

AIRMETRICS

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MiniVol MRI (Mini Reference Impactor)



The Mini Reference Impactor (MRI) is Airmetrics latest innovation. The MRI is a near perfect PM₁₀ particle size separator that greatly reduces routine impactor maintenance. AirMetrics has enhanced the geometry of the EPA Federal Reference Method (FRM) PM₁₀ inlet for integration into the MiniVol TAS (Tactical Air Sampler). The new impactor has a 10.0 µm cut-point and no significant internal losses*. The dry inertial separator requires no grease, oils or special substrates. The no-tools monthly maintenance (as recommended by EPA) can easily be performed in the field, and consists of simply unscrewing the impactor and dumping out the collected particles and rinsing with water or solvent.

MRI (Mini Reference Impactor)

The MRI was designed in response to feedback from customers such as the US Army – CHPPM, who use the MiniVol in remote locations, and under adverse conditions, The new MRI significantly reduces field maintenance while maintaining the cut-point of the US EPA FRM PM₁₀ inlet.

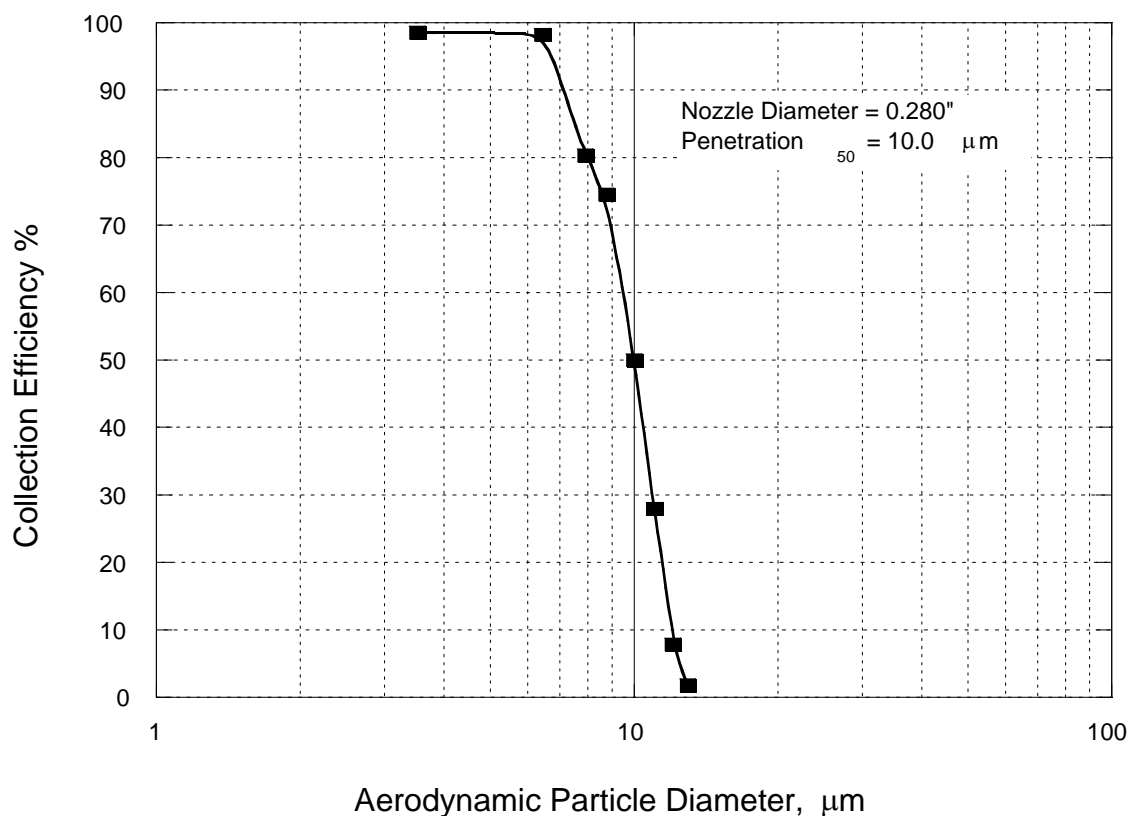


Designed for Easy Maintenance



MRI Inlet Assembly

*see calibration results on reverse side of page.



Aerodynamic dia., μm	Impaction plate, %	Internal Losses, %	After Filter (Penetration), %	Total %
3.52	1.2	0.2	98.6	100
6.43	1.6	0.1	98.3	100
7.92	19.6	0.0	80.4	100
8.73	25.3	0.1	74.6	100
10.01	49.9	0.1	50.0	100
11.03	71.9	0.1	28.0	100
12.06	92.0	0.2	7.8	100
12.96	98.1	0.1	1.8	100

The MRI calibration was performed at the University of Minnesota, Department of Mechanical Engineering, Particle Technology Laboratory under the direction of Virgil A. Marple, PhD and Bernard A. Olson, PhD.