

QUANTUM NXT-R RECIRCULATION ULTRA-PURE WATER HEATER



treborintl.com

Introducing Our Most Advanced Ultra-Pure Water Heating System

OVERVIEW

The Quantum NXT-R Ultra-Pure Water Heater, Trebor's latest breakthrough in heating technology, sets a new efficiency and reliability standard. Ideal for high-purity processes requiring variable Hot Ultra-Pure Water (HUPW) flows with precise temperature control. The Quantum NXT-R conserves energy and water, stabilizing temperatures in dynamic flow applications. Our patented low thermal mass heating element enhances energy efficiency and product quality while reducing resource consumption.

ADVANTAGES

- Substantially lower cost of ownership
- Significant water and energy savings compared to single pass point-of-use (POU) heaters
- Considerable reductions in water reclaim volumes when compared with standard single pass heaters
- Improved etch/rinse process efficacy
- Reduced carbon footprint / greenhouse gas emissions
- No I/R bulbs or coils to replace
- Element lifespan > 44,000 hrs
- Increased temperature flexibility and energy efficiency when compared with central loop heating systems
- System can be used in place of central loops or supplement existing loop systems



KEY FEATURES

- Tight temperature stability of $\pm 0.15^{\circ}\text{C}$ with dynamic flow
- Industry-leading temperature ramp-up time
- Low thermal mass element provides agile performance
- Seal design protects against effects of thermal shock and cycling
- High purity flow path made of GE214 quartz; virgin PTFE & PFA
- Crevice-free design means no bacteria growth or purging is required
- No NPT threads or dead-legs to create particle traps
- Highly responsive user control systems
- No elastomer o-rings
- Uniquely customizable configurations

RESOURCE SAVINGS

Resource savings per tool	Quantum NXT-R Dual Stage Recirculation Heater	Quantum NXT Single Pass Heater with Stop-Flow® technology
UP Water	>2.5 million liters	>2 million liters
Energy	160,000 kWh	130,000 kWh

PERFORMANCE



VOLTAGE
400, 480V; 50/60 Hz



POWER
60 kW to 288 kW



MAX TEMPERATURE
Up to 85°C / 185°F



TEMPERATURE CONTROL
 $\pm 0.15^{\circ}\text{C}$ (Dual Stage) *



FLOW RATE
0.5 to 96 LPM (26 GPM)



PRESSURE
30 to 60 PSIG UPW supply



ELEMENT MTBF
>44,000 hours



EFFICIENCY
>98%

* Performance specifications are based on dynamic flow conditions. Temperature control accuracy improves under stable flow conditions.

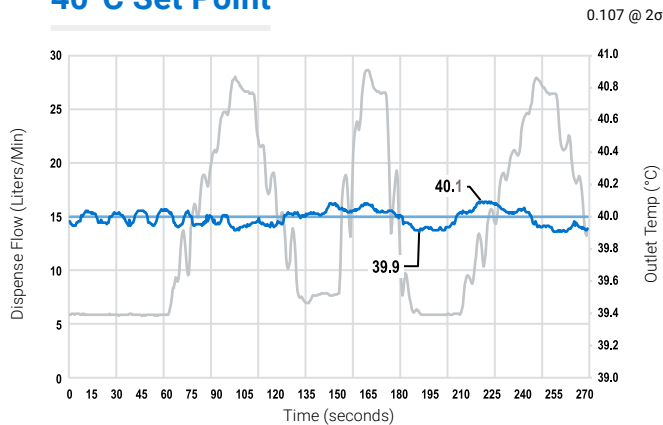
SPECIFICATIONS

Heater	Proprietary Thin-film on Quartz Electric Resistive Heating
Control System	Zero Crossfire SSRs with PID Flow Control
Communication Options	Base: Ethernet (Modbus/TCP) Standard: Digital I/O; Modbus/RTU over RS232 <i>Consult Factory for Other Options</i>
Safety Features	Door Interlocks, Low Liquid Level Detection, EMO, Redundant Over Temperature Protection, Resettable Overpressure Relief Valve, Open Thermocouple Detection, Liquid Spill Detection, GFI/Earth Leakage,
Safety Compliant	SEMI S2/S8; ISO 9001:2015 Certified Company  
Wetted Surfaces	Semiconductor Grade GE214 Quartz, PTFE and PFA

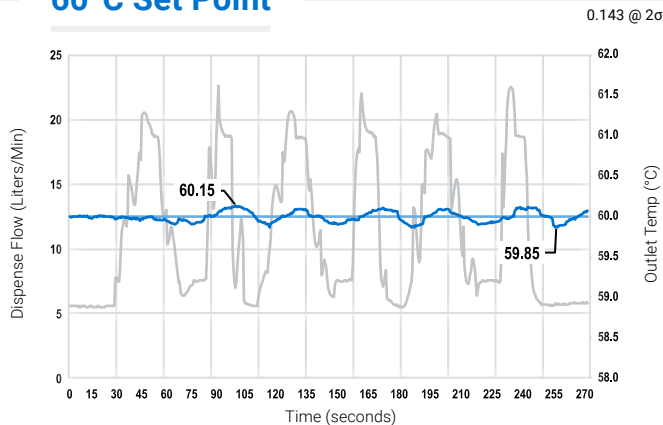
PERFORMANCE

— Dispense Flow — Temperature Set Point — Temperature Average

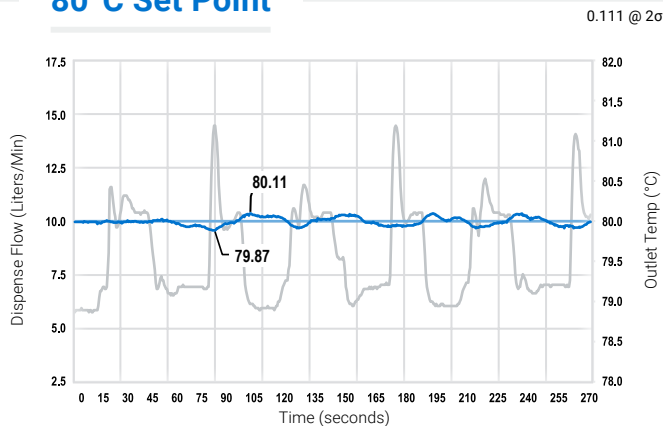
40°C Set Point



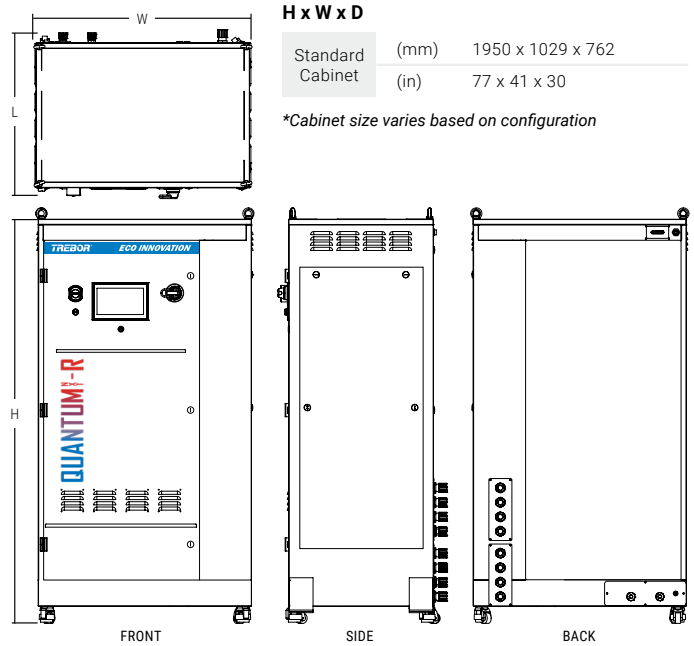
60°C Set Point



80°C Set Point



DIMENSIONS



CONFIGURATIONS

Power	Voltage	Current (Amps)	# of Heating Modules
60kW	400V	120A	4
72kW	480V	115A	4
90kW	400V	165A	6
108kW	480V	165A	6
120kW	400V	200A	8
144kW	480V	200A	8
150kW	400V	250A	10
288kW	480V	400A	16

PROCESS MAP

