



SERVICE PROFILE

Air Blowing

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Engineered air blowing is an efficient way to remove construction debris, loose rust, liquids, and other contaminants from process piping. Every air blow procedure is specifically engineered for the individual system being cleaned. This approach provides numerous benefits for our clients, including time effective execution by efficiently sequencing the blows, thorough cleaning guaranteed by achieving an optimal cleaning force of at least 1.0 (CFR \geq 1.0), and safe field execution through following the best industry practices.

Methods

Three common and effective methods of air blows are:

1. Rupture blow
2. Vessel rupture blow
3. Continuous blow

These methods are described in further detail on the reverse.

The CFR of a particular design is calculated using the following formula:

$$CFR = \frac{\dot{q}_c^2 \times U_c}{\dot{q}_o^2 \times U_o}$$

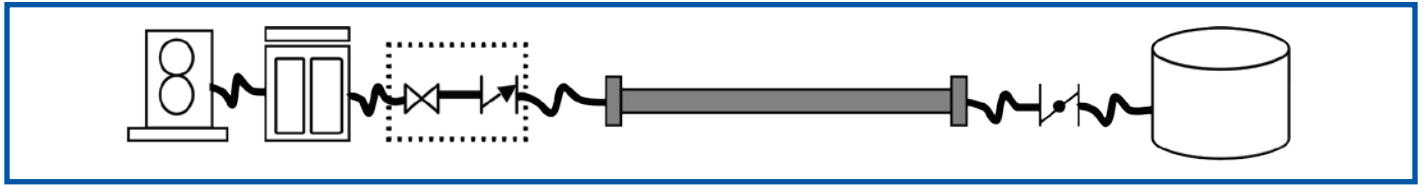
Where: \dot{q}_c = mass flow rate of the air during cleaning
 \dot{q}_o = design mass flow rate during normal operations
 U_c = Specific volume of the air at pipe inlet during the cleaning
 U_o = Specific volume of the system fluid at the pipe inlet during normal operations



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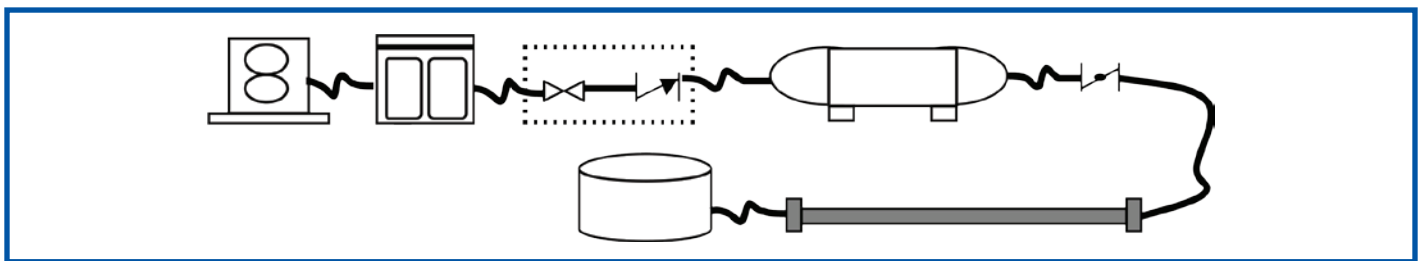
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1. Standard Rupture Blow



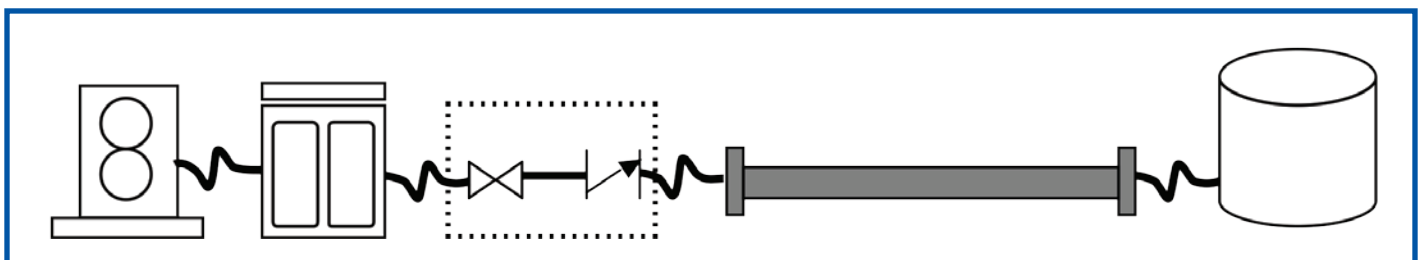
In a standard rupture blow configuration, the piping to be cleaned is pressurized with an air compressor and dryer until it reaches the engineered pressure. Once there is sufficient pressure in the line, the air is quickly released from one end of the piping. The rapid depressurization of the piping blows any loose debris out of the pipe.

2. Vessel Rupture Blow



When access is restricted at the exit of the piping, a vessel rupture blow can be performed. Air is compressed in the vessel and then rapidly released by the valve.

3. Continuous Blow



To perform a continuous air blow, an air compressor and an air dryer are connected to one end of the system. The output of the dryer is then slowly opened and the air velocity in the pipe is brought up to a maximum. This method is effective for cleaning small diameter lines. FourQuest Energy's air compressors can produce 150 PSI at up to 1600 scf/m, and the compressor and dryer combination can produce air with a dew point down to -73°C for efficient drying of systems. Systems can also be checked for integrity by confirming the absence of leaks or passing valves during the pressurization.



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