

Chromalox®
versaTHERM™

Screw Plug Clean Water and Oil Applications

- 2 1/2" NPT Steel Screw Plug
- INCOLOY Sheath Elements
(2 to 80 W/In² Water)
(2 to 23 W/In² Oil)
- Field Adjustable kW's
and Voltage Ratings
- 0.5 - 40 kW Water
0.5 - 10 kW Oil
- Integral Thermocouple
- 120, 208, 240 and 480V, 1 Phase
208, 240 and 480V, 3 Phase
- General Purpose Terminal
Enclosure
- Process Temperature up to 300°F

Applications

Chromalox versaTHERM screw plug immersion heaters can be applied to a variety of clean water and oil applications.

The unique versatility of this design allows field adjustment of the rating by simple connections to the six elements of the heater. This simplifies selection and spare parts since each heater may be used in several different heating applications.

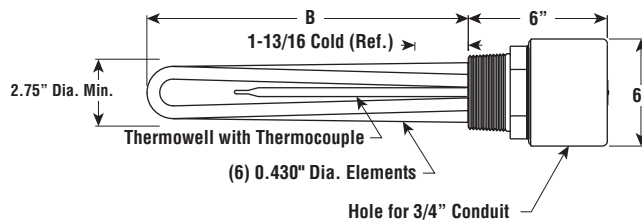
See the application matrix for the many kW values available with different wiring styles

Advantages

- High Power levels available
- Short insertion length (B-dim)
- 3 day Fast Ship
- Versatile applications, voltage options and power levels
- Temperature sensing thermocouple included. Bayonet fitting allows removal for inspection or replacement.



E1 — Dimensions (Inches)



Features

Field Adjustable Ratings — Each standard heater may be wired to different voltages and kW's. See chart on following page for application matrix.

Terminal Enclosures — E1 General Purpose is standard. Enclosure can be rotated 360° to match conduit connections.

Elements — INCOLOY sheath heating element welded to a 2.5" steel screw plug.

Mounting — Easy to install; compact size.

Note — Element bundle is larger than the I.D. of a 2.5" pipe.

Standard Integral Thermocouple — J type thermocouple in a thermowell; can be used for process or overtemperature control on the process fluid. See 4468 series control panel for stock power and temperature control components for complete heating solution. IntelliTHERM™ may also be used as a stock control panel for single-circuit applications.

Specifications and Ordering Information-Table

Max. kW	Max. Volts	Dim. (In.) B	Model	Stock	PCN	Wt. (Lbs.)
See Application Matrix for Rating		20-13/16	VTS-3180	NS	181075	12
		20-13/16	VTS-3180	NS	181083	12
		30-3/8	VTS-3200	NS	181913	15
		20-13/16	VTS-3240	NS	181921	12
		20-13/16	VTS-3240	NS	181930	12
		30-3/8	VTS-3400	NS	181948	15

Stock Status: S = stock NS = non-stock
To Order — Specify model, volts, phase, kW, PCN and quantity.

Screw Plug

Selection Steps

Note that the same part can be field adjusted for another rating or reapplied for a different application.

1. Select which type of heater you need: oil, or water.
2. Using the application matrix for the oil or water heater find the row in the matrix that has kW capacity and W/In² you need. Select next larger unit if between ratings. For ratings over 40 kW on water and 10 kW on oil use multiple units piped in series or parallel.
3. Select the column that matches the voltage rating that you require.
4. Find the intersection of the column and row selected. This is the PCN for your voltage and wattage requirement. Verify voltage for single or three phase. Shaded areas are 3 phase only.
5. Go to the specifications and ordering table on the prior page. Locate PCN number identified in step 4. Note model number and description from this table. Dimensions will be shown.
6. Place order for item identified in step 5. When unit is received, instructions will show you how to wire the kW and voltage configuration that you desire. Only show description from ordering table when ordering.

Example:

Light Oil heating application,
2.75 kW 240V 3 phase capacity.

1. Select oil application matrix.
2. Locate 2.75 kW on chart. Use 3 kW as next higher rating. Confirm that 20 w/sq. in. is suitable for light oil.
3. Find column with 240Volt 3 phase power.
4. Intersection of row and column is PCN 181930. Confirm 3 phase and single phase available. Note there is spare capacity for back up or for future increase in requirements.
5. Locate PCN 181930 in specifications and ordering table as a VTS-3240 unit. When received this will have instructions on wiring for 3 kW 240 V 3 phase application with labels for this rating.
6. Order VTS-3240 PCN 181930 unit.

Contact Sales Office with any questions

Application Matrix - Oil

kW	W/In ²	PCN			
		120 Volts 1ph	208 Volts 1 or 3 ph	240 Volts 1 or 3 ph	480 Volts 1 or 3 ph
0.50	2			181930	
0.75	5	181930*	181930*		
1.50	5	181930	181930	181930	181083
2.25	15		181930*	181083*	
2.50	6	181948	181948	181948	
3.00	20	181921*	181921*	181930*	
4.50	15	181075	181930	181083	181083
5.00	11	181913	181913	181913	
6.00	20	181921	181921	181930	181930
10.00	21			181948	181948

Note — Shaded items are 3 ph only *items have 100% spare capacity

Application Matrix - Water

kW	W/In ²	PCN			
		120 Volts 1ph	208 Volts 1 or 3ph	240 Volts 1 or 3 ph	480 Volts 1 or 3 ph
0.50	2			181930	
0.75	5	181930*	181930*		
1.50	5	181930	181930	181930	181083
2.25	15		181930*	181083*	
2.50	6	181948	181948	181948	
3.00	20	181921*	181921*	181930*	
4.50	15	181075	181930	181083	181083
5.00	11	181913	181913	181913	
6.00	20	181921	181921	181930	181930
9.00	59			181075*	181083*
10.00	21			181948	181948
12.00	78			181921*	181930*
18.00	59			181075	181083
20.00	80			181913	181948*
24.00	78			181921	181930
40.00	80				181948

Note — Shaded items are 3 ph only * items have 100% spare capacity

1. Single-phase: 2 circuits must be utilized to keep amperage/circuit below 48 Amps.

Watt Density Guide:

Refer to heater selection in the technical section of the catalog for details.

Light Weight Oil	≤ 23 W/In ²
Medium Weight Oil	≤ 15 W/In ²
Heavy Weight Oil	≤ 6.5 W/In ²
Clean Water	see technical section of catalog for recommended watt density