

TUBULAR HEATERS

Factory Bending Guidelines

INSTALLATION GUIDES

Wiring— It is important to use the correct wire gauge to carry the amperage required. A wire not large enough can overheat, become brittle and break. The ambient temperature must also be considered in choosing the correct type of wire and insulation. *Make sure wiring to terminals is tight. Keep terminals away from heat if possible. (Maximum temperature 750°F for standard terminals. For higher temperatures, contact OMEGALUX®).*

Terminal selection— Stocked tubulars are shipped with standard terminals as shown on the following pages. Many other terminals and terminal end seals are available made to order.

Protect terminals from possible contamination from surrounding atmospheres such as oil fumes, chemical vapors from other processes, moisture, weather, etc.

APPLICATIONS

LIQUID HEATING

Direct immersion—Water and water solutions generally can be heated to any desired temperature. If liquid is under pressure, temperatures should not exceed the maximum sheath temperature of the element minus 100°F.

For heating oil (SAE 20 weight) — Steel sheath elements can be used 180°F. Heat transfer oils and other solutions not corrosive to steel sheath 500°F.

(Note: Some liquids are corrosive. For additional information on selecting the proper sheath materials, refer to Technical Section A. Heated section of element must be immersed at all times when energized. Longer cold ends can be provided if required.)

Threaded fittings are available for mounting through tank walls.

Figure 1

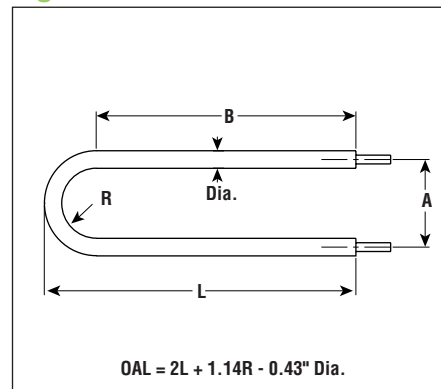


Figure 2

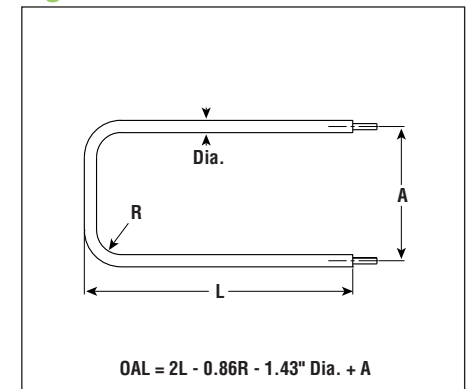


Figure 3

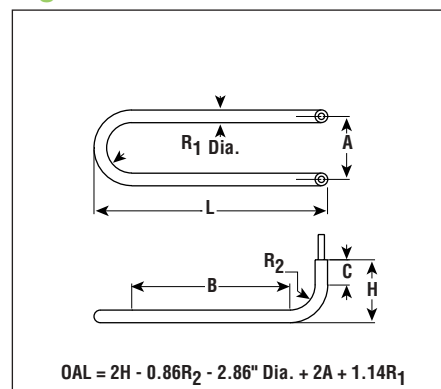
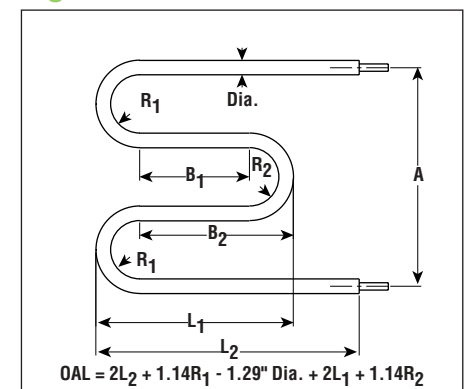


Figure 4



Minimum Bends for Tubular Heaters

Element Dia. & Sheath	Inside R _{1,2,3}	Dimensions Inches ¹ (mm)				
		A	B _{1,2}	C	Inside D	E
∇ ½" INCOLOY ⁵ Steel & Copper	¾ (19)	1⅞ (34.9)	1 (25.4)	1½ (38)	5 (127)	8 (203)
	½ (12.7)	1⅞ (34.9)	1 (25.4)	1½ (38)	8 (203)	6 (152)
0.475" INCOLOY Steel & Copper	¾ (19)	1⅞ (34.9)	1 (25.4)	1½ (38)	3 (76)	8 (203)
	½ (12.7)	1⅞ (34.9)	1 (25.4)	1½ (38)	3 (76)	6 (152)
0.430" INCOLOY Steel & Copper	⅞ (11.1)	1⅞ (34.9)	1 (25.4)	1 (25.4)	3 (76)	8 (203)
	⅞ (11.1)	1⅞ (34.9)	1 (25.4)	1 (25.4)	3 (76)	6 (152)
∇ ⅝" INCOLOY ⁵ Steel & Copper	⅞ (14.3)	1⅞ (30.2)	1 (25.4)	1½ (38)	3¾ (95)	5 (127)
	⅞ (9.5)	1⅞ (30.2)	1 (25.4)	1½ (38)	6 (152)	3 (76.2)
0.375" INCOLOY Steel & Copper	⅞ (9.5)	1⅞ (30.2)	1 (25.4)	1 (25.4)	2½ (66.7)	5 (127)
	⅞ (9.5)	1⅞ (30.2)	1 (25.4)	1 (25.4)	2½ (66.7)	3 (76.2)
0.315" INCOLOY Steel & Copper	⅞ (14.3)	1⅞ (30.2)	1 (25.4)	1½ (38)	2 (50.8)	5 (127)
	⅞ (7.9)	1⅞ (30.2)	1 (25.4)	1½ (38)	2 (50.8)	3 (76.2)
0.260" INCOLOY Steel & Copper	¼ (6.4)	1⅞ (28.6)	1 (25.4)	1 (25.4)	1⅞ (47.6)	5 (127)
	¼ (6.4)	1⅞ (28.6)	1 (25.4)	1 (25.4)	1⅞ (47.6)	3 (76.2)
0.245" INCOLOY Steel & Copper	⅞ (9.5)	1⅞ (27)	1 (25.4)	1⅞ (30.2)	1½ (38)	5 (127)
	¼ (6.4)	1⅞ (27)	1 (25.4)	1⅞ (30.2)	1½ (38)	3 (76.2)
0.200" INCOLOY	¼ (6.4)	¼ (6.4)	1 (25.4)	¾ (19)	1¼ (31.8)	5 (127)

Specify for Factory Formed Tubulars:

- A. Figure number.
- B. A, B_{1,2}, C, D, E, H, J, K, L_{1,2} and R_{1,2,3} dimension as required.
- C. N - number of turns, Dia. - Element Diameter- aid < - angle as required.
- D. Material for threaded fittings.
- E. Special terminal type.
- F. Position of crown (flat side) of element (TC, TI, TS only).
- G. Submit sketch with special details.

Notes —

1. These are general guidelines only.
2. A dimension can be less if no fittings are required.
3. C dimension may need to be greater if special fittings are used.
4. E dimension is a minimum when R dimension is less than customer minimum bending radius.
5. Heart Shaped cross-section only.

NOTE — OAL represents overall length.

TUBULAR HEATERS

Factory Bending Guidelines

Figure 5

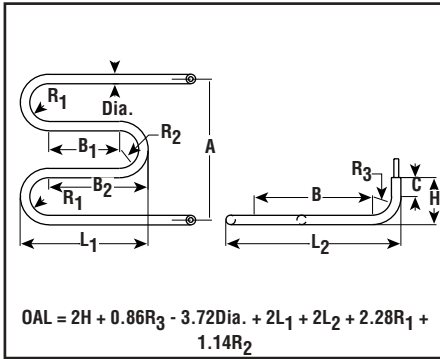


Figure 6

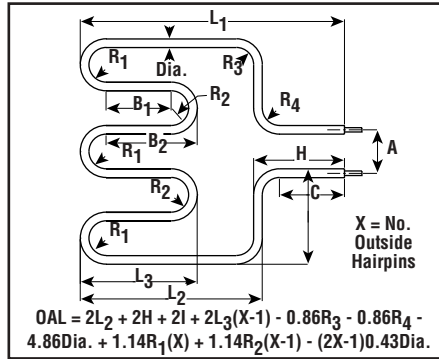


Figure 7

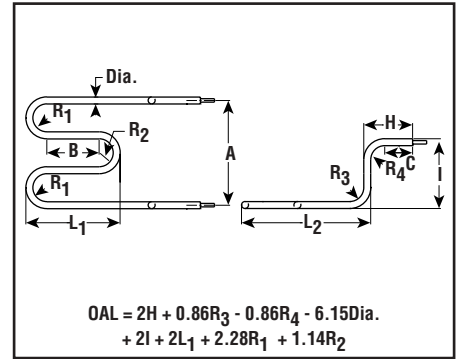


Figure 8

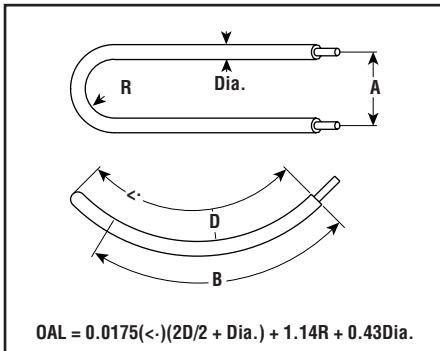


Figure 9

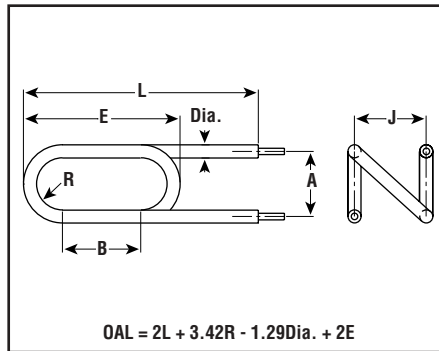


Figure 10

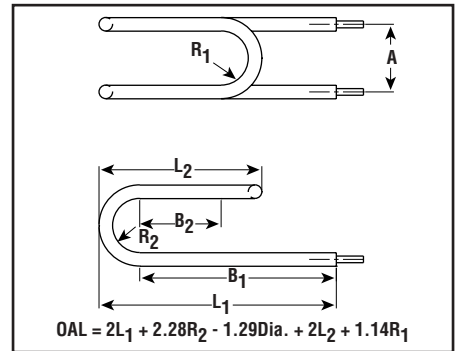


Figure 11

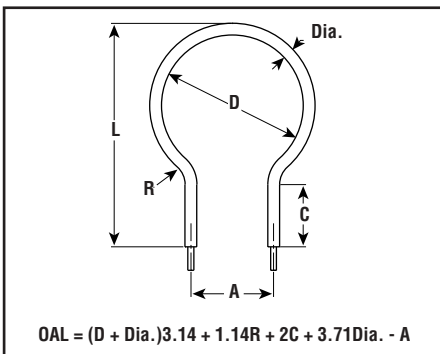


Figure 12

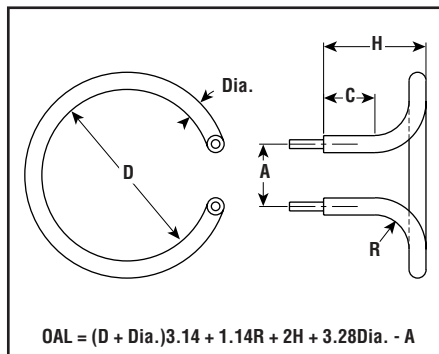


Figure 13

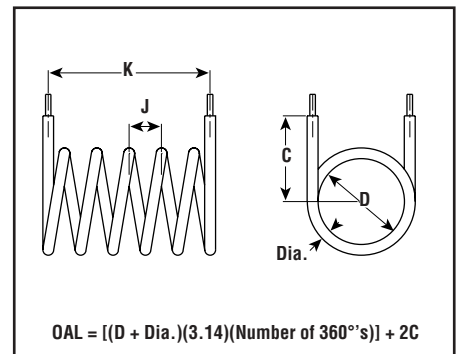


Figure 14

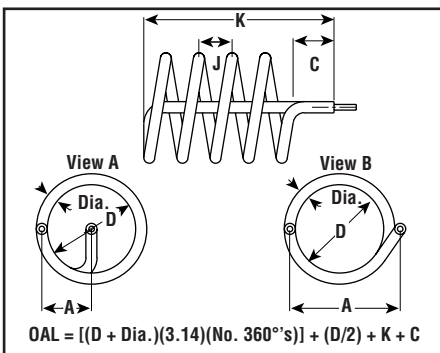


Figure 15

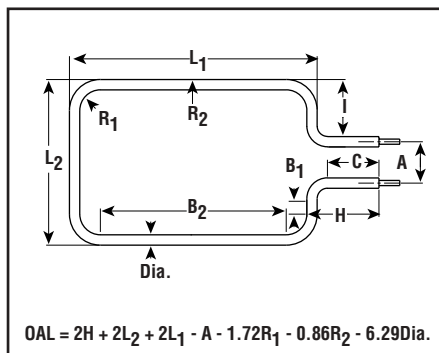
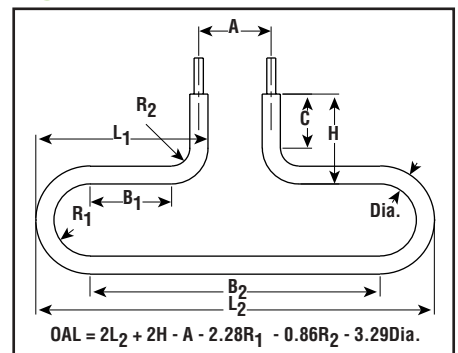


Figure 16





UNITED STATES

www.omega.com
1-800-TC-OMEGA
Stamford, CT.

CANADA

www.omega.ca
Laval(Quebec)
1-800-TC-OMEGA

GERMANY

www.omega.de
Deckenpfronn, Germany
0800-8266342

UNITED KINGDOM

www.omega.co.uk
Manchester, England
0800-488-488

FRANCE

www.omega.fr
Guyancourt, France
088-466-342

CZECH REPUBLIC

www.omegaeng.cz
Karviná, Czech Republic
596-311-899

BENELUX

www.omega.nl
Amstelveen, NL
0800-099-33-44



More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters