

P, F, S, and T SERIES, METAL HEATERS									
WATTS	VOLTS	HOT	OVERALL	STEEL	304 SS	316 SS	TITANIUM	SHIP	WGT.
		ZONE	LENGTH						
		Ln./(mm)	Ln./(mm)						Lbs./kg)
1000	120	6	11	P1111-**	F1111-**	S1111-**	T1111-**		7
	240	(155)	(280)	P1211-**	F1211-**	S1211-**	T1211-**		(3.5)
2000	120	10	17	P2117-**	F2117-**	S2117-**	T2117-**		10
	240	(255)	(430)	P2217-**	F2217-**	S2217-**	T2217-**		(4.5)
	480			P2417-**	F2417-**	S2417-**	T2417-**		
3000	240	16	23	P3223-**	F3223-**	S3223-**	T3223-**		11
	480	(405)	(585)	P3423-**	F3423-**	S3423-**	T3423-**		(5)
4000	240	20	29	P4229-**	F4229-**	S4229-**	T4229-**		13
	480	(510)	(735)	P4429-**	F4429-**	S4429-**	T4429-**		(6)
5000	240	25	35	P5235-**	F5235-**	S5235-**	T5235-**		15
	480	(635)	(890)	P5435-**	F5435-**	S5435-**	T5435-**		(7)
6000	240	30	40	P6240-**	F6240-**	S6240-**	T6240-**		17
	480	(760)	(1015)	P6440-**	F6440-**	S6440-**	T6440-**		(8)
8000	240	37	47	P8247-**	F8247-**	S8247-**	T8247-**		23
	480	(940)	(1195)	P8447-**	F8447-**	S8447-**	T8447-**		(10.5)
9000	240	44	54	P9254-**	F9254-**	S9254-**	T9254-**		24
	480	(1120)	(1370)	P9454-**	F9454-**	S9454-**	T9454-**		(11)
10000	240	49	59	P10259-**	F10259-**	S10259-**	T10259-**		25
	480	(1245)	(1500)	P10459-**	F10459-**	S10459-**	T10459-**		(11.5)
12000	240	58	68	P12268-**	F12268-**	S12268-**	T12268-**		28
	480	(1475)	(1730)	P12468-**	F12468-**	S12468-**	T12468-**		(13)

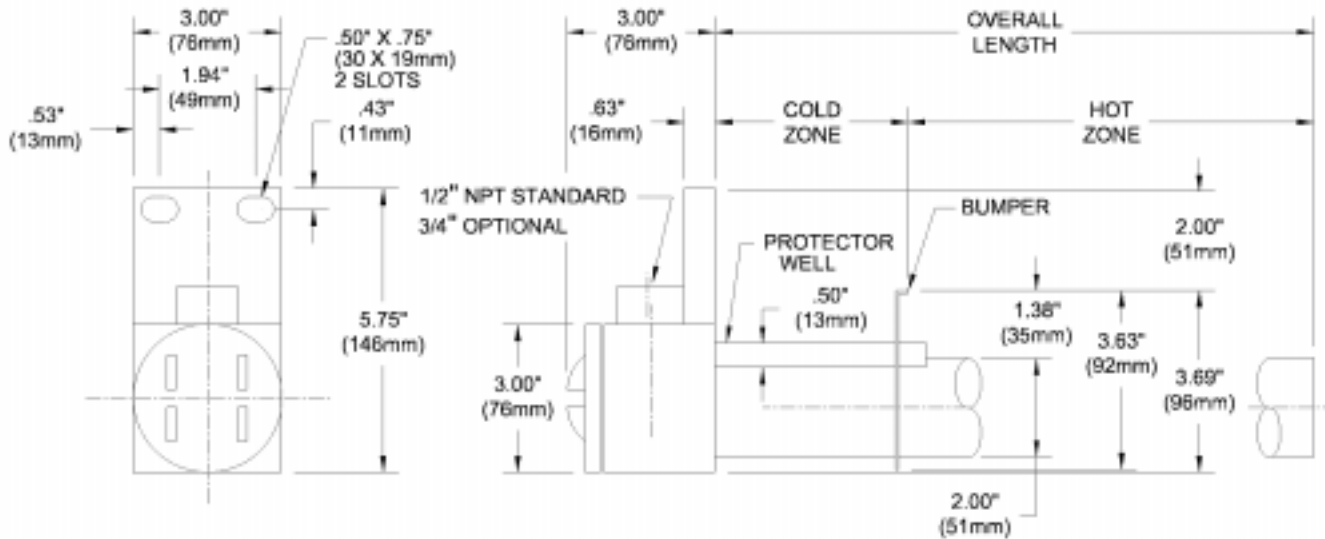
Three phase available as option. Add "-3" before thermal protector designator.

## Product Features and Benefits:

- ◆ **SUPERIOR CHEMICAL RESISTANCE:** Materials available for use in most aqueous alkaline solutions, plating solutions, and rinse tanks. Check solution recommendation chart or with your chemical supplier for proper sheath material selection.
- ◆ **RUGGED CONSTRUCTION:** Heavy wall metal sheaths available in:
  - Steel.
  - 304 stainless steel.
  - 316 stainless steel.
  - Titanium.
- ◆ **OUTSTANDING PERFORMANCE:** Watt densities of 35 watts per square inch (5.4 w/cm<sup>2</sup>) ensure long service life.
- ◆ **CORROSION RESISTANT HEAD:** Vapor tight, flame retardant polypropylene terminal enclosure with 3-foot (.9m) flexible PVC liquid tight conduit.
- ◆ **SAFETY FEATURES:**
  - Grounded construction.
  - Thermal protector built in. Replaceable PI fuse standard for solutions up to 180°F (82°C).
  - Non-floating construction.
- ◆ **CERTIFICATIONS:** UL (Except steel sheath), CSA, and CE.
- ◆ **SIZES:** 1,000 watts to 12,000 watts.
- ◆ **VOLTAGES:** 120, 240 or 480 volts. 208, 380, 415, 600 and other voltages available. Single phase standard, three phase available.
- ◆ **OPTIONS AVAILABLE** (consult factory):
  - Replaceable thermal protectors:
    - PIM: for solutions from 180°F (82°C) to 230°F (110°C).
    - PIH: for solutions from 230°F (110°C) to 300°F (150°C).
  - Resettable thermal protectors:
    - PII: for solutions up to 180°F (82°C).
    - PIIM: for solutions from 180°F (82°C) to 230°F (110°C).
    - PIIH: for solutions from 230°F (110°C) to 300°F (150°C).
  - Special configurations and lengths.
  - Longer wire and conduit lengths.
  - Lower watt densities for highly viscous solutions.
  - Temperature and level controls sized to match the heater.

To Order Call Star Electric 1.800.345.0369

## DIMENSIONS



## SINGLE TUBE METAL OVER THE SIDE HEATER ORDERING INFORMATION

Series	Wattage	Voltage	Length	Options	Type of Fuse	Wire and Conduit Length																		
	1 = 1000 2 = 2000 3 = 3000 4 = 4000 5 = 5000 6 = 6000 8 = 8000 9 = 9000 10 = 10000 12 = 12000	1 = 120 2 = 240 4 = 480 -208- = 208 -380- = 380 -415- = 415 -600- = 600	11 = 1kW 17 = 2kW 23 = 3kW 29 = 4kW 35 = 5kW 40 = 6kW 47 = 8kW 54 = 9kW 59 = 10kW 68 = 12kW specify custom lengths, not to exceed tank depth			no designator = 36" length standard specify variations from standard Ex: -X84 = 84" wire and conduit																		
	P = steel F = 304 stainless steel S = 316 stainless steel T = titanium				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Replaceable Fuse</th> </tr> </thead> <tbody> <tr> <td style="width: 20%;">-PI (std)</td> <td>for solutions up to 180°F</td> </tr> <tr> <td>-PIM</td> <td>for 180° - 230°F solutions</td> </tr> <tr> <td>-PIH</td> <td>for 230° - 300°F solutions</td> </tr> <tr> <th colspan="2" style="text-align: center;">Resettable Fuse</th> </tr> <tr> <td colspan="2" style="text-align: center;">(additional control components required)</td> </tr> <tr> <td>-PII</td> <td>for solutions up to 180°F</td> </tr> <tr> <td>-PIIM</td> <td>for 180° - 230°F solutions</td> </tr> <tr> <td>-PIIH</td> <td>for 230° - 300°F solutions</td> </tr> </tbody> </table>	Replaceable Fuse		-PI (std)	for solutions up to 180°F	-PIM	for 180° - 230°F solutions	-PIH	for 230° - 300°F solutions	Resettable Fuse		(additional control components required)		-PII	for solutions up to 180°F	-PIIM	for 180° - 230°F solutions	-PIIH	for 230° - 300°F solutions	
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	-X = any special configuration not called out in the part number (specify in clear text) no designator = single phase power (standard) -3 = three phase power																							

### ORDERING EXAMPLE:

T12468-PIM-X84

Titanium, 12,000 watts, 480 volt, 68" overall length, PIM fuse, 84" wire and conduit.

**PROCESS  
TECHNOLOGY**

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