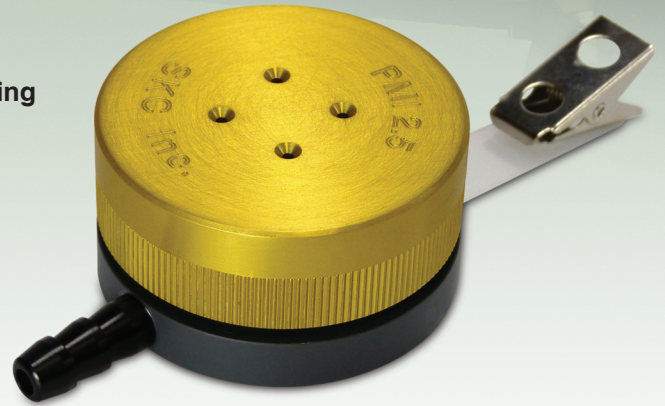


PMI

Personal Modular Impactors

Personal PM10, PM2.5, or PM Coarse Sampling

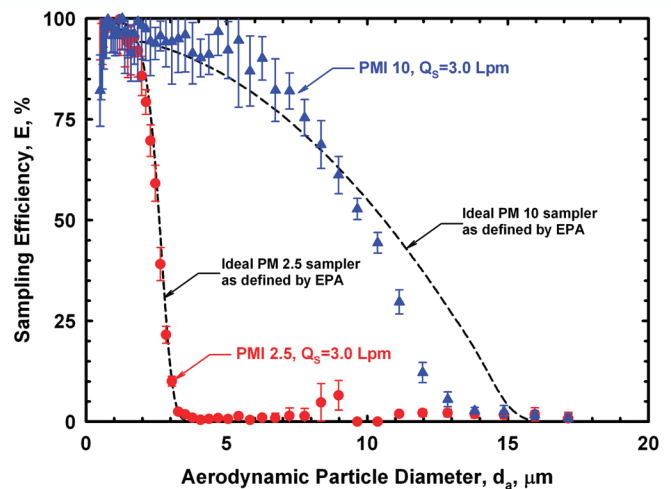
- Closely follows PM2.5 or PM10 as defined by EPA
- Use with any constant flow pump at 3 L/min
- Disposable pre-oiled impaction discs — no cleaning or greasing
 - Reduce particle bounce for high collection efficiency
- Compact and lightweight — only 2.5 ounces (71 grams)!
 - Ideal for personal or micro-environmental sampling
- Convenient modular design for easy operation
 - Removable filter cassette for easy media changes
 - Convenient clip for mounting sampler in the breathing zone
- PMI PM10 model is easily converted with accessory ring to measure PM Coarse



Description

The patented* SKC single-stage Personal Modular Impactors (PMIs) are designed for the highly efficient collection of PM10, PM2.5, or PM Coarse_(10-2.5). The samplers are easy to use with a removable filter cassette and pre-oiled impaction disc. PMI media changes are as easy as removing the filter cassette and replacing it with one already loaded with a 37-mm final filter. The 25-mm pre-oiled impaction disc mounts directly on top of the filter cassette and reduces particle bounce for high collection efficiency. A 25-mm filter may be used as an alternative impaction substrate for optional gravimetric or chemical analysis of particles. The PMI Coarse model and the Coarse Ring accessory include a second filter cassette to allow collection of particles sized between 2.5 μm and 10 μm .

* U.S. Patent No. 7,334,453



Collection Efficiency of PMI 2.5 and PMI 10 Samplers

Personal Modular Impactors (PMIs)

Personal PM10, PM2.5, or PM Coarse Sampling

About PMI Coarse_(PM10-2.5)

The PMI Coarse model includes a PM10 inlet, PM2.5 inlet (Coarse Ring), and two filter cassettes. **In Stage 1**, a 25-mm impaction substrate is placed in the top of the filter cassette beneath the PM10 inlet, but no collection filter is installed. **In Stage 2**, a 25-mm filter is placed in the impaction substrate position in the top of the second filter cassette beneath the PM2.5 (Coarse Ring) while a 37-mm collection filter is loaded into the cassette bottom. This allows for the collection of particles < 10 µm but > 2.5 µm. Filters are sent to a laboratory for gravimetric and chemical analysis.

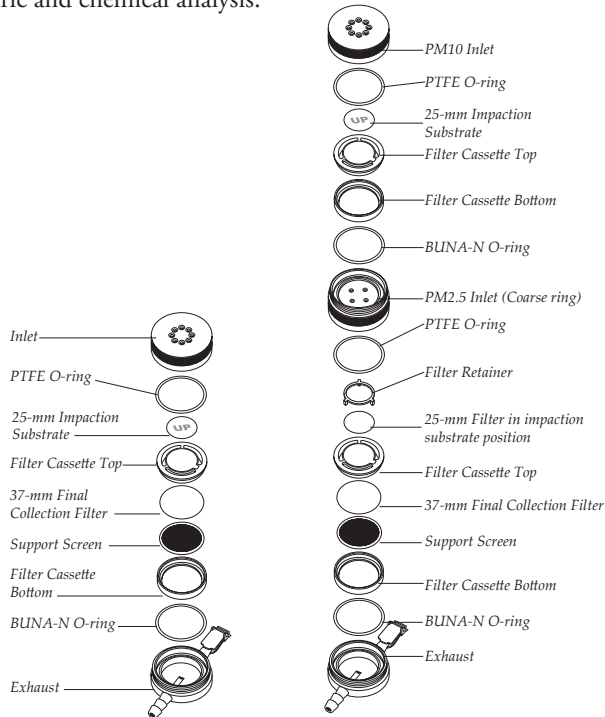


Figure 1. PMI 2.5 exploded

Figure 2. PMI Coarse exploded

Partner AirChek® Sample Pumps with PMI

The PMI Samplers may be used with any constant flow sample pump capable of maintaining a constant 3 L/min flow rate. However, partnering a PMI Sampler with an SKC AirChek Series Sample Pump creates a highly efficient sampling system.

References:

Haynes, E.N., et al., "Assessment of personal exposure to manganese in children living near a ferromanganese refinery," *Science of the Total Environment*, Vol. 427-428, 2012, pp. 19-25

Wang, Z., et al., "Evaluation of Real-time Instruments Used to Monitor PM in a Green Building," *American Association for Aerosol Research (AAAR) Annual Conference Abstracts*, Session 3AE.3, 2012

Performance Profile

Flow Rate:	3 L/min for all models
50% Cut-point:	10 µm or 2.5 µm (model dependent)
Material:	Inlet: Precision-tooled aluminum Exhaust: PVC Filter Cassette: Delrin® with stainless steel support screen O-rings: Inlet - PTFE Exhaust - BUNA-N
Final Collection Filter:	37-mm filter, select based on application
Impaction Substrate:	25-mm pre-oiled, disposable porous disc to reduce particle bounce or 25-mm filter for optional chemical analysis
Analyses:	Gravimetric and chemical
Dimensions (without clip):	Diameter: 2 in (5.1 cm) Height: 1 in (2.6 cm) Weight: 2.5 oz (70.9 gm)
Tubing:	1/4-in ID

Ordering Information

Description	Cat. No.
Personal Modular Impactor (PMI) includes impactor and filter cassette with support screen, <i>requires impaction substrate and collection media sold separately; see below</i>	
PM2.5 (gold)	225-352
PM10 (silver)	225-350
PM Coarse includes 2 filter cassettes and filter retainer	225-351
Recommended Collection Filters, required for sampling	
Quartz Filters , 37 mm, Tissuquartz™, 432 µm thick, pk/25	225-1822
PTFE Filters ,† 37 mm, 2.0-µm pore size, with PMP support ring, pk/50	225-1709
PTFE Filters ,† 37 mm, 1.0-µm pore size, pk/100	225-17-32
Recommended Impaction Substrate, required for sampling	
Pre-oiled Porous Plastic Discs ,‡ 25 mm, ready to use, disposable	
pk/25	225-355
pk/50	225-355A
Accessories	
PM Coarse Ring includes filter cassette, adapts a PMI 10 to a PMI Coarse	225-3512
Replacement Filter Cassette	225-356
PMI Cassette Opener	225-357
Forceps , stainless steel, non-serrated flat tips	225-8371
Filter-Keepers , 37 mm, for filter transport	pk/100 225-8303 pk/10 225-8303A
PMI Calibration Adapter	225-358
Filter Retainer , secures filter in impaction substrate position on top of cassette	225-354

† Back pressure on PTFE filters can vary within the same lot.

‡ A 25-mm filter may be used as an alternative impaction substrate for optional chemical analysis.

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SKC Inc. 800-752-8472

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