Respirable Reusable Parallel Particle Impactors (PPIs)

Precise Match to ISO 7708/CEN Respirable Criteria

KEY FEATURES

- **Collection efficiency precisely matches ISO 7708/CEN criteria adopted in the OSHA and MSHA final silica rules**
- **Reusable conductive aluminum – use with any suitable 37-mm filter**
- **Load with disposable pre-oiled impaction substrates**
  - Reduce particle bounce and buildup effects
- **Only 3.3 ounces (93.6 grams) – ideal for both personal and area sampling**
- **Selection of flow rate available to meet specific applications**
  - **8 L/min respirable PPI**: Enhances sensitivity (for short-term and/or low concentration sampling) using high flow pumps; ideal for new lower OSHA PEL for silica
  - **4 L/min respirable PPI**: Enhances sensitivity and can be used with personal pumps; TWA sampling for ≥ 4 hours
  - **2 L/min respirable PPI**: 8-hour TWA sampling ideal for new OSHA and MSHA PEL for silica
- **Disposable plastic and thoracic PPI models are available!**

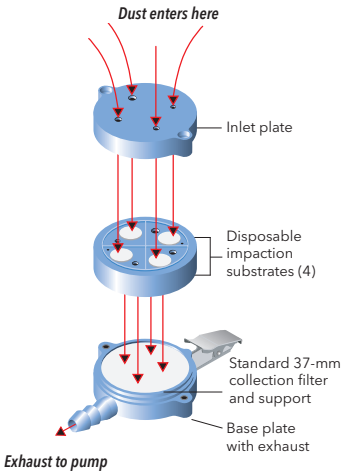
SKC Parallel Particle Impactor (PPI®) Samplers are similar to traditional 37-mm filter cassettes in that they collect respirable dust on a standard 37-mm filter. That is where the similarity ends! Impaction-based PPI Samplers are designed to provide a precise match to the ISO 7708/CEN criteria for respirable samplers, and **they do it in a unique way.** *See How PPI Works above right.*

PPI Samplers Meet Requirements in OSHA and MSHA Final Silica Rules

To better protect workers in construction and general industry, OSHA put into effect a Final Silica Rule in 2016. MSHA published its Final Silica Rule on April 18, 2024, to reduce miner exposure to respirable crystalline silica (RCS). These regulations provide for an RCS permissible exposure limit (PEL) of 50 micrograms per cubic meter (µg/m³) for a full shift (calculated as an 8-hour time-weighted average or TWA) and establish an Action Level for RCS at 25 µg/m³ for a full shift (calculated as an 8-hour time TWA). Both OSHA and MSHA rules require employers to evaluate the exposure of each employee who is, or could reasonably be expected to be, exposed to RCS. Assessment options are spelled out in each regulation. Visit https://bit.ly/3UhJA8C for the OSHA Final Silica Rule and https://bit.ly/3Q6j4fl for the MSHA Final Silica Rule.

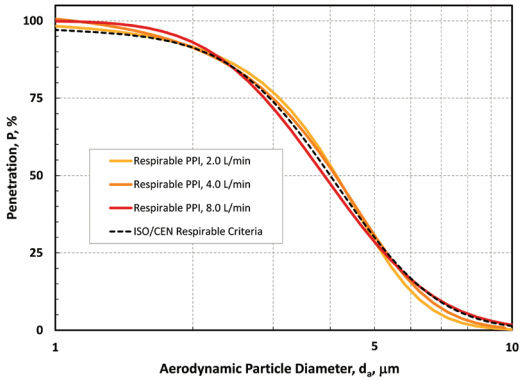
How PPI Works

Only the SKC PPI Samplers contain four small impactors in the inlet section of the device. Each impactor features a unique 50% cut-point to target a specific one-quarter segment of the ISO/CEN curve resulting in a precise fit along the curve. A sample pump pulls air through the inlet nozzle of each impactor in the inlet plate. Particles larger than each impactor's 50% cut-point are scrubbed and retained on the porous oiled impaction substrate, while smaller particles continue to the standard 37-mm collection filter for analysis.



SKC PPI Performance

SKC PPI models were evaluated for their performance against the ISO 7708/CEN respirable convention. Potassium sodium tartrate (PST), dioctyl phthalate (DP), glass spheres (GS), and coal mine dust were used as test aerosol. A load of approximately 6.8 mg of coal mine dust on the PPI substrates did not adversely affect PPI performance. See Cyclone vs. PPI Comparison for more performance information.



Comparison of PPI Samplers' performance with the ISO 7708/CEN respirable conventions

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More information

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PERFORMANCE PROFILE

Sampling Rate	• 2 L/min, 4 L/min, or 8 L/min respirable
Sample Pump	• Airchek® Touch Series for 2 and 4 L/min, Leland Legacy® for 8 L/min
Sample Time	• Dependent on method used
Sample Media	• 37-mm, 5.0-µm PVC filter, 0.8-µm MCE filter, or 2.0-µm PTFE filter
Tubing	• 1/4-in ID tubing
Impaction Substrate	• Four 3/8-in diameter pre-oiled porous plastic discs
Analysis	• Gravimetric or chemical
Body Material	• Conductive aluminum
Dimensions	• Height (clip to exhaust): 4.25 in (10.8 cm) • Diameter: 1.8 in (4.6 cm) • Depth: 1.2 in (3.0)
Weight	• 3.3 oz (93.6 gm)

ORDERING

Reusable PPI Samplers Available as Cat. No.

(Requires collection filter, support, and impaction substrate; see below.)

225-380	Respirable PPI (gold), 2 L/min, aluminum
225-382	Respirable PPI (orange), 4 L/min, aluminum
225-383	Respirable PPI (red), 8 L/min, aluminum

Recommended Collection Filters *(required for sampling)*

225-5-37	PVC Filters, 37 mm, 5.0 µm, 100 pk
225-1939	MCE Filters, 37 mm, 0.8 µm, 100 pk
225-17-33	PTFE Filters, 37 mm, 2.0 µm, unlaminated, for MWF, 100 pk

SCAN ME

Filter Supports *(required for sampling)*

225-27	Support Pads, cellulose, 37 mm, 100 pk
225-26	Stainless Steel Support Screen, 37 mm, wide mesh

Impaction Substrates *(four required for each sample)*

225-388	Porous Plastic Discs, 3/8-inch diameter, pre-oiled, ready to use, disposable, 200 pk

Recommended Accessories

225-111	Multi-purpose Calibration Jar
225-8303A	Filter-Keeper, for transport and storage of 37 mm filter, 10 pk
225-8371	Forceps, stainless steel, with non-serated flat tips

For details and additional accessories, visit www.skcinc.com/ppi-sampler.

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