Horizontal Bead Mill (HBM)

Figure 1 : Horizontal Bead Mill.

Multimix HBM Series is a robust horizontal bead mill with Teflon agitator discs widely used in paint, ink and coating industry which produces fine particle size up to nano level, thanks to the rotating agitator discs which allows repeated collision between liquid phase and the solid beads (medium of grinding).

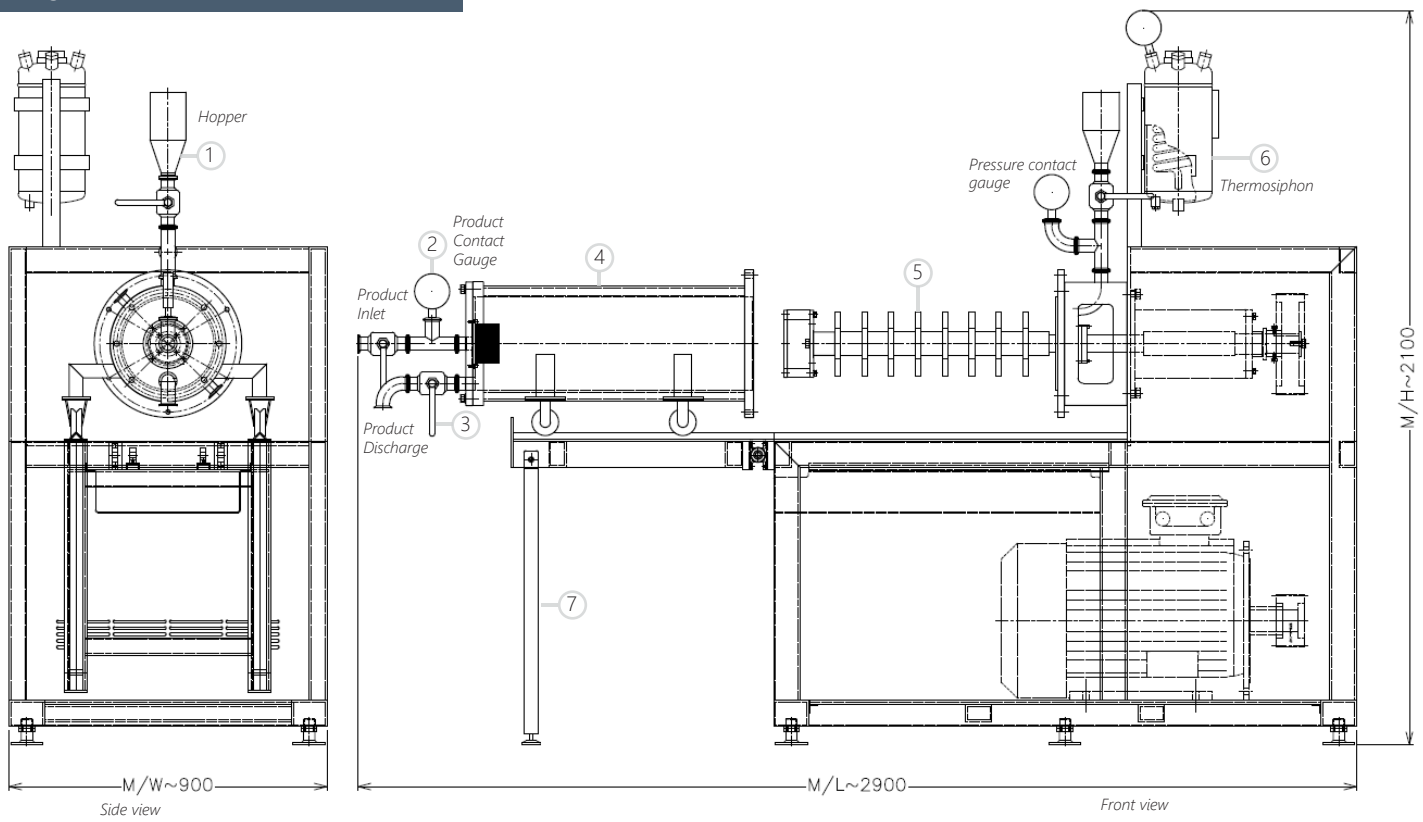
Grinding beads of various densities e.g. zirconium beads can be separated efficiently from the liquid product after desired particle fineness is achieved, thanks to the customizable mesh screen at discharge outlet.

It is also suitable both for pre-milling or as a fine mill for ceramic slurries, paint etc. Wear and tear parts such as agitator discs or mesh screen can also be replaced individually and therefore inexpensively.

Main Advantages

- Robust solution for wet milling over long duration
- Jacketed chamber for consistent cooling without overheating of product
- Customizable large mesh screen for higher flow rates
- Durable grinding discs design allows efficient distribution of grinding beads during milling
- Easy clean up, maintenance and spare parts change
- Explosion proof motor for utmost safety for solvent-based applications
- GMP and sanitary design compliant
- Ideal for single pass/recirculation with integrated diaphragm pump

HORIZONTAL BEAD MILL



1. Ease of beads input

Various hopper sizes are available for inserting the grinding beads into the milling chamber.

2. Constant monitoring of product temperature

The product temperature contact gauge allows constant monitoring of milling process ensuring that rheological properties of temperature sensitive products are not damaged by overheating if the cooling is insufficient.

3. High throughput rates

The diameter of mesh screen can be customized allowing high throughput rates even with increased beads density. Larger screen diameter also reduces pressure inside the milling chamber and thus reduces temperature issues.

4. Optimized cooling

It double-walled jacketed chamber allows cooling process during entire milling with industrial chiller/cooling tower thus maintaining the properties of milling product.

5. Increased grinding efficiency

The agitator discs helps to distribute beads evenly along the chamber ensuring repeated collisions between grinding beads and product to achieve desired particle fineness, up to nano particle level.

6. No product leakage

Double mechanical seal design at the rear of chamber is pressurized and cooled with thermosiphon system thus preventing the risk of product leakage.

7. Ease of cleaning

The milling chamber can be easily opened by sliding out on the retractable legs stand allowing for in-depth cleaning of inner chamber.

Add-Ons (optional)

A. Mobile frame support with castor wheels

B. Panel Control with frequency inverter

C. Touch screen panel control

D. PLC for automation

E. Sanitary (GMP) design

F. Various hopper size for beads input

G. Explosion proof motor & remote control station

H. Inline High Shear Mixer for pre-milling

I. Jacketed Vessel for product recirculation

J. Industrial Chiller for cooling of chamber

K. Special seals, valves and fittings

I. Digital countdown timer

	HBM
Power supply	Three phase, 380V/415V, 50/60Hz
Impeller	8 pieces of Teflon Agitator Discs
Seal	Double Mechanical Seal Tungsten Carbide
Wetted parts material	Food and medical grade stainless steel 316L/SS304
Machine Base	SS304 / Powder Coated MS Base with forklift channels
Separation system	Centrifugal with customizable mesh screen
Grinding chamber volume (m3)	40
Motor in HP (equivalent kW)	40HP (30kW)
Batch Size (litres)	100-500
Speed range (variable speed eletrcionically controlled)	500-1000
Typical throughput rate (kg/h)	100-700
Grinding beads diameter (mm)	0.5-2.0
Recirculation Pump Rate (GPM)	90

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02/2026