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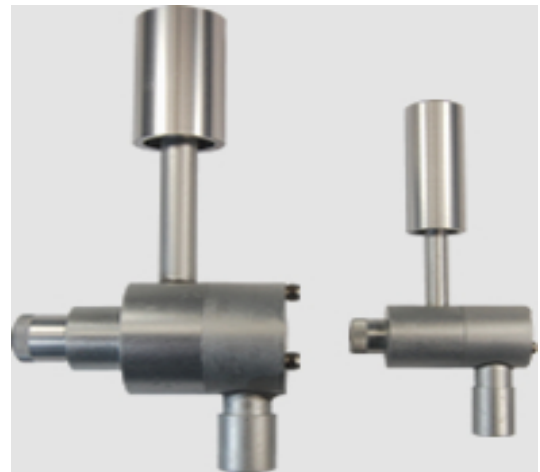
Ambient Particulate Inlets: Sharp Cut Cyclones for Environmental Samplers

Applications

- Ambient Particulate Inlets: Sharp Cut Cyclones for Nephelometers, Photometers and Carbon Monitors
- Ambient Sampling
- Indoor Air Quality Sampling
- Speciation Sampling
- PM₁, PM_{2.5}, PM₁₀
- Respirable and Thoracic
- Low volume Sample Rate

Features

- Dry Sampling (no oil or grease)
- Cleaning interval is >30 days of continuous operation
- Inert clear anodize finish on aluminum alloy
- Field Cleanable



The Sharp Cut Cyclone SCC1.829[®] and SCC2.654[®]

The SCC 1.829[®] was primarily designed for photometer applications at 5 Lpm for a PM_{2.5} cut. Similarly, the SCC2.654[®] has the same performance at 10 Lpm. The SCC[®] series of cyclones has been intensively developed and is the subject of two, peer-reviewed papers^{1,2}. The model's performance is highly predictable and several other cut points can be predicted with either cyclone.

Another feature of the SCC[®] model is their very low pressure drop at design flow rates, the details of which are specified in the instruction manual. The photometer with which the cyclones may be utilized must have a vertical inlet tube of ½ inch O.D. The cyclone is held to this tube by a pair of internal "O" rings. Additionally the cleaning frequency of the SCC[®] is greater than 30 days of continuous operation, which is desirable for continuous particulate monitors.

	Q-Lpm	D50 - µm
SCC1.829[®]	1.5	10
	3.3	4
	5.0	2.5
	11	1.0
SCC2.654[®]	3.0	10
	6.6	4.0
	10	2.5
	21	1.0



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Latter additions to this line of Cyclones are the SCC 0.732[®] and SCC1.197[®]. These were primarily designed as PM₁ Cyclones for Diesel soot sampling applications. They are identical in appearance to the previous units illustrated except that the diameter of the tube used in the outlet socket must be 3/8" Outside Diameter. The range of performance point with these cyclones cover the principle health related range of interest.

	Q-Lpm	D50 - μm
SCC0.732[®]	2	1
	0.91	2.5
	0.6	4
SCC1.197[®]	5	1
	2.27	2.5
	1.51	4
SCC2.354[®]	2.42	10
	5.34	4
	8	2.5
	17.3	1

Specifications

	SCC 1.829 [®]		SCC 2.654 [®]		SCC 0.732 [®]		SCC 1.197 [®]		SCC 2.354 [®]	
Height (OA)	7.5 in.	19 cm.	7.5 in.	19 cm.	5.25 in.	13.34 cm.	5.30 in.	13.46 cm.	7.4 in.	18.8 cm.
Depth (Max)	7.5 in.	19 cm.	7.5 in.	19 cm.	5.25 in.	13.34 cm.	5.30 in.	13.46 cm.	3.7 in.	9.4 cm.
Width (Max)	1.75 in.	4.4 cm.	1.75 in.	4.4 cm.	2.19 in.	5.56 cm.	2.50 in.	6.35 cm.	1.75 in.	4.4 cm.
Weight	12 oz.	340 g.	13 oz.	370 g.	3.6 oz.	103 g.	4.1 oz.	117 g.	9.4 oz.	266 g.

References

1. Kenny L.C. et al (2000) Development of a Sharp Cut cyclone for Ambient Aerosol Monitoring Applications, J. Aerosol Science and Technology, Vol.32: 338-358
2. Kenny L.C. et al (2000) A Direct Approach to the Design of Cyclones for Aerosol-Monitoring Applications, J. Aerosol Science, Vol. 31: 1407-1420