

# BioStage Viable Cascade Impactors

SURELOCK



The SKC BioStage® viable cascade impactor meets NIOSH requirements and ACGIH recommendations for sampling indoor and outdoor mold and bacteria. 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.

## 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 similar samplers. 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

### ► Easy to use

### ► Proven viable sampling

- Meets ACGIH® recommendations for bioaerosol sampling
- Meets NIOSH Method 0800 and 0801 requirements
- Studies show performance equivalent to Andersen N-6 and similar samplers (*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.

## 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

# BioStage Viable Cascade Impactors

## Performance Profile

<b>Flow Rate:</b>	<b>BioStage:</b> 28.3 L/min
<b>Material:</b>	<b>Inlet cone and base plate:</b> Precision-tooled autoclavable aluminum <b>O-rings:</b> Duro 50, BUNA-N ( <i>not autoclavable</i> )
<b>Jet Classification Stage:</b>	<b>BioStage:</b> 400 holes ( <i>0.25-mm hole diameter</i> )
<b>Median Cut-point (D50):</b>	0.6 µm
<b>Sample Media:</b>	90 to 100-mm agar plates*
<b>Suggested Media:</b>	<b>For bacteria:</b> Tryptic Soy Agar (TSA) Blood Agar Plates (BAP)  <b>For mold:</b> Potato Dextrose Agar (PDA) Malt Extract Agar (MEA) Dichloran Glycerol 18 Agar (DG-18) Corn Meal Agar (CMA)
<b>Analysis:</b>	Colony culture ( <i>see Positive-hole Correction reference below</i> )
<b>Tubing:</b>	1/4-in ID

For a list of laboratories that can provide agar plates and analyze samples, visit the SKC website at [www.skinc.com](http://www.skinc.com). Search on *Labs*.

## 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.skinc.com/pdf/Multiple\\_Jet\\_Impactors.pdf](http://www.skinc.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*, 4:7, July 2007, pp. 514-524

## Operation

The BioStage impactor is easy to use. Its barbed outlet allows fast and easy connection to a vacuum pump, and it has a threaded hole in the base plate through which it can be mounted via a mounting bracket on the QuickTake 30 pump or directly on a tripod stand. 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.

## Ordering Information

Description	Cat. No.
<b>BioStage*</b> single-stage viable cascade impactor	<b>225-9611</b>
<b>BioStage Pump Kit</b> includes BioStage,* QuickTake 30 pump with battery, AC charger/adaptor (100-240 V), mounting bracket with inlet adapter, calibration adapter, rotameter, tubing, and deluxe carry case	<b>228-9530K</b>
<b>Accessories</b>	
<b>QuickTake 30 Sample Pump,† Rotameter, and Charger</b> 100-240 V	<b>228-9530A</b>
<b>Calibration Adapter for BioStage</b> , allows tubing to connect to BioStage inlet. Suitable for both models	<b>P33100</b>
<b>Tripod Stand</b>	<b>228-506</b>
<b>Mounting Bracket for QuickTake 30</b> , holds BioStage in place on pump during sampling, includes thumbscrews	<b>228-9531</b>

\* Requires microbiological media supplied by analytical laboratories. For lab list, go to [www.skinc.com/labs/225-9611-labs.asp](http://www.skinc.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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