

# P, F, S and T Series

## PRODUCT DATA SHEET

### Metal Heater

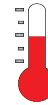
#### Durable, efficient chemical heater

For use in most aqueous alkaline solutions

Low watt density design saves space & ensures long life

Vapor resistant, flame retardant polypropylene terminal enclosure

Grounded construction and built in thermal protector



Up to 82°C (180°F)



1,000 watts to 12,000 watts.



120 to 600 Volts  
600V on 4,500W or lower only



steel, 304 stainless steel, 316 stainless steel and titanium.



cULus (except steel and 600 volts)

P, F, S, and T SERIES, METAL HEATERS									
WATTS	VOLTS	HOT ZONE		OVERALL LENGTH	STEEL	304 SS	316 SS	TITANIUM	SHIP WGT. Lbs./kg
		In./mm	In./mm						
1000	120	6	11	(279)	P1111-**	F1111-**	S1111-**	T1111-**	8
	240	(152)	(279)		P1211-**	F1211-**	S1211-**	T1211-**	(3.6)
2000	240	10	17	(432)	P2217-**	F2217-**	S2217-**	T2217-**	10
	480	(254)	(432)		P2417-**	F2417-**	S2417-**	T2417-**	(4.5)
3000	240	16	23	(584)	P3223-**	F3223-**	S3223-**	T3223-**	12
	480	(406)	(584)		P3423-**	F3423-**	S3423-**	T3423-**	(5.4)
4000	240	20	29	(737)	P4229-**	F4229-**	S4229-**	T4229-**	13
	480	(508)	(737)		P4429-**	F4429-**	S4429-**	T4429-**	(5.9)
5000	240	25	35	(889)	P5235-**	F5235-**	S5235-**	T5235-**	16
	480	(635)	(889)		P5435-**	F5435-**	S5435-**	T5435-**	(7.3)
6000	240	30	40	(1016)	P6240-**	F6240-**	S6240-**	T6240-**	18
	480	(762)	(1016)		P6440-**	F6440-**	S6440-**	T6440-**	(8.2)
8000	240	37	47	(1194)	P8247-**	F8247-**	S8247-**	T8247-**	23
	480	(940)	(1194)		P8447-**	F8447-**	S8447-**	T8447-**	(10.4)
9000	240	44	54	(1372)	P9254-**	F9254-**	S9254-**	T9254-**	24
	480	(1118)	(1372)		P9454-**	F9454-**	S9454-**	T9454-**	(10.9)
10000	240	49	59	(1499)	P10259-**	F10259-**	S10259-**	T10259-**	25
	480	(1245)	(1499)		P10459-**	F10459-**	S10459-**	T10459-**	(11.3)
12000	240	58	68	(1727)	P12268-**	F12268-**	S12268-**	T12268-**	29
	480	(1473)	(1727)		P12468-**	F12468-**	S12468-**	T12468-**	(13.2)

Single phase standard

**PROCESS TECHNOLOGY**

ISO 9001:2015  
WITH DESIGN CERTIFIED

## Features & Values

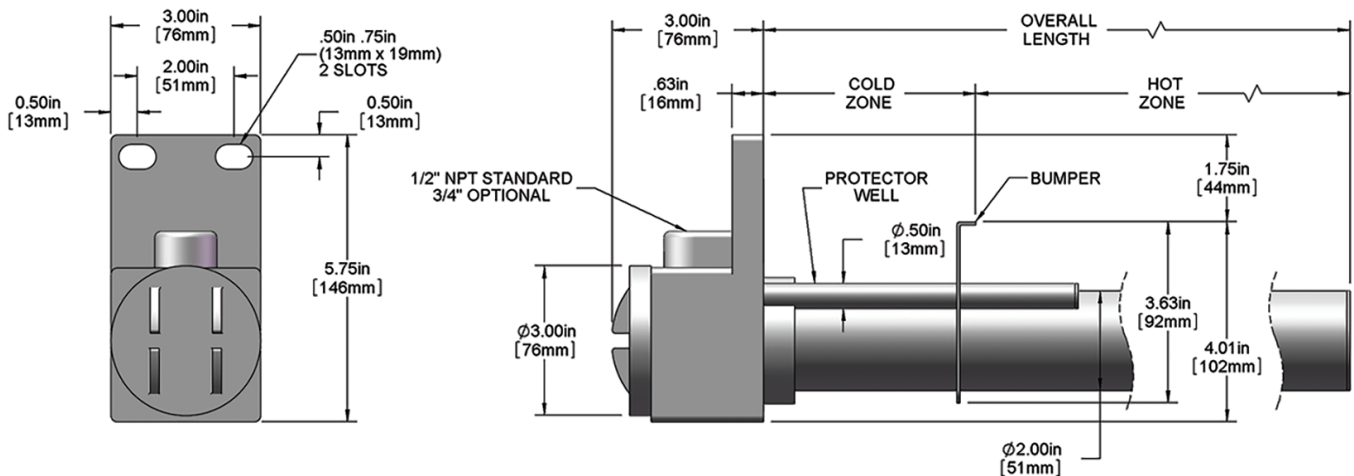
- For use in most aqueous alkaline solutions, plating and phosphate tanks. Check solution recommendation chart with your chemical supplier for proper sheath material selection
- Heavy wall metal sheaths available in: steel, 304 stainless steel, 316 stainless steel, titanium
- Watt densities up to 35 watts per square inch (5.4 w/cm<sup>2</sup>) ensure long service life
- Vapor-resistant, flame retardant polypropylene terminal enclosure with 3 ft (.9m) flexible PVC liquid tight conduit.
- Temperature and level controls sized to match the heater
- Lower watt densities for highly viscous solutions

NOTE: Intended for vertical installation only.

## Specifications

<b>Wattages</b>	1,000 to 12,000 Watts
<b>Voltages</b>	120 to 600 Volts (600V on 4,500W or lower only)
<b>Temperature Range</b>	Up to 180°C (82°F)
<b>Options</b>	<ul style="list-style-type: none"> <li>▫ Special configurations &amp; lengths</li> <li>▫ Longer wire and conduit lengths</li> <li>▫ All metal welded junction box</li> </ul>
<b>Safety Features</b>	<ul style="list-style-type: none"> <li>▫ Grounded construction</li> <li>▫ Thermal protector built in. Replaceable PI protector standard for solutions up to 180°F (82°C).</li> <li>▫ See chart below for options</li> </ul>
<b>Certifications</b>	cULus compliant (except 600V)

## Dimensions



## Model Number Breakdown

Series	Wattage	Voltage	Overall Length	Phase	Type of Protector	Wire & Conduit Length
P = Steel	1 = 1000	1 = 120	11 = 1kW	Blank = single (std)	Replaceable Fuse (Type-J TC)	36" length standard (no designator)
F = 304 stainless steel	2 = 2000	2 = 240	17 = 2kW	-3 = 3 phase	P1 (std) = solutions up to 180°F	Specify variations from standard Ex: -X84 = 84"
S = 316 stainless steel	3 = 3000	3 = 380	23 = 3kW		P4 = solutions up to 230°F	
T = titanium	4 = 4000	4 = 480	29 = 4kW		P5 = solutions up to 300°F	
	5 = 5000	5 = 415	35 = 5kW		Resettable Fuse (Type-J TC)	
	6 = 6000	6 = 600	40 = 6kW		P2 = solutions up to 180°F	
	7 = 7000	7 = 400	47 = 8kW		P6 = solutions up to 230°F	
	8 = 8000	8 = 208	54 = 9kW		P7 = solutions up to 300°F	
	9 = 9000	9 = 220	59 = 10kW			
	10 = 10000	0 = 200	60 = 12kW			
	11 = 11000					
	12 = 12000					

**PROCESS TECHNOLOGY**