



Technical Specification

DCM Dynamic Classifier Mill

The Atritor DCM air classifier mill with independently driven mill rotor and classifier wheel allows instant adjustment of particle size distribution from within the control room. By simple adjustment of the inverter driven classifier wheel, cut points of 20 -120µm are typically achieved. The high airflow compared to impact mills has the advantage of rapid heat dissipation, which is useful for heat sensitive materials.

The DCM is made in a range of sizes from 1 to 450kW mill rotor drive. For pharmaceutical applications the common mill sizes are the DCM 100, 200, 250 & 300.



DCM 300 pharmaceutical, GMP, CIP design with drive motors and pneumatics located in the stainless steel enclosure



DCM 800 classifier mill is one of a pair processing pharmaceuticals and food ingredients. Special design larger mills are available

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.



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Spiral Jet Mill

The Spiral Jet Micronising Mill is available in eleven sizes with capacities ranging from 0.5kg/h to 2000kg/h. Mill diameters range from 50 to 900mm.

The output of each mill depends on a number of factors including feed particle size, material friability, injection & grinding pressures and product PSD requirements.

Micronising mill systems are custom designed to suit specific client needs.

Operating Principle

Material is fed at a controlled rate into the venturi feed cone. Compressed gas is injected into the venturi to convey the material into the mill chamber. Compressed gas for micronising expands into the mill chamber through jet nozzles arranged tangentially around the micronising chamber. Intense velocity gradients occur in the turbulent zone close to the chamber wall, causing inter-particle collisions and size reduction. Larger particles are retained within the outer circulating mass by centrifugal forces, while fine particles spiral towards the centre in the outgoing gas stream. The combination of centrifugal and drag forces within the micronising chamber provides an efficient 'free vortex' classifying mechanism. Fine particles exiting the mill can then be collected in a filter, or a cyclone/filter collector, depending on the process requirements.



MICRONISER MODEL		APPROXIMATE OUTPUT		AIR OPERATION	
No.	mm	lb/h	kg/h	Free air at 7 bar cfm	m ³ /h
2	50	2	1	20	40
3	75	2 - 4	1 - 2	35	60
4	100	4 - 10	2 - 5	50	90
6	150	10 - 40	5 - 20	75	120
8	200	35 - 100	15 - 50	100	180
12	300	100 - 300	50 - 150	225	400
15	400	150 - 500	75 - 250	375	630
20	500	250 - 750	100 - 350	550	930
24	600	500 - 1200	250 - 550	1000	1680
30	750	1000 - 3000	450 - 1500	1500	2500
36	900	2000 - 5000	900 - 2300	2500	4200