

### GENERAL

Nelson Heat Tracing System's VH Series Silicone Tank Heating Panels are constructed with high temperature resistance elements, vulcanized between two thin layers of fiberglass reinforced silicone rubber. The panel is protected by a rugged corrosion resistant, stainless steel ground shield. This unique construction provides a rugged water and chemical resistance with flexibility down to -57°C (-70°F). This flexible panel is attached to the tank using aluminum foil tape, proving a low cost, simple installation.

#### A. Receiving Inspection

1. Inspect each unit upon receipt
2. Visually inspect for physical damage
3. Megohm insulation test with 500V meager between power wires and ground

#### B. Panel Location

1. Locate units as low as practical on the tank. Preferably.
2. Locate power connection brackets to facilitate routing of flexible conduit between panels
3. Locate panels a minimum of 305mm (12") apart.

#### C. Preparation

1. Remove dirt, loose scale, and rust from tank surface where aluminum tape will be attached.
2. Install on smooth surface. **DO NOT INSTALL OVER RIDGES, BUMPS, OR EDGES THAT COULD RUB AGAINST THE PANEL AND CAUSE PRE-MATURE FAILURE.**

#### D. Attachment

1. Hold panel in place, metal shield and bracket facing outward.
2. Apply aluminum foil tape (AT-50) to the edge of panel, extending it 203 - 356mm (8-14") beyond the panel edges.
3. Stretch panel smoothly across tank wall and tape the opposite edge, again extending 203 - 356mm (8-14") beyond the panel edges.
4. Repeat taping for other edges of the panel.
5. Tape added strips across the panel, around the circumference at approximately 203mm (8") spacing. Extend the tape 203 - 356mm (8-14") beyond the edges of the panel.
6. Panel may be pre-formed to put a permanent set in the stainless shield on the panel. This will allow the panel to be easily held in place on small diameter tanks.
7. If it becomes necessary to band the panel to the tank, use fiberglass tape (GT-6 or GT-60). Put two wraps of tape around the tank circumference at 305mm (12") intervals.
8. After installation, meager panel again between the power wiring and the ground. Insulation resistance should be at least 50 megohm with a 500V meager.

#### E. Electrical Connection

1. 13mm (0.5") conduit nipple, 76mm (3") long exist panel wiring through tank thermal insulation.
2. Electrical connection fittings are connected with flexible, watertight conduit. **DO NOT CONNECT RIGID CONDUIT DIRECTLY TO ANY OF THE HEATER PANEL'S ELECTRICAL CONNECTION FITTINGS.**

### F. Thermostat Bulb Location & Mounting

1. Locate the primary thermostats sensing bulb. As low as possible on the tank, as far away from heating panel as practical. Secure to vessel wall with aluminum tape.
2. Install the hi-temperature cut-out sensing bulb directly on the heater panel secure bulb to heating panel with aluminum foil tape. Hi-temp sensing bulb must be located on the highest mounted heating panel on the vessel. Locate hi-temp sensing bulb 152mm (6") from the highest edge and centered. See *Figure 1* below.

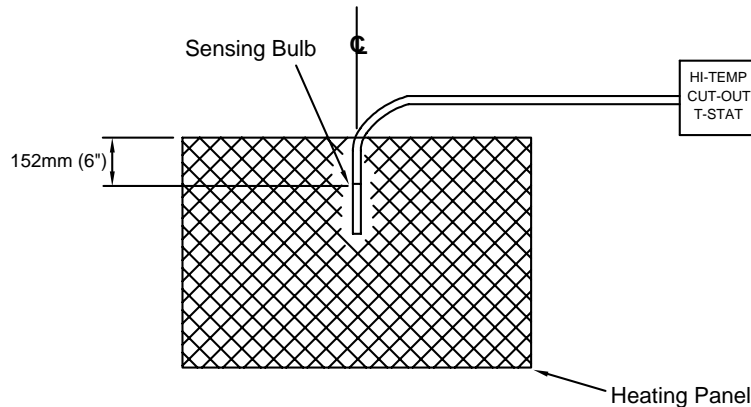


Figure 1

### G. Performance and Rating Data

Tank Heater	Size (inches)	Watts @100°F	Voltage VAC	Load Amps
VH1-500	12 x 22	500	120	4.17
VH1-1000	29 x 28	1000	120	8.33
VH2-500	12 x 22	500	240	2.08
VH2-1000	18 x 28	1000	240	4.17
VH2-2000	24 x 42	2000	240	8.33

**Note: For 208V - multiply VH2 wattage by 0.75**

### H. Heater Specifications

Maximum operating temperature:	260°C (500°F)
Maximum temperature (UL recognition):	220°C (428°F)
Minimum ambient temperature:	-57°C (-70°F)
Thickness:	15mm (.60")
Lead Length:	305mm (12")
Weight:	12 oz / 2 ft

### ⚠ WARNING:

Heater panels must be used with a hi-temp cut-out thermostat.

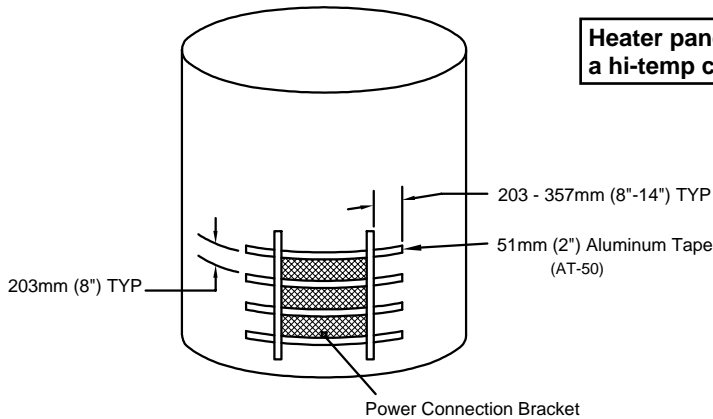
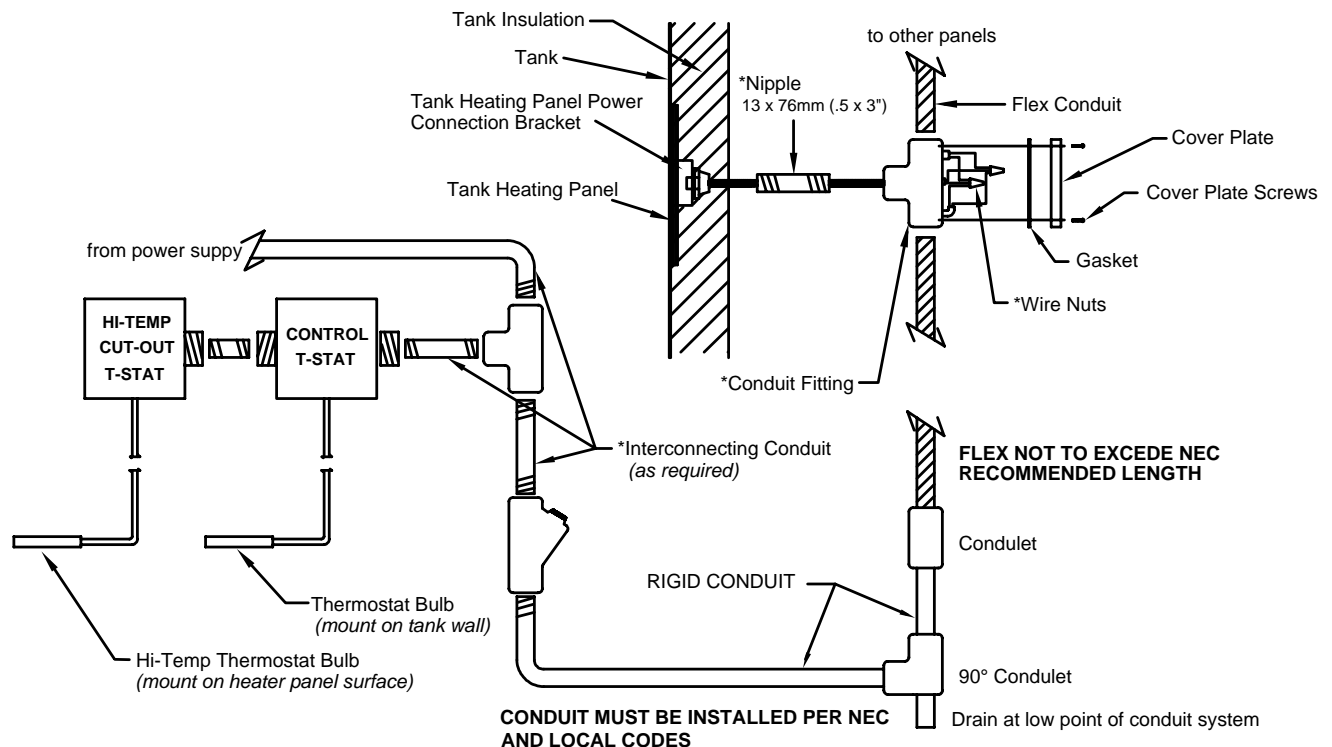


Figure 2  
Mounting Detail

### CAUTION

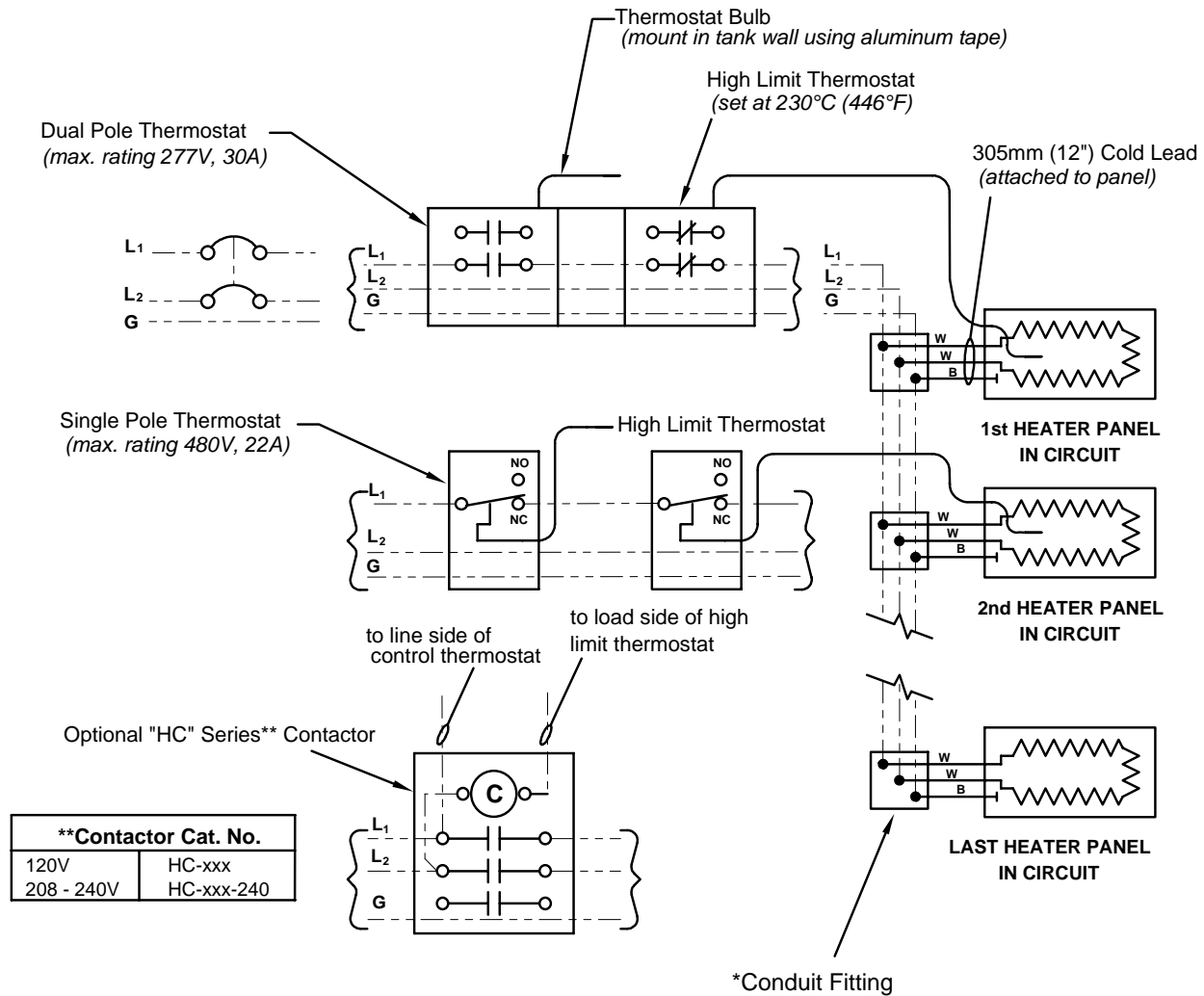
1. Check panels for proper voltages
2. Do not use on non-metallic tanks
3. Contact factory when designing for temperature sensitive fluids.
4. Do not use with low temperature insulation (rated below 188°C (370°F) directly over heater panels.

*Note: Low temperature insulation may be used everywhere except directly over the heater panels.*



\*ITEMS SUPPLIED BY CUSTOMER

Figure 3  
Conduit Routing Detail



**\*ITEMS SUPPLIED BY CUSTOMER**

Figure 4  
Wiring Diagram

**Notes:**

1. Unless noted otherwise, all power supply cable, conduit and fittings to be supplied by customer.
2. Thermostats and contactors are available from Nelson Heat Tracing Systems, but must be ordered separately.

Nelson Heat Tracing Systems products are supplied with a limited warranty. Complete Terms and Conditions may be found on Nelson's website at [www.nelsonheaters.com](http://www.nelsonheaters.com).