



**New Star
Environmental LLC**

"Providing Instrumentation for Air Quality"

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Series 230 High Volume Cascade Impactor

The Series 230 are multi-stage cascade impactors which attach to any standard high volume air sampler and fractionate particles into as many as six size ranges.

They provide a simple, accurate and low-cost means of obtaining the particle size distribution and respirable mass fraction of suspended particles in outdoor and occupational environments.

FEATURES

- Particles are sized aerodynamically
- Nominal flow rate of 40 cfm
- Collected on small, light-weight slotted collection substrates

The unique slotted impactor design provides the ultimate in precision, predictability and sharpness of cut-off combined with compactness, ease-of-use and the lowest internal losses.

PRINCIPLE OF OPERATION

Suspended particles enter a high volume air sampler and pass through the parallel slots in the first impactor stage. Those particles larger than the particle cut-off size of the first stage impact on a slotted collection substrate. The air stream passes through the slots of the substrate and accelerates as it flows through the narrower parallel slots of the second impactor stage. The remaining particles that are greater than the particle cut-off size of the second stage impact on the second collection substrate and so on through the remaining stages of the impactor.

The width of the slots is constant for each stage, but narrower for each succeeding stage and eventually most of the particles acquire a sufficient momentum to impact on one of the collection substrates. The back-up filter holder of the hi-vol sampler collects the remaining small particles passing through the last impactor stage. The final filter and collection substrates are weighed before and after sampling to determine the gain in mass and subsequent particle size distribution. All particles are collected allowing for determination of total particle concentration.

APPLICATIONS

- Determine respirable particle mass
- Particle transport studies
- Efficiency of air pollution control equipment

LINK TO RELATED PRODUCTS

- Slotted Filter Substrates
- Hi-Vol Filter Media

Product ID #:

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Specifications:

Material	Anodized aluminum alloy
Flow Rate	10 to 24 cfm for 6-Stage; 20 to 50 cfm for 5-Stage & 4-Stage; 40 cfm for Single Stage
Collection Substrates	5.625 x 5.375-inches (143 x 137mm), slotted
Impactor Stages, W x L	6 x 7-inches (152 x 178mm)
Dimensions, W x L x H	9.25 x 12 x 2-inches (235 x 305 x 51mm) for 5-Stage unit