

MIKRO E-ACM[®]

for Carbon Black Applications



HOSOKAWA
MICRON POWDER SYSTEMS

Combining the resources of

ALPINE • MIKRO • MAJAC • MICRON • VRIECO-NAUTA

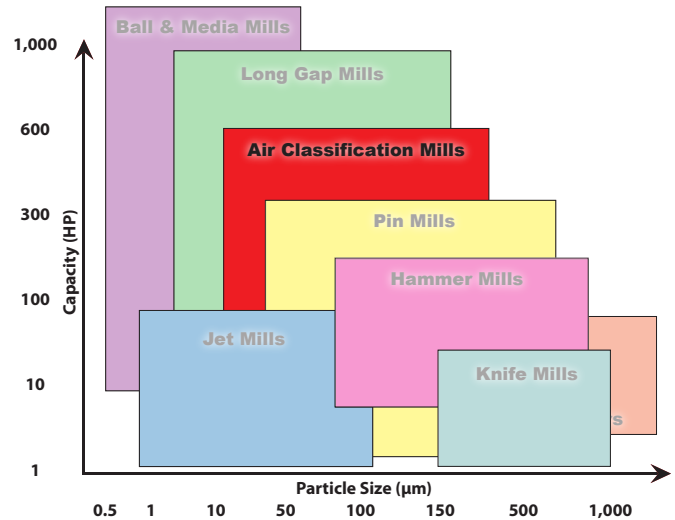


HOSOKAWA MICRON POWDER SYSTEMS

HOSOKAWA MILLING TECHNOLOGIES

Hosokawa Micron Powder Systems offers a wide range of equipment for coarse granulation to ultra-fine size reduction.

- Coarse Granulation to Ultra-fine Grinding
- Lab Scale to Large Production Models
- Air Classification Mills
- Jet Mills: Opposed Gun, Fluidized & Spiral
- Hammer & Screen Mills
- Pin & Universal Mills
- Pre-Crushers & Granulators
- Ball & Media Mills
- Attrition Mills
- Wet & Dry Grinding



SR SIZE REDUCTION EQUIPMENT

- Mikro ACM® - Air Classifying Mill
- Mikro Pulverizer® Hammer & Screen Mill
- Mikro® UMP – Universal Milling System
- Mikro LGM® - Long Gap Mill
- Mikro Atomizer® - Air Classifying Mill
- Alpine® AFG – Fluidized Bed Jet Mill
- Alpine® AS – Spiral Jet Mill
- Alpine® UPZ – Pin Mill
- Alpine® SO – Ball Mill

CL CLASSIFICATION & SEPARATION

- Majac® Acucut Air Classifier
- Mikro® Classifier
- Micron Separator
- Alpine® ATP Turboplex Classifier
- Alpine® ASP Stratoplex Classifier
- Alpine® TTSP Tandem Classifier

m/b MIXING, BLENDING & DRYING

- Vrieco-Nauta™ Conical Screw Mixer
- Micron Drymeister Flash Dryer
- Vrieco-Nauta™ Cyclomix
- Vrieco-Nauta™ Vacuum Dryer
- Vrieco-Nauta™ Active Freeze Dryer
- Micron Nobilta™

CI CONTAINMENT, FILLING & WEIGHING AND ISOLATION TECHNOLOGY

- Stott Rigid Wall Isolators
- Stott Hygienic Filling & Weighing Systems
- Stott Flexible Isolators
- Vitalair Downflow Booths

PA LABORATORY & ANALYTICAL EQUIPMENT

- Micron Air Jet Sieve MAJSb
- Mikro Air Jet Sieve™ MAJSx
- Mikro® LPM Laboratory Pin Mill
- Micron Powder Characteristics Tester PT-X
- Micron Viblette Wet Sieve VBL
- Micron Peneto PNT - N

W SERVICES

- Hosokawa Brand Parts
- Engineering & System Design
- Custom Toll Processing
- Test Center & Analytical Laboratory
- On-site Service & Maintenance
- Pre-Owned Equipment Sales
- Equipment Validation & Surveying
- Educational Programs & Training



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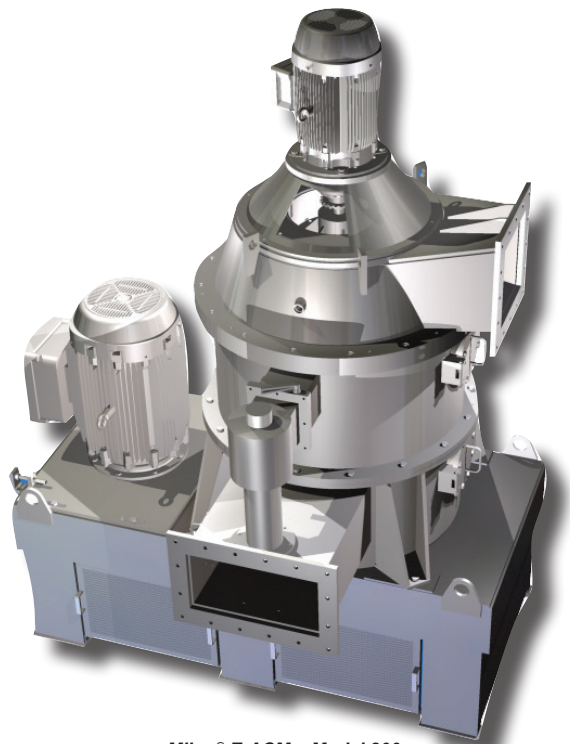
Hosokawa Micron Powder Systems, located in Summit, New Jersey is a member of the Hosokawa Micron Group. We are a leading provider of equipment and systems for Size Reduction, Classification, Mixing/Blending, Drying, Particle Analysis, Compaction, Granulation as well as a full line of laboratory and analytical equipment. We also provide Contract Manufacturing, Complete Aftermarket Services and OEM parts, Equipment Leasing, Refurbishing, Product Development Services and Educational Programming. We serve the Chemical, Mineral, Food, Pharmaceutical, Cosmetic and Plastics processing industries.

Disclaimer: The content shown within this brochure may contain errors and omissions and is subject to change at anytime without notice. The data and details provided in this brochure is for promotional purposes only. The purpose of this brochure is to provide information about a specific device or service offered by Hosokawa Micron Powder Systems. This information does not constitute any equipment warranty or performance guarantee.

Hosokawa Micron Powder Systems

10 Chatham Road
Summit, NJ 07901 USA
www.hmicronpowder.com
help@hmps.hosokawa.com
Phone: (908) 273-6360
Toll Free: (800) 526-4491
Fax: (908) 273-7432

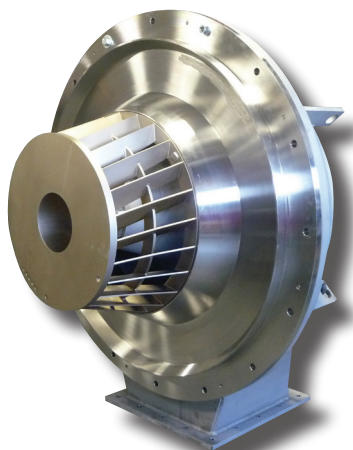
CARBON BLACK GRIT REDUCTION



Mikro® E-ACM – Model 200

FEATURES:

- Grinds & classifies materials in one step
- Available with 10 to 300 HP drive motor
- Constructed in fabricated steel or stainless steel
- Wear protection and anti-friction options available for abrasive and/or sticky materials
- Minimal maintenance & downtime required
- Variable speed grinding rotor & classifier wheel
- Heavy duty & durable construction
- Purged bearing assembly for high temperature applications



Classifier assembly for Mikro® E-ACM

MIKRO E-ACM CARBON BLACK GRIT REDUCTION MILL

The Mikro® E-ACM is specially designed for the grit reduction of carbon black. Many of the same design features of the Mikro®-ACM Air Classifying Mill, a workhorse in the industry for a wide array of applications for decades, have been integrated as the basis for design of the Mikro® E-ACM. In addition, various improvements have been made to overcome the challenges of milling carbon black.

Unlike standard air classifying milling operation, the carbon black feed material is fed in the primary airstream from below the rotor of the Mikro® E-ACM. The internal parts and geometry of the grinding and classification sections have been modified to meet the particle characteristics and quality specification of carbon black. In addition, the internal recirculation working principle of the air classifying mill has been replaced with our patented external coarse recycle system. All these enhancements yield low product grit levels other milling technologies cannot achieve.

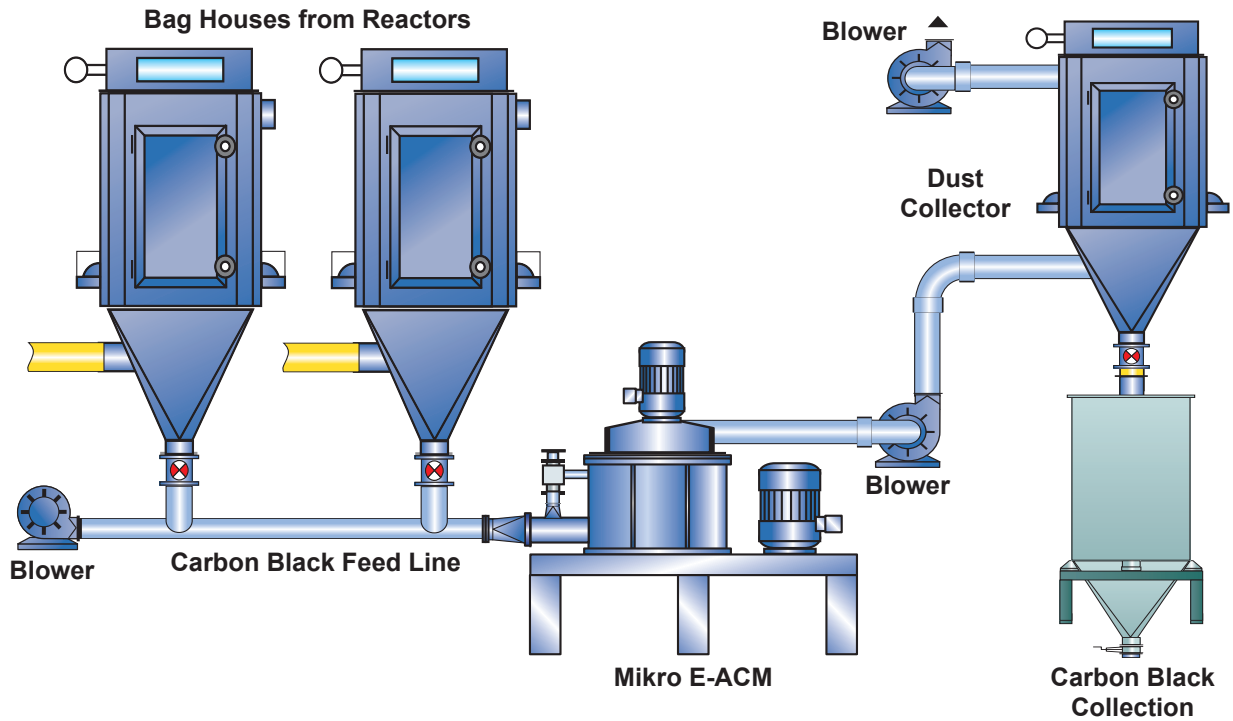
BENEFITS:

- Reduces grit levels as low as < 2PPM + 325 MESH
- Can be installed in existing reactor lines
- Impact size reduction with internal classification and external coarse recirculation
- Operates in gas streams up to 200°C
- Capacities up to 10 tons/hour
- Energy efficient and economical to operate
- Even poor grades of feedstock can be used to produce clean, high quality material

Common ASTM Grade	Product Residue < 325 MESH
N220	≤ 2 PPM
N326	≤ 5 PPM
N330	≤ 5 PPM
N550	≤ 10 PPM
N660	≤ 20 PPM
N774	≤ 20 PPM

*PPM = parts per million. Grit levels may vary.
Grit residue depends on type/quality of oil feedstock.

INCREASE QUALITY & VALUE



Typical carbon black grit reduction system configuration

Mikro E-ACM Model	Rotor Power (HP)	Classifier Power (HP)	Max. Rotor Speed (RPM)	Approx. Air Flow (ft ³ /min)	Scale Up Factor	Approximate Dimensions L x W x H (in)	Weight (lbs)
10 E-ACM	10	1.5	7,000	500	1	44 x 30 x 56	1,300
30 E-ACM	30	5	4,600	1,500	3	54 x 30 x 78	2,600
100 E-ACM	100	20	3,000	5,000	10	86 x 52 x 104	6,300
150 E-ACM	150	25	2,500	7,500	15	90 x 58 x 105	7,500
200 E-ACM	200	40 - 50	2,000	10,000	20	122 x 62 x 142	17,400
250 E-ACM	250	50	2,000	12,500	25	122 x 62 x 146	17,500
300 E-ACM	300	50	2,000	15,000	30	125 x 68 x 150	18,000

DESIGNED, MANUFACTURED AND ASSEMBLED IN THE USA

Hosokawa invented the Mikro-ACM® Air Classifying Mill in 1962 as an alternative to hammer & screen mills allowing processors the ability to produce fine size reduction with a narrow particle size distribution in one machine. In 2008, Hosokawa introduced the Mikro E-ACM to the Carbon

Black industry providing superior grit reduction. The Mikro E-ACM comes with our pledge of performance and guaranteed dependability.

