

## ULTRA-PURE QUARTZ HEATING

The HCQ Quartz Inline Heater provides a minimal footprint, space-conscious design combined with ultra-pure, high-purity 100% quartz construction. The Isolated heating element virtually eliminates process contamination while multiple plumbing configurations ensure ease of operation.



### FEATURES

#### Outstanding Cleanliness:

No ionic or bacterial contamination with 100% high purity quartz construction.

#### Easy Maintenance with Minimal Downtime:

Plug-in heater element is easily replaced in minutes. Fluid connections remain intact, eliminating the need for system re-qualification.

#### Reliable:

Patented purge cooling system significantly extends heater element life versus conventional designs.

#### Low Cost of Ownership:

Heating element can be field replaced without disturbing the plumbing connections or affecting the integrity of the chemistry.

#### Secondary Containment:

PTFE housing acts as a maintenance-free secondary containment vessel to help protect the environment from chemical spills.

#### Excellent Responsiveness:

Halogen lamps provide instantaneous start-up & rapid response with excellent temperature stability under varying flow rates.

#### No O-Rings:

Eliminates process contamination associated with o-rings. Leak-free operation assured.

#### No Dead Zones:

Tangential flow pattern eliminates stagnant zones in the heater. The heater is self-draining & self-venting (upon proper installation).

#### Low Pressure Drop:

Minimal pressure drop for high-circulation applications.

### APPLICATIONS

- Semiconductor wafer cleaning

# HCQ Quartz Inline Chemical Heater

## SPECIFICATIONS

Wattages	750 to 12,000 watts .
Voltages	200 volts to 480 volts, single phase or 3 phase. Consult factory for specific wattage/voltage combinations available.
Temperature Limit	Up to 365°F (185°C)
Pressure Rating	Up to 345 kPa (50 PSI).
Inlet/Outlet	19mm (3/4") MNPT flare quartz connections.
Purge Gas	Patented system using 3.5 SCFM (min) clean dry air (CDA) or nitrogen (N <sub>2</sub> ) 6.35mm (1/4") O.D. tube connector.
Flow Rate	Up to 100 lpm.
MTTR	10 minutes (with adequate access).
MTBF	In excess of 20,000 hours.
Temperature Accuracy	1° C, depending on operating conditions.
Heating Element	IR halogen lamps.
Housing	100% PTFE with viton o-rings (non-wetted). Conforms to FM material standards.
Safety Features*	Heater housing over-temperature shutoff & alarm ("J" type thermocouple and redundant bi-metallic snap switch). Purge gas verification & interlock. *Requires controller interface.

## MODEL NUMBER BREAKDOWN

HCQ Series	Wattage (kW)	Voltage	Phase	Configuration
1.5 = 1,500	208	1 = Single Phase	001 = Standard	
2 = 2,000	240	3 = Three Phase		
2.25 = 2,500	380			
3 = 3,000	400			
4 = 4,000	415			
4.5 = 4,500	480			
5 = 5,000	440			
5.5 = 5,500	220			
6 = 6,000	200			
6.75 = 6,750				
7.5 = 7,500				
8 = 8,000				
8.3 = 8,300				
9 = 9,000				
10 = 10,000				
11.2 = 11,200				
12 = 12,000				

## DIMENSIONS

