

# Barnstead Smart2Pure Pro Water Purification System

The Barnstead Smart2Pure Pro is a compact system that converts water into ASTM Type 1 and Type 2 water at a rate of 16 lph in reverse osmosis, with built-in warning and shut-off features to prevent lab accidents.



## Applications Include:

### Modular Biology and Microbiology

- Cell and tissue culture
- PCR, DNA sequencing
- Electrophoresis

### Analytical Chemistry

- HPLC
- GC,GC-MS, ICP-MS, AA
- TOC Measurements, IC

### Routine Laboratory Work

- Preparing and diluting buffers and reagents
- Rinsing lab glassware
- Supplying autoclaves and other small lab equipment

### Powerful performance

- Suitable for even the most demanding and sensitive applications, the Thermo Scientific™ Barnstead™ Smart2Pure™ Pro Water Purification System exceeds current international standards ASTM D11931 Type 1, ISO 3696 Grade 1, and CLSI-CLRW, delivering ultrapure 18.2 MΩ.cm water with consistent quality
- Offers production rate of up to 16 lph in RO.

### Simplified user interface

- Easy system operation
- Enhanced system monitoring through integrated sensors and timers for:
  - RO product purity
  - Leak detection and automated shut-off to prevent accidents
  - Consumable monitoring dispensing is easy and features variable speed to control flow
- The display can be tilted for optimal reading
- Includes UV bulb and ultrafilter to deliver ultrapure water quality

### Lasting economy

- Independent cartridges to maximize life
- Water purification progresses through independent cartridges with Aquastop quick-connect for fast replacement
- Module 1** – Reverse osmosis cartridge to remove up to 99% of tap water impurities
- Module 2** – Polishing cartridge contains high-quality ultrapure resin for consistent purity and long cartridge life

### Placement options

- Position on laboratory bench
- Mount it on the wall

### Easy ordering! One part number includes complete system

- Pretreatment to protect reverse osmosis membrane
- Smart2Pure Pro system to produce Type 1 and Type 2 water complete with all consumables and wall bracket
- Optional remote dispenser for flexible dispensing of Type 1 and Type 2 water up to 3m from system
- 30 or 60 L Storage tank to store and deliver Type 2 water

# Compact dual quality system

## Features

- Standby mode offers flexibility for use. The system continually recirculates water to maintain purity
- Built-in alert system helps ensure optimal performance with prompts for leak detection and to replace consumables
- System shuts off if a leak is detected
- Inline ultrafilter with large surface area to remove endotoxins and nucleases
- System parameters are code-protected to prevent accidental changes to set points

## Feed Water Requirements\*

Source	Potable tap water pretreated with Barnstead Pretreatment System - Cat. No. 50157886
Silt density index (SDI)	<3
Turbidity	<1 NTU
Conductivity (reference temperature +25°C)	1500 µS/cm (670 Ω·cm)
Hardness	Hardness stabilized
Chlorine	Max. 0.1 ppm
pH range	4-11
Temperature	+2°C - +35°C
Pressure	2 - 6 bar / 29 - 87 PSI (at a pressure >6 bar / 87 PSI a pressure reducer must be installed upstream of the system.)

\* Please see user manual for complete list of feed water requirements.



Smart2Pure Pro

## Barnstead Smart2Pure Pro offers reservoir options, either 30 or 60 liters

- Sterile venting filter/reservoir overflow protects against contamination by microorganisms
- CO<sub>2</sub> adsorber prevents TOC value increases from drawn-in CO<sub>2</sub>
- Recirculation pump protects the high purity water from bacterial growth during standstills and maintains the low conductivity value
- Large opening for easy and effective cleaning by hand
- Conical bottom outlet allows for complete draining and efficient cleaning and disinfection
- Polyethylene reservoir is opaque to light
- Wall-mount optional for simple space-savings

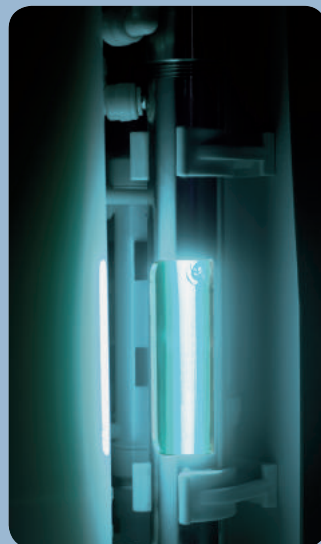
## Quick Look Comparison

Type 1 Water	Smart2Pure Pro UV/UF system
Applications	Inorganic and organic trace analysis, HPCL, ICP-MS, IC, TOC analysis, Molecular biology, PCR, DNA, monoclonal antibodies, cell culture media
Resistivity at 25 °C, MΩ·cm	18.2
Conductivity, µS/cm	0.055
TOC value, ppb	1-5
RNase, ng/ml	<0.003
DNase, pg/µl	<0.4
Bacterial content, CFU/mL	<0.01
Particles, µm/mL	<1
Endotoxines, EU/mL	<0.001
Flow rate, L/min	Up to 1
Type 2 Water	
Pure water production at 15 °C, L/h	16
Resistivity at 25 °C, MΩ·cm	10-1
Conductivity, µS/cm	0.1-1.0

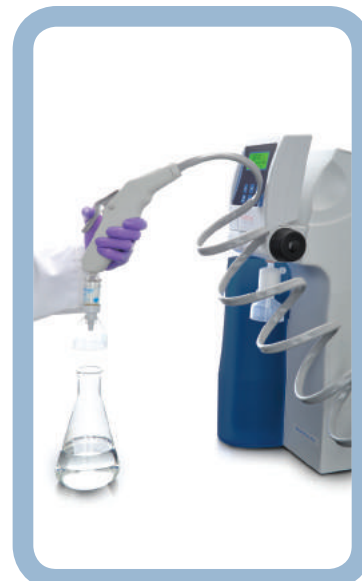
# Barnstead Smart2Pure Pro water purification system (continued)



**Economical Design**  
The RO cartridge is separate from the DI cartridge, ensuring you only replace each cartridge as needed



**UV-Oxidation 185/254 nm**  
UV-oxidation for reducing the content of microorganisms and their metabolites



**Flexible**  
Gain increased flexibility by adding a hand dispenser with 3 meter cord



**Smart2Pure Pro Water System**

Product Specifications – Storage Reservoirs		
Volume	Material	Dimensions H x D in (mm)
30 L	Polyethylene, ultrapure water resistant, opaque to light	23.5 x 15 (598 x 380)
60 L		35.9 x 15 (912 x 380)

**Product Specifications - Smart2Pure Pro**

Flow rate	Electrical requirements	Power consumption	Feed water connector	Dimensions W x D x H in (mm)
up to 1 L/min	90-240 V, 50/60 Hz	0.06 kW	3/4" NPT	12 x 15.7 x 21.5 (305 x 400 x 545)

**Barnstead Smart2Pure Pro ordering information**

Description	Cat. No.
<b>Smart2Pure Pro UV/UF 16 LPH with 30 L Re-circulation Tank, Pre-Treatment and Wall Mount</b> Complete system includes Barnstead Pretreatment system with cartridges, RO/pretreatment cartridge, an ultrapure polisher cartridge, sterile 0.1 µm filter, UV lamp, UF filter, 30 L tank, CO2 vent filter, sterile overflow and system wall bracket. Tank wall mount sold separately.	50157873
<b>Smart2Pure Pro UV/UF 16 LPH with 60 L Re-circulation Tank, Pre-Treatment and Wall Mount</b> Complete system includes Barnstead Pretreatment system with cartridges, RO/pretreatment cartridge, an ultrapure polisher cartridge, sterile 0.1 µm filter, UV lamp, UF filter, 60 L tank, CO2 vent filter, sterile overflow and system wall bracket. Tank wall mount sold separately.	50157872
<b>Smart2Pure Pro UV/UF 16 LPH with 30 L Re-circulation Tank</b> Complete system includes RO/pretreatment cartridge, an ultrapure polisher cartridge, sterile 0.1 µm filter, UV lamp, UF filter, 30 L tank, CO2 vent filter and sterile overflow.	50157882
<b>Smart2Pure Pro UV/UF 16 LPH with 60 L Re-circulation Tank</b> Complete system includes RO/pretreatment cartridge, an ultrapure polisher cartridge, sterile 0.1 µm filter, UV lamp, UF filter, 60 L tank, CO2 vent filter and sterile overflow.	50157877
<b>Barnstead Pretreatment</b> Comes with pressure reducing valve, 1 micron prefilter, hardness stabilizing cartridge and carbon cartridge	50157886
Optional Wall Mounting Bracket for POU Systems	50157885
Optional Hand Dispenser	50138221
Optional Wall Mount for 30 L Tank	06.5015
Optional Wall Mount for 60 L Tank	06.5016

Accessory/Consumables	Description	Cat. No. ** Included with new unit
<b>Barnstead Pretreatment System</b>	1 micron prefilter	D502113
	Hardness stabilizer	D502114
	Carbon cartridge	**50157375
<b>System Consumables</b>	Smart2Pure Pro RO membrane	**50157608
	Smart2Pure Ultrapure Cartridge	**09.1020
	Sterile 0.1 um filter for system	**50157375
	0.2 micron Final Filter for remote hand dispenser	09.1003
	Ultrafilter	**50133980
	UV Lamp for Type 1 System	**09.1002
<b>Reservoir Consumables</b>	CO <sub>2</sub> Vent filter	06.5002