HOSOKAWA/ALPINE
Fluidized Bed Opposed Jet Mill AFG-CR

Process Technologies for Tomorrow

HOSOKAWA MICRON CORPORATION

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Jet mill with an integrated ultra fine classifier

AFG-CR:

CR ultra fine classifier is integrated in jet mill AFG achieve ultra fine milling.

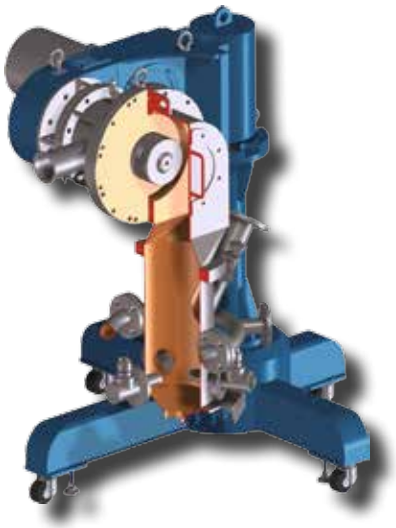
Installed 400/2AFG-CR

Summary

Suitable for grinding of electric materials, LIB materials, and electric conductive materials. The unique design suppresses the powder adhesion due to decreased particle size.

Principle

The classifying wheel is designed on basis of the forced and the semifree vortex theory, resulting with sub-micron classification. Combining with opposed jet mill technology, sub-micron grinding is achieved. CR wheels are made by ceramics for material contamination free application.



Schematic figure of 200AFG-CR

200AFG-CR

Features

- Ultra fine grinding with the integrated ultra fine classifier
- No metal contamination by ceramics model
- Coping with strong adhesive materials
- Scale up with same product size by multi-wheel classifiers

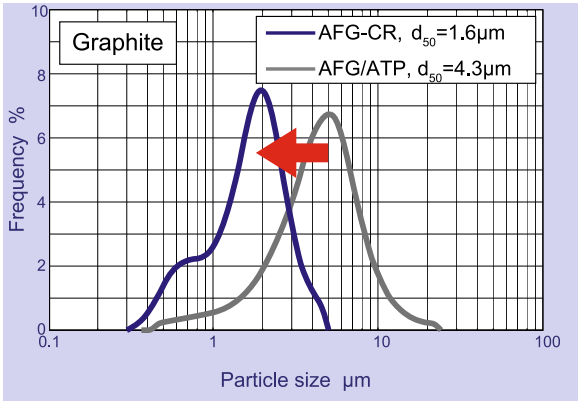
Classifying wheels made of ceramics

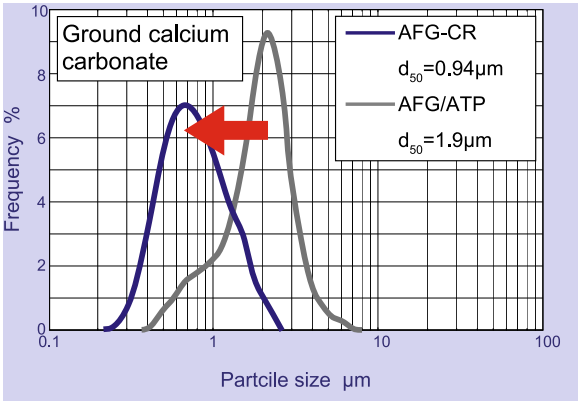
Applications

- ■Electric materials (Glass, Sealant, etc.)
- ■Graphite, Coke (for anode, capacity material)
- ■Activated carbon
- ■Cathode material of LIB (phosphoric acid iron, Tri-dimensional lithium salt)
- ■Calcium carbonate
- ■ITO

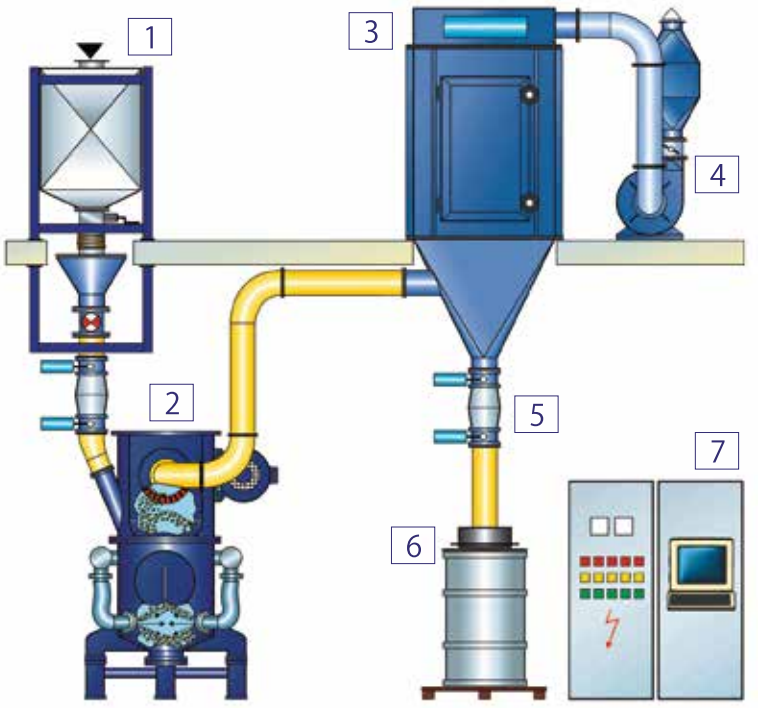
etc.

Model	Feed	Feed d_{50} (μm)	Product d_{50} (μm)	Capcaity (kg/h)
400/2AFG-CR	Graphite	28	1.7	8.7
400/2AFG-CR	Talc	21	0.9	7.6
400/2AFG-CR	Calciumcarbonate	275	1.3	6.8
200AFG-CR	Silica	5.5	3.0	3.3
200AFG-CR	Activated carbon	4.1	2.7	4.7
200AFG-CR	Coke	13	1.2	1.7
400/2AFG-CR	Magnesium hydroxide	55	0.7	1.5
200AFG-CR	Zeolite	20	1.3	3.6
200AFG-CR	Zirconia	6.0	0.5	2.7





Comparison to AFG/ATP



1 Feed
2 Fluidized bed opposed jet mill AFG-CR
3 Pulsjet collector
4 Blower
5 Double damper
6 Product tank
7 Control cabinte

Standard flow

Standard specification

Model		200AFG-CR	400/2AFG-CR	630/3AFG-CR	710/4AFG-CR
Scale up factor	(-)	1	4	10	16
Norminal grinding air volume	(Nm^3/h)	300	1200	3000	4800
No. grinding nozzles	(-)	3	3	4	4
Motor	(kW)	3.7	15	37	60