



Heateflex® Ultra-Pure In-Line Fluid Heaters



HEATEFLEX

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Heateflex Corporation's series of Ultra-Pure In-Line Heaters are designed for use in industrial fluid heating applications such as semiconductor, solar cell wafer manufacturing, and other applications which require the most exacting standards of purity. Constructed of the highest-quality fluoropolymer materials, these heaters are custom designed and built for use with deionized water, acids, and other diverse process chemistries.

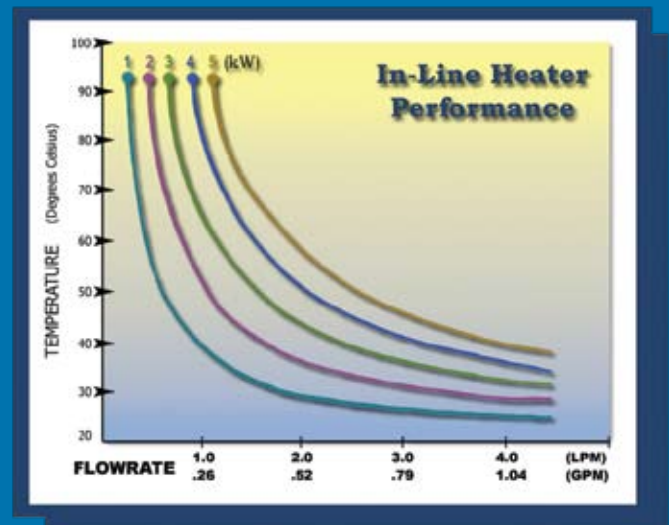
Benefits:

- Heated Chemicals at the Point-of-Use
- High Efficiency and Purity
- High Reliability and Low Maintenance
- Compact Size for Ease of Installation
- No Nitrogen Purge Required

Since 1974, Heateflex has successfully accommodated the stringent demands of the semiconductor and related high technology industries. Utilizing our patented and proprietary technology, we have perfected our Ultra-Pure In-Line heating solutions. These heaters deliver maximum power in the smallest possible space. Built with all PFA or PFA/PVDF wetted surfaces, Heateflex heaters are made to endure the ravages of aggressive chemical environments. They respond quickly and supply fluids at accurate temperatures.

Maximum Heating Efficiency

Heateflex heating technology provides the most efficient thermal response of any ultra-pure fluoropolymer heater on the market. At the core of Heateflex heaters is our low mass, specialized heating coil with all PFA wetted surfaces. This patented heating element allows for a rapid response to process demands. Because of the low mass of the Heateflex® heating element, In-Line Heaters are able to reach temperature set points in the shortest possible amount of time with more even heat distribution.



Reliability

Heateflex heaters have proven to be highly reliable and have many years of field-tested operation. All components of our In-Line Heaters are semiconductor grade, selected to provide the highest purity mandated by the sensitive processes which they support.



Features:

- All-Fluoropolymer Wetted Surfaces
- Microprocessor-Based Temperature Controller Available with Power-To-Flow® Plus for Single-Pass Applications
- Heater Sizes Ranging from 1 to 12 Kilowatts
- Most Voltages Available

Designed and Built to Meet Tough Needs

The Heateflex series of In-Line Heaters are ideal for recirculation and point of use applications where maximum purity and compatibility are required. For ultra-pure applications that utilize deionized water or for applications where aggressive chemistries may be used, such as acids, solvents, and etchants, we offer heaters that are compatible to the process. All of these heaters are available with a variety of connection options and interfacing options to integrate with the customer's tooling and requirements. These series of heaters are available with a variety of control and safety devices that can be used to provide a complete heating solution for the customer.



Compact

Our compact heaters have a minimal footprint for ease of integration. Heateflex In-Line Heaters typically are 10" to 30" tall and range from 6" to 12" wide depending on the power requirements, model, and options.

Easy Installation/Easy Retrofit

Heateflex In-Line Heaters are available with a variety of mounting options and connection options, and can be built to customer specifications. Heateflex heaters can be ordered to fit a variety of existing configurations and systems. Consult the factory for any questions regarding connection options.



PVDF & PFA or All PFA Wetted Surfaces

For applications requiring heated DI water, heaters with PVDF and PFA provide an effective heating solution. For applications utilizing aggressive process chemistries and temperatures over 140°C, all PFA wetted surfaces offer the highest level of purity and durability.

Flexibility

Heateflex In-Line Heaters are available in an array of standard voltages and power requirements. Our standard approach is to understand what you need, then design to your needs and deliver.

Safety Built Into Every Unit

Heateflex is known for a commitment to safety, providing reliable products with safety at the forefront of the design. All of our In-Line Heaters have a standard integration of many features designed to protect the unit, the application, and the users.

Over-Temperature Thermocouple

Over-temperature protection is maintained through the use of a thermocouple and a temperature limit controller. The thermocouple monitors the temperature of the heater, and the temperature limit controller restricts the operating temperature to safe levels.

Ground Wire Protection







Ground protection is provided to detect any electrical current leakage inside of the heater. Our specially-designed ground wire monitors the fluid path for the presence of electrical current leakage in order to protect both personnel and equipment.

Process Temperature High Limit

To ensure that an application process temperature is accurately maintained, each In-Line Heater has a thermocouple located at the output of the unit. Combined with Heateflex temperature controls, this sensor allows for accurate temperature control in recirculation or single pass applications.



Heateflex® Ultra-Pure In-Line Fluid Heaters Specifications

MODEL TYPE	FLUORO-PLASTICS AS WETTED SURFACES	GENERIC OVERALL DIMENSIONS	PHOTO (NOT TO SCALE)
LH1 LH5 LH6 LH7	PVDF Housing PFA Jacketed Heating Element	LH1 – 5.8"L x 5.8"W x *VH LH5 – 3.56"L x 3.56"W x *VH LH6 – 3.0"L x 3.0"W x *VH LH7 – 6.3"L x 6.3"W x *VH	
LH2 LH3	PVDF Housing PFA Jacketed Heating Element	LH2 – 11.10"L x 7.0"W x 20.0"H LH3 – 11.10"L x 7.0"W x 30.0"H	
LHK LHP	PFA Housing PFA Jacketed Heating Element	LHK – 4.31"L x 4.31"W x *VH LHP – 6.25"L x 6.25"W x 14.5"H	
LHL LHM LHN	PFA Housing PFA Jacketed Heating Element	LHL – 6.3"L x 6.75"W x 13.56"H LHM – 6.3"L x 6.75"W x 20.5"H LHN – 6.3"L x 6.75"W x 30.19"H	
LHR	PFA Housing PFA Jacketed Heating Element	LHR – 24"L x 3.5"H x 6"W	
LHX LHY	PTFE Housing PFA Jacketed Heating Element	LHX – 11.0"L x 6.75"W x 20.5"H LHY – 12.82"L x 6.75"W x 28.5"H	

*VH = Variable Height

Call today for prices and lead times, or visit us online at www.heateflex.com

Heateflex® Heater Patent No.: 4756781, 4875957, 2685505 (Japan)

Power-To-Flow® Patent No. 4835365

Power-To-Flow® Plus Patent Pending

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