

**Thermo Scientific Barnstead GenPure Pro UV Water Purification System
A & E Specification Sheet**

Lab water purification system capable of producing between 1 – 200 L/day of Type 1 ultrapure water on demand

PART 1 – GENERAL

1.1 DESIGN AND PERFORMANCE CRITERIA

- A. Water purification system must provide 18.2 megohm quality (Type 1) water to be utilized in a laboratory environment. Type 1 water quality meets standards as defined by ASTM D1193-6, ISO 3696 and CLSI™-CLRW.
- B. Water purification system will be capable of delivering up to 200L per day on demand at a flow rate of up to 2 liters per minute using pretreated feed water (treated by deionization, distillation, reverse osmosis, or combination RO/DI) as the supply water.
- C. Water purification system must function as one component with a flexible dispensing arm. The water purification system must be able to be mounted on the wall or bench.
- D. The system must also have built in product water resistivity; incoming feed water, and leak detection monitors.

1.2 SUBMITTALS

Product Brochure
Water Purification System Operating Manual (includes installation instructions)
Product Guidelines for Site Installation Drawings

1.3 QUALITY ASSURANCE

- A. Each water purification system will be certified by CE and CSA for electrical safety and integrity.

1.4 QUALIFICATION

- A. Manufacturer – Company must have 10 years documented experience in the construction of water purification systems.
- B. Water Purification System – Shall be CE and CSA certified and meet ASTM D1193 standards.

1.5 WARRANTY

- A. Manufacturer's warranty against defects in material and workmanship covering parts and labor must be available for a period of one year. Standard exceptions for cartridges, filters, and lamps shall apply.

PART 2 – PRODUCT

2.1 MANUFACTURER

- A. Thermo Scientific Barnstead GenPure Pro UV water purification system – **50131952**

2.2 WATER PURIFICATION SYSTEM PRODUCT WATER SPECIFICATIONS

- A. Ultrapure water flow rate of up to 2L/minute
- B. Product water must have a resistivity of up to 18.2 megohms-cm at 25°C
- C. Less than 5 ppb TOC (Total Organic Carbon) in the product water
- D. Bacterial counts less than 0.01 CFU/ml
- E.

2.3 WATER PURIFICATION SYSTEM PERFORMANCE REQUIREMENTS

- A. Dispensing from the system must be from a flexible dispensing arm with a working radius of 24” (60cm) so that a wide range of vessels can be utilized.
- B. Dispenser can operate in volumetric mode to prevent repetitive motions or flooding of lab and/or on/off by pressing the dispense button.
- C. System display must have adjustable angle display to make the display easy to read from any angle.
- D. System display should provide all system status data plus access to user menu.
- E. The system will include a UV lamp with up to a two-year lifespan that will emit both 185 nm and 254 nm wavelengths, designed to ensure organic removal as well as maintaining a bacteria-free environment.
- F. The system will automatically switch to “Interval” operation after it has been running for 10 minutes. User can modify settings to extend the time before going into “Interval” mode.
- G. System high purity cartridges must be able to be removed / replaced with quick disconnect fittings with no threads, screws or other mechanisms required to change cartridges.
- H. System must have built-in feed water monitor which will alert the end-user if the incoming feed water does not meet the pre-set levels.
 - a. Feed water monitor must be able to be adjusted or turned off as end-user requires.
- I. System must have built-in leak detector that will automatically alert the end-user if a leak is detected within the system.
- J. An absolute 0.2µm polysulfone membrane filter is required as the final purification step as the water is being dispensed. The final filter will be sterilizable using an autoclave.
- K. The conductivity measurement is performed with high precision measuring cell with a cell constant of 0.01 cm⁻¹.
- L. Temperature measurements are made by a platinum chip sensor with ± 0.1° C accuracy.
- M. Water will re-circulate within the system when operating during the “Interval” mode. The time span for “Interval” mode can be user-modified.
- N. Digital microprocessor control automatically monitors and stores faults from the past four weeks.
- O. RS232 interface will be available for data tracking to a printer or PC.

2.4 – ACCESSORIES

A. OPTIONAL

- a. **AY1137X1** - Log printer for connection to RS232 port
- b. **06.5038** - 30L storage reservoir for supply of pretreated water to feed system if none available in the lab
- c. **09.2201** - Disinfection cartridge for use when the system requires disinfection cycle
 - a. CMX25 – Disinfection Solution

B. REPLACEMENT CONSUMABLES

- a. **09.2005** - Ultrapure polishing cartridge
- b. **09.2002** - UV lamp
- c. **09.1003** - 0.2 micron final filter

ADDITIONAL SPECIFICATIONS

DIMENSIONS (System)	18.6" W x 13" D x 24" H (472mm x 330mm x 615mm)
ELECTRICAL REQUIREMENTS	100 – 240 V, 50/60 Hz, 2-1A, up to 5 ft from unit
WATER CONNECTIONS	¾" NPTF provided. Customer supplied manual shut off valve recommended
MIN/MAX INLET PRESSURE	2 – 87 PSI (0.1 – 6 bar)
RECOMMENDED FEED TEMPERATURE	2 – 40°C
RECOMMENDED FEED WATER TYPE	Pure water (Type 2 water)
DRAIN	An atmospheric drain must be available within 5 feet of the final mounting location