

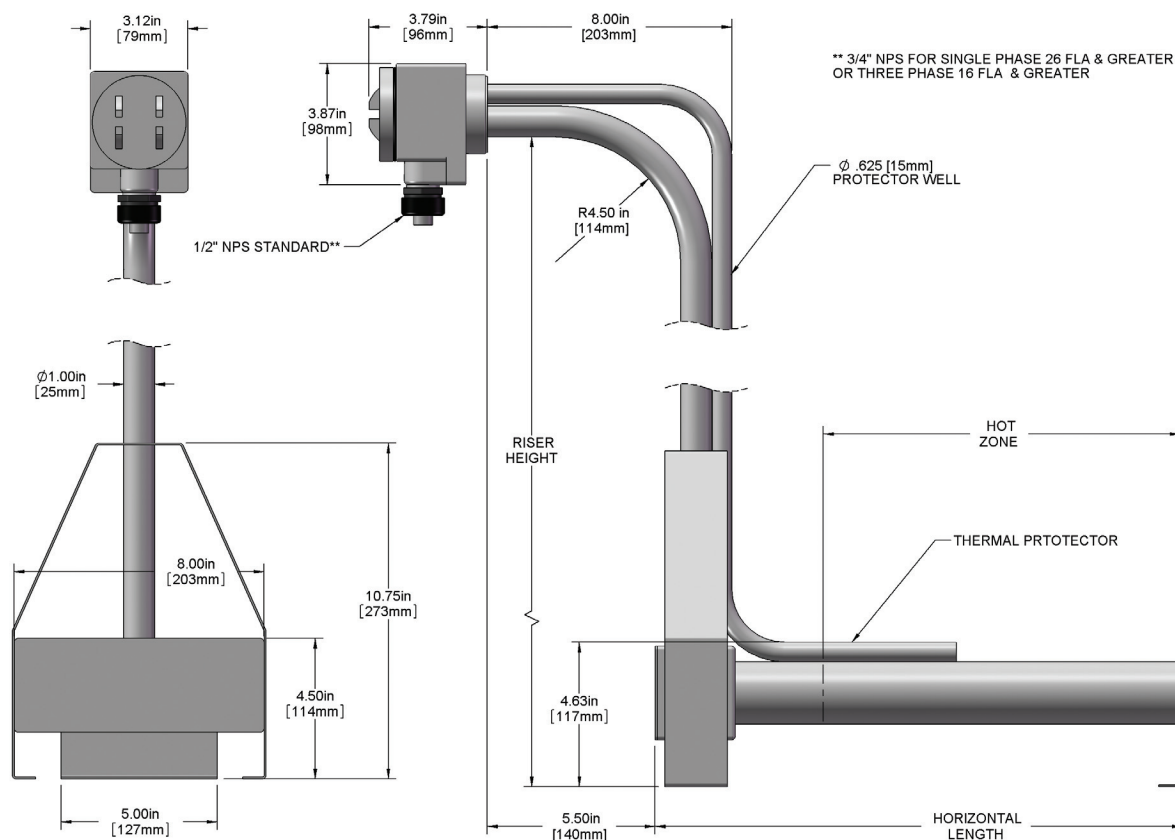
| 3L SERIES, TRIPLE METAL L-SHAPED HEATERS | | | | | | | | |
|--|-------|------------------|------------------|--------------|--------------|--------------|--------------|----------------------|
| WATTS | VOLTS | STD. | | STEEL | 304 SS | 316 SS | TITANIUM | SHIP WGT. Lbs./ (kg) |
| | | HORIZ. In./ (mm) | VERT.* In./ (mm) | | | | | |
| 3000 | 240 | 13 | 15 | 3LP3213-R** | 3LF3213-R** | 3LS3213-R** | 3LT3213-R** | 30 |
| | 480 | (330) | (380) | 3LP3413-R** | 3LF3413-R** | 3LS3413-R** | 3LT3413-R** | (14) |
| 6000 | 240 | 17 | 37 | 3LP6217-R** | 3LF6217-R** | 3LS6217-R** | 3LT6217-R** | 33 |
| | 480 | (430) | (940) | 3LP6417-R** | 3LF6417-R** | 3LS6417-R** | 3LT6417-R** | (15) |
| 9000 | 240 | 22 | 37 | 3LP9222-R** | 3LF9222-R** | 3LS9222-R** | 3LT9222-R** | 36 |
| | 480 | (560) | (940) | 3LP9422-R** | 3LF9422-R** | 3LS9422-R** | 3LT9422-R** | (16.5) |
| 12000 | 240 | 26 | 37 | 3LP12226-R** | 3LF12226-R** | 3LS12226-R** | 3LT12226-R** | 39 |
| | 480 | (660) | (940) | 3LP12426-R** | 3LF12426-R** | 3LS12426-R** | 3LT12426-R** | (18) |
| 15000 | 240 | 31 | 37 | 3LP15231-R** | 3LF15231-R** | 3LS15231-R** | 3LT15231-R** | 42 |
| | 480 | (790) | (940) | 3LP15431-R** | 3LF15431-R** | 3LS15431-R** | 3LT15431-R** | (19) |
| 18000 | 240 | 36 | 50 | 3LP18236-R** | 3LF18236-R** | 3LS18236-R** | 3LT18236-R** | 45 |
| | 480 | (915) | (1270) | 3LP18436-R** | 3LF18436-R** | 3LS18436-R** | 3LT18436-R** | (20.5) |
| 24000 | 240 | 44 | 50 | 3LP24244-R** | 3LF24244-R** | 3LS24244-R** | 3LT24244-R** | 54 |
| | 480 | (1120) | (1270) | 3LP24444-R** | 3LF24444-R** | 3LS24444-R** | 3LT24444-R** | (24.5) |
| 27000 | 480 | 50 | 50 | 3LP27450-R** | 3LF27450-R** | 3LS27450-R** | 3LT27450-R** | 60 |
| | | | (1270) | | | | | (27.5) |
| 30000 | 480 | 55 | 50 | 3LP30455-R** | 3LF30455-R** | 3LS30455-R** | 3LT30455-R** | 66 |
| | | | (1400) | | | | | (30) |
| 36000 | 480 | 64 | 50 | 3LP36464-R** | 3LF36464-R** | 3LS36464-R** | 3LT36464-R** | 75 |
| | | | (1625) | | | | | (34) |

* Specify vertical length by adding height in inches after "-R". Example: 3LS6217-R39-P1.

Product Features and Benefits:

- ◆ **SUPERIOR CHEMICAL RESISTANCE:** Materials available for use in most aqueous alkaline solutions, plating solutions, and rinse tanks. Check solution recommendation chart or with your chemical supplier for proper sheath material selection.
- ◆ **RUGGED CONSTRUCTION:** Heavy wall metal sheaths available in:
 - Steel.
 - 304 stainless steel.
 - 316 stainless steel.
 - Titanium.
- ◆ **OUTSTANDING PERFORMANCE:** Watt densities of 35 watts per square inch (5.4 w/cm²) ensure long service life. Two-inch sludge legs standard, other lengths available.
- ◆ **EVEN HEATING:** Bottom design for even heating and varying liquid levels.
- ◆ **CORROSION RESISTANT HEAD:** Vapor resistant, flame retardant polypropylene terminal enclosure with 3-foot (.9m) flexible PVC liquid tight conduit.
- ◆ **SAFETY FEATURES:**
 - Grounded construction.
 - Thermal protector built in. Replaceable P1 protector standard for solutions up to 180°F (82°C).
 - Non-floating construction.
- ◆ **CERTIFICATIONS:** UL listed (except steel) to U.S. and Canadian safety requirements, and CE.
- ◆ **SIZES:** 3,000 watts to 36,000 watts.
- ◆ **VOLTAGES:** 120 to 600 volts. Three phase standard, single phase available.
- ◆ **OPTIONS AVAILABLE** (consult factory):
 - Replaceable thermal protectors:
 - P4: for solutions from 180°F (82°C) to 230°F (110°C).
 - P5: for solutions from 230°F (110°C) to 300°F (150°C).
 - Resettable thermal protectors:
 - P2: for solutions up to 180°F (82°C).
 - P6: for solutions from 180°F (82°C) to 230°F (110°C).
 - Special configurations and vertical lengths.
 - Longer wire and conduit lengths.
 - Longer sludge legs.
 - Flexible risers (available with P2 thermal protectors only).
 - Lower watt densities for highly viscous solutions.
 - Temperature and level controls sized to match the heater.

DIMENSIONS



TRIPLE TUBE METAL L-SHAPED HEATER ORDERING INFORMATION

| Series | Wattage | Voltage | Horizontal Length (in.) | Vertical Length (in.) | Riser Option | Options | Type of Protector | Wire and Conduit Length | | | | | | | | | | | | | | |
|--|--|--|---|--|--------------|---------|---|---|--|-----|---------------------------|-----|----------------------------|----------------------|--|--|--|-----|---------------------------|-----|----------------------------|--|
| | 3 = 3000 6 = 6000 9 = 9000 12 = 12000 15 = 15000 18 = 18000 24 = 24000 27 = 27000 30 = 30000 36 = 36000 | 1 = 120 2 = 240 3 = 380 4 = 480 5 = 415 6 = 600 7 = 400 8 = 208 9 = 220 0 = 200 | 13 = 3kW 17 = 6kW 22 = 9kW 26 = 12kW 31 = 15kW 36 = 18kW 44 = 24kW 50 = 27kW 55 = 30kW 64 = 36kW | -R15 = 3kW -R37 = 6kW -R37 = 9kW -R37 = 12kW -R37 = 15kW -R50 = 18kW -R50 = 24kW -R50 = 27kW -R50 = 30kW -R50 = 36kW (custom lengths available) Ex: -R21 = 21" -FR = flex riser Ex: -FR21 = 21" | | | | no designator = 36" length standard specify variations from standard Ex: -X84 = 84" | | | | | | | | | | | | | | |
| | 3LP = steel 3LF = 304 stainless steel 3LS = 316 stainless steel 3LT = titanium | | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">Replaceable Protector</th> </tr> <tr> <td style="text-align: center;">-P1</td> <td style="text-align: center;">for solutions up to 180°F</td> </tr> <tr> <td style="text-align: center;">-P4</td> <td style="text-align: center;">for 180° - 230°F solutions</td> </tr> <tr> <th colspan="2" style="text-align: center;">Resettable Protector</th> </tr> <tr> <td colspan="2" style="text-align: center;">(additional control components required)</td> </tr> <tr> <td style="text-align: center;">-P2</td> <td style="text-align: center;">for solutions up to 180°F</td> </tr> <tr> <td style="text-align: center;">-P6</td> <td style="text-align: center;">for 180° - 230°F solutions</td> </tr> </table> | Replaceable Protector | | -P1 | for solutions up to 180°F | -P4 | for 180° - 230°F solutions | Resettable Protector | | (additional control components required) | | -P2 | for solutions up to 180°F | -P6 | for 180° - 230°F solutions | |
| Replaceable Protector | | | | | | | | | | | | | | | | | | | | | | |
| -P1 | for solutions up to 180°F | | | | | | | | | | | | | | | | | | | | | |
| -P4 | for 180° - 230°F solutions | | | | | | | | | | | | | | | | | | | | | |
| Resettable Protector | | | | | | | | | | | | | | | | | | | | | | |
| (additional control components required) | | | | | | | | | | | | | | | | | | | | | | |
| -P2 | for solutions up to 180°F | | | | | | | | | | | | | | | | | | | | | |
| -P6 | for 180° - 230°F solutions | | | | | | | | | | | | | | | | | | | | | |
| | | | no designator = 90° horizontal bend (standard) -S = straight riser | | | | no designator = three phase power (standard) -1 = single phase power | | | | | | | | | | | | | | | |

1 inch = 25.4mm

ORDERING EXAMPLE:

3LS12426-R50-P4-X72

Triple tube, L-shaped, 316 SS, 12,000 watts, 480 volt, 26" length, 50" vertical riser, P4 protector, 72" wire and conduit

**PROCESS
TECHNOLOGY**