TREBOR®

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

- 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
- Substantially lower cost of ownership
- No I/R bulbs or coils to replace
- Element lifespan > 44,000 hrs
- Can be powered by renewable energy
- 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 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
- Uniquely customizable configurations

SAFETY FEATURES

- GFI protection; 2023 NEC compliant
- Low pressure cut-off switch to protect components
- Adjustable over-pressure relief valve
- Non-intrusive low liquid level detection to ensure proper heating
- Element over-temperature protection; Semi S2 compliant
- Advanced flow-based leak and lock defense technology
- Ultrasonic flow measurement ensures accurate directional flow
- Proprietary control software balances pressure, temperature, and flow for optimal performance
- Optional door interlock switch and remote EMO for emergency shutdown

PERFORMANCE

VOLTAGE
400, 480V; 50/60 Hz

POWER
36 kW to 144 kW

MAX TEMPERATURE
Up to 85°C / 185°F

TEMPERATURE CONTROL
± 1.0° C **

FLOW RATE
0.5 to 48 LPM (13 GPM) *

PRESSURE
30 to 60 PSIG *UPW supply*

ELEMENT MTBF
>44,000 hours

EFFICIENCY
>98%

** All specifications dependent on configuration and operating conditions*
*** Measured 3m from heater outlet*

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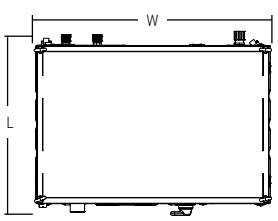
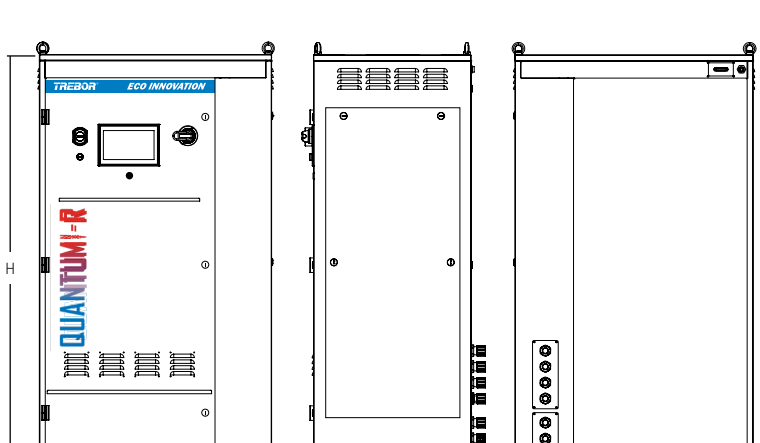


DIMENSIONS

H x W x D

Single Door	(mm)	1950 x 1029 x 762
	(in)	77 x 41 x 30



CONFIGURATIONS

Power	Voltage	Current (Amps)	# of Heating Modules	Cabinet Size
36kW	480V	60A	2	Single
60kW	400V	120A	4	Single
72kW	480V	115A	4	Single
90kW	400V	165A	6	Single
108kW	480V	165A	6	Single
120kW	400V	200A	8	Single
144kW	480V	200A	8	Single

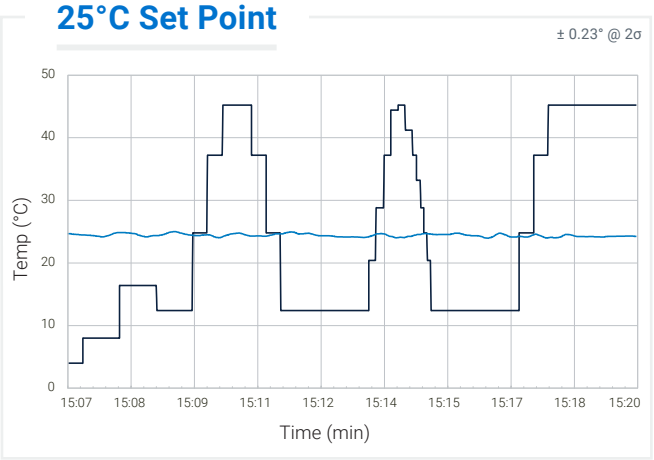
** 150 kW - 288 kW configurations available upon request*

SPECIFICATIONS

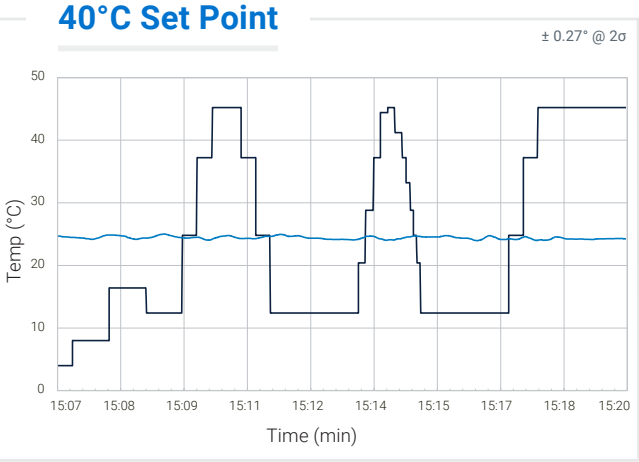
Heater	Proprietary Thin-film on Quartz Electric Resistive Heating
Control System	Zero Crossfire SSRs with PID Flow Control
Communication Options	Base: Ethernet (Modbus/TCP) Standard: Digital I/O; Modbus/RTU over RS232 *Consult Factory for Other Options*
Wetted Surfaces	GE quartz, PTFE, & PFA
Warranty	24 months
Safety Compliant	SEMI S2/S3

PERFORMANCE DATA with variable flow

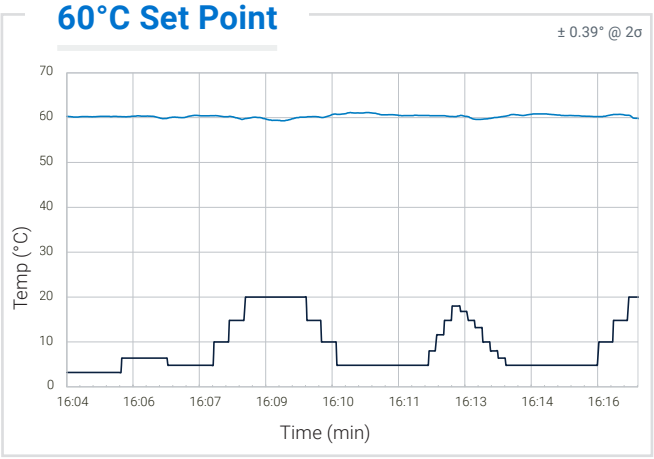
25°C Set Point



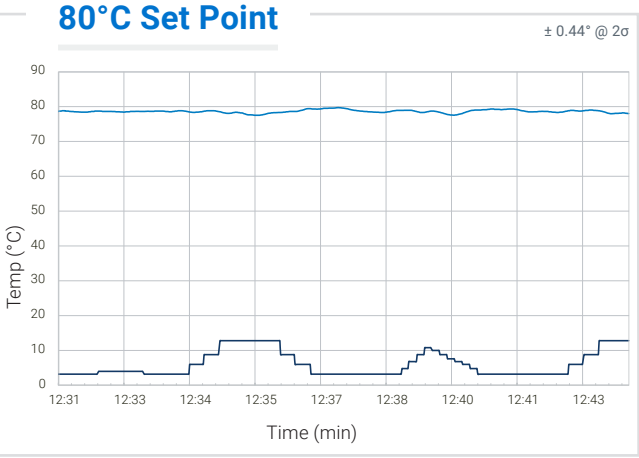
40°C Set Point



60°C Set Point



80°C Set Point



Flow Set Point — Temp Average

Data collected from a QNXT-R 144kW heater