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Cyclones



Standard Classifying Cyclones are manufactured with sectionalized metal housings fitted with replaceable molded liners of abrasion resistant elastomers, ceramics or alloys. A combination of high density gum rubber and ceramic liners is commonly used for metallurgical applications. These cyclones feature involuted feed entry into the cyclone, which minimizes turbulence due to feed entering the cyclone. This allows these cyclones to make a finer particle size separation than would be possible with a tangential feed entry cyclone.

FEATURES:

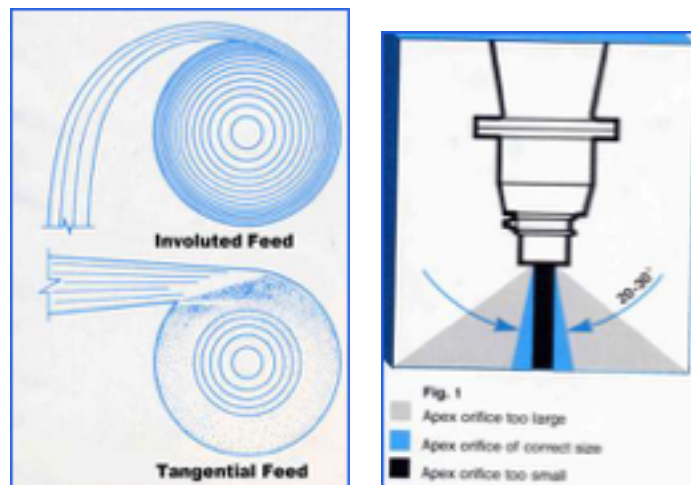
Interchangeable orifices can be used to obtain a range of separations with the cyclone. The feed entry nozzle for each cyclone is molded into the inlet head liner and for each cyclone, at least two different size feed nozzles are available. Three sizes of vortex finders are available for each cyclone. Apex valve liners or inserts can be used to change the size of the apex orifice. Some models may be manufactured without the cylinder section, or with a longer than normal cylinder section. Generally, the longer the cylinder section, the finer the particle size separation obtainable. Metal cyclone housings fitted with molded liners offer the advantage of replacing the relatively inexpensive liners instead of the more expensive cyclone. Feed inlet and overflow adapters can be supplied for connection by means of Victaulic couplings, grooved or plain end, or with standard flanges.

A typical standard cyclone configuration is cast steel construction with gum rubber lining. We have urethane linings, stainless steel construction or all urethane construction available for our classifying cyclones. For capacities and classifying particle size ranges, refer to the following table.

A cyclone's performance is determined by the particle size distribution, the particle densities, the percent solids of the feed and the volumetric feed rate of the cyclone. Feed to the cyclone should have a density of 156 to 200 pounds per cubic foot (dry solids). These solids should be in a slurry form (a mixture of liquid and solids). The feed solids concentration should be no more than 30% solids by weight. The feed should not be unusually viscous, such as might exist with a high concentration of clays.

Cyclone selection is generally made by determining the cyclone which will make the desired particle size separation, a operating inlet pressure drop of between 5 and 15 PSI and the GPM of cyclone slurry feed required for adequate performance. Then attention must be devoted to details such as corrosion resistance of the construction/lining materials and abrasion resistance of the construction/lining materials.

Laboratory testing is advised prior to selecting a cyclone for an in-plant application. Sepor has available the Laboratory Test Rig for the purpose of laboratory cyclone testing (Catalog Number 050K-001).



Catalog Number	Cyclone Size	Capacity (GPM)	Separation Size Range	Maximum Feed Size
050J-001	1/2"	0.6 - 0.9 5	- 10 μ	48 Mesh
050J-005	1"	2.7 - 4.7	- 14 μ	28 Mesh
050J-010	2"	16 - 27	11 - 22 μ	2 mm
050J-015	3"	13 - 30	- 30 μ	2 mm
050J-020	4"	17 - 70	- 36 μ	4 mm
050J-025	6"	46 - 205	- 47 μ	6 mm
050J-030	10"	200-300	- 100 μ	10 mm

Above performance characteristics are based on average operating conditions.