

High Volume Air Sampler, Model VFC-PM10

Volumetric Flow Controlled system for **PM-10** measurement



Key Features

- US EPA FRM Designated for determination of suspended PM-10 particulate concentrations (RFPS-1287-063)
- Well-documented, smooth-wall Venturi orifice
- Aerodynamic design recovers over 95% of energy lost in differential pressures
- Distinct "Choking" characteristic
- Regulates flow while eliminating moving parts and electronic components

The Thermo Scientific High Volume Air Sampler, VFC-PM10 utilizes a volumetric flow controlled system for sampling large volumes of air for the collection of particulate matter less than 10 micrometers. The VFC-PM10 Sampler is supported by a protective shelter ensuring that the surface of the filter rests in a horizontal position. This aerodynamic design allows for the collection of particles at 10 microns and less.

The flow controlled principle, when applied to a high volume air sampler, incorporates a smooth-wall Venturi orifice that gradually opens to a recovery section. The vacuum, which is provided by a motor downstream of the Venturi, is capable of recovering over 95% of energy lost in differential pressures across the restricting orifice as compared to other high volume air samplers.

The critical flow is achieved once the air velocity of the flow stream is equal to the acoustic velocity or speed of sound. All conditions of the Venturi, including the flow rate, are determined by upstream conditions, provided the downstream changes remain minimal. This condition, of downstream restriction thus accelerating air flow through the Venturi, is a distinctive characteristic known as "choking".

The critical flow through the Venturi orifice, as powered by the sampler blower motor, is unaffected by filter loading, ambient temperature or barometric pressure and is capable of maintaining a stable, volumetric flow rate.

The High Volume VFC-PM10 Air Sampler is supplied complete with the blow blower motor assembly, filter holder, volumetric flow controller, timer, and an anodized aluminum shelter.

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific air quality products.

Product Specifications

Motor	1.0 HP (Horsepower)
Amperage	7
Wattage	840
Flow Set Point	40 ACFM
Flow Accuracy	<1% deviation (24 Hours)
Power Source	110v, 1-phase, 60Hz (Other options available)
Weight	136lbs (62kg)
Shipping Dimensions	
<i>Shelter</i>	51" (129cm) H x 22" (56cm) W x 22" (56cm) D, 48lbs (22kg)
<i>Inlet</i>	32" (81cm) H x 32" (81cm) W x 25" (63.5cm) D, 55lbs (24kg)
<i>VFC, Blower & Filter Holder</i>	28" (71cm) H x 21" (53cm) W x 19" (48cm) D, 27lbs (12kg)

Ordering Information

Model Number	Description
GUV-16H	PM10 Hi-Vol, VFC, 7 day mechanical timer, 110V 60Hz
GUV-15HBL1-60	PM10 Hi-Vol, VFC, digital timer, elapsed time indicator, recorder, brushless motor, 220V 60Hz
GUV-15HBL1	PM10 Hi-Vol, VFC, digital timer, elapsed time indicator, recorder, brushless motor, 220V 50Hz
GUV-15H-1-60	PM10 Hi-Vol, VFC, digital timer, elapsed time indicator, recorder, 220V 60Hz
GUV-15H-1	PM10 Hi-Vol, VFC, digital timer, elapsed time indicator, recorder 220V 50Hz
GUV-15H	PM10 Hi-Vol, VFC, digital timer, elapsed time indicator, 110V 60Hz

Options and Accessories

- Mechanical timer
- Digital timer
- Elapse time indicator
- Brushless motor
- Recorder
- Calibration kits
- Filter media

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This product is manufactured in a plant whose quality management system is ISO 9001 certified.

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