GS-3 Respirable Dust Cyclone

Meets ISO 7708/CEN Criteria, Eliminates Wind Speed and Orientation Bias

KEY FEATURES

- **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 TLV®s
  - 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

GS-3 Cyclone

The 10-mm conductive plastic SKC GS-3 Cyclone is used with a 25 or 37-mm adapter to hold a standard three-piece cassette with filter in place for effective collection of respirable dust particles.

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.

The GS-3 Cyclone Advantage

Multiple inlets eliminate sampler sensitivity to wind velocity and user orientation to the contaminant source to reduce particle loss from impaction

Conductive plastic eliminates static collection problems with charged particles; not a spark hazard for underground mine use

Higher Flow rate, which increases the sensitivity for detecting lower concentrations of airborne particles

More information

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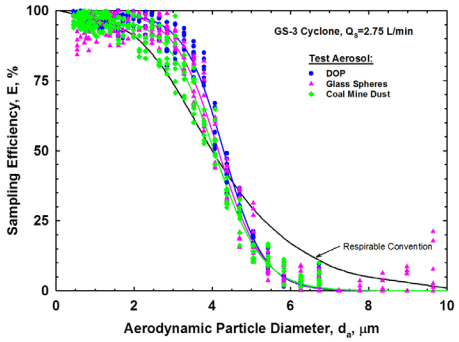
GS-3 Cyclone Performance

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* *(organizational access or purchase required).*



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

PERFORMANCE PROFILE

Sample Time	• Varies
Sample Rate	• 2.75 L/min for 4-µm 50% cut-point* (OSHA and MSHA Final Silica Rules)
Sample Pump	• Universal or AirChek® Touch series
Sample Media	• 25 or 37-mm filters in 3-piece cassettes
Tubing	• 1/4-in ID tubing

**Calibrated at UK Health and Safety Laboratory*

ORDERING

Available as Cat. No.

225-100	GS-3 Cyclone, with bowl adapter, **37-mm** cassette adapter, and grit pot
225-103	GS-3 Cyclone, with bowl adapter, **25-mm** cassette adapter, and grit pot

Recommended Accessories

225-102	Replacement Cassette Adapter, 37 mm
225-101	Replacement Cassette Adapter, 25 mm
225-1	Filter Cassette/Cyclone Holder
225-111	Multi-purpose Calibration Jar Standard Size
P225012	Replacement Grit Pots, 25 pk

For details and additional accessories, visit the GS-3 Cyclone on our website.

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

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, https://skcinc.com/media/knowledge/rr/crystalline-silica-sampling-cyclones-vs-ppi-samplers-rr-mp2033.pdf

SKC Respirable Dust Cyclone Performance Guide, https://bit.ly/49OJWv4