The patented*, reusable SKC Button™ Aerosol Sampler is a filter sampler with a porous curved-surface inlet designed to improve the collection characteristics of inhalable dust (<100 µm aerodynamic diameter), including bioaerosols for viable or non-viable analysis. The curved, multi-orificed inlet, made of conductive stainless steel, reduces electrostatic effects and reduces sensitivity to wind direction and velocity. The proximity of the filter to the inlet minimizes transmission losses and provides superior particulate deposition uniformity and low intersample variation. The Button Sampler closely follows the ACGIH/ISO sampling criteria for inhalable particulate mass at 4 L/min.

Collection of Inhalable Bioaerosols
The SKC Button Aerosol Sampler provides superior collection of inhalable particles including bacteria and fungal spores. Use the Button Sampler with a 25-mm membrane filter such as MCE or PVC to collect bioaerosols for viable or non-viable analysis. Using SKC gelatin filters with the Button Sampler helps to maintain viability of stress-sensitive microorganisms during short sampling periods. The Button Sampler is used with a sample pump capable of 4 L/min for personal inhalable particulate sampling following the ACGIH/ISO criteria.

* U.S. Patent Nos. 5,954,845 and 5,958,111
Operation
The SKC Button Sampler is easy to operate. Simply unscrew the inlet section, remove the Teflon® O-ring, place a 25-mm filter on the stainless steel support screen, replace the O-ring, and screw the inlet section back onto the sampler. Connect the Button Sampler to a personal sampling pump; clip the sampler onto a worker’s collar and the pump to the worker’s belt. Sample for the appropriate time period.

An easy-to-use calibration adapter is available for the Button Sampler. Simply push the calibration adapter onto the Button Sampler inlet and connect the adapter inlet to a primary standard calibrator. Calibrate to 4 L/min.

Abrasive Blasting Sampler for Heavy Metals
SKC has created an Abrasive Blasting Sampler for Heavy Metals Kit that contains a Button Aerosol Sampler and a protective shield. This sampler is designed to withstand the mechanical stress from blasting operations. The sampler’s shield protects the filter from shredding or being overloaded by large particles thrust into the sampler. The Abrasive Blasting Sampler for Heavy Metals efficiently collects inhalable heavy metal particles with low sensitivity to ambient conditions. The U.S. military has used the SKC Abrasive Blasting Sampler for Heavy Metals during abrasive blasting operations. The sampler withstood very high particle concentration and provided recoverable samples and meaningful exposure information.

* The SKC Abrasive Blasting Sampler for Heavy Metals is not suitable for sampling silica. While silica is commonly found in abrasive blasting environments, sampling for silica using OSHA Method ID 142 requires a cyclone.

References


Performance Profile
Flow Rate: 4 L/min
The Button Sampler closely follows the ACGIH/ISO inhalability curve at 4 L/min. This provides optimum sampling. Sampling efficiency is maintained within ± 30% at flows ranging from 2 to 5 L/min.

Construction:
Sampling inlet: conductive stainless steel
Body: aluminum
Support screen: stainless steel

Filter:
25 mm (see below)

Analysis:
Inhalable dust: Gravimetric (GR)
Fungal spores: Epifluorescence microscopy, immunoassay, or polymerase chain reaction (PCR)
Metals: X-ray Fluorescence (X FL)

Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Button Sampler</td>
<td>225-360</td>
</tr>
<tr>
<td>Abrasive Blasting Kit includes Button Sampler and protective shield</td>
<td>225-367</td>
</tr>
<tr>
<td>Button Sampler Pump Kit includes Button Sampler, PCXR4 Sample Pump, single charger with cable, and calibration adapter</td>
<td>120 V 1224-4121</td>
</tr>
<tr>
<td>Protective Shield, for abrasive blasting environments</td>
<td>225-366</td>
</tr>
<tr>
<td>Button Sampler Calibration Adapter</td>
<td>225-361</td>
</tr>
<tr>
<td>Filter Transport Case, for 25-mm filters, conductive plastic</td>
<td>225-67</td>
</tr>
</tbody>
</table>

A filter pore size of 1.0 µm or higher is recommended for use with the Button Sampler to reduce back pressure.

Filters (25 mm)  
<table>
<thead>
<tr>
<th>Cat. No.</th>
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</thead>
<tbody>
<tr>
<td>Glass fiber, pk/500</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC), 5.0 µm, pk/100</td>
</tr>
<tr>
<td>PTFE (Teflon)∞ with PMP support (Teflon®), 3.0 µm, pk/50</td>
</tr>
<tr>
<td>Mixed cellulose ester (MCE), 1.2 µm, pk/100</td>
</tr>
</tbody>
</table>

Gelatin,† presterilized, pk/50 | 225-9551 |

† Gelatin filters dissolve when placed on agar.
∞ Maximum operating temperature is 464 F (240 C) based on PMP support ring.

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