, 9015260, 9015360

### Australia



9015070, 9015170, 9015270, 9015370

### India



9015080, 9015180, 9015280, 9015380

<sup>†</sup> Contact Fisher Science Education for ordering information.



## How it Works

First, tap water enters the Filter Pack and passes through the pre-treatment media, which removes large particles to protect the RO membrane. Second, the water passes through the RO membrane, which removes inorganics, remaining organics and colloids. The purified water (Type III permeate), is temporarily stored in the tank. The ions, particles, organic molecules and bacteria rejected by the RO membrane are sent to drain. When the dispensing mode is active, the Type III water is pumped from the tank and passes by the UV lamp (on some models). The UV irradiation reduces levels of bacteria and other total organic carbons in the water. Next the water passes through the activated carbon media, which removes dissolved organics and chlorine. The water then enters the deionization cartridge, which exchanges hydrogen ions for cationic contaminants and hydroxyl ions for anionic contaminants to produce Type I water. Lastly, the ultra-pure water passes through an optional Hollow Fiber Final Filter to remove all particles and bacteria greater than 0.22 micron or optional Ultrafilter Cartridge to remove pyrogens, RNases and DNases. To maintain water quality, the water throughout the system is intermittently recirculated during periods of non-use.

## Technical Specifications—Type I Water

### Inlet Feedwater Requirements

Maximum inlet pressure	87.0 psi (6 bar)
Minimum inlet pressure	7.3 psi (0.5 bar)
Minimum Inlet Flow rate	10.6 gallons/hour (40 liters/hour)
Temperature	5-35° C (41-95° F)
pH	4-10
Conductivity	< 2000 microseimens/cm
Fouling Index	< 10
Langelier Saturation Index	< +0.2
TOC	< 2000 ppb

### Maximum Ion Concentrations

Iron (total)	< 0.1 ppm as CaCO <sub>3</sub>
Aluminum	< 0.05 ppm as CaCO <sub>3</sub>
Manganese	< 0.05 ppm as CaCO <sub>3</sub>
Free Chlorine	< 1 ppm

### Typical Dispensing Rates\*

Type I from dispensing valve	>11.1 GPH (>0.5 liters/minute) at 25° C
Type III from storage tank	Up to 0.8 GPH (3 Liters/hour)
Drain Capacity	7.9 gallons/hour (30 liters/hour)

### Type I Water Quality

TOC (without UV Lamp)	<10 ppb
TOC (with UV lamp)	<5 ppb
Particulates (> 0.22 micron)**	<1 particulate/ml
Bacteria**	< 01 cfu/ml
Pyrogens**	<0.001 EU/ml
RNases**	<0.01 ng/ml
DNases**	<4 pg/µl

### Type III Water Quality

Ion rejection	>96%
Organic rejection for MW > 200	>99%
Bacteria and particulates	>99%

\* Depending on feedwater flow rate and pressure and water level in the tank. Storage tank must be at least 10% full in order for water to be dispensed.  
\*\* With Ultrafiltration Cartridge in place.

## Expendables



**S28407 WaterPro BT Filter Pack required for operation.** Includes twin cartridges with pretreatment, reverse osmosis, activated carbon and deionization filtration. Shipping weight 6.6 lbs. (3 kg)

**S28406 Replacement Vent Filters, 1 micron.** Package of 2 each filters. Shipping weight 0.5 lb. (0.2 kg)



**S28408 Hollow Fiber Final Filter, 0.22 micron.** For attachment to the dispensing valve. Non-sterile. Includes filling bell. 1 each. May not be used with the S28409 Ultrafiltration Cartridge. Shipping weight 0.5 lb. (0.2 kg)

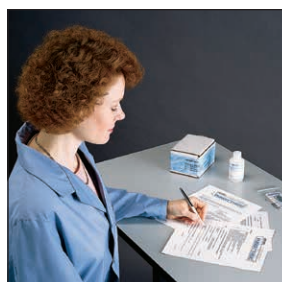
**S28409 Ultrafiltration Cartridge.** 1 each. For attachment to the dispensing valve. May not be used with the S28408 Hollow Fiber Final Filter. Shipping weight 0.5 lb. (0.2 kg)

**S28410 UV Lamp.** 185 and 254 nm. 1 each. Shipping weight 0.5 lb. (0.2 kg)

## Accessory

**S28411 Wall Mounting Bracket.** Powder-coated steel. Provides a means to attach the WaterPro BT to a wall or other vertical surface. Hardware not included. Shipping weight 4.0 lbs. (2 kg)

## Let Us Help You Choose A Water Purification System To Meet Your Needs



The free **WaterProfile water analysis kit** is a good first step. To request this service, go to [www.labconco.com/services/waterprofile-test-kit](http://www.labconco.com/services/waterprofile-test-kit). The WaterProfile Kit includes a questionnaire to help pinpoint your application needs, a bottle to fill with your feedwater (tap or pre-treated) and a label and packaging for returning the kit to Labconco. After we conduct a series of diagnostic tests, you receive a report detailing your tap water quality and recommendations on the appropriate WaterPro Water Purification System for your laboratory.

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