



Ultrapure In-Line PVDF/PFA Fluid Heaters

PVDF/PFA ultrapure in-line fluid heaters are ideal for heating deionized water or less aggressive process chemistries in fluid recirculation or point-of-use heating applications. LH1 heaters provide a compact, highly efficient, low-cost solution. LH7 heaters enable more flow and higher wattages. The small footprints of LH1 and LH7 heaters allow them to be easily integrated into current systems.

Features & Benefits

- PVDF/PFA wetted surfaces
- Reliably heat DI water and less aggressive chemicals
- Single-pass or recirculation applications
- Maximum power in compact footprint
- Maximum 100°C heating capability
- Fast temperature response and efficiency
- Low watt density design for longer life
- Housing heights from 19-in to 30-in
- Many voltage-to-wattage combinations
- No N2 purge required



Specifications

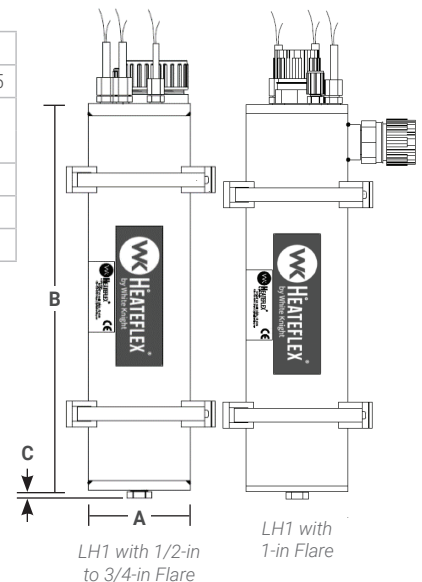
Model	LH1	LH7
Heater Element	Heateflex® Coil	Heateflex® Coil
Wetted Material	PVDF/PFA	PVDF/PFA
Housing Diameter	4.3-in (110 mm)	6.3-in (160 mm)
Max. Temperature	95°C (203°F)	95°C (203°F)
Max. Flow	15 gpm (56 L/min)	32 gpm (122 L/min)
Pressure Rating	60 psi at 95°C	60 psi at 95°C
Wattages	1-12 kW	3-30 kW
Voltages	208-480 VAC, 1 and 3-phase	
Liquid Fittings	1/2-in to 1-in Flare	
Drain Fitting	3/8-in FNPT, 1/2-in Flare	
Hi-Limit Sensor	Type-J Thermocouple (Type-K, RTD options)	
Process Sensor	Type-J Thermocouple (Type-K, RTD options)	
Ground Wire	Encapsulated (options available)	
Lead Wire Length	10-ft (20-ft option)	

*All specs depend on model, voltage, wattage, and customer utilization. See configuration instructions for capability and compatibility.

Dimensions

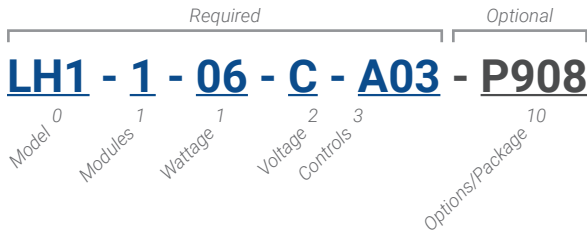
Model	Voltage	Wattages	A	B
LH1	1-ph	1-9	4.3	16.5
		10-12		26
LH7	1-ph	3-5	6.4	10
		9-15		26
	3-ph	20-30	32	

Model	Drain Fitting	C
LH1	3/8-in FNPT	0.34
LH7	1/2-in Flare	1.75



Configuration

Options in the example are **highlighted** below.



Configuration Options

0. Model	
110 mm PVDF Housing (Standard Unit)	LH1
160 mm PVDF Housing (High Flows/High Kilowatts)	LH7

1. Modules	
One Module	1

2. Wattages	
<i>*See Compatibility</i>	
2 kW	02
3 kW	03
4 kW	04
5 kW	05
6 kW	06
8 kW	08
9 kW	09
10 kW	10
12 kW	12
15 kW	15
18 kW	18
20 kW	20
30 kW	30

3. Voltages	
<i>*See Compatibility</i>	
208 VAC, 1-PH	C
220 VAC, 1-PH	D
230 VAC, 1-PH	E
240 VAC, 1-PH	F
380 VAC, 1-PH	H
208 VAC, 3-PH	N
380 VAC, 3-PH	R
480 VAC, 3-PH	V
400 VAC, 3-PH	W
400 VAC, 1-PH	XX

Wattage and Voltage Compatibility in LH1 (✓) and LH7 (✓)															
<i>*More available at request.</i>															
		Wattages (kW)													
		2	3	4	5	6	8	9	10	12	15	18	20	30	
Voltages (VAC)	C	-	✓	✓	✓	-	-	✓	✓	✓	-	-	-	-	
	D	✓	✓	-	✓	✓	-	-	-	-	-	-	-	-	
	E	✓	-	-	-	-	-	-	-	-	-	-	-	-	
	F	-	✓	-	✓	-	-	-	-	-	-	-	-	-	
	H	-	-	-	-	-	-	-	✓	-	-	-	-	-	
	N	-	✓	✓	-	✓	-	✓	✓	✓	-	✓	-	-	
	R	-	-	-	-	-	✓	-	✓	✓	-	-	✓	✓	
	V	-	-	-	-	-	-	✓	-	✓	-	✓	-	-	
	W	-	-	-	-	-	-	-	✓	-	✓	✓	✓	-	✓
	XX	-	-	-	-	✓	-	-	-	-	-	-	-	-	-

Standard Safeties:

- PVDF/PFA Wetted Surface
- PVDF Housing
- 3/4-in Tube Input/Output
- 3/8-in FNPT Drain (Plugged)
- Tantalum Ground Wire
- Type J Hi-Limit Thermocouple
- Type J Process Thermocouple
- 10ft Power Leads



4. Controls and Liquid Level Sensor	
No liquid-level sensor; provided by others	A03
Capacitive liquid-level sensor; bracket included	A48

5. Options Or Package

Add options sequentially, e.g. "05-236".

Use Package when more than two options are desired, e.g. "86-99-236" = "P902".
 More options and packages are available at request.

Options	Description
05	1/2-in Flare In/Out
06	3/4-in Flare In/Out
15	Hi-Limit RTD, 100Ω
25	Process RTD, 100Ω
36	Type K Thermocouple for Hi-Limit & Process
86	1/2 2-in Flare Drain
99	1 2-in Flare In/Out
236	Encapsulated Ground Wire (Replaces Tantalum Ground)

Package	Options					
P902	86	99	236	-	-	-
P908	06	86	236	-	-	-
P909	14	86	236	-	-	-
P910	06	15	25	236	-	-
P913	06	15	25	86	236	-
P916	15	25	86	99	236	-
P918	06	36	236	-	-	-
P921	06	36	86	236	-	-
P924	36	86	99	236	-	-
P925	15	25	99	236	-	-
P926	36	99	236	-	-	-
P927	05	20	236	-	-	-
P928	02	20	236	-	-	-
P930	05	86	236	-	-	-
P931	05	15	25	236	-	-
P932	05	15	25	86	236	-
P933	05	36	236	-	-	-
P934	05	36	86	236	-	-