



Improved Performance Over Traditional Coils & Panels

Problems with Internal Coils:

- Uneven distribution of heating and accumulation of process on internal tank surfaces
- Accessibility issues for maintenance
- Risk of cross contamination with process
- Coil corrosion which requires expensive and time consuming repair



Failed Internal Coil

Problems with Panel Coils:

- Requirements for ASME code stamping due to panel design
- Inconsistent performance due to inadequate panel attachment methods
- Not customizable to accommodate nozzle / tank protrusions or heating of nozzles
- High pressure drop
- Leaks from panel corrosion



Failed Panel Coil

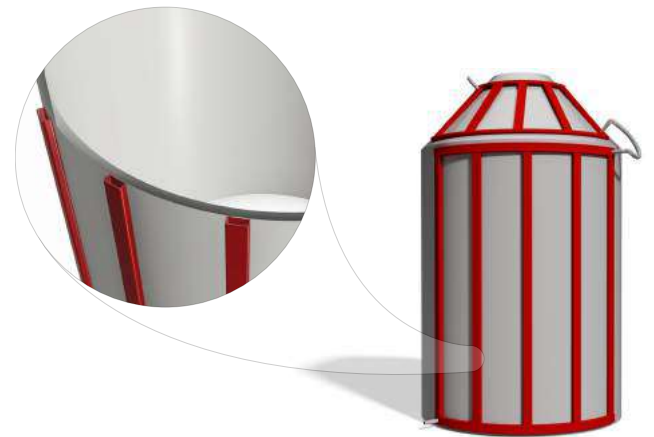
Some examples of failed heating systems are shown to the right:

A Proven Alternative

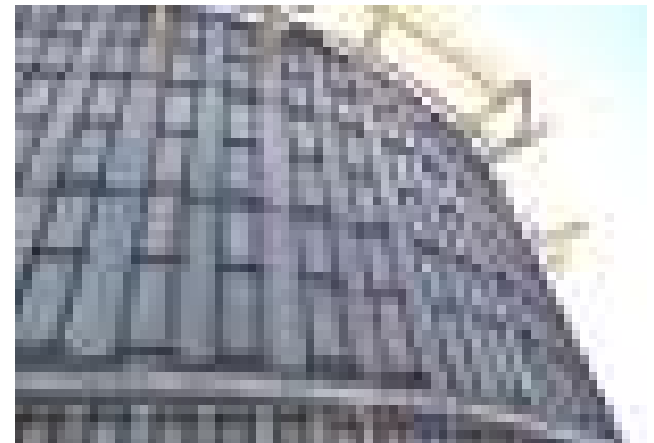
At CSI we pride ourselves on helping clients find the best heating solution for their application. For over 50 years, CSI has been supplying ControTrace® heating systems to solve critical heating applications.

ControTrace® Heating Advantages:

- Predictable performance with a thermal guarantee
- Robust construction (material 2X thicker than typical panel coil)
- No code stamping required
- Lower pressure drop
- Less heating medium infrastructure
- Even heat distribution
- Easy installation / field modification
- No cross-contamination concerns
- Low maintenance costs - external accessibility
- Global field support resources for install support



CONTROTRACE®



Innovative Heating for Tanks & Vessels



ControTrace® on Tanks

In some applications (i.e. molten sulfur) tank corrosion can occur since an internal steam coil is not able to maintain the tank internal shell and roof above the freezing point of the process. Solids which form on the tank wall setup an environment for tank corrosion.

With ControTrace, the external heating system maintains both the process temperature and the shell / roof wall temperature above the freezing point, preventing corrosion and allowing for easy access to the heating system for maintenance.



ControTrace® on Vessels

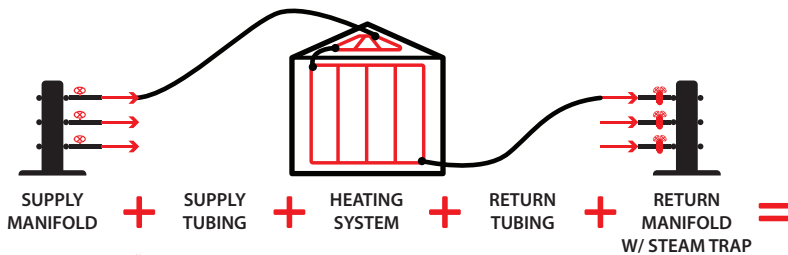
The same principle applies with vessels. External ControTrace heating prevents processes from freezing on the internal vessel walls.

Additionally, ControTrace can be design/fabricated to conform to any vessel geometry such as bottom cones, vessel heads, and around nozzles. Bolt-on ControHeat jackets can also be supplied to effectively heat nozzles. CSI takes responsibility for all project details-using clients drawings, CSI designs & delivers panels ready to bolt on to client's equipment.



CSI Total Heating Solutions

Every heating system also needs support infrastructure such as manifolds, tubing, and connectors. CSI is the ONLY heating system provider which can offer a total heating solution to optimize the system design. An engineered solution from CSI will provide guaranteed thermal performance while minimizing capital on ongoing maintenance costs.



CSI  **TOTAL HEATING SOLUTION**