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BioStage Viable Cascade Impactors

- **Easy to use**
- **Proven viable sampling**
  - Meets ACGIH® recommendations for bioaerosol sampling
  - Meets NIOSH Method 0800 and 0801 requirements
  - Performance equivalent to Andersen N-6 and Aerotech A6 *(see reference on reverse side)*
- **Corrosion-resistant aluminum**
  - Autoclavable†
- **Collected organisms remain intact and viable**
- **Easy setup and calibration**
- **SureLock positive seal ensures sample integrity**
- **Uses standard-size agar plates**

† *Remove O-rings prior to autoclaving*

SURELOCK
only from SKC

Description

The SKC BioStage® viable cascade impactor meets NIOSH requirements and ACGIH recommendations for sampling indoor and outdoor mold and fungi. The BioStage comprises an inlet cone, precision-drilled 400-hole impactor stage, and a base that holds a standard-size agar plate. A high flow pump, such as the QuickTake 30, pulls microorganisms in air through the holes (jets) where they are collected on the agar surface. Testing demonstrates that BioStage provides performance equivalent to the industry-standard Andersen N-6. What sets BioStage apart from other samplers is its SureLock positive seal (instead of bulky spring clamps) that ensures sample integrity. Two models of the BioStage Impactor are available to accommodate two different flow rates.

The SKC SureLock Advantage

SKC introduces the SureLock positive seal advantage! The SKC BioStage Standard Single-stage Impactor is constructed with the same 400-hole jet classification stage as the Andersen N-6 and Aerotech A6 Impactors. However, only the SKC BioStage features the SureLock positive seal that:

- Prevents air leaks to ensure complete sample integrity
- Does not depend on spring clamps that wear out or fail
- Requires minimal maintenance

Single-stage impactor with spring clamps

Single-stage BioStage with SureLock seal

SKC Inc. 724-941-9701 **SKC-West** 714-992-2780 **SKC Gulf Coast** 281-859-8050 **SKC South** 434-352-7149
www.skcinc.com

BioStage Viable Cascade Impactors

Applications

- Indoor Air Quality (IAQ) studies
- Filter and cleanroom efficiency studies
- Pharmaceutical production
- Brewery fermentation
- Animal care laboratories
- Food processing areas
- Sewage treatment plants
- Hospital environments
- Cosmetic manufacturing
- Grain processing and transportation
- Bio-risk response

Operation

The BioStage impactors are easy to use. A barbed outlet fitting allows fast and easy connection to a vacuum pump. The SureLock positive seal keeps the jet classification stage and agar plate securely in place and prevents leakage during sampling. Sampling is as simple as sealing an agar plate inside the BioStage, connecting the impactor to a pump operating at the appropriate flow rate, sampling for two to five minutes, removing the agar plate, and sending it to a qualified laboratory for analysis.

About the BioStage 200

In addition to the standard BioStage, SKC offers the BioStage 200 with a 200-hole jet classification stage. Designed to cut the sampling job in half, BioStage 200 accommodates a 90 to 100-mm agar plate and requires only a 14.15 L/min flow rate.

References:

Macher, J., (ed.) Bioaerosols: Assessment and Control, ACGIH, 1999

Macher, J., "Positive-hole Correction of Multiple-jet Impactors for Collecting Viable Microorganisms," American Industrial Hygiene Journal, 50 (11), 1989, pp. 561-568, available at www.skcinc.com/pdf/Multiple_Jet_Impactors.pdf

Samimi, B. and Shufutinsky, A., "Comparison of the Thermo-Andersen N6, the Aerotech A6, the SKC BioStage, and the SKC Micromedia Viable Samplers in Collecting Airborne Fungal Spores," AIHce 2005, San Diego, CA, Final Program, p. 43

Yao, M. and Mainelis, G., "Analysis of Portable Impactor Performance for Enumeration of Viable Bioaerosols," Journal of Occupational and Environmental Hygiene, Vol. 4, Issue 7, July 2007, pp. 514-524

Performance Profile

Flow Rate: **Standard BioStage:** 28.3 L/min
BioStage 200: 14.15 L/min

Material: **Inlet cone and base plate:** Precision-tooled autoclavable aluminum
O-rings: Duro 50, BUNA-N *(not autoclavable)*

Jet Classification Stage: **Standard**
BioStage: 400 holes *(0.25-mm hole diameter)*
BioStage 200: 200 holes *(0.25-mm hole diameter)*

Median Cut-point (D_{50}): 0.6 µm

Sample Media: 90 to 100-mm agar plates*

Suggested Media:

For bacteria:
Tryptic Soy Agar (TSA)
Blood Agar Plates (BAP)

For fungi:
Potato Dextrose Agar (PDA)
Malt Extract Agar (MEA)
Dichloran Glycerol 18 Agar (DG-18)
Corn Meal Agar (CMA)

Analysis: Colony culture *(see Positive-hole Correction reference below left)*

Tubing: 1/4-inch ID

For a list of laboratories that can provide agar plates and analyze samples, visit the SKC website at www.skcinc.com. Click on *Laboratories*.

Ordering Information

Description	Cat. No.
Standard BioStage* single-stage viable cascade impactor	**225-9611**
BioStage 200* single-stage viable cascade impactor	**225-9610**
BioStage Pump Kit-DC includes Standard BioStage*, QuickTake 30 pump with battery, AC charger/adapter (100-240 V), mounting bracket with inlet adapter, calibration adapter, field rotameter, tubing, and deluxe carry case	**228-9530K**
Accessories	
QuickTake 30 Sample Pump,¥ Rotameter, and Charger 100-240 V	**228-9530A**
Calibration Adapter for BioStage, allows tubing to connect to BioStage inlet. *Suitable for both models*	**P33100**
Mounting Bracket for QuickTake 30, holds BioStage in place on pump during sampling	**228-9531**

* *Requires microbiological media supplied by analytical laboratories. For lab list, go to www.skcinc.com/labs/225-9611-labs.asp.*

¥ *Do not operate or charge in hazardous locations. Not UL Listed for intrinsic safety. Not CE marked.*

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