

FRM Reference Sampler Leak Test Tools



Innovative Leak Test Cassettes for EPA Reference Method PM Samplers

Anyone who has tried to troubleshoot a leaking cassette-type FRM particulate sampler in the field knows that it can be an ordeal to quickly locate and remedy the source of an air leak.

Our model LTC and model 10050 are innovative leak test tools that every site tech or operator of FRM particulate samplers should have. These work with any PM_{2.5} *Reference Method* or other particulate sampler that uses the standard EPA-pattern 47mm white Delrin filter cassettes, and also fits air samplers that use the molded blue polycarbonate cassettes.

The EPA recommended standard leak test procedure involves installing a standard filter cassette, blocking the main sampler inlet, pumping down the flow system to a partial vacuum, then monitoring the vacuum loss over a time period of several minutes. If the leak test fails, the cause of the leak could be located anywhere in the entire airflow path.

Our model LTC contains a set of two precision Delrin leak test cassettes, each machined as a solid piece with the outside profile and thickness of a standard loaded filter cassette assembly. The “open” tool in this kit has a hole in the open tool which allows the whole flow system to equilibrate to the same vacuum. This tool is placed into the sampler and the leak test is repeated. If the leak is no longer present, then the technician knows that the original filter cassette was the source of the leak.

If the leak is still present with the open tool installed, the tech installs the second “closed” tool, and repeats the test again. If the leak is no longer present, then the tech knows that the leak is located somewhere *above* the cassette holder, usually at the cyclone or Impactor. If the leak is still present, the technician knows that the leak is located at some component *downstream* of the cassette holder.

Although no longer included in our leak test tool kits, we still offer the old-style leak test tool consisting of one of our standard 47mm filter cassettes with a rubber membrane in the filter position. This tool meets the EPA specifications of the *Internal, filter bypass leakage* test specs in 40 CFR. This tool serves the exact same function as the solid closed tool, but it is offered for situations where the use of a membrane cassette is already documented into procedures.

Our model 10050 is a leak test valve which is installed on the top of the sampler inlet tube to close the inlet during leak test procedures. A replaceable hose barb can be used to connect tubing to an external flow meter during flow calibrations if needed. Meets EPA specifications.

Models:

Part Number	Description
LTC	Solid Leak Test Cassette Kit, 2-Piece Open and Closed Set.
LTM	Old-Style Rubber Membrane Leak Test Cassette. One Unit.
10050	Air Sampler Inlet Leak Test Valve & Flow Meter Adapter.
LTT, LTT2	Obsolete Kit Numbers. Parts are still available individually.



FEATURES

- Precision Machined
- Exceeds EPA PM_{2.5} FRM Leak Check Specs
- Reduces Leak Location Time
- Made in the USA
- Instruction Sheet Included

APPLICATIONS

- PM_{2.5} FRM Sampler Audits
- OEM Arrangements



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