BGI Sharp Cut Cyclones

Precision Particulate Sampling
for Air Quality Monitoring

Mesa Labs

NotebookLM
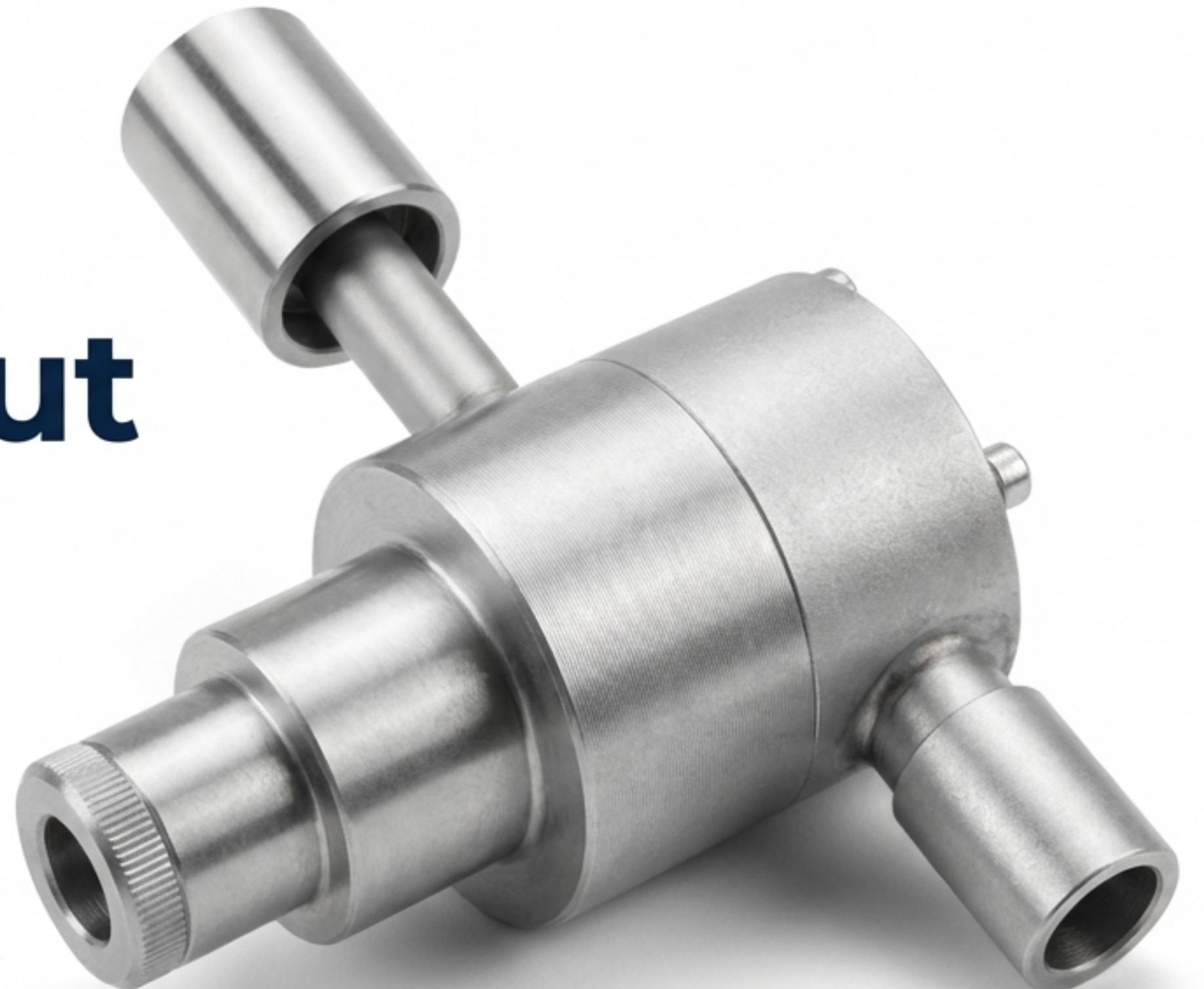
The Foundation of Air Quality Insight is Accurate Sampling

Whether for ambient monitoring, indoor air quality, or specialized research, **capturing the right particle size fraction** is non-negotiable for generating reliable, defensible data. Inaccurate sampling leads to flawed conclusions.
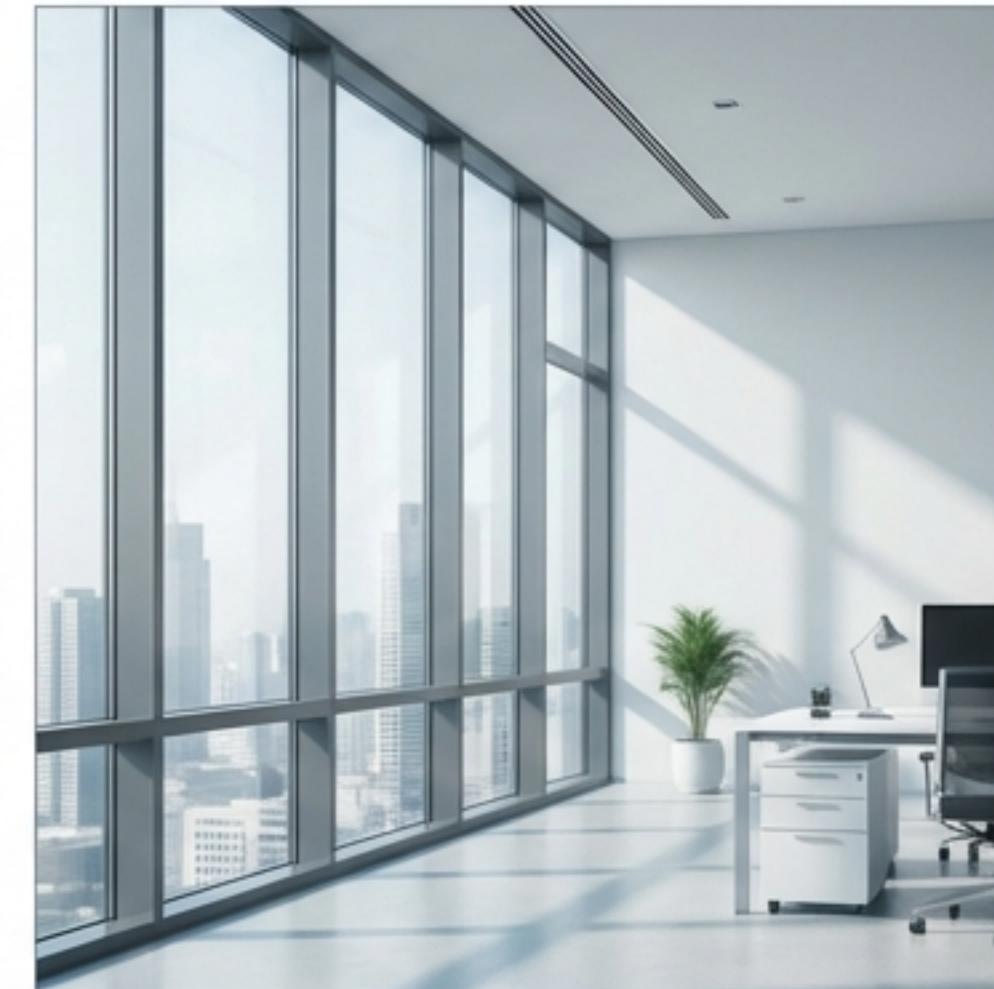
A Legacy of Precision in Particulate Separation

Mesa Labs' BGI Sharp Cut Cyclones (SCC) are the industry standard for providing precise particle size cuts (D50). They are engineered to ensure accurate data collection for instruments like nephelometers, photometers, and carbon monitors by physically separating particles at specific aerodynamic diameters.

Tangential Inlet

Outlet to Sampler

Grit Pot
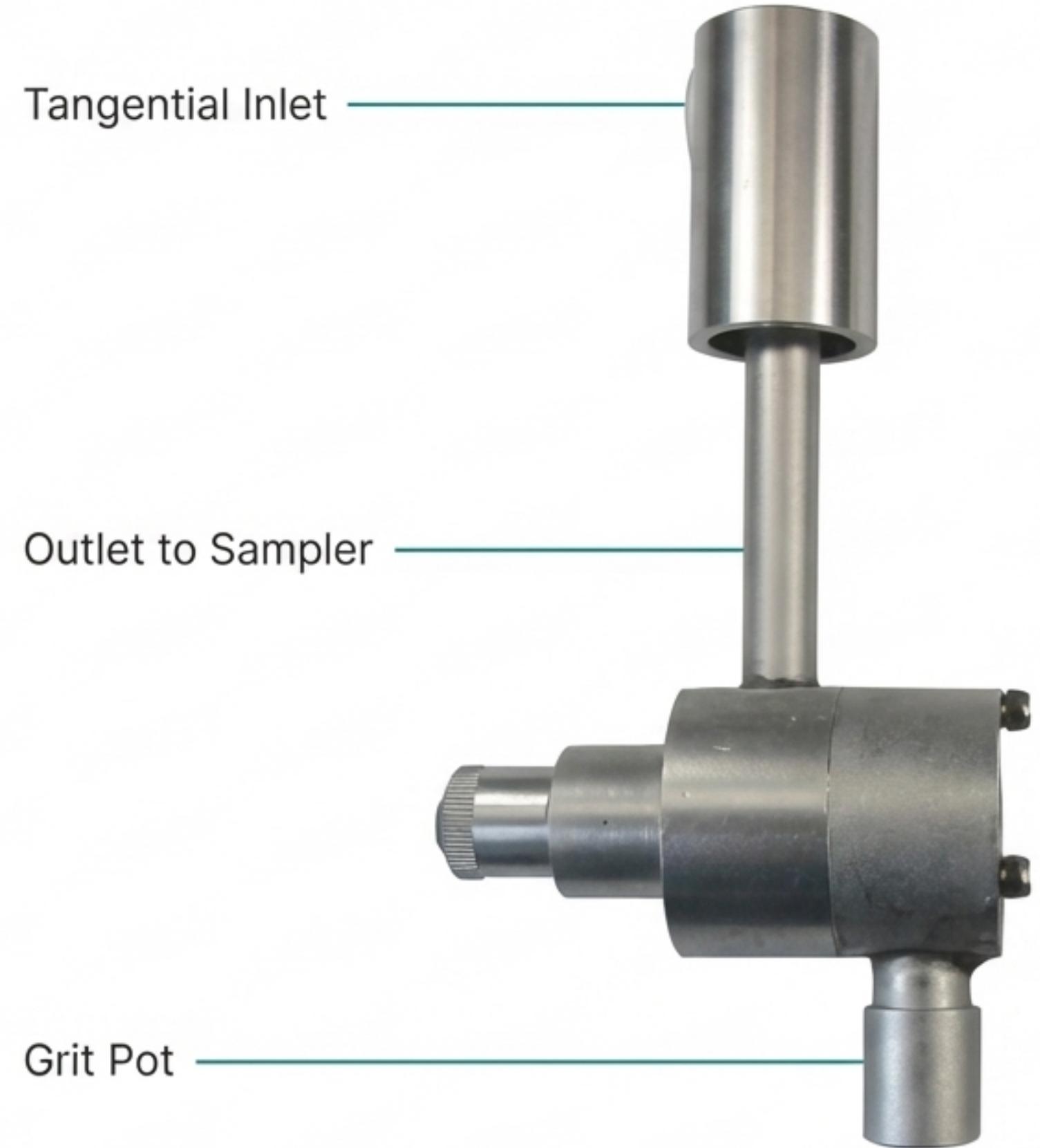
Engineered for Performance and Reliability

Dry Sampling

Eliminates the need for oil or grease, preventing sample contamination and simplifying operation.

Low Maintenance

Robust design allows for over 30 days of continuous operation between cleanings, maximizing instrument uptime.

Field Cleanable

Simple construction allows for easy disassembly and cleaning on-site, reducing downtime and service costs.

Inert Construction

Made from a clear anodized aluminum alloy to ensure sample integrity for speciation and sensitive chemical analysis.

A Cyclone for Every Application

The BGI SCC series offers five distinct models, each optimized to meet specific requirements for particle cut-point (from PM1 to PM10) and flow rate (from 0.6 to 21 LPM).

| SCC0.732 | SCC1.829 | SCC1.197 | SCC2.354 | SCC2.654 |

Performance Curves: Matching Flow Rate to Particle Size Cut

Each cyclone's performance is defined by its 50% cut-point (D50) at a given flow rate (LPM). Use these curves to identify the model and operating point that matches your instrument's requirements.


Model SCC0.732®
PM1 @ 2 LPM

0.6, 4
0.91, 2.5
(2, 1)

D50 (µm)
Flow Rate (LPM)

Model SCC1.197®
PM1 @ 5 LPM

1.51, 4
2.27, 2.5
(5, 1)
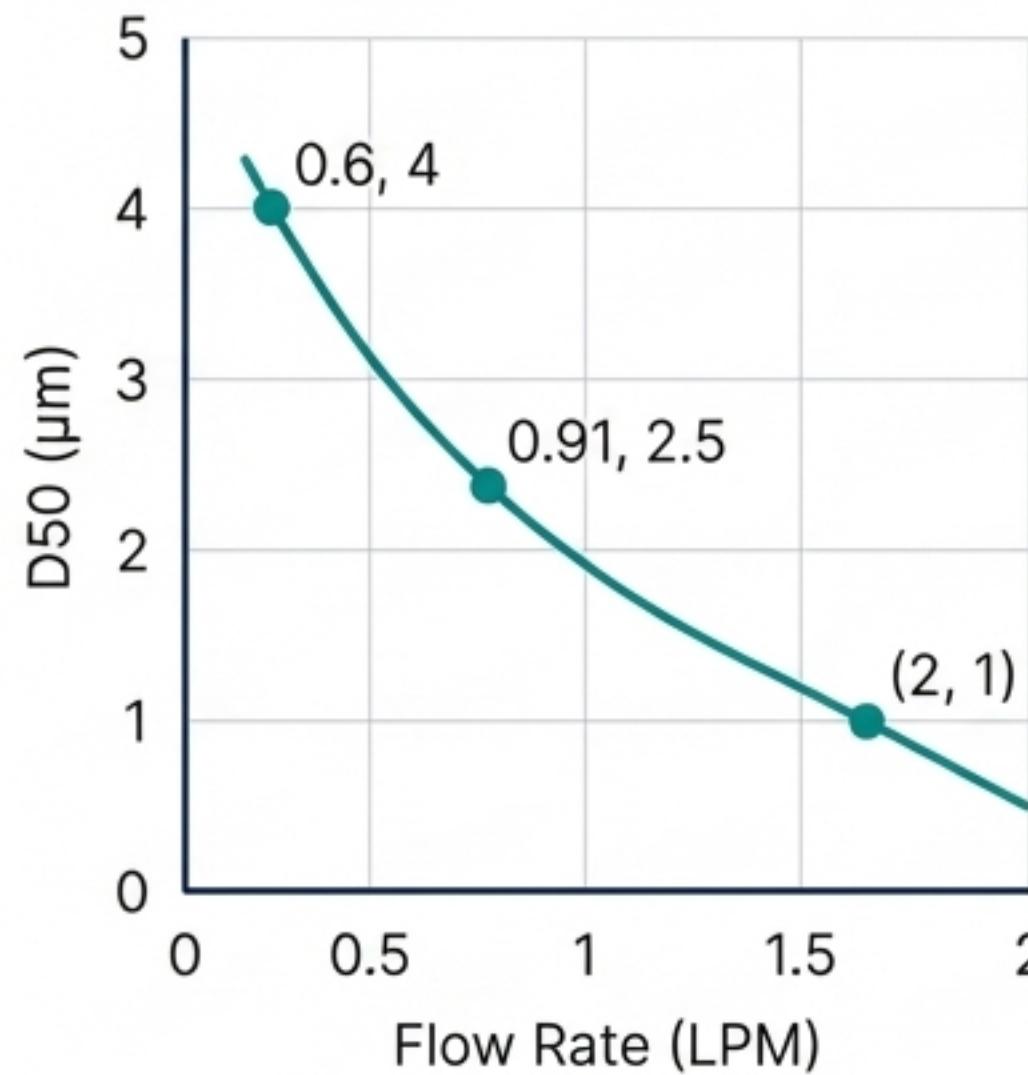
D50 (µm)
Flow Rate (LPM)

Model SCC1.829®
PM2.5 @ 5 LPM

1.5, 10
3.3, 4
5, 2.5
11, 1)

D50 (µm)
Flow Rate (LPM)
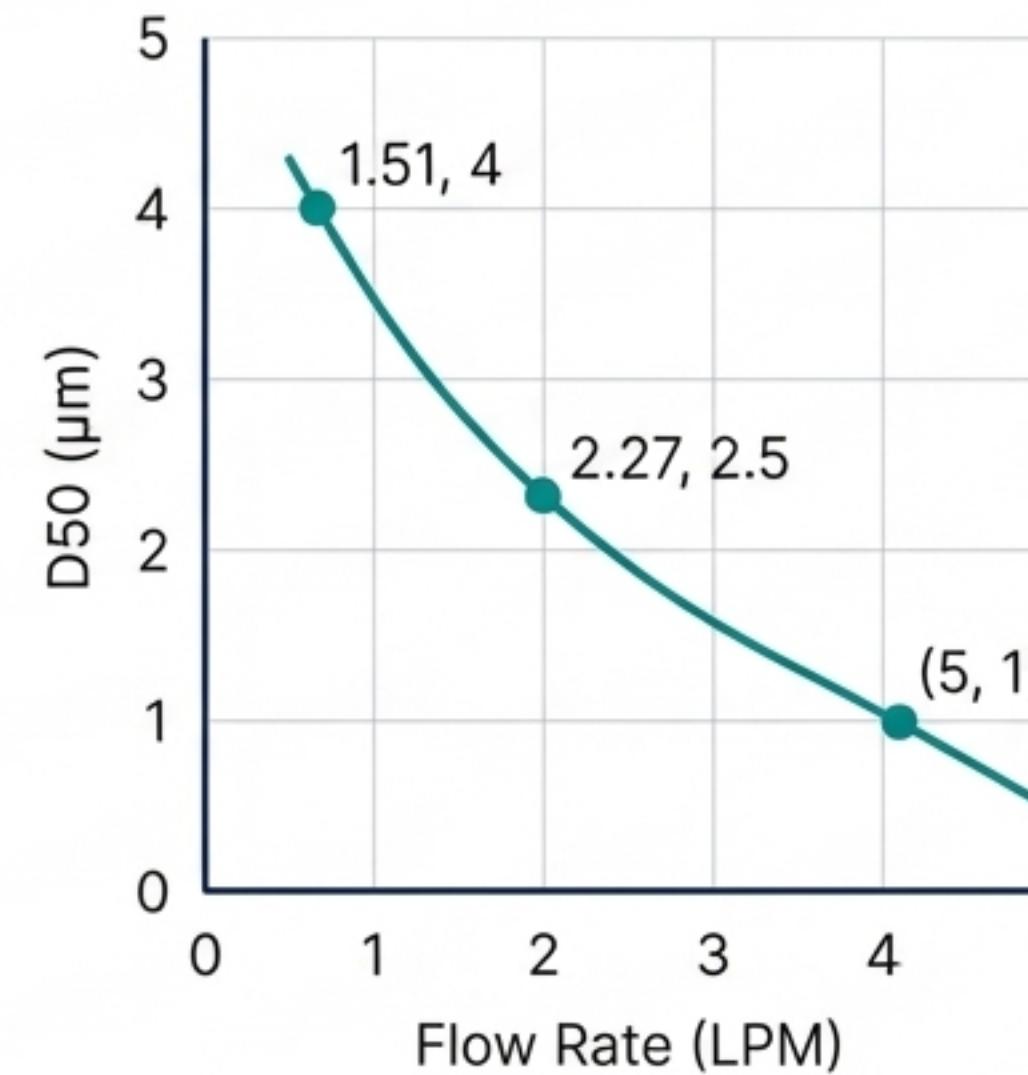
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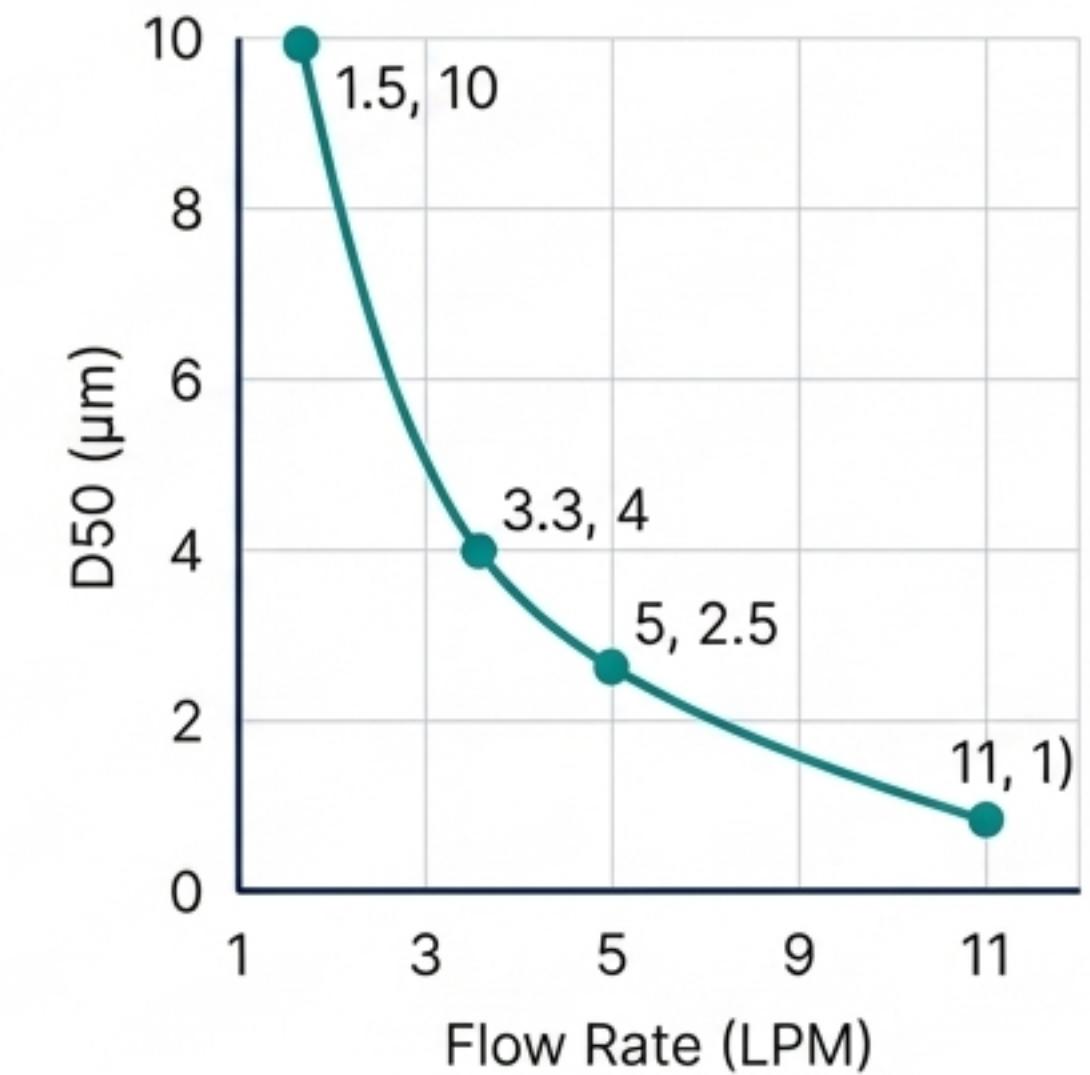
Performance Curves: High-Flow and Versatile Solutions

For applications demanding higher flow rates, the SCC2.354 and SCC2.654 models provide precise cuts for PM2.5, PM4, and PM10.

Model SCC2.354®

PM2.5 @ 8 LPM
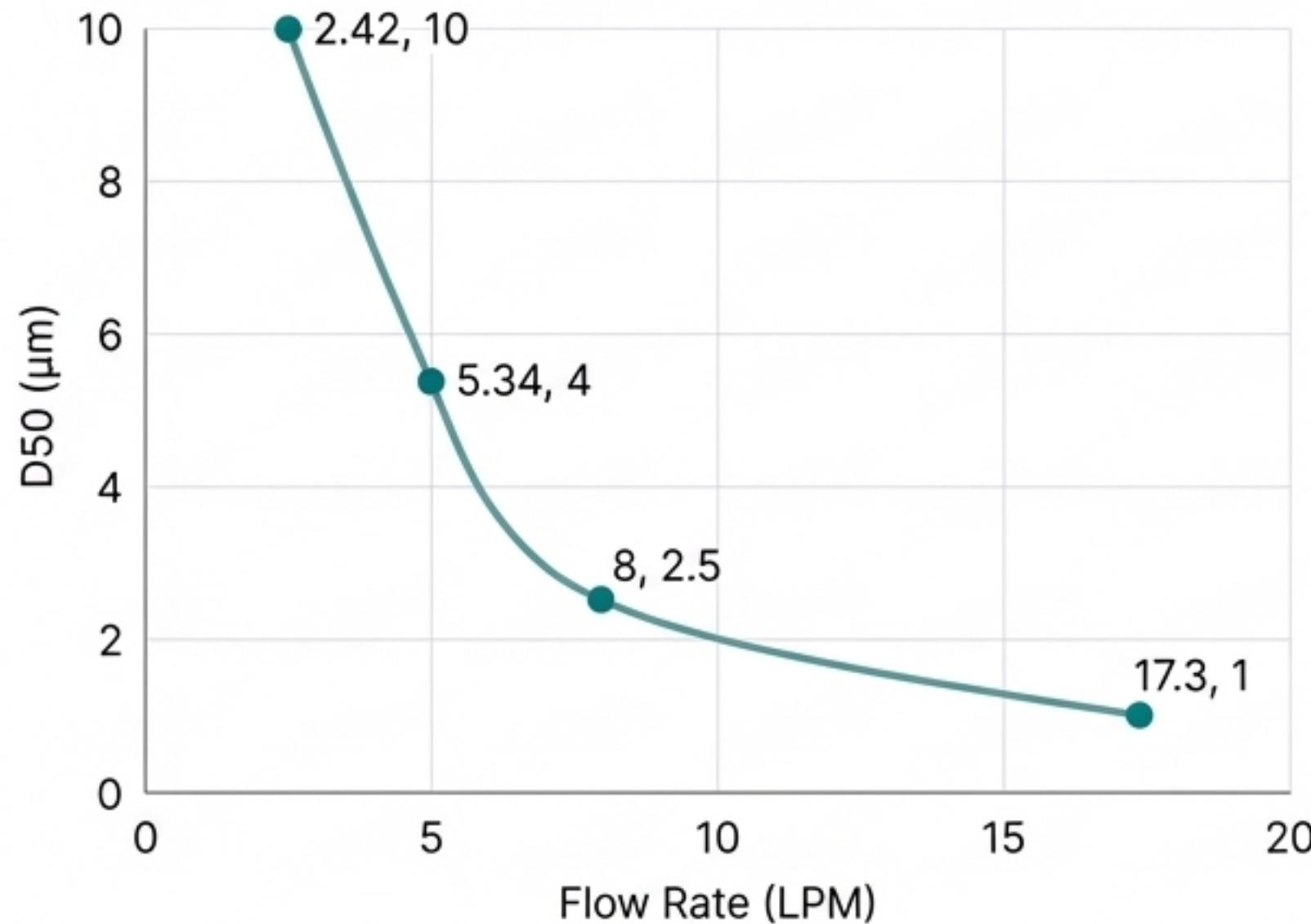
Model SCC2.654®

High-Flow PM10, PM4, PM2.5, and PM1 Sampling
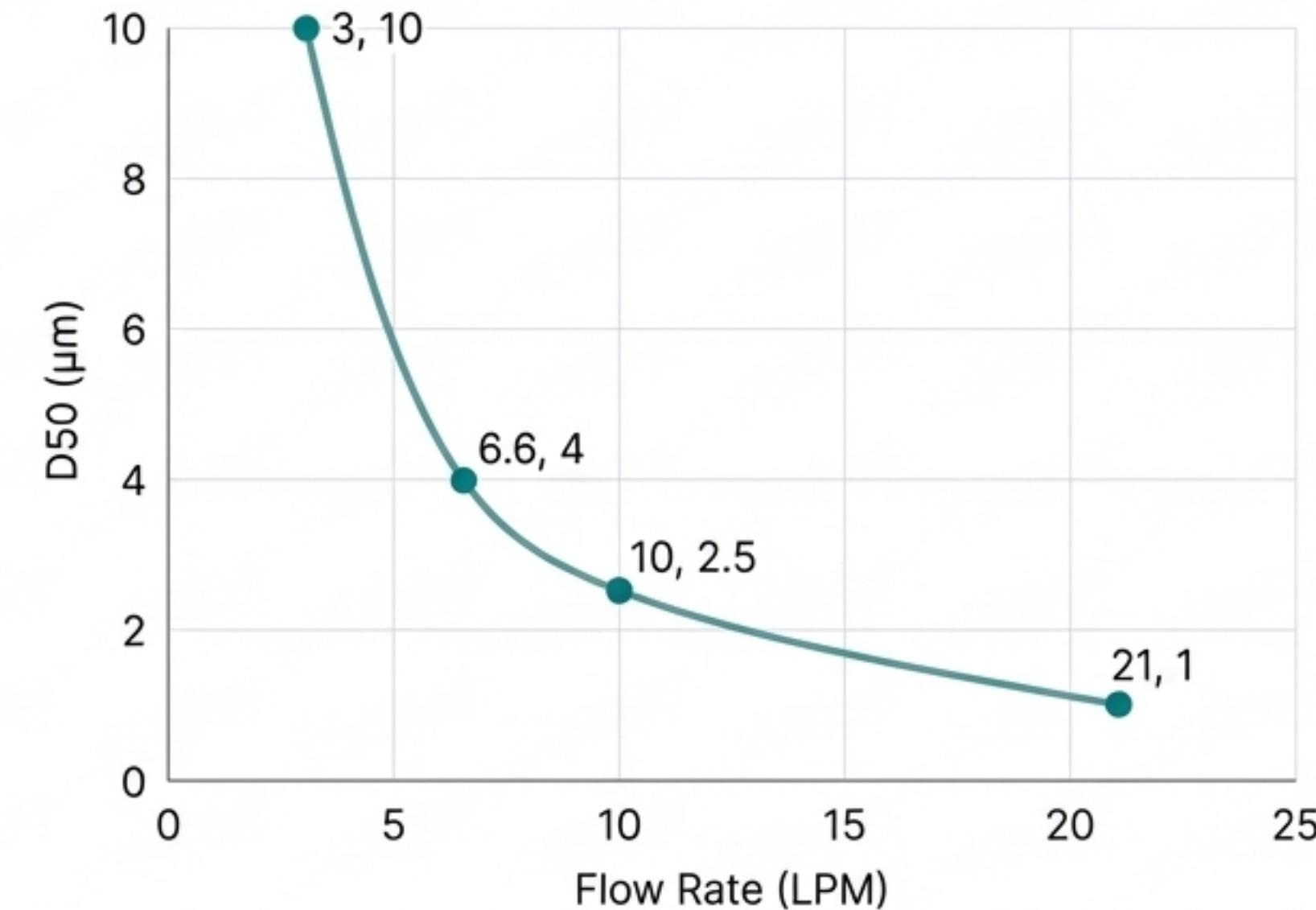
At-a-Glance Technical Comparison

A complete overview of all models for detailed comparison and final selection based on physical constraints and primary application.

Model	Particle Size Cut (Primary Application)	Flow Rate (Lpm, Primary Application)	Dimensions (in)	Weight (oz)
SCC0.732	PM1	2	5.25 x 5.25 x 2.19	3.6
SCC1.829	PM2.5	5	7.5 x 7.5 x 1.75	12
SCC1.197	PM1	8	5.3 x 5.3 x 2.5	4.1
SCC2.354	PM2.5	10	7.4 x 3.7 x 1.75	9.4
SCC2.654	-	-	7.5 x 7.5 x 1.75	13

Trusted Across a Spectrum of Air Quality Disciplines

The precision and reliability of BGI Sharp Cut Cyclones make them the ideal choice for a wide range of critical monitoring and sampling tasks.

Ambient Particulate Monitoring (PM1, PM2.5, PM10)

Indoor Air Quality Studies

Chemical Speciation Sampling

Respirable & Thoracic Fractioning

Precision. Reliability. BGI Sharp Cut Cyclones.

Select the right tool for accurate, **low-maintenance** particulate sampling. Ensure the integrity of your data from the very first step.

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