

Over-the-Side Immersion Heaters

Application & Selection Guidelines

Applications

The large variation in heating element material and shapes of over-the-side immersion heaters offers a wide selection in the application of these units. Water, oils, solvents, plating baths, salts and acids are some of the many liquids and viscous materials commonly heated with immersion heaters. Over-the-side types permit portability, easy removal for cleaning of tanks and heaters and ample working area within the tank when installed.

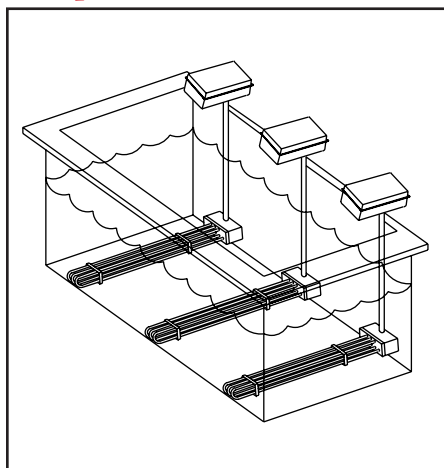
Important — When selecting a tank heater design, the user should make sure the sheath material is suitable for the solution being heated at the maximum temperature expected, with proper safety factor.

Sheath Material — Selection Guidelines¹

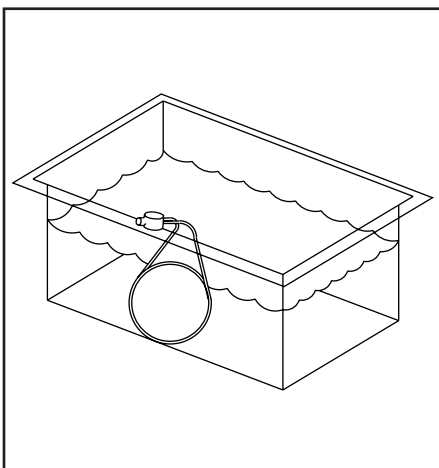
Material Being Heated	Typical Sheath Material
Clean Water (pH6 to pH8)	Copper
Demineralized or De-ionized Water	Stainless Steel (passivated) INCOLOY® Fluoropolymer
Medium Weight Oil, Alkaline Cleaning (low concentration) Mild Soaking Cleaners	Steel
Mild to Medium Corrosive Solutions, Many Oxidizing Acids, Organic Chemicals, Mild Aqueous Solutions	Stainless Steel INCOLOY®
Chromic Acid (10%), Nitric Acid (to 65%) Salt Brine, Many Plating Solutions (i.e. Nickel, Silver, Zinc, Gold)	Titanium
Soft Metal Melting	Cast Iron
Molten Metal, High Corrosive	Ceramic
Most Acids, Plating Solutions, Pickling Solutions	Fluoropolymer Quartz ²

1. Consult Corrosion Guide in the Technical section for specific material recommendations.
2. Not for use in hydrofluoric acid and alkaline solutions.

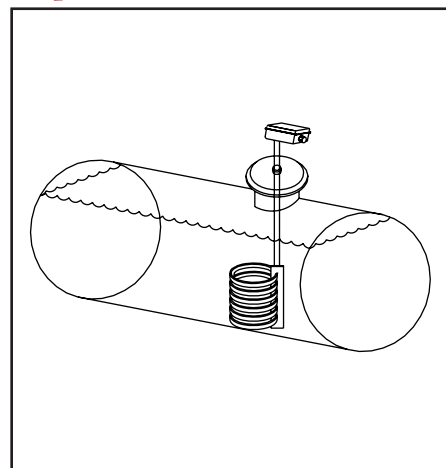
L-Shaped Installation



Side Mount Installation



Deep Tank Installation



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Heater	Model	Page
L-Shaped Metal Sheath	TLC & KTLC TLO & KTLO TLS & KTLS TLI & KTLI	B-115 B-116 B-117 B-118
Side Mount Metal Tube	GS & GT GS3 & GT3	B-119 B-120
L-Shaped Metal Tube	GSL & GTL GSL3 & GTL3 GSV3 & GTV3	B-121 B-122 B-123
Side Mount Quartz Tube	QM & QM3	B-124
Side Mount Metal Sheath	PTH & PTHT PTHF CT	B-125 B-126 B-127
Side Mount Fluoropolymer Coated	TPR & TPF GTF & GTFL GXF & GXFL GTF6 & GTF9	B-128 B-129 B-130 B-132
L-Shaped Fluoropolymer Coated	GTFL3	B-133

Heater	Model	Page
Drum Heater	KBLC & KBLS	B-134
Salt Bath Heater	TBL & TBL-A	B-135
Deep Tank Heater	BLCK-MH & BLCS	B-136
Portable Tank Heater	CH-OTS	B-137
Soft Metal Melting Heater	CIT	B-138
Ceramic Sheath	CS	B-139
Side Mount Heat Exchanger	GRT & GRS US & UT GHTF	B-141 B-143 B-144
Terminal Enclosure Dimensions		B-145
Optional Accessories		B-147