

GS-3 Respirable Dust Cyclone

Meets ISO 7708/CEN Criteria

► **Operates at 2.75 L/min to conform to the ISO 7708/CEN criteria**

- Meets requirements in the OSHA and MSHA Final Silica Rules
- Suitable for ACGIH respirable TLVs
- Higher flow rate increases sensitivity for lower concentrations

► **Unique design overcomes disadvantages of 10-mm nylon cyclone**

- Multiple inlets eliminate ambient wind speed and orientation effects

► **Conductive plastic eliminates electrostatic effects**

- Not a spark hazard for underground mine use



The 10-mm conductive plastic SKC GS-3 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.

With its higher flow rate requirement and low mean bias, the GS-3 Cyclone provides better sampling efficiency when compared to the performance of the 10-mm nylon cyclone used for respirable dust collection.

* Calibrated at UK Health and Safety Laboratory. See graph on reverse side.

Sample Time:	Varies
Sample Rate:	2.75 L/min for 4- μ m cut-point (meets OSHA and MSHA Final Silica Rules)
Sample Pump:	Universal XR or AirChek Series
Sample Media:	25 or 37-mm filters in 3-piece cassettes
Tubing:	1/4-inch ID

The **GS-3 Cyclone Advantage**

- ✓ **Multiple inlets** eliminate sampler sensitivity to wind velocity and user orientation to the contaminant source.
- ✓ **Conductive plastic** eliminates static collection problems with charged particles; not a spark hazard for underground mine use
- ✓ **Higher flow rate** for great sampling sensitivity

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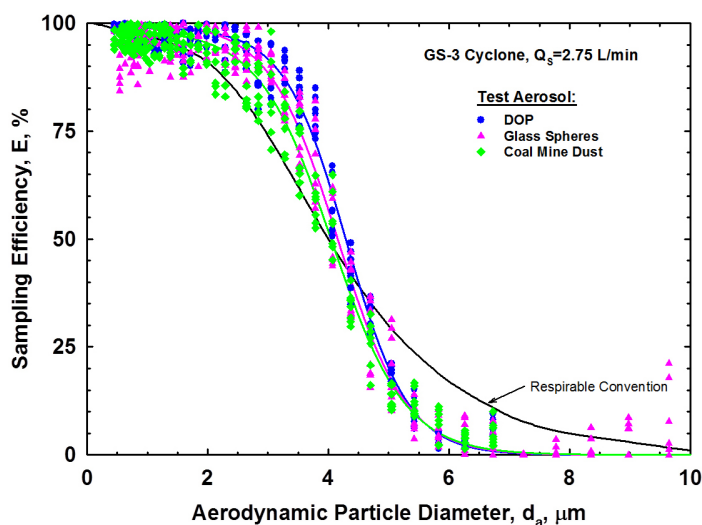
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GS-3 Performance

The GS-3 Cyclone conforms to the ISO 7708/CEN criteria included in the OSHA and MSHA Final Silica Rules for particle size selection with a 50% cut-point of 4 μm at 2.75 L/min (bias within ISO/OSHA/NIOSH requirements). It may be used at other flow rates to achieve cut-points for alternate applications.

Performance data of the GS-3 Cyclone relative to the ISO 7708/CEN criteria adopted by OSHA, MSHA, ACGIH, and other international agencies has been published in the *Journal of Aerosol Science*, 28, 1997.



Collection efficiency relative to ISO 7708/CEN criteria in OSHA and MSHA Final Silica Rules and ACGIH TLVs

References

Kar, K. and Gautam, M., "Orientation Bias of the Isolated 10-mm Nylon Cyclone at Low Stream Velocity," *AIHA Journal*, Vol. 56, 1995, pp. 1090-1098, <http://doi.org/bdjmrv>

Gautam, M. and Sreenath, A., "Performance of a Respirable Multi-inlet Cyclone," *Journal of Aerosol Science* (U.K.); Vol. 28, No. 7, 1997, pp. 1265-1281, <http://doi.org/thsgrz>

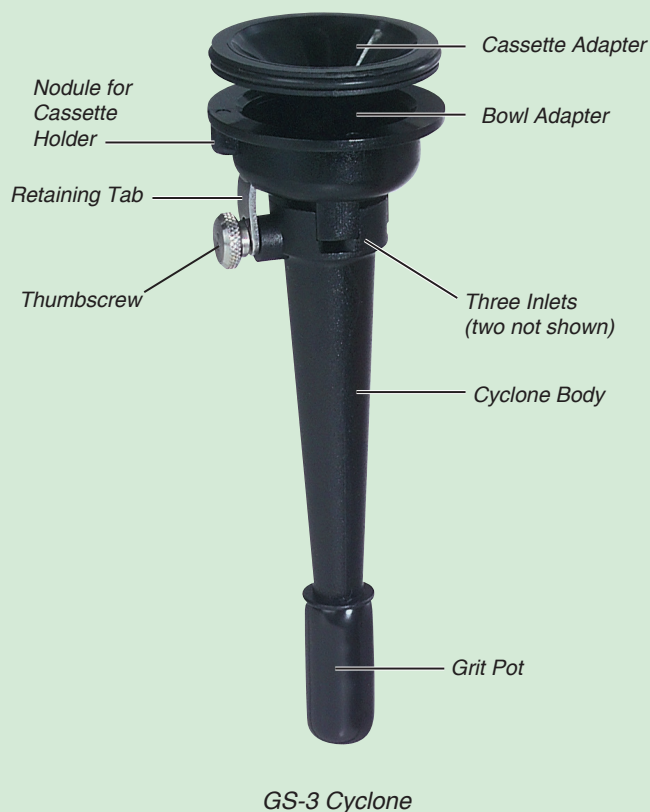
OSHA Final Silica Rule, 29 CFR 1926.1153, 81 FR 16875-16882, March 25, 2016; 84 FR 21597, May 14, 2019, <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153>

Dept. of Labor Mine Safety and Health Administration 30 CFR Parts 56, 57, 60, 70, 71, 72, 75, and 90, Docket No. MSHA-2023-0001] RIN 1219-AB36 MSHA Silica Rule: Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection, <https://bit.ly/3Q6j4fl>

Cyclone vs. PPI Comparison Flysheet,

<http://www.skinc.com/media/documents/Flysheets/air-cyclones-ppi-comparison-fly-mp2033.pdf>

SKC Respirable Dust Cyclone Performance Guide, <https://bit.ly/4hmJhCC>



Ordering Information

Description		Cat. No.
GS-3 Cyclone with bowl adapter, cassette	37 mm	225-100
adapter, and grit pot	25 mm	225-103
Accessories		
Replacement Cassette Adapter	37 mm	225-102
	25 mm	225-101
Filter Cassette/Cyclone Holder		225-1
Multi-purpose Calibration Jar		225-111
Replacement Grit Pots, pk/25		P225012