

DAS SERIES, PHOSPHATE HEATERS					
WATTS	VOLTS	HOT ZONE In./(mm.)	OVERALL LENGTH In./(mm.)	MODEL NUMBER	SHIP WGT. Lbs./(kg.)
1000	120	7	11	DAS1111-P4	17
	240	(180)	(280)	DAS1211-P4	(8)
2000	240	12	17	DAS2217-P4	20
	480	(305)	(430)	DAS2417-P4	(9)
3000	240	18	23	DAS3223-P4	24
	480	(460)	(585)	DAS3423-P4	(11)
3500	240	21	29	DAS3.5229-P4	30
	480	(535)	(735)	DAS3.5429-P4	(14)
4000	240	28	35	DAS4235-P4	36
	480	(710)	(890)	DAS4435-P4	(16)
5000	240	33	41	DAS5241-P4	42
	480	(840)	(1040)	DAS5441-P4	(19)
6000	240	39	47	DAS6247-P4	48
	480	(990)	(1195)	DAS6447-P4	(22)
8000	240	49	59	DAS8259-P4	58
	480	(1245)	(1500)	DAS8459-P4	(27)
10000	240	62	71	DAS10271-P4	64
	480	(1575)	(1805)	DAS10471-P4	(30)

Other configurations available, consult factory.

## DAS Series, Features and Benefits

**SUPERIOR CHEMICAL RESISTANCE:** For use in iron, zinc and manganese phosphate tanks.

**EXTREMELY RUGGED CONSTRUCTION:** Schedule 40, heavy wall, 316 stainless steel sheath withstands scaling better than traditional heaters.

**OUTSTANDING PERFORMANCE:** Low watt densities of 23 watts per square inch (3.5 w/cm<sup>2</sup>) helps to minimize scaling while only utilizing the space required for a full watt density heater.

**CORROSION RESISTANT HEAD:** Rugged cast steel terminal enclosure with 3-foot (.9m) flexible PVC liquid tight conduit.

### SAFETY FEATURES:

- Grounded construction.
- Thermal protector built in. Replaceable P4 protector standard.
- Non-floating construction.

**CERTIFICATIONS:** CE (except 600 volts).

**SIZES:** 1,000 watts to 10,000 watts.

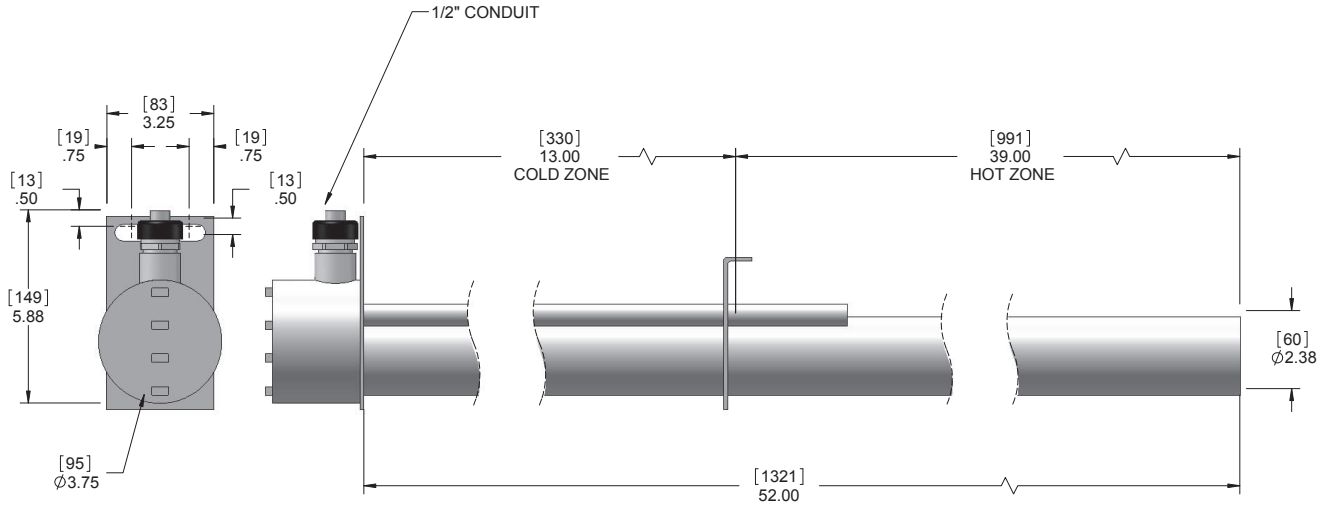
**VOLTAGES:** 120 to 600 volts. Single phase standard, three phase available.

**OPTIONS AVAILABLE** (consult factory):

- Thermal protectors: Replaceable high temperature fuses or resettable P2 bi-metal switches in two temperature ranges.
- Special configurations and lengths.
- Longer wire and conduit lengths.
- Temperature and level controls sized to match the heater.

**NOTE: Do not use in any aluminum reactive alkaline solutions.**

## DIMENSIONS



### SINGLE TUBE METAL OVER THE SIDE PHOSPHATE HEATER ORDERING INFORMATION

Series	Wattage	Voltage	Length (in.)	Options	Type of Protector	Wire and Conduit Length								
<p>DAS</p> <p>no designator = single phase power (standard) -3 = three phase power</p>	<p>1 = 1000 2 = 2000 3 = 3000 3.5 = 3500 4 = 4000 5 = 5000 6 = 6000 8 = 8000 10 = 10000</p>	<p>1 = 120 2 = 240 3 = 380 4 = 480 5 = 415 6 = 600 7 = 400 8 = 208 9 = 220 0 = 200</p>	<p>11 = 1kW 17 = 2kW 23 = 3kW 29 = 3.5kW 35 = 4kW 41 = 5kW 47 = 6kW 59 = 8kW 71 = 10kW specify custom lengths, not to exceed tank depth</p>		<p style="text-align: center;"><b>Replaceable Protector</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">-P4 (std)</td> <td>for solutions up to 230°F</td> </tr> <tr> <td>-P5</td> <td>for 230° - 300°F solutions</td> </tr> </table> <p style="text-align: center;"><b>Resettable Protector</b> (additional control components required)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">-P6</td> <td>for solutions up to 230°F</td> </tr> <tr> <td>-P7</td> <td>for 230° - 300°F solutions</td> </tr> </table>	-P4 (std)	for solutions up to 230°F	-P5	for 230° - 300°F solutions	-P6	for solutions up to 230°F	-P7	for 230° - 300°F solutions	<p>no designator = 36" length standard specify variations from standard Ex: -X84 = 84"</p>
-P4 (std)	for solutions up to 230°F													
-P5	for 230° - 300°F solutions													
-P6	for solutions up to 230°F													
-P7	for 230° - 300°F solutions													

1 inch = 25.4mm

#### ORDERING EXAMPLE:

DAS4235-P4

Over-the-side phosphate heater, 4,000 watts, 240 volt, 35" overall length, P4 protector.

