



ATRITOR

DCM Dynamic Classifier Mill



Powder Perfection

The Atritor DCM – Dynamic Classifier Mill

The DCM Dynamic Classifier Mill represents one of the most universal milling systems available. With its combination of an impact milling rotor and an integral dynamic classifier, each with independent variable speed drives, the DCM can process a variety of materials and produce a wide range of particle size distributions. By simple adjustment of the classifier speed, cut points of 20 – 120 µm can typically be achieved. Manufactured in both carbon steel and 316L stainless steel, the classifier mill is used in all industries from chemicals and minerals to food and pharmaceuticals.

For potentially explosive materials PSR11 (pressure shock resistant) mill design is available, alternatively the mill system can be designed for pressure venting or nitrogen inerting. A special pharmaceutical design is also available with fully enclosed motors and suitable for CIP.

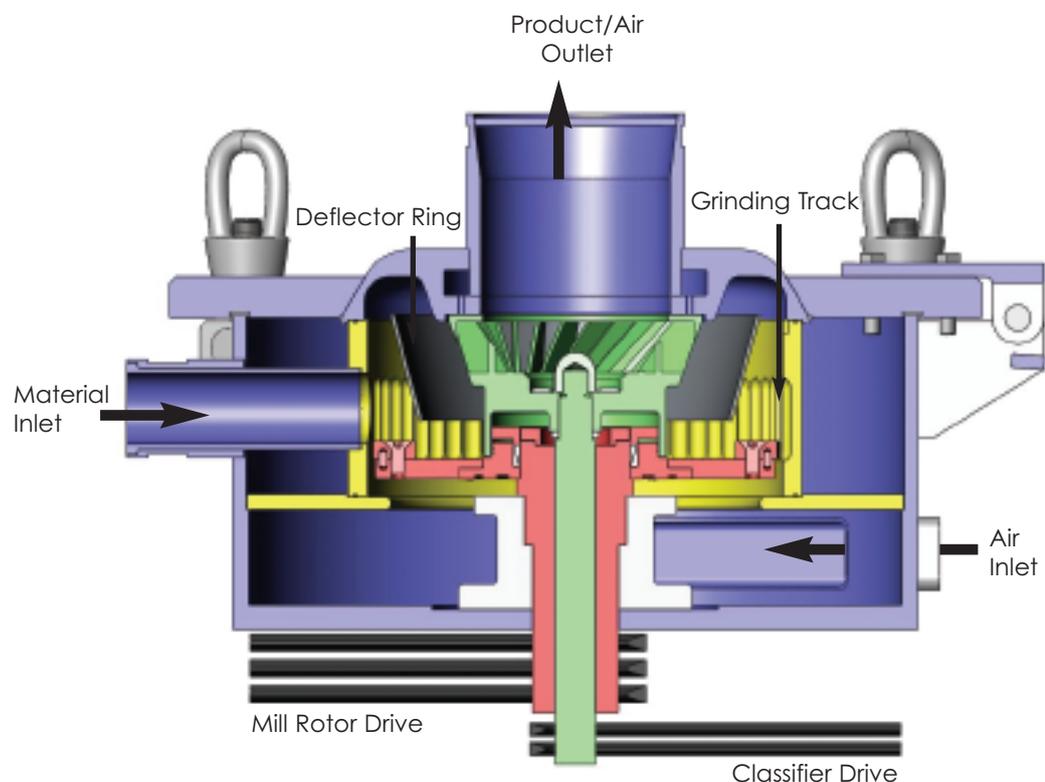
The DCM is made in a range of sizes from laboratory/pilot scale with 1kW mill drive motor to production mills up to 450kW. Airflows are higher than standard pin mills or turbine mills, which has the advantage of rapid heat dissipation and makes the DCM suitable for heat sensitive materials.



Quick Clean DCM



Pharmaceutical DCM



Process System

Material is fed into the air inlet bypass duct by an inverter controlled feeding device and pneumatically conveyed into the classifier mill. On entering the mill, material is first presented to the classifier and any 'in spec' material passes directly through the classifier with the conveying air to the product filter.

Coarse material rejected by the classifier is conveyed into the grinding zone between the rotor hammers and surrounding grinding track. Size reduction takes place until the particles are fine enough to be 'picked up' by the mill internal airflow and are presented once again to the classifier. This internal re-circulation is repeated until the material is fine enough to pass through the classifier and exit the mill.

The product is separated from the conveying air in the filter. The product discharges through a rotary valve and the clean air passes through the filter elements to the system fan and to atmosphere.

Typical Products

Activated carbon
Baking mixes
Barytes
Carbon black
Casein
Chocolate crumb
Cocoa

Crystalline cellulose
Crystalline precipitates
Food colourings
General Chemicals
Herbicides & Pesticides
Iron Oxides
Kaolin

Lactose
Limestone
Milk powder
PCC & GCC
Perlite
Pharmaceutical API's
Pigments

Powder Coatings
Resins
Silica gels
Sugar
Vitamins
Wheat gluten
Zeolites

Test Facilities

To ensure customer confidence in the capabilities of Atritor equipment and processes, we operate a comprehensive pilot plant in Coventry, England, which includes the DCM Classifier Mill, where we can run milling trials on your materials.



Typical system comprising classifier mill, product filter & fan



DCM 300 Test plant



DCM 800 classifier mill is one of a pair processing food ingredients

DCM Model	100	200	250	300	400	500	600	800	1000	1200	1400	1700
Mill kW	1.1	3	5.5	11	22	37	55	90	160	250	315	450
Classifier kW	0.37	0.55	1.1	1.5	2.2	4	5.5	7.5	11	30	37	90
Mill Speed rpm	18000	10800	9400	6200	5000	4300	3300	2600	2100	1850	1650	1400
Classifier Speed rpm	10000	5400	4600	4000	3250	2920	2850	2650	2400	2200	2000	1860
Air Flow m ³ /h	100	320	600	1300	2600	4450	6500	10500	18000	28000	36000	52000
Output Factor	Lab Mill	0.25	0.5	1	2	3.4	5	8	14	22	28	40

Motor sizes and airflows stated are typical and can vary for each DCM model depending upon application.

Other Equipment in the Atritor Range



"A" & "B" Series Atritor Dryer-Pulverisers
for Chemicals & Minerals.

Cell Mill for Fine Grinding, Drying,
De-agglomeration, Classification
& Coating of Chemicals, Minerals
& Food Products.



Atritor-Scott Turbo Separator, Separates
Product from Packaging for Recycling or Disposal.

Spiral Jet Microniser for Chemicals, Minerals,
Food & Pharmaceuticals.



Atritor-Scott AST Dryer for Chemicals, Minerals,
Environmental Waste.

Website

For more information
about the company
visit our website

www.atritor.com

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