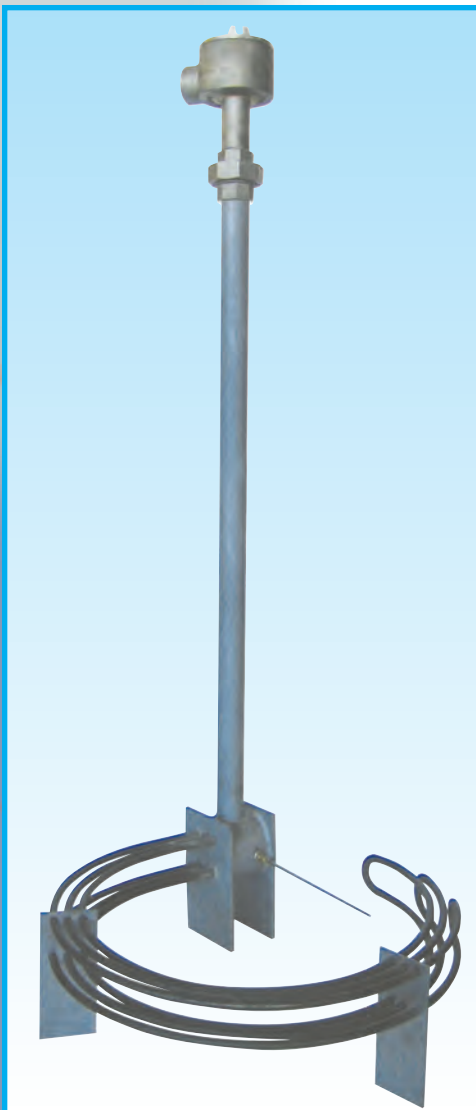


OVER-THE-SIDE IMMERSION HEATERS



Typical Heating Applications:

- *Hydraulic Oils*
- *Alkaline Cleaning Solutions*
- *Oils, Including Light to Heavy*
- *Water & Water Based Solutions*
- *De-mineralized or De-ionized Water*
- *Solutions that Precipitate, such as Phosphates*
- *Tall storage tanks with a top opening as the only installation option*

Over-the-side immersion heaters are designed for tanks where it is not convenient to install a flanged or screw-plug immersion heater through the side wall. These heaters offer easy installation and the ability to move the heater from tank to tank, without having to drain the liquid. Over-the-side immersion heaters are ideal for applications where scale or sludge build-up on the heater sheath is an issue and heaters should be removed periodically for cleaning. Over-the-side immersion heaters are installed from the top and are available in two versions; units that have the heated section at the bottom of a tank (Type OTSL & OTSR) or along the side wall (Type OTSH).

BUCAN OVER-THE-SIDE IMMERSION HEATERS

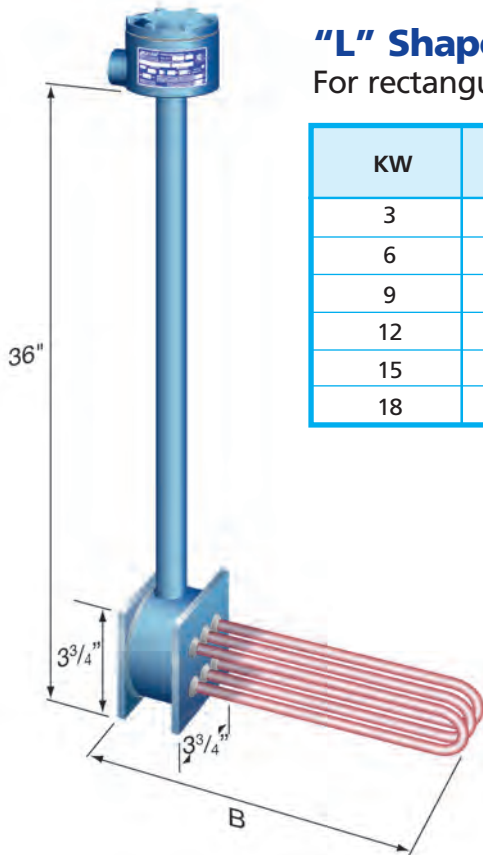
Bottom-of-the-tank heaters

Two designs are available

- Type OTSL "L" shaped heaters for rectangular tanks
- Type OTSR, circular heaters for round tanks or for applications where the heater will be installed through a manhole cover

The basic construction includes rugged tubular elements that are welded or brazed into a lower terminal box. The power wires come up through a non-heated vertical riser-pipe into a moisture resistant (NEMA 4) terminal box. The tubular elements are mounted in multiples of 3 for a balanced 3-phase load. Heater banks can be added for higher kilowatt output. Sheath material selection (Steel, Copper, Incoloy, Stainless Steel or other special alloys) is based on design parameters.

Bucan technical staff will help you select the optimum watt density and sheath material to suit your specific needs.



"L" Shape

For rectangular tanks 40-50 watts/in²

| KW | 'B' Dim. (in) | Copper Sheath | Stainless Steel Sheath | Incoloy Sheath |
|----|---------------|---------------|------------------------|----------------|
| 3 | 12 | OTSLC30312 | OTSLS30312 | OTSLI30312 |
| 6 | 22 | OTSLC30622 | OTSLS30622 | OTSLI30622 |
| 9 | 30 | OTSLC30930 | OTSLS30930 | OTSLI30930 |
| 12 | 38 | OTSLC31238 | OTSLS31238 | OTSLI31238 |
| 15 | 46 | OTSLC31546 | OTSLS31546 | OTSLI31546 |
| 18 | 53 | OTSLC31853 | OTSLS31853 | OTSLI31853 |

"L" Shape

For rectangular tanks 20-25 watts/in²

| KW | 'B' Dim. (in) | Steel Sheath | Incoloy Sheath |
|-----|---------------|--------------|----------------|
| 1.5 | 12 | OTSLF301512 | OTSLI301512 |
| 3.0 | 22 | OTSLF30322 | OTSLI30322 |
| 4.5 | 30 | OTSLF304530 | OTSLI304530 |
| 6 | 38 | OTSLF30638 | OTSLI30638 |
| 7.5 | 46 | OTSLF307546 | OTSLI307546 |
| 9 | 53 | OTSLF30953 | OTSLI30953 |

Optional Features:

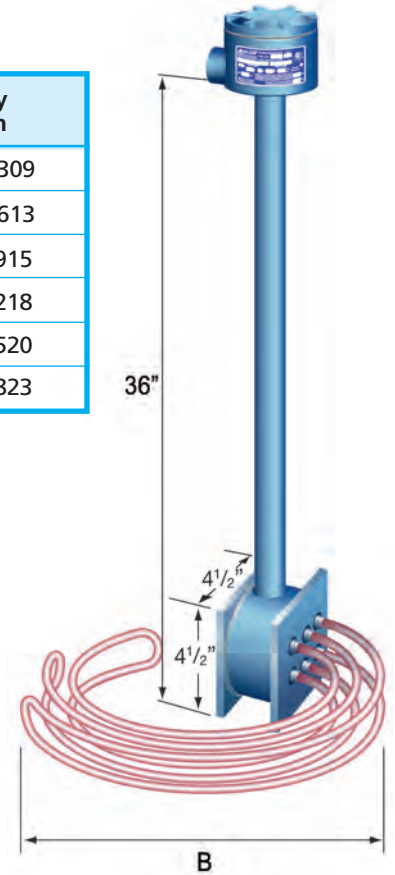
- Special sheath materials - selected to suit the liquid or gas being heated
- Special flange on the riser for gas heating applications
- Vertical riser made in any height
- Sludge legs, to raise the heater elements above the tank bottom
- Hazardous location (NEMA 7) terminal enclosures
- Passivation - when required
- Special fittings for closed top
- Built-in thermostats, thermocouples, and/or high-limit thermocouples

BUCAN OVER-THE-SIDE IMMERSION HEATERS

Circular Shape

For round tanks or openings 40-50 watts/in²

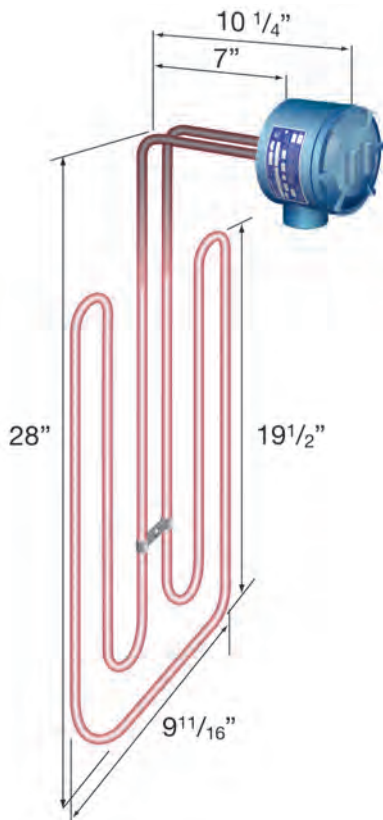
| KW | 'B' Dim. (in) | Copper Sheath | Stainless Steel Sheath | Incoloy Sheath |
|----|---------------|---------------|------------------------|----------------|
| 3 | 9.75 | OTSRC30309 | OTSRS30309 | OTSRI30309 |
| 6 | 13 | OTSRC30613 | OTSRS30613 | OTSRI30613 |
| 9 | 15.5 | OTSRC30915 | OTSRS30915 | OTSRI30915 |
| 12 | 18 | OTSRC31218 | OTSRS31218 | OTSRI31218 |
| 15 | 20.5 | OTSRC31520 | OTSRS31520 | OTSRI31520 |
| 18 | 23.75 | OTSRC31823 | OTSRS31823 | OTSRI31823 |



Circular Shape

For round tanks or openings 20-25 watts/in²

| KW | 'B' Dim. (in) | Steel Sheath | Incoloy Sheath |
|-----|---------------|--------------|----------------|
| 1.5 | 9.75 | OTSRF301509 | OTSRI301509 |
| 3.0 | 13 | OTSRF30313 | OTSRI30313 |
| 4.5 | 15.5 | OTSRF304515 | OTSRI304515 |
| 6.0 | 18 | OTSRF30618 | OTSRI30618 |
| 7.5 | 20.5 | OTSRF307520 | OTSRI307520 |
| 9.0 | 23.75 | OTSRF30923 | OTSRI30923 |



Side-wall heaters (Single Phase)

Type OTSH Over-the-side heaters have a rectangular form and are made for open tank applications. These heaters are lightweight, thin-profiled and are designed to hang on the tank wall in order to save space. Weather/moisture proof (NEMA 4) terminal boxes are standard. These heaters can be made with a single element (single-phase) or with three elements (three phase). Different sheath materials are available.

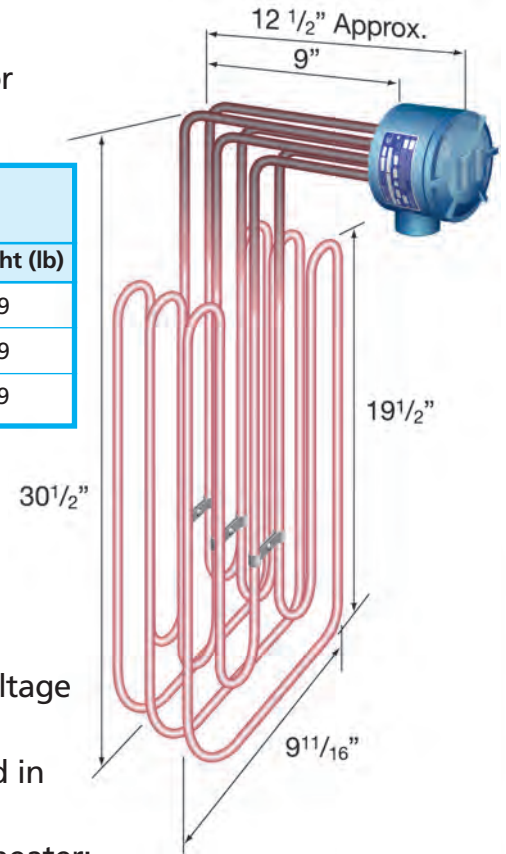
| KW | Watt Density | Sheath Material | | | | Weight (lb) |
|-----|--------------|-----------------|----------|-----------------|----------|-------------|
| | | Incoloy® | Inconel® | Stainless Steel | Titanium | |
| 3 | 18 | OTSHI03 | OTSHN03 | OTSHS03 | OTSHT03 | 9 |
| 5 | 30 | OTSHI05 | OTSHN05 | OTSHS05 | OTSHT05 | 9 |
| 7.5 | 45 | OTSHI07 | OTSHN075 | OTSHS075 | OTSHT075 | 9 |

BUCAN OVER-THE-SIDE IMMERSION HEATERS

Side-wall heaters (Three Phase)

Specially designed to hang on the tank lip. 3 elements single or 3 phase. Specify voltage and phase when ordering.

| KW | Watt Density | Sheath Material | | | | Weight (lb) |
|------|--------------|-----------------|-----------|-----------------|-----------|-------------|
| | | Incoloy® | Inconel® | Stainless Steel | Titanium | |
| 9 | 18 | OTSHI09R | OTSHN09R | OTSHS09R | OTSHT09R | 9 |
| 15 | 30 | OTSHI15R | OTSHN15R | OTSHS15R | OTSHT15R | 9 |
| 22.5 | 45 | OTSHI225R | OTSHN225R | OTSHS225R | OTSHT225R | 9 |



Installation and Maintenance

- Electric heaters must be installed by qualified personnel in accordance with all national and local electric codes.
- The supply electric power should match the nameplate voltage and wattage.
- The heated section of the heater should be fully immersed in the liquid when the heater is energized.
- Sludge build-up on the element sheath may damage the heater; special legs should be installed to keep the heater above the tank bottom, and the heater should be periodically inspected and cleaned if necessary.
- The standard terminal box is weather/moisture proof (NEMA 4). Periodically, the electrical connections should be inspected for tightness and the interior of the terminal box checked to make sure that it is clean.

