

reduce collection efficiency. Therefore, dry ESPs are primarily filterable particulate collection systems intentionally operated under conditions that minimize condensation and collection of the resulting condensable particulate matter. Vendors indicate that guarantees for filterable emissions limits from an ESP are comparable to fabric filters.

3.2.2 Electrostatic Precipitator Advantages

An ESP is an efficient particulate matter removal device and has many advantages compared to other particulate matter control devices:

- Low pressure drop: An ESP only minimally hinders flue gas flow because of the lack of large obstructions in the flue gas resulting in a small pressure drop across the system.
- High removal efficiency: In a typical application they are capable of very high removal efficiencies of particulate matter removing between 99 and 99.9%.

3.2.3 Electrostatic Precipitator Disadvantages

There are also various disadvantages to an ESP compared to other particulate matter removal technologies:

- Very sensitive to gas flow: They are very sensitive to changes in flue gas stream conditions, so they are usually not suited for highly variable processes.
- Installation limitations: They are generally very large in order to obtain low gas velocities necessary for efficient removal, which causes problems when there is limited space for installation.
- Sophisticated maintenance requirement: They require relatively sophisticated maintenance personnel to operate and maintain because of the high voltages.
- Ozone production: During gas ionization, the negatively charged electrodes produce ozone.

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