



CLEANROOM CASCADE IMPACTOR



A Cascade Impactor for Sampling Airborne Particles onto Silicon, Aluminum, Carbon and Other Flat Surfaces for Analysis by Scanning Electron Microscope and Other Techniques in Contamination Control Studies

Model 2110

FEATURES

- Six-stage cascade impactor
- Impactor cut-point diameters: 0.05, 0.1, 0.3, 1.0, 3.0 and 10 μm
- Sample particles onto different substrates for size, shape and chemical composition analysis by scanning electron microscopy (SEM), X-ray fluorescence (XRF), Auger spectrometry, etc.
- Snap-together O-ring seals allow use of impactor stages in any combination
- Detachable impactor for remote particle sampling
- Quiet, contaminant-free sampling pump
- Multi-day timer allows up to 14 programmable starts and stops.

APPLICATIONS

- Particle sampling in cleanrooms for size, shape and chemical composition analysis to identify source of particulate contamination
- General purpose particle sampling for contamination control monitoring
- Sample particles from personnel, equipment, and machinery to determine rate of particle emission and effectiveness of control measures to reduce particle emission

DESCRIPTION

The Model 2110 operates on the well known inertial impaction, particle sampling principle. The particle-laden air is sampled through a nozzle for acceleration to a high velocity. The high velocity air jet is

then directed at an impaction plate to remove coarse particles by impaction. Particles larger than the impactor cut-point are collected on the impaction surface while smaller particles are carried by the airstream to the next stage, where a smaller nozzle operating at a higher velocity is used to remove particles of a smaller size. By a series of such impaction stages, particles with a wide range of sizes can be separated into a finite number of narrow size intervals. The model 2110 has six impaction stages with cut-point diameters of 10, 3, 1.0, 0.3, 0.1 and 0.05 μm . A variety of sampling substrates can be used with the Model 2110 to collect particles for size and shape analysis by SEM, or chemical composition analysis by XRF, Auger spectrometry, etc. Common substrates include high purity, smooth Si wafer surfaces for elemental composition analysis, and Al and C for general purpose size and shape analysis.

SPECIFICATIONS

Particle size range:	0.05 - 10 μm
Cut-point diameters:	0.05, 0.1, 0.3, 1.0, 3.0 & 10 μm
Sampling flow rate:	3 liters per minute
Dimensions:	230x 300x 240mm
(WxHxD):	(9.0"x11.8"x9.5")
Weight:	4 kg (9 lb)
Power:	115 VAC, 2A