GS-1 Respirable Dust Cyclone

Equivalent Design to 10-mm Nylon Cyclone Without Static Concerns

- **2 L/min flow rate provides sharp size selection at 4 μm**
  - Meets ISO 7708/CEN criteria and OSHA silica rule; suitable for ACGIH respirable TLVs

- **Use at 1.7 or 2 L/min with DPM Cassette for MSHA DPM compliance sampling**
  - Screens out large particles to prevent DPM Cassette impactor and filter overload

- **Conductive plastic construction**
  - Eliminates electrostatic effects experienced with the 10-mm nylon cyclone
  - Not a spark hazard for underground mine use

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The 10-mm SKC GS-1 Cyclone is used with a 25 or 37-mm three-piece cassette with filter for collecting respirable dust particles. A removable cassette adapter is available in 25 or 37-mm diameter to hold a filter cassette securely during sampling. The GS-1 Cyclone can be used with the SKC DPM Cassette for MSHA DPM compliance sampling. See box at right.

The conductive plastic GS-1 Cyclone provides sampling efficiency equivalent to the non-conductive 10-mm nylon cyclone used for respirable dust collection while eliminating static effects and providing for safe use underground.


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Using the GS-1 Cyclone with the SKC DPM Cassette

Use the GS-1 Cyclone with the SKC DPM Cassette at 1.7 to 2 L/min for sampling in atmospheres where it is necessary to differentiate diesel particulate matter from other respirable dust (such as coal dust) based on particle size. The GS-1 Cyclone prevents particles > 4 microns from clogging the DPM Cassette’s built-in impactor (precision sapphire orifice) that screens out particles ≥ 1 micron. Particles < 1 micron collect on a heat-treated quartz filter inside the cassette.
GS-1 Performance
The GS-1 Cyclone conforms to the ISO 7708/CEN criteria for particle size selection with a 50% cut-point of 4 μm at 2 L/min\(^1\) (bias within ISO/OSHA/NIOSH requirements). It may be used at other flow rates to achieve cut-points for alternate applications.

GS-1 Cyclone, \(Q_v=2.0 \text{ L/min}\)

Collection efficiency relative to ISO 7708/CEN criteria

References


Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
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<tbody>
<tr>
<td>GS-1 Single-inlet Cyclone with bowl adapter, 37-mm cassette adapter, and grit pot</td>
<td>225-105</td>
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<tr>
<td>Accessories</td>
<td></td>
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<tr>
<td>Replacement Cassette Adapter</td>
<td></td>
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<tr>
<td>37 mm (supplied with cyclone)</td>
<td>225-102</td>
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<tr>
<td>25 mm</td>
<td>225-101</td>
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<tr>
<td>Filter Cassette/Cyclone Holder, for attaching a DPM or standard filter cassette to a worker’s clothing in the breathing zone. May be used with or without a cyclone, required when using DPM Cassette with GS-1 Cyclone</td>
<td>225-1</td>
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<td>Multi-purpose Calibration Jar</td>
<td>225-111</td>
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<td>Replacement Grit Pots, pk/25</td>
<td>P225012</td>
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