Mixer/Mill®

High-energy ball mills for efficient sample grinding

High-energy ball mills to pulverize hard or brittle samples to analytical fineness.

- Equipped with forced-air cooling and safety interlock system for operator protection
- Steel housing protects the clamp mechanism and rugged construction ensures a long life of heavy use
- Shock-mounted motor enables benchtop operation

The Mixer/Mill is a high-energy ball mill available with a single clamp, or dual clamps for double capacity, that grinds 0.2 to 25 grams (per clamp) of dry, brittle samples, reducing them to analytical fineness. Samples in grinding vials are shaken with grinding media in a complex motion that combines back-and-forth swings with short lateral movements in a “figure-8” pattern. This motion produces strong G-forces that can pulverize the toughest rocks, slags and ceramics.

Samples include rocks, minerals, sand, cement, slag, ceramics, catalyst supports, glass, pharmaceuticals, plant tissue, animal tissue, cannabis, seeds, paints, and inks.

FEATURES

- LCD screen with manual start/stop buttons
- Capable of pulverizing the toughest samples
- Clamp swings in a back-and-forth lateral “figure-8” movement
- Vibration detection switch shuts the mill down in the event of mechanical failure

APPLICATIONS INCLUDE

- Mechanical alloying
- Nanomilling
- Slurry grinding
- Blending powders
- Mixing emulsions
- Mechanochemistry

SAMPLE TYPES INCLUDE

- Rocks
- Minerals
- Cement
- Pharmaceuticals
- Glass
- And more

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Mixer/Mill® Options

BM-450 Dual
High-Energy Ball Mill

BM-400
High-Energy Ball Mill

Before and Sample Samples – Stone

Specifications

Specification	BM-450	BM-400
Type of mill	High-Energy Ball Mill	High-Energy Ball Mill
Display	Digital	Digital
Motor	1/3 hp	1/3 hp
Clamp speed	1060 back-and-forth cycles at 115 VAC, 60 Hz or 875 at 230 VAC, 50 Hz	1060 back-and-forth cycles at 115 VAC, 60 Hz or 875 at 230 VAC, 50 Hz
Clamp movement	2 1/4 in. back and forth, 1-in. side-to-side	2 1/4 in. back and forth, 1-in. side-to-side
Number of clamps	2	1
CE approved	Yes	Yes
Voltage	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC
Dimensions (W x D x H)	54 x 64 x 36 cm (21 x 25 x 14 in.)	56 x 54 x 38 cm (22 x 21 x 15 in.)
Net weight	42 kg (92 lb) without vials	36 kg (90 lb) without vials

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Ordering Information

Description	SamplePrep Part Number	Cole-Parmer Item Number
BM-400 Mixer/Mill, Single Clamp, 115 VAC, 60 Hz	8000D-115	04578-12
BM-400 Mixer/Mill, Single Clamp, 230 VAC, 50 Hz	8000D-230	04578-13
BM-450 Mixer/Mill, Dual Clamp, 115 VAC, 60 Hz	8000M-115	04578-10
BM-450 Mixer/Mill, Dual Clamp, 230 VAC, 50 Hz	8000M-230	04578-11

We've Got a Fresh New Look!

Our new website is live—and it's built to make your sample prep journey smoother than ever. From product info to quick quote requests and easy demo scheduling, everything you need is just a click away.

Scan the QR code or visit cpsampleprep.com to experience it for yourself.

Need a Demo?

Virtual sample processing – virtual demonstration of the equipment and sample processing
Physical sample processing – physical testing of your sample with shared results
Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

Contact us today at sampleprep@coleparmer.com for details.

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Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct.
If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.