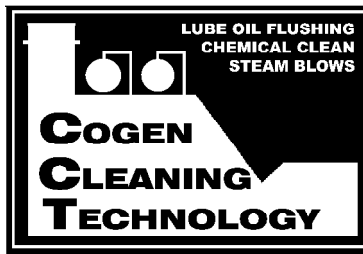


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STEAM BLOW

High Pressure Impulse Steam Blow

This is the traditional method used to clean out steam piping

- Ø System is pressurized to pre-engineered level by firing the boiler and generating steam.
- Ø This method is fast and efficient. A quick opening valve is used to build pressure up and once the target pressure is attained the valve is opened and the steam flows through the piping into the atmosphere
- Ø A "target" is used downstream to check cleanliness of the lines.
- Ø Impulse releases are repeated until a clean target is obtained.

Considerations:

- Ø Temporary pipe design must be properly engineered and supported to counteract dynamic forces.
- Ø Cleaning forces have short durations.

Continuous Low Pressure Steam Blow

Continuous flow of steam from the boiler or steam header to achieve stable blowing conditions

- Ø Pressures are maintained at low levels, usually less than 150 PSIG at the drum, and target velocities have comparable velocities as the permanent pipe outlet. Disturbance Factor is high at lower steam flow rates.
- Ø Targets are placed in temporary piping with same diameter as permanent piping headers to provide verifiable results.

Considerations:

- Ø High confidence
- Ø Steady state steam conditions run at same level throughout
- Ø Safer with no dynamic only thermal stress forces on piping systems.

Cogen Cleaning Technology Inc. Number ONE for a reason

- Ø Advanced 3D engineered temporary piping drawings used to show exact specifics on the layout and procedures of the steam blow.
- Ø Calculations of flow, stress, and strain are done to ensure the procedure goes as smoothly as possible.
- Ø Knowledgeable staff with years of experience to help our clients through every step of the process.

Additional Steam Blow Services

A combination of high or low pressure steam blow coupled with Hydrolazing (a high pressure water jetting away of permanent steam pipe mill scale).

Considerations:

- Ø Duration of steam blow reduced by 45%-55% which results in:
- Ø Demin water consumption significantly reduced.
- Ø Significant fuel savings to generate steam.