

Total Heating Solutions



Optimizing system performance, cost, & infrastructure

CSI can provide both the heating system AND the steam circuit supply and return components for a **Total Heating Solution**.

Benefits

- **Optimized system performance:** Ensures all hardware is technically sufficient; ensures circuits do not exceed maximum distance
- **Optimized procurement process:** Eliminates coordination between providers of engineered heating system and steam infrastructure components
- **Optimized total life costs:** Minimizes quantity of field-installed components; minimizes long-term maintenance



Steam Sub-system

- Design and performance optimization of sub-system infrastructure
- Steam supply manifolds
- Condensate return manifolds
- Steam traps and strainers
- Manifold valves
- Pre-insulated tubing:
 - Red supply, 3/4" X .049" 316SS
 - Black return, 1/2" X .035" 316SS
- Tubing Fittings

Process-Heating System

- Design expertise to ensure proper routing, thermal analyses to determine heating element coverage, & optimized circuitry
- **ControTrace**® heat tracing to heat piping, storage tanks, and pressure vessels
- **ControHeat**® cast aluminum jacketing to heat valves, instruments, and other piping components
- Tube tracing or enhanced tube tracing for low-criticality lines and components

CSI's **Total Heating Solutions** package optimizes system performance, streamlines the procurement process, and minimizes capital and operating expense by optimizing infrastructure.

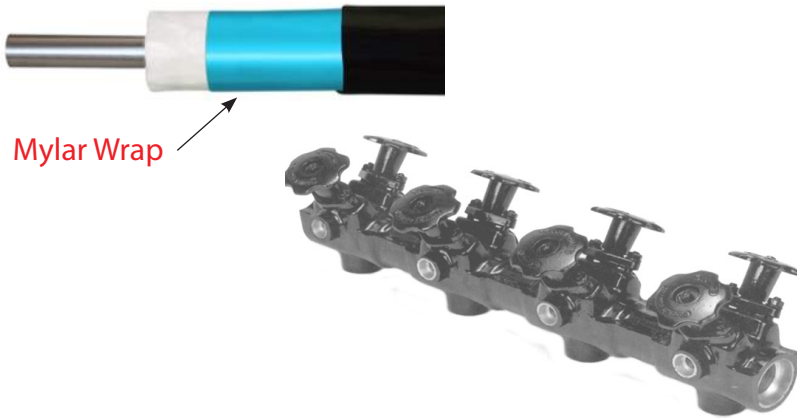
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CSI Circuitry Sub-System Components

Supply and Return Tubing

- **Tubing and Insulation are Protected:** CSI provides TPU coated pre-insulated tubing – contains no chlorides or other halogens (may contribute to S/S corrosion stress cracking of tubing or UV damage to jacket).
- **Cold Weather Installation:** Acceptable to -40°F
- **No Gaps Required Between Tubes:** Foil faced mylar wrap keeps jacket from overheating in side-by-side routing scenarios.
- **Ease of Install:** Color-coded supply and return.



Compact Steam Manifold Distribution

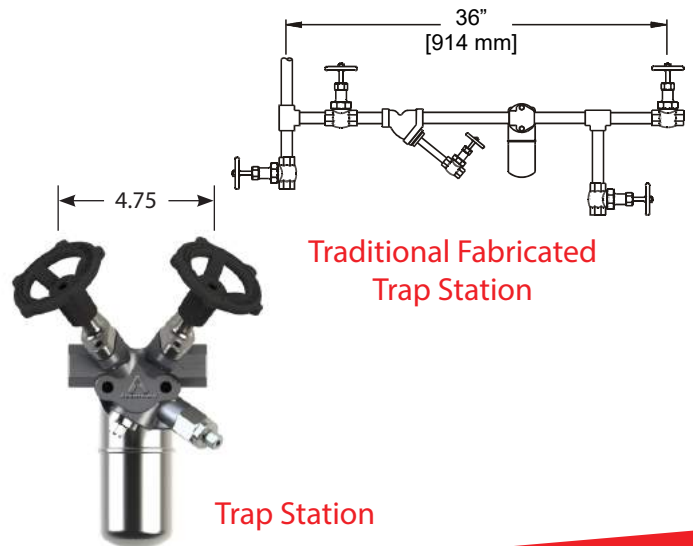
Supply and Return Manifolds

- **Compact Integrated Design:** Saves space, fewer potential leak points, faster installation.
- **Uses Piston Valves:** Unlike gate or globe valves, piston valves are self-cleaning and have an inherently erosion-resistant seating surface configuration - and no exposed rotating shaft (a potential failure point).
- **Up To 3 Year No-Leak Guarantee**



Integral Steam Trap Station

- **Saves Space:** Station contains isolation valves, strainer, trap, and test valve in 67% less space than field fabricated trap stations.
- **Less Field Welding:** Only 2 field install points – fewer potential leak points and faster installation/maintenance.
- **Up To 5 Year No-Leak Guarantee:** Longest in the industry! Less maintenance and spare parts required.



Traditional Fabricated Trap Station

Trap Station