

# 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

## 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<br>or 875 at 230 VAC, 50 Hz  | 1060 back-and-forth cycles at 115 VAC, 60 Hz<br>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<br>2-prong European plug for 230 VAC | 3-prong grounded plug for 115 VAC or<br>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                                               |

## 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](https://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](mailto:sampleprep@coleparmer.com) for details.



# WolfLabs

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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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