

# 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 OSHA criteria
- 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 U.K. Health and Safety Laboratory. See graph on reverse side.



Sample Time:	Varies
Sample Rate:	2.75 L/min for 4- $\mu$ m cut-point* (meets OSHA Silica Rule)
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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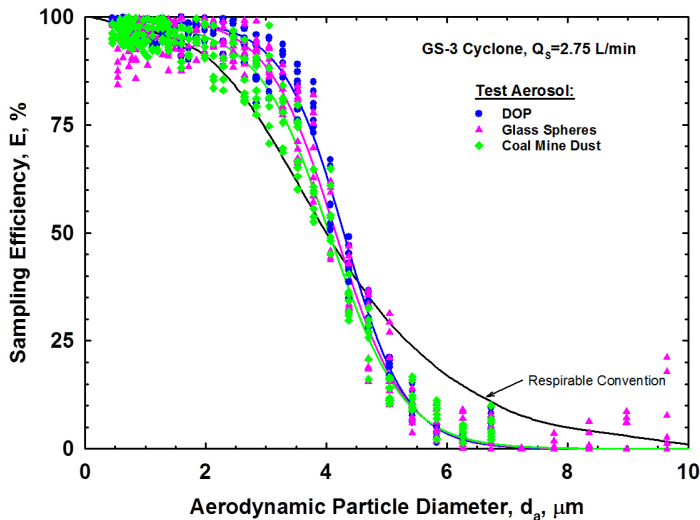
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Meets ISO 7708/CEN Criteria

## GS-3 Performance

The GS-3 Cyclone conforms to the ISO 7708/CEN criteria included in the OSHA Silica Rule for particle size selection with a 50% cut-point of 4  $\mu\text{m}$  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, 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 silica rule and ACGIH TLVs

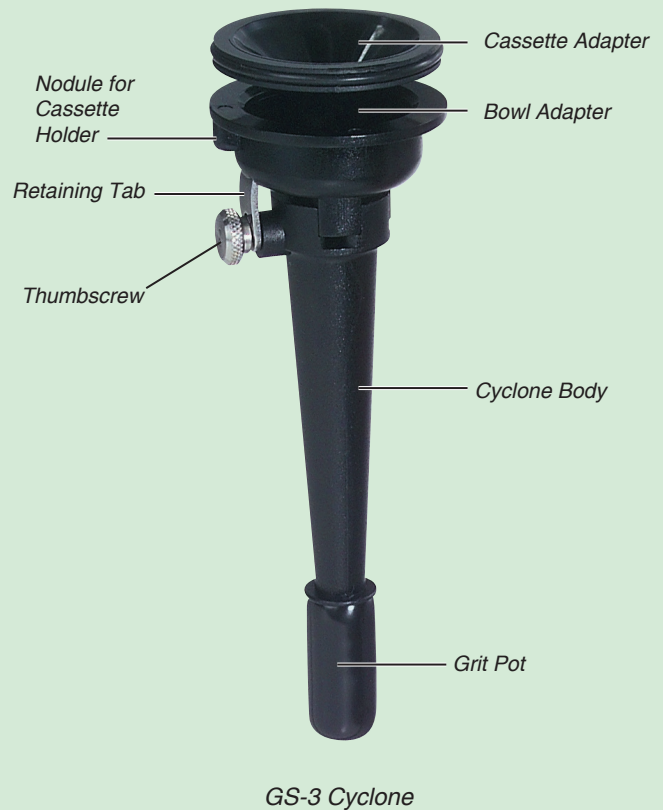
### References

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/bdjrmv>

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/fhsgrz>

Trakumas, S., et al., Performance Assessment of Personal Respirable Cyclone Samplers, *AIHce Presentation 191*, 2003, <https://bit.ly/3GqxJ1C> (Powerpoint presentation)

OSHA Final Rule on Respirable Crystalline Silica, [www.osha.gov/silica/](http://www.osha.gov/silica/)



## Ordering Information

Description		Cat. No.
GS-3 Cyclone with bowl adapter, cassette adapter, and grit pot	37 mm 25 mm	225-100 225-103
<b>Accessories</b>		
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

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