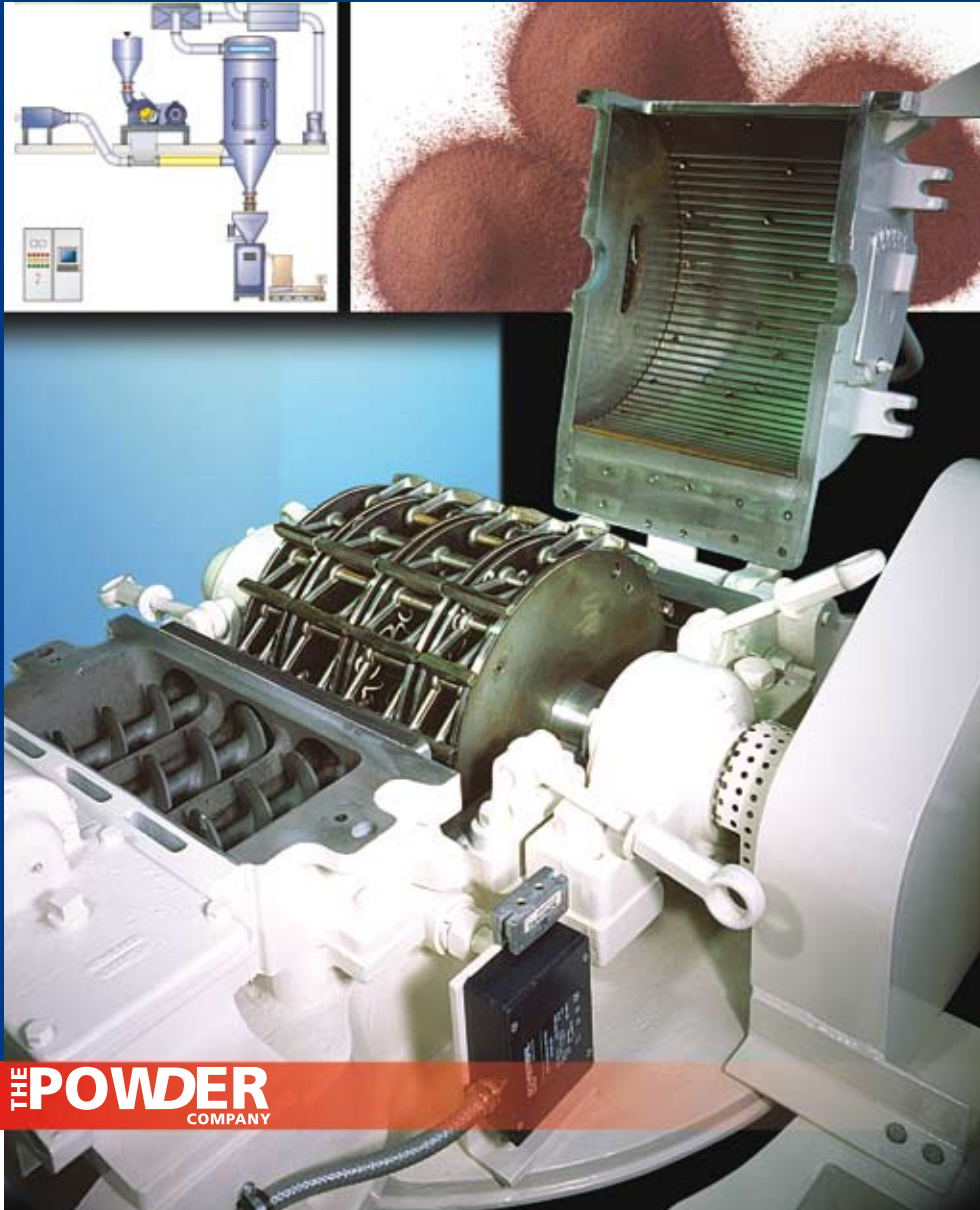


MIKRO PULVERIZER

HAMMER MILL



THE POWDER
COMPANY



HOSOKAWA MICRON

A Division of HOSOKAWA ALPINE Aktiengesellschaft

MIKRO ACM - MIKRO MAK - MIKRO PULVERIZER - MIKROCLASSIFIER - MIKRO INJECT

POWDER AND PARTICLE PROCESSING

HIGH-PERFORMANCE, RELIABLE IN OPERATION, ROBUST



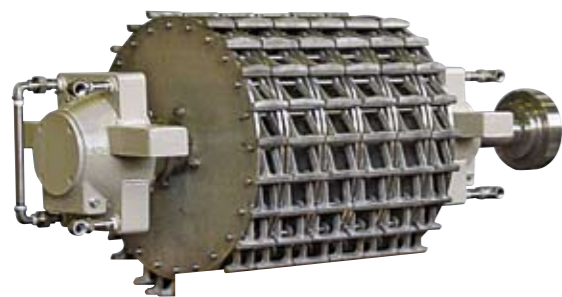
FUNCTION

Mikro Pulverizers are high-speed hammer mills designed for continuous operation in harsh environments at peripheral speeds of up to 100 m/s. The product can be fed by means of feed metering screws, a suction intake, an injector assembly or can alternatively be gravity fed, dependent on the flow properties of the feed product. Comminution is a result of the feed product impacting against the rotating hammers and the liner installed in the mill housing cover. The product-air mixture exits the mill via the screen clamped into the housing bottom section.

ROTORS

Dependent on the application, the following rotors are available:

- LFS stirrup-type rotor
- Saw-tooth rotor
- Knife-blade rotor



DESIGN

The standard mill housing is made of solid grey cast iron. Welded designs as well as mills made of special construction materials which make the mills gas-tight, pressure-proof or pressure-shock-proof are also available for special applications.

If required, the rotor and mill housing can be water-cooled. The mills can also be equipped with special inlet manifolds to permit the injection of hot or cold air.

SCREENS

are selected to suit the individual application:

- jump-gap screen
- herringbone screen
- round-perforation screen



FINENESS

The end-product fineness is set as a function of the rotor speed, the type of grinding elements and naturally also the size of the screen perforations. The following screens are available: round-perforation screen, herringbone screen, jump-gap screen. Dependent on the application and the desired end-product fineness, different types of rotors are used such as the LFS stirrup-type, saw-tooth or knife-blade rotor. The fineness can be varied over a wide range by changing the:

- rotor speed
- grinding elements
- air flow rate
- size of screen perforations

PRODUCT FEED

We developed a number of different product feed systems to cover the wide variety of different product properties.

MILL DESIGN W

Direct product feed via a gravity intake. Ideal for large feed products up to 15 cm and for products with a strong tendency to deposit.

MILL DESIGN SCB

Common inlet for product and air. Dependent on the application, either as a simple suction intake or as an injector assembly.

The SCB (Special Carbon Black) design was designed especially for use in the carbon black industry. This design has also proved itself in operation in other industries, and is employed above all for PSR 11 pressure-shock-proof applications.

MILL DESIGN SD, DH, TH

The product is fed by means of one, two or three steplessly adjustable feed metering screws. The air required for grinding and cooling enters the grinding chamber via adjustable air inlets on the side of the housing.

BANTAM GRINDING CHAMBER

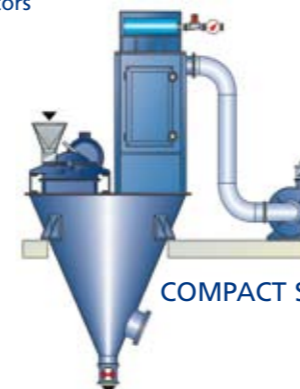


BANTAM LABORATORY / MINI BATCH MILL

- Suitable for grinding tests and the production of mini batches
- Informative results with test samples of only a few grams
- Test series with minimum product loss
- Reliable test results for scale-up to larger machine sizes
- Fast and easy installation and cleaning of the grinding elements
- Product feed by means of metering screws or direct intake

APPLICATIONS

- Carbon black production
- Cosmetics such as compact powder
- Pharmaceutical products
- Food and luxury foodstuffs
- Dyes
- Plastics
- Chemicals
- Plant protectors
- Resin



COMPACT SYSTEM

ATEX

To ensure the stipulated use of equipment and safety systems in potentially explosive areas, the pulverizers come with an EC type test certificate as defined in 94/9/EC.

EX II 1D/3GD c T 120°C / 125°C
EX II 1D/2D c T 120°C / 125°C

CLEANING AND MAINTENANCE

- Quick exchange of grinding elements
- Grinding chamber is simple to open
- Rotor can be removed with ease
- All product-contact parts easily accessible
- Quick and easy to clean

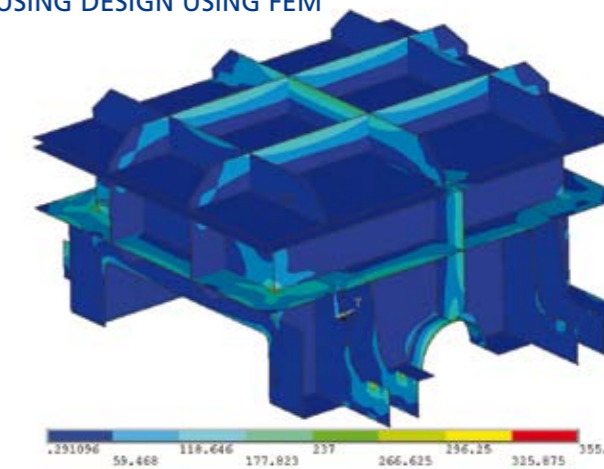
MAIN FEATURES

- Highly effective in operation
- Suitable for soft to medium-hard products
- Grinding, mixing and homogenisation in one single pass
- Reliable in operation; robust design
- Easy to clean and maintain
- Time-proven in grinding-drying, cryogenic and inert gas grinding systems
- ATEX-certified

Feed product	Throughput kg/kWh	Fineness µm
Carbon black	50-80	99.9% < 40
Iron oxide	35	99.9% < 125
Casein	56	99.0% < 200
Melamine resin	58	80.0% < 100
Plant-protector	60-80	99.9% < 40
Sugar	25-30	99.0% < 40
"	50	99.0% < 200
Cacao	25-30	99.9% < 100
"		80.0% < 40
Paracetamol	90	99.0% < 250
Urea	26	99.9% < 100

Machine size	Bantam	MP 1	MP 2	MP 3	MP 4	MP 44
Motor output in kW	0.75	4	11-15	22-30	45-75	90-110
Max. rotor speed in rpm	14,000	9,600	6,900	4,650	3,350	3,000
Approx. air flow rate in m³/min	0.6	2,5	7	18	24	45
Approx. weight in kg	80	250	550	1300	1750	2200

HOUSING DESIGN USING FEM



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Hosokawa Micron – a division of Hosokawa Alpine AG – is a member of the Hosokawa Micron Group, the high-performance manufacturer of systems for powder and particle processing, systems for the confectionery industry as well as plastics processing machines and systems. The group is known and reputed the world over for its power of innovation, constant product care and market-oriented R&D. The most important group resources are R&D, engineering and manufacturing as well as customer service in all global markets.

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