

Thermo Scientific Barnstead GenPure xCAD Plus water purification system



The Barnstead GenPure xCAD Plus system delivers ultrapure 18.2 M Ω .cm water with consistent quality for the most demanding and sensitive applications. The xCAD remote dispenser provides flexibility and control.



APPLICATION INCLUDES:

Molecular Biology and Microbiology

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

Analytical Chemistry

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

All GenPure systems exceed international standards ASTM Type I, ISO 3696 Grade 1, ASTM D1193 and CLSI-CLRW.

Simultaneously dispense from up to three dispensers

- Each system ships with a single xCAD Plus remote dispenser
- For increased flexibility, add one or two more xCAD Plus dispensers
- Dispense from all three simultaneously

Integrated feed water monitoring

- Additional measuring cell monitors feed water conductivity. If the quality of the feed water drops below the set value, a fault message will immediately be displayed.

Online TOC measurement with UV intensity monitoring

- Real-time TOC monitoring for continual measurement of organic substances present in the water
- Continuous monitoring of UV intensity removes the risk of false TOC values due to diminished UV intensity
- Fault message alerts user when the UV lamp intensity is no longer sufficient for accurate TOC measurements

UV Photo-oxidation 185/254 nm

- High performance UV assembly reliably reduces the content of microorganisms and their metabolites
- UV oxidation also reduces organic compounds in the water to ultra-low levels

Leak detection

- Internal leaks can be detected and an error displayed

Ready-to-use

- Feed water pressure switch, wall bracket, UV lamp, ultrapure cartridge, sterile filter, all included in one part number

Measurement of conductivity/resistivity

- Conductivity cells are carefully calibrated prior to each measurement via built-in reference resistance with cell constants at 0.01 cm⁻¹
- Temperature measurements are made by a platinum chip sensor with $\pm 0.1^\circ\text{C}$ accuracy

Quick-connect cartridge replacement

- Aquastop quick-connect capability enables cartridge replacement within seconds even mid-operation

Exact dosing

- Electronic dosing for fully automatic volume control of 0.01-65 L with < 2% accuracy

full control extreme flexibility

GLP-compliant documentation

- Real-time clock and code-protected operating system prevents unauthorized changes to system settings
- RS-232 interface with adjustable send-interval for safe data transfer of all measured data, faults, date and time to a PC computer or log printer
- Digital microprocessor control automatically monitors and stores faults from the last four weeks
- USP-compliant conductivity measurement with temperature compensation can be switched on or off



Quick Look Comparison

	GenPure xCAD Plus system	GenPure xCAD Plus UV system	GenPure xCAD Plus UF system	GenPure xCAD Plus UV/UF system	GenPure xCAD Plus UV - TOC system	GenPure xCAD Plus UV/UF - TOC system
Applications	AA, IC, ICP, standard buffer	Inorganic and organic trace analysis, HPLC, ICP-MS, IC, TOC analysis	Molecular biology, microbiology, IVF, monoclonal antibodies	Molecular biology, PCR, DNA, monoclonal antibodies, cell culture media	Chemical analysis (trace analysis, HPLC, IC, ICP-MS, TOC measurements)	Biosciences (cell and tissue culture media, PCR, DNA, monoclonal antibodies)
Resistance at 25°C, MΩ.cm	18.2	18.2	18.2	18.2	18.2	18.2
Conductivity, μS/cm	0.055	0.055	0.055	0.055	0.055	0.055
TOC, ppb	5-10	1-5	5-10	1-5	1-5	1-5
RNase, ng/ml	n/a	n/a	n/a	<0.003	n/a	<0.003
DNase, pg/μl	n/a	n/a	n/a	<0.4	n/a	<0.4
Bacteria, CFU/mL	<1	<1	<1	<1	<1	<1
Particles, 0.22 μm/mL	<1	<1	<1	<1	<1	<1
Endotoxins, EU/mL	n/a	n/a	<0.001	<0.001	n/a	<0.001
TOC monitor	n/a	n/a	n/a	n/a	standard	standard
Flow rate, L/min	up to 2	up to 2	up to 2	up to 2	up to 2	up to 2

Visible ultrapure water quality

Important measured values of conductivity/resistivity and TOC are easy to see during dispensing.

Non-Stop: System ready for dispensing

18.2 MΩ.cm: Resistivity of the ultrapure water

17.5°C: Temperature measured for conductivity compensation

UV: UV lamp is switched on



TC: temperature compensation is on

1.00 L: Adjustable volume to be dispensed

1 ppb: TOC value of the ultrapure water

Thermo Scientific Barnstead GenPure xCAD Plus water purification system (continued)



Our xCAD Plus remote dispenser shown left. The GenPure system is under the bench (not pictured) freeing up valuable bench space.



For increased flexibility, add up to two more xCAD Plus remote dispensers.

Thermo Scientific xCAD Plus remote dispenser – full system control in a compact design

- xCAD is short for “Extended Control and Dispenser.” The system provides more flexibility for ultrapure water dispensing with an action radius of 32 inches (80 cm)
- Ergonomic dispensing arm provides precise volume dosing at the press of a button
- Turned, height adjusted or extended towards your vessel, you’ll appreciate the flexibility of this dispenser
- One-of-a-kind design provides access to all system controls at your fingertips
- Specify bench-top or wall-mount xCAD Plus dispenser for the installation option of your choice. The small footprint of the bench-top xCAD Plus allows for more bench space while the wall-mount version completely frees up horizontal workspace.
- Adjustable controller makes handling more practical and provides a clear view of critical settings
- In addition to flexible xCAD Plus installation options, GenPure systems can also be installed under the bench or wall-mounted with included mounting brackets up to 2.5 m (8 ft) away from main system.



Complete water purification system control via the xCAD Plus remote dispenser

xCAD Dimensions	
	Dimensions W x D x H in (mm)
Benchtop xCAD	10.2 x 21 x 28.5 (260 x 530 x 725)
Wall mount xCAD	10.2 x 21 x 25.8 (260 x 530 x 655)

Feed water Requirements*	
Source	Potable tap water, pretreated by reverse osmosis, ion exchange or distillation
Feed water conductivity, $\mu\text{S/cm}$	< 2
TOC, ppb	max 50
Bacteria count, CFU/mL	< 100
Turbidity, NTU	< 1.0
Temperature, $^{\circ}\text{C}$	2-35
Pressure, psi (bar)	1.4-87 (0.1-6)

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

Product Specifications					
Flow rate	Operating pressure min/max	Electrical requirements	Power consumption	Feed water connector	Dimensions W x D x H in (mm)
up to 2 L/min	29-87 psi (2-6 bar)	90-240V, 50/60Hz	0.1kW	3/4" NPT	14.6 x 13 x 24 (372 x 330 x 615)

System Options		GenPure xCAD Plus	GenPure xCAD Plus UV	GenPure xCAD Plus UF	GenPure xCAD Plus UV/UF	GenPure xCAD Plus UV - TOC	GenPure xCAD Plus UV/UF - TOC
GenPure System* All systems include a wall bracket, ultrapure polisher cartridge, sterile 0.2 μm filter, pressure regulator, UV lamp and/or ultrafilter where applicable	with xCAD Plus bench version	50136149	50136152	50136150	50136151	50136153	50136146
	with xCAD Plus wall version	50136165	50136170	50136167	50136169	50136171	50136172

Optional Accessories							
Stainless steel DI cartridge, DI 1500 Required only when feed water does not meet feed water requirements. Prolongs system cartridge life. For new installations, 04.1690 is a required hose kit to adapt cartridge to system.		02.1500	02.1500	02.1500	02.1500	02.1500	02.1500
xCAD Plus Remote Dispenser Additional remote dispenser for increased flexibility. Up to 2 additional dispensers can be added to a single system.	bench version	50136494	50136494	50136494	50136494	50136494	50136494
	wall version	50136505	50136505	50136505	50136505	50136505	50136505
Disinfection cartridge Reusable cartridge needed to clean the water purification system.		09.2201	09.2201	09.2201	09.2201	09.2201	09.2201
Printer 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	AY1137X1	AY1137X1	AY1137X1
	230V, 50Hz	09.2207	09.2207	09.2207	09.2207	09.2207	09.2207
Storage reservoir, 30 L, to feed system Polyethylene tank, opaque to light 23.5 x 14.9 in (598 x 380 mm), H x W Wall mount accessory is 06.5015		06.5038	06.5038	06.5038	06.5038	06.5038	06.5038
Storage reservoir, 60 L, to feed system Polyethylene tank, opaque to light 35.9 x 14.9 in (912 x 380 mm), H x W Wall mount accessory is 06.5016		06.5068	06.5068	06.5068	06.5068	06.5068	06.5068

Replacement Consumables							
Ultrapure polisher cartridge		09.2005	09.2005	09.2005	09.2005	09.2005	09.2005
Sterile filter, 0.2 μm		09.1003	09.1003	09.1003	09.1003	09.1003	09.1003
Ultrafilter		n/a	n/a	50133980	50133980	n/a	50133980
UV lamp		n/a	09.2002	n/a	09.2002	09.2002	09.2002
Cleaning solution	Europe/Asia Pacific	09.2202	09.2202	09.2202	09.2202	09.2202	09.2202
	North America/Latin America	CMX25	CMX25	CMX25	CMX25	CMX25	CMX25