

# QUANTUM NXT

## Deionized Water Heater

INDUSTRY LEADING  
RESPONSE TIME

HIGH PURITY  
FLUID PATH  
(GE214 QUARTZ)

+ / - 0.3°C  
ACCURACY

LOWEST COST  
OF OWNERSHIP

LONGEST INDUSTRY  
WARRANTY  
(2 YEARS)

MTBF > 5 YEARS



**VOLTAGE**  
208, 400, 480 Volt; 50/60 Hz



**POWER**  
30 kW to 216 kW



**MAX TEMPERATURE**  
95°C / 203°F



**MAX PRESSURE**  
4.1 Bar / 60 PSI / .41 MPa



**CERTIFICATIONS**  
CE, SEMI S2 & S8

The Quantum NXT is Trebor's next generation of heaters. Featuring Trebor's patented thin-film on quartz electric resistive technology, the Quantum NXT improves on Trebor's already unmatched response time, temperature accuracy, and unprecedented reliability. This new version of Trebor's existing Quantum Series offers better technology and control than its predecessor. The Quantum NXT also features a low cost of ownership with the elimination of a recirculation loop and unnecessary purging. The heater is customizable to include multiple, individually-temperature-controlled outlets to service multiple process tools. The Quantum NXT heater is the perfect solution for applications where process control, cleanliness, and system uptime are of the utmost importance.

*This is PURE INNOVATION.*

**TREBOR®**

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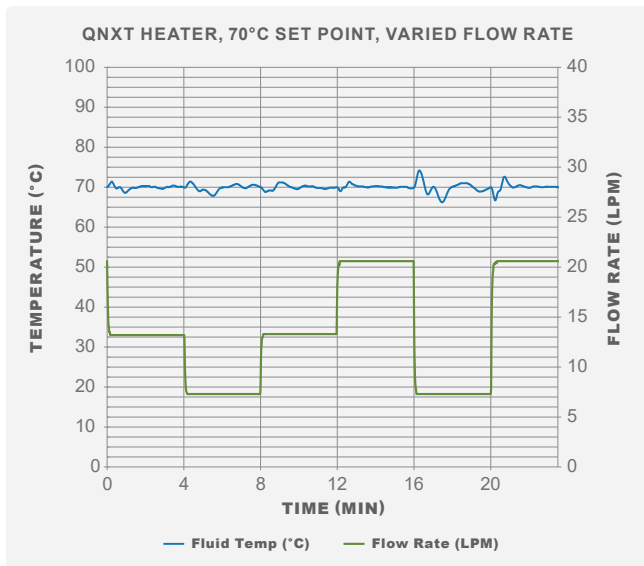
## FEATURES & BENEFITS

- ▶ **Leading Edge Technology:**  
Patented thin-film on quartz electrical resistance heater element provides exceptional temperature response and improved reliability over IR heating which requires frequent bulb change outs. The proprietary design has no metal exposure and virtually eliminates contamination risk in the event of element failure, unlike most immersion style heaters. No external air or nitrogen purge is required.
- ▶ **Versatile Control Options:**  
Multiple control options are available to meet virtually all communication requirements and protocols.
- ▶ **Compact & Convenient:**  
The modular element allows for very compact system design and can be changed out in less than 15 minutes when required. LCD color touch screen display provides easy user input and diagnostic feedback.
- ▶ **High Performance:**  
Efficient heat transfer and low resident fluid volume produces fast response to changes in flow or temperature set point using multi-loop PID control with zero crossfire SSRs
- ▶ **Ultra Clean Design:**  
High purity flow path of GE 214 semiconductor grade quartz, PTFE, and PFA with no elastomer o-rings and no NPT threads or dead-legs to create particle traps
- ▶ **User Event Control:**  
Virtually eliminate fluid temperature fluctuations caused by process flow changes. Signal the heater of a flow change and within one second, the heater will automatically adjust to minimize the effect on the process temperature

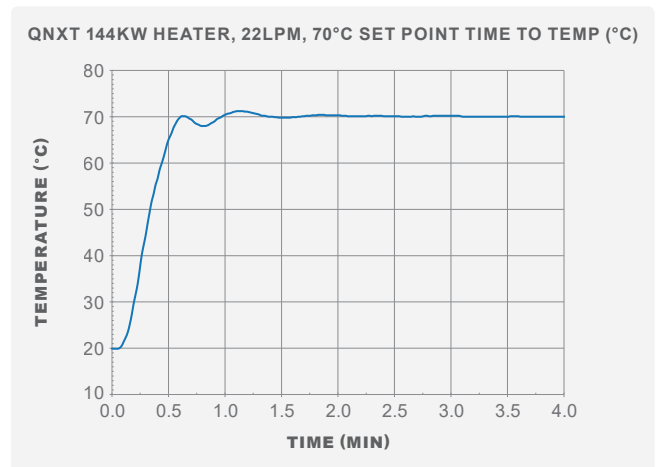
## PERFORMANCE

<b>Heater Type</b>	Thin-film on quartz electric resistive heating
<b>Voltages</b>	208, 400, 480 Volt; 50/60 Hz
<b>Temperature Limit</b>	95°C
<b>Temperature Control</b>	± 0.3°C in most conditions
<b>Pressure Range</b>	15 to 60 PSI DI water supply
<b>Flow Rate</b>	0 to 57 LPM (0 to 18 GPM); systems may be combined to achieve higher flows (Multiple output systems available)
<b>Efficiency</b>	>98%
<b>Element Life</b>	>5 years, heating modules are factory re-buildable with hardware exchange
<b>Control System</b>	Zero crossfire SSRs with PID Flow Control
<b>Communication Options</b>	Standard: Ethernet, Modbus/TCP. Optional: Dry Contact I/O; RS232, Modbus/RTU, RS485; Consult Factory for Other Options
<b>Wetted Surfaces</b>	GE quartz, PTFE, & PFA - no elastomer o-rings
<b>Safety Features</b>	Low liquid level detection Redundant over temperature protection Resettable overpressure relief valve Open thermocouple detection Liquid spill detection EMO GFI/Earth Leakage
<b>Safety Compliant</b>	SEMI S2 CE SEMI S8
<b>Warranty</b>	Two-year standard, extended warranties available

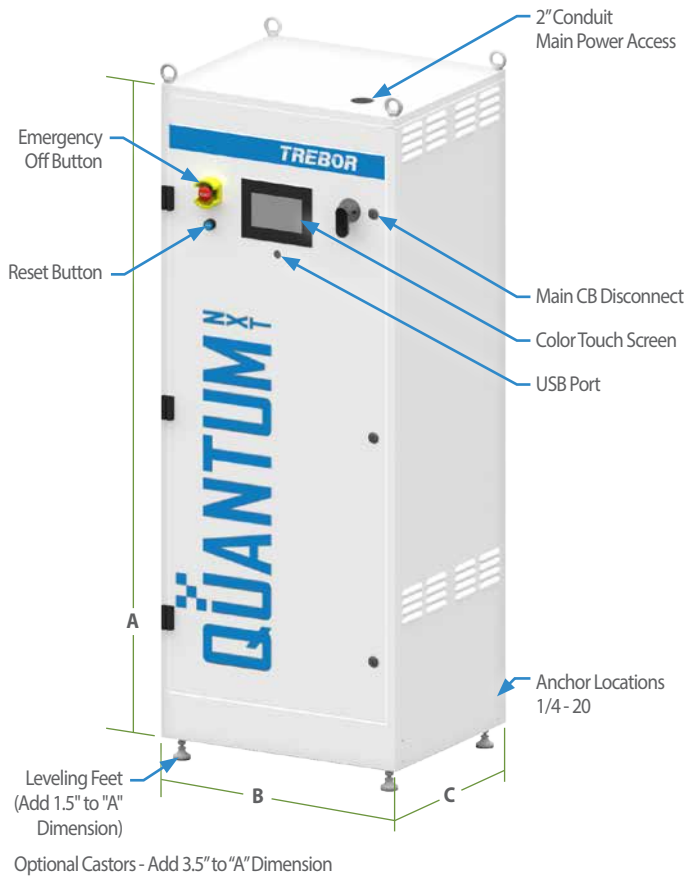
## TEMPERATURE RESPONSE CHART



## TIME TO TEMPERATURE COMPARISON



## DIMENSIONS & INSTALLATION



Power	Dimensions		
	A	B	C
20kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
30kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
36kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
40kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
60kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
72kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
80kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
90kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
108kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
144kW	72 in (183 cm)	28 in (71 cm)	23 in (58 cm)
100kW	*72 in (183 cm)	*56 in (142 cm)	*23 in (58 cm)
120kW	*72 in (183 cm)	*56 in (142 cm)	*23 in (58 cm)
150kW	*72 in (183 cm)	*56 in (142 cm)	*23 in (58 cm)
180kW	*72 in (183 cm)	*56 in (142 cm)	*23 in (58 cm)
216kW	*72 in (183 cm)	*56 in (142 cm)	*23 in (58 cm)

\* Approximate, dimensions not finalized.

Power	Voltage	Current (Amps)	# of Heating Modules
20kW	208V	56A	2
30kW	400V	43A	2
36kW	480V	43A	2
40kW	208V	111A	4
60kW	400V	87A	4
60kW	480V	73A	4
60kW	208V	167A	6
72kW	480V	87A	4
80kW	208V	222A	8
90kW	400V	131A	6
108kW	480V	130A	6
120kW	400V	173A	8
144kW	480V	173A	8
Large Cabinet			
100kW	208V	278A	10
150kW	400V	218A	10
180kW	480V	218A	10
180kW	400V	260A	12
216kW	480V	260A	12

Refer to back page for determining the right heater size for your application.

## OPTIONS & ORDERING

QNXT SERIES	144 POWER	V480 VOLTAGE	E COMMUNICATION	1 BRANCH MANIFOLD	F FEET / SEISMIC
QUANTUMNXT	020 kW 030 kW 036 kW 040 kW 060 kW 072 kW 080 kW 090 kW 100 kW 108 kW 120 kW 144 kW 150 kW 180 kW 216 kW	V208 208V~ V400 400V~ V480 480V~	E STD ENET S ENET+SER D ENET+DIRE A ALL C CUSTOM	1 (1 OUTLET) 2 (2 OUTLET) 3 (3 OUTLET) 4 (4 OUTLET) C CUSTOM	F STD FEET L LEVELING CASTERS S SEISMIC BRACKET W/FEET B SEISMIC BRACKET W/WHEELS C CUSTOM

## SIZING FORMULA

Required kW = 0.07(LDM Flow)(Temp Delta °C)

### Conversion Calculations:

LPM = GPM\*3.8

°C = 5/9(°F - 32)

### Heater Sizing Formula Example

Ambient water temp = 25°C

Desired process temp = 70°C

Temperature delta = 45°C

Required kW = 0.07(15 LPM)(45 °C) = 47.25 kW

For optimal temperature response and to compensate for seasonal changes in ambient water temperature, we recommend adding 25% excess heating capacity.

47.25 kW(1.25) = 59 kW. Trebor recommends a 60 kW heater for this application.



# QUANTUM<sup>NXT</sup>

*Trebor uses virgin PTFE and PFA in all products...no re-processed material is allowed.*

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