

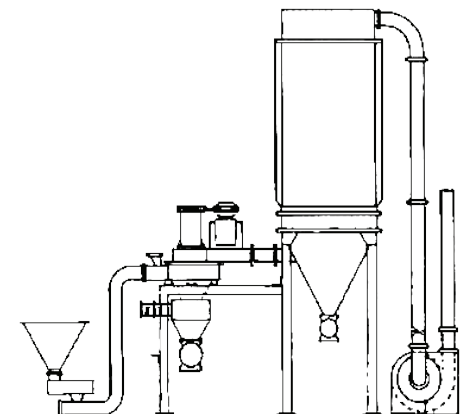
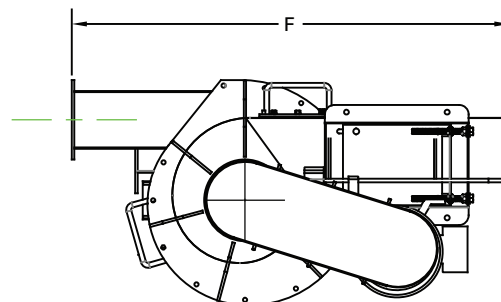
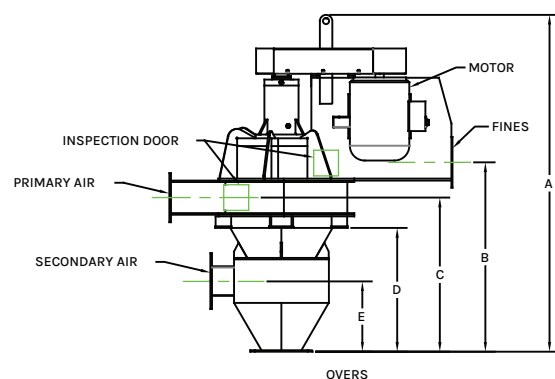
## KEY FEATURES

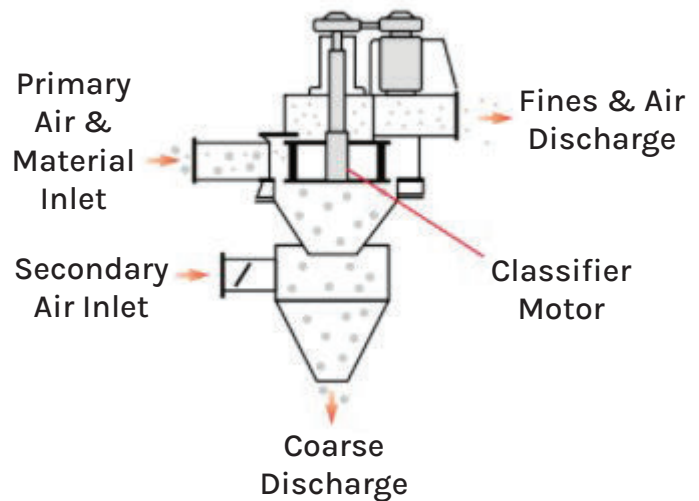
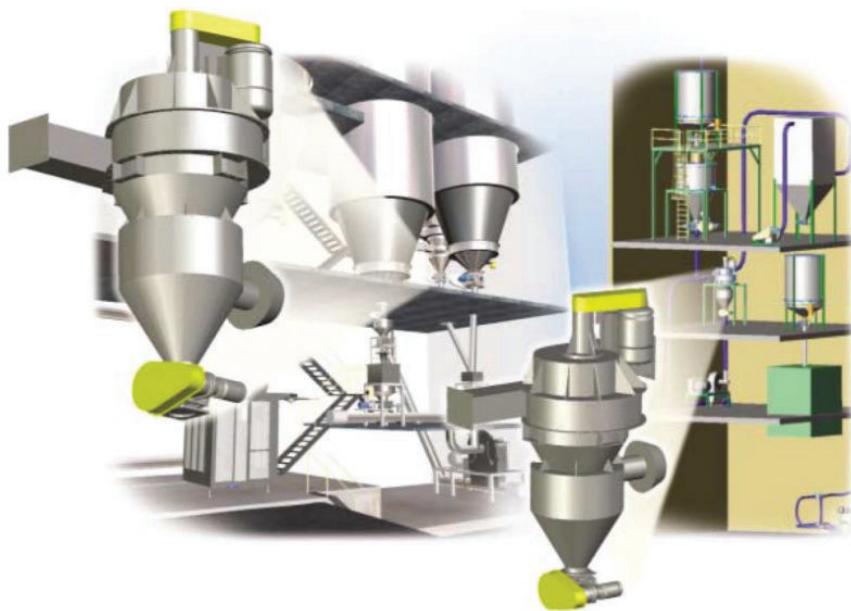
- Durable, heavy-duty fabrication in either carbon or stainless steel
- State-of-the-art, precision manufactured, constant diameter rotors for the most efficient separation possible
- Precise control of the cut point by varying rotor speed
- Adjustable secondary air system for greater capture of near-size particles
- Low airflow resistance (pressure drop) designed for low-power usage
- Optional ceramic, tungsten, polyurethane, or rubber lining for abrasive service

## GENERAL DIMENSIONS\*

MODEL NUMBER	HP MILL	A in mm	B in mm	C in mm	D in mm	E in mm	F in mm
MAC-0	3		22 559	18 457	14.5 368	7 183	31 799
MAC-1	7.5	54.5 1378	30.5 775	25 630	20 506	11.5 288	45.5 1157
MAC-2		91.5 2319	62.5 1581	53 1348	47.5 1205	35 881	58 1475
MAC-3	15	105 2672	76 1930	65 1651	56.5 1437	38 965	72 1829
MAC-4		116.5 2955	83.5 2119	69 1753	57 1453	35.5 897	88 2231
MAC-5	30	156.5 3980	100 2540	84 2134	68.5 1734	41.5 1051	118 2992
MAC-6		179.5 4559		106 2692	90 2286	50.5 1283	139 3531

\*GENERAL DIMENSIONS ONLY: Do not use for engineering purposes. Please request a certified drawing for all layout or construction uses.





## KEY BENEFITS

Prater air classifiers are ideal as a stand-alone process that includes a feeder and dedicated dust collection system. They are equally suited to “closed-circuit” grinding when coupled to a conventional milling system.

Prater Air Classifiers are designed and built for superior performance and long life. Our proprietary design ensures that feed material entering the classifying vortex is unimpeded by any re-circulating coarse fractions. Additionally, an adjustable secondary air stream improves particle collection. Prater Air Classifiers can quickly be installed in existing air systems with minimal modification.

## THEORY OF OPERATION

Prater Air Classifiers utilize adjustable centrifugal force to separate particles of different sizes within a pneumatic circuit. The raw product is conveyed through a primary air inlet. Once in the classifier, aerodynamic drag forces pneumatically act upon the particles. The force varies depending on the diameter and density of the particles in the classifier.

Spiraling particles are directed toward the classifier rotor, where one of two things occur, depending on particle size:

- Drag force on smaller, more aerodynamical particles exceeds the centrifugal force exerted by the rotor, and they pass through the machine as fines; or
- Centrifugal force overcomes the drag force, causing larger, less aerodynamical particles to accelerate away from the rotor. A cyclonic chamber collects this coarse fraction and enables discharge through a rotary airlock fitted to the bottom of the machine.

The balance between the drag force and the centrifugal force determines the cut-point. When the forces are equal, particles have a 50/50 chance of passing out of the system as fines. The cut-point is variable and can be controlled by adjusting the rotor speed.

Collection efficiency is enhanced by using a secondary air inlet, an adjustable air stream that moves upward into the classification zone. This airstream increases the residence time of agglomerated and near-size particles, thus allowing them to be classified with the fine product stream.

