

STEAM DISTRIBUTION AND CONDENSATE COLLECTION MANIFOLDS

ABSTRACT

The use of steam distribution and condensate collection manifolds provides significant benefits to plant operations and maintenance.

CONDENSATE COLLECTION MANIFOLDS / STEAM DISTRIBUTION MANIFOLDS

Properly sized and located condensate collection manifolds and steam distribution manifolds can lead to more efficient collection and return of condensate in a plant and increase the efficiency and reliability of steam trap maintenance and repair programs. The following provides a summary of benefits and a cost analysis of the economics of these systems.



Steam Manifolds

- Steam manifolds provide a convenient source of utility steam for pipe and vessel tracing and steam hoses. Properly sized steam distribution manifolds provide the following benefits:
- Sized to ensure that all distribution points will receive sufficient flow.
- Designed for steam trap drainage to ensure dry steam to processes, prevent the introduction of sediment into tracing lines and guard against freezing.
- Clear labeling of steam supply valves and steam traps can minimize the amount of time spent by maintenance and operations personell during startup, shutdown and maintenance activities.



Condensate Manifolds

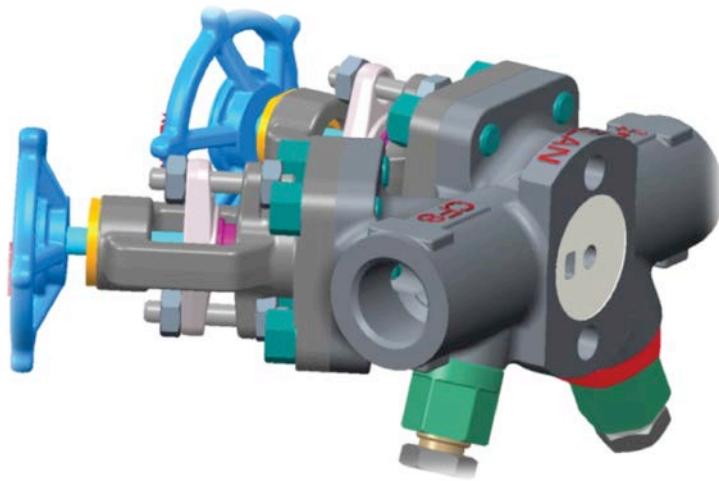
Condensate collection manifolds can provide the following benefits to a steam system:

- Properly sized manifolds allow for the dissipation of flash steam prior to entry into condensate return headers. This reduces water hammer, pitting and corrosion of main headers.
- Allow for single inputs into collection headers, thus handling large numbers of tracing circuits and/or drip legs.
- Help promote the use of cohesive circuits between root valve and steam trap to prevent tracing circuit stalling and freezing.
- Can be designed with internal siphon tubes to prevent freezing. All condensate is directly downward initially, heating the entire manifold regardless of which circuits are in service.
- Improve plant safety by locating all steam trap maintenance at grade, or on a platform safe for performing maintenance work. No more crawling through the pipe rack to test and repair faulty steam traps. **This will lessen your facilities hazard exposure.**



Tracing a circuit from steam trap to root valve can be a challenge.

Steam tracing can present challenges for operations and maintenance personnel, especially when trying to locate which root valve is feeding the steam trap in question. As most tracer tubing lies beneath pipe insulation, determining both the direction of travel and the termination point can be complicated and filled with false starts and faulty guesses. Often the time it takes to replace a steam trap is far less than the amount of time required to locate the appropriate steam isolation valve and depressurize the system. The Velan Trap Connector Station (VTCS) provide an economical solution to this age-old problem. The VTCS combines steam trap isolation valves, strainer blow-down valve and test valve in one single unit. VTCS eliminates the need to locate the root valve serving the tracing circuit as the steam trap can be both isolated and depressurized locally, regardless of the location of the tracing circuit root valve.



Velan Trap Connector Station Model VTCS

Velan Trap Connector Station VTCS can provide the following benefits:

- VTCS locates isolation and test valves at the steam trap, eliminating the time consuming task of locating the root valve of the circuit in order to perform maintenance. This can reduce steam trap repair time by 1-2 hours on average per trap.
- VTCS allows for visual inspection of trap discharge, eliminating diagnostic errors of steam traps and preventing unnecessary trap replacement.
- VTCS is rated to API602 Class 800 standard, eliminating the need to create new standards for steam trap isolation and ensuring compliance with valve engineering and safety standards throughout North America.
- VTCS uses integral globe valves, which can be repaired with parts for standard Velan API602 valves, typically stocked in most plant warehouses.

