



CECO Filters

CECO FILTERS SYSTEM TROUBLE SHOOTING

CECO
ENVIRONMENTAL

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PRESSURE DROP

The pressure drop across the filter can be a good indicator of filter condition.

Increases in pressure drop can be due to an increase in the liquid loading, a collection of insoluble particulate on the filter media, or drying of soluble particulate. If a high-pressure drop is accompanied by an increase in opacity (a visible plume other than water vapor), check that the tube sheet and filter drains are clear. If these become plugged, the liquid can accumulate in the filter assembly, leading to high-pressure drop, re-entrainment, and opacity.

“DECREASED” PRESSURE DROP

Decreases in pressure drop may be caused by physical damage to the filter assembly, empty or broken seal cups/legs, or corrosion of some part of the filter assembly by components of the process exhaust. If there is a sudden decrease in pressure drop, system components should be visually inspected.

“INCREASED” PRESSURE DROP

If an increased liquid loading is the cause of the high-pressure drop, the pressure drop will (gradually) return to normal when the process exhaust returns to normal (lower liquid level) conditions. If insoluble solids are the cause, media replacement is usually required. As solid materials accumulate on and in the filter, the pressure drop will increase.

Large particles (> 3 microns) tend to be captured in the filter's outer layer, where they have little effect on performance. Pressure drop is increased because the gas must pass through a restrictive layer to enter the filter; however, filter efficiency is relatively unaffected by the accumulation of large particles.

Fine particles (< 0.5 microns), however, can penetrate deeply into the filter's interior. The resulting decrease in the open area increases the gas velocity through the filter, increasing the pressure drop and eventually degrading performance; however, the efficiency of the filter remains high.

Filter replacement is required either when the pressure drop exceeds acceptable levels (usually determined by the limitation of the blower moving the process air through the system), or when opacity returns to the stack exhaust. A log of system operating parameters, process conditions, etc. helps in accurately planning maintenance requirements.

PREVENTATIVE MAINTENANCE

Maintenance requirements vary according to the application. Clean oil mist applications such as turbines may require virtually no maintenance for years, while others may require periodic filter maintenance and replacement. Your local representative or **CECO** can advise you about specific maintenance procedures for your application.

*CECO helps companies grow
their business with safe clean and
more efficient solutions that
help protect our shared environment*

