



vollrath

Dispersers
Bead-Mills
Mixers
Stirrers

Bead-Mills

Application

VOLLRATH-bead-mills type VMSM are used for wet grinding of suspensions and pigment pastes. They are well proven and widely used in the paint and coatings industries.

Principle

The working principle is that a shaft fitted with grinding discs, rotated within a fixed capacity grinding chamber that has been charged with the chosen grinding bead media.

The mill-base is pumped through the grinding chamber and the disc rotation move the beads and mill-base mixture at high speed.

The ground product is separated from the grinding media at the outlet by a slotted screen.



High performance

Because of VOLLRATH's unique square shaped (with rounded corners) grinding chamber and special grinding discs, a very high turbulence and torque is transmitted between the discs, millbase/beads mixture and grinding chamber. This ensures a very high output is guaranteed.

Frequency converter operation / Control

The drives of both the grinding shaft and feed pump are fully controlled by frequency converters.

Having full speed/torque control of the grinding shaft and integral pump allows:

- Optimum grinding conditions for any product can be achieved.
- Mill base dwell time within the grinding chamber, the amount of work and particle size reduction on the product is controlled by the selected shaft and pump speeds.
- Easy start up of the mill using the high torque of the drive at the lower speed range.
- A slow shaft speed selected when cleaning ensures minimal grinding media wear.

If one pass through a single grinding chamber is not sufficient to develop the product to the required specification, there are three options:

- A second or third pass through the grinding chamber.
- Re-circulating grinding.
- Using a double-chamber-bead mill.

Re-Circular grinding

The mill base is pumped from its holding vessel, passed through the grinding chamber and then returned to the same vessel, whilst being stirred continually to keep it homogeneous at all times. This process is continued until the desired specification is achieved. The VOLLRATH bead-mill type VMSM 1/..B with its large outlet slotted screen is ideal for this application.



Slotted screen

Double-chamber-bead-mill

For large production runs where the required grind specification cannot be achieved in one pass or the output is slow, the VOLLRATH double-chamber-mill type VMSM 2/..B is the best option. This mill has 2 grinding chambers piped in series. Normally the first chamber is filled with big beads (coarse grinding) and the second chamber is filled with smaller beads. For very difficult products 3 or 4 grinding chambers can be linked in series.

Laboratory and doing test

Trials can be carried out in the VOLLRATH laboratory to establish optimum through-put rates and machine sizing etc.

Explosion-protection (ATEX)

Explosion-proof bead-mills according to EC-Directive 94/9/EC (ATEX) are standard at VOLLRATH.

Machine construction and service

VOLLRATH bead-mills are of a robust construction ensuring many years service. The grinding shaft is sealed with a high quality double mechanical seal. Wear parts are available from our extensive stores and an excellent service is guaranteed.



Single-Chamber-Bead-Mills

Type	Grindingshell aprox. l	Power kW	Outputrates aprox. l/h
VMSM 1/ 2 A FU	1 x 2	2,2	8- 50
VMSM 1/ 8 B FU	1 x 8	11	30- 200
VMSM 1/15 B FU	1 x 15	15	60- 400
VMSM 1/30 B FU	1 x 30	30	120- 800
VMSM 1/60 B FU	1 x 60	45	240-1400



Double-Chamber-Bead-Mills

Type	Grindingshell aprox. l	Power kW	Outputrates aprox. l/h
VMSM 2/ 2 A FU	2 x 2	4	16- 100
VMSM 2/ 8 B FU	2 x 8	18,5	60- 400
VMSM 2/15 B FU	2 x 15	30	120- 800
VMSM 2/30 B FU	2 x 30	55	240-1600
VMSM 2/60 B FU	2 x 60	90	480-2800

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