

# BioStage Viable Cascade Impactors

- **Easy to use**
- **Proven principle of operation**
  - 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**



## Description

BioStage® single-stage viable cascade impactors operate on the principle of inertial impaction and meet NIOSH and ACGIH recommendations for sampling indoor and outdoor air for viable microorganisms including bacteria and fungi. Made of precision-tooled autoclavable aluminum, the sampler contains a jet classification stage and base plate precision-threaded together for a positive seal and an inlet cone. The impactor stage contains precision-drilled holes. A sample pump draws air through the sampler where multiple jets of air direct airborne particles toward the surface of the agar collection medium. 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



# 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](http://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

## SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty.asp>.



## 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

## Jet Classification

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

**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](http://www.skcinc.com). Click on *Laboratories* or visit the AIHA website at [www.aiha.org](http://www.aiha.org).

## Ordering Information

Description	Cat. No.
Standard BioStage* single-stage bioaerosol impactor	225-9611
BioStage 200* single-stage bioaerosol impactor	225-9610
BioStage Pump Kit-AC includes Standard BioStage*, vacuum pump (115 V only) with rotameter, calibration adapter, tubing, and carry case	225-9535K
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
<b>Accessories</b>	
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](http://www.skcinc.com).