

Semiconductor Manufacturing Process Control

Ultra Pure Water Heater | Chemical Heater

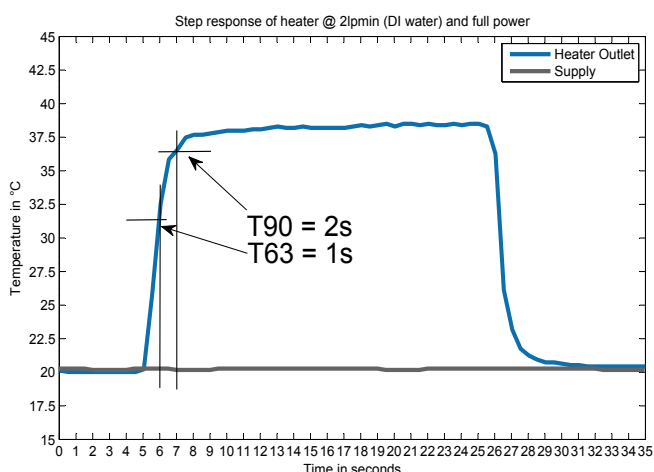
First ultra pure in-line heater by electro-magnetic induction

General

The I2R chemical heater is the first induction inline heating systems for ultra pure liquids. The very common heating technology by electro-magnetic induction and the sophisticated inner reactor geometry enables incredibly fast and accurate heating. Since only fluorocarbon resin (PTFE, PFA) and a highly pure heating element is used for the area in contact with the liquid, it is free of contamination by impurities or metal ions and is the perfect solution for quickly heating ultra pure water. Due to the used highly chemical resistant materials, it is also compatible with acid or alkaline chemicals as well as organic solvents. Patents granted.



I2R-3410S



Features

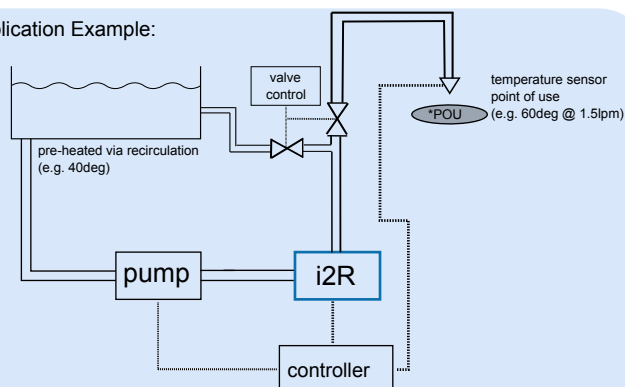
- Energy transfer via EM-field through sealed reactor
- No o-rings used
- Very fast temperature responses (rise and fall)
- Reduced thermal inertia due to small volumes
- Chemical inert and ultra pure wetted materials in use
- Multiple redundant safety system (leak, over temp, flow)
- Very wide temperature range

Specification

Applications

- Temperature Boosting for quick temperature top up at POU*
- Bath Heating / Circulation
- Quick Temperature Compensation / Change

Application Example:



*POU = Point of Use

Description	Highly dynamic in-line chemical heating device for virtually any wet chemistry application	
Wattage	max. 3kW	
Voltage	210-230VAC, 50/60Hz, single phase	
Current Drawn	15 A	
Dimensions	100 x 510 x 300mm	
Weight	15kg	
Certifications	TÜV certification for UL499, UL61010, Semi S2, Semi S3 and Semi S8 Q4/2018	
Fluid Connections	Process Fluid inlet	1/4" - 3/8" tube end
	Process Fluid outlet	1/4" - 3/8" tube end
	Cooling circuit inlet	1/4" stainless steel joint
	Cooling circuit outlet	1/4" stainless steel joint
Wet Part Material List	PTFE and PFA Fluoropolymer	
Required peripherals	Process outlet: <ul style="list-style-type: none"> Fluid flow meter, 4-20mA 	
Communication	<ul style="list-style-type: none"> Digital In- & Outputs 4-20mA Input for power setting 	
Safety	Redundant safety system <ul style="list-style-type: none"> overheat temperature sensors and thermal cut off devices in heat exchanger overheat temperature sensor and thermal cut off device monitoring cooling circuit 	
Flow rate	0.5 - 4 liters per minute	
Operating conditions	Process temperature range	15 - 85°C
	Process pressure	max. 0.25MPa @85°C
	Ambient temperature	20 - 30°C
	Storage temperature	10 - 40°C
	Humidity	max. 60%
	Ambient pressure	820 - 1100 mbar
Cooling	Cooling Fluid: DI water with minimum 50kPa pressure at cooling circuit inlet, temperature 20°- 30°C	

Note: Information presented enclosed is subject to change as product enhancements are made on a regular basis