

**TE-PM2.5C
PM_{2.5} Particulate Fractionator**

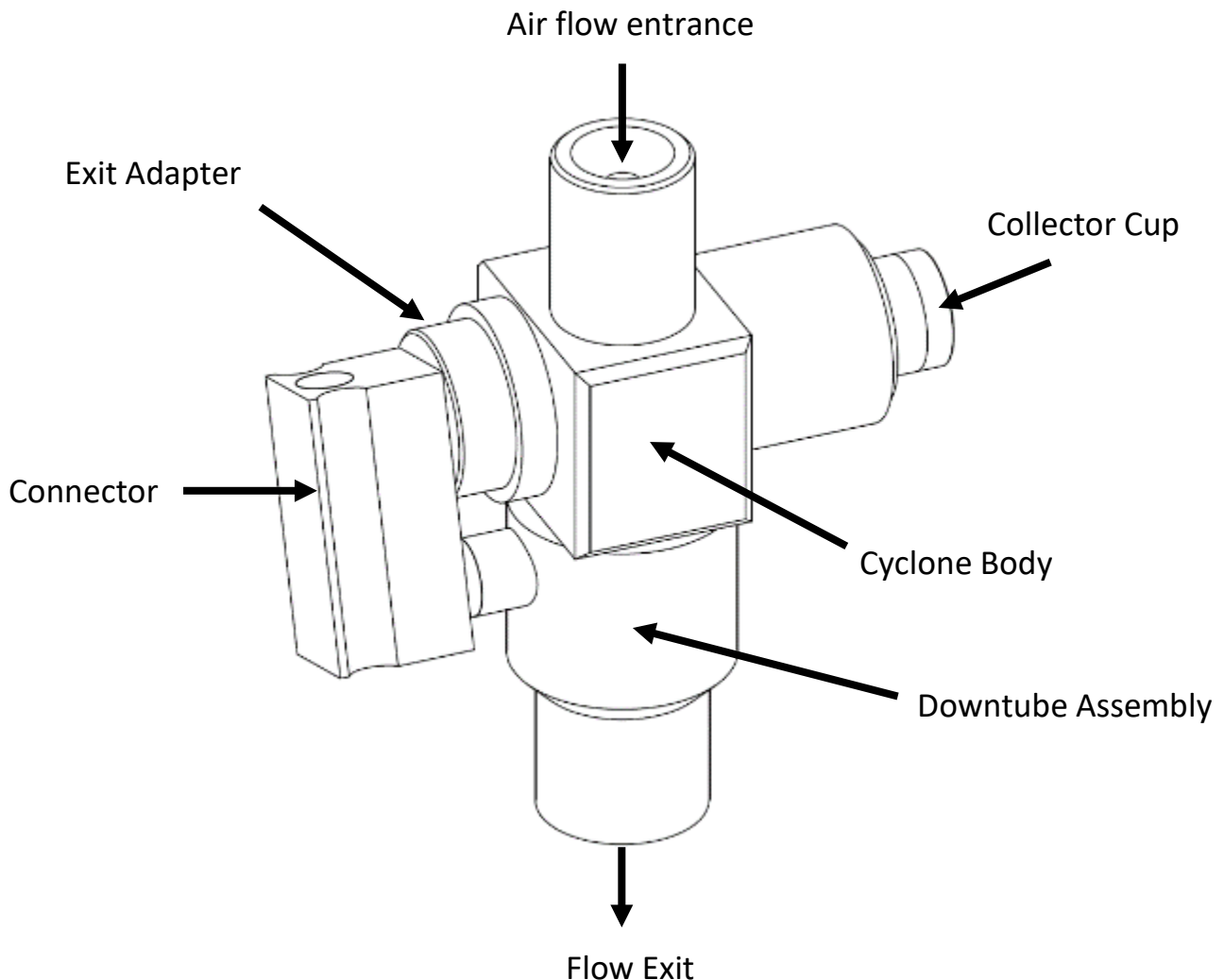
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1.0 TE-PM2.5C Cyclone

The TE-PM2.5C is a PM_{2.5} particle fractionator that utilizes a cyclonic effect to separate ambient particles. Particles within the aerosol whose aerodynamic diameter is greater than PM_{2.5} are collected in the collector cup and those particles within the aerosol that are less or equal to PM_{2.5} are passed onward through the downtube assembly. TE-PM2.5C cyclone is used in conjunction with a standard US EPA PM₁₀ inlet. The cyclone is placed downstream of the PM₁₀ inlet to achieve PM_{2.5} particulate collection. The cyclone is designed to be operated at a flowrate of 16.67 Liters per minute to achieve optimal PM_{2.5} collection. The TE-PM2.5C is a USEPA approved fractionator for PM_{2.5} collection in FEM and FRM instruments as cited in 40CFR Appendix L Part 50 Subpart C 7.5.4.3

1.1 PM2.5C Overview



1.2 Cleaning and Maintenance Interval

The interval between cleaning of the TE-PM2.5C cyclone is not to exceed 30 days of 24 hour sampling events.

TE-PM2.5C cyclone is made from high quality aluminum alloy and has an anodized finish. All aluminum alloy components are maintenance free. There are several O-rings that should be inspected for wear or tears on every cleaning. Replace any O-ring that is suspect to avoid leaks.

1.3 Cleaning Instructions

The following describes how to clean the TE-PM2.5C Cyclone.

1. Remove the cyclone from the sampler and place on a flat surface.
2. Unscrew the collector cup and wipe out the inside of the cyclone body with a lint-free laboratory wipe. Distilled water or general purpose cleaner can be used if the inner body is very dirty.
3. Wipe the inside of the collector cup with a lint-free wipe.
4. Remove the connector by pulling outward.
5. Inspect the o-rings, on the tubes that the connector plugs into, for wear or damage. Replace if worn or damaged.
6. Wipe down the connector and the outside of the tubes. Lint-free swabs may be used to clean interior surfaces.
7. Unscrew the exit adapter.
8. Wipe down the exit adapter and the inside of the cyclone body with a lint-free laboratory wipe.
9. Inspect the o-ring on the outer lip of the exit adapter for wear or damage. Replace if worn or damaged.
10. Clean the inside of the cyclone body with a lint-free wipe and swabs.
11. Thread the exit adapter back into the cyclone body.
12. Place a small amount of o-ring grease around the o-rings on the exit adapter and downtube assembly tubes.
13. Push the connector onto the tubes of the body.
14. Thread the collector cup back into the body.
15. Wipe out the downtube assembly of the cyclone with a lint-free wipe.
16. Place back into service and perform a leak check per the manufacturer's instructions.

1.4 Parts List / Exploded View

