

Cole-Parmer®

BM-200 Mixer/Mill

Rock and Mineral Grinder for Spectroscopy Applications

Accessory Manual

For 115V/230V (04576-27)



For Product Information

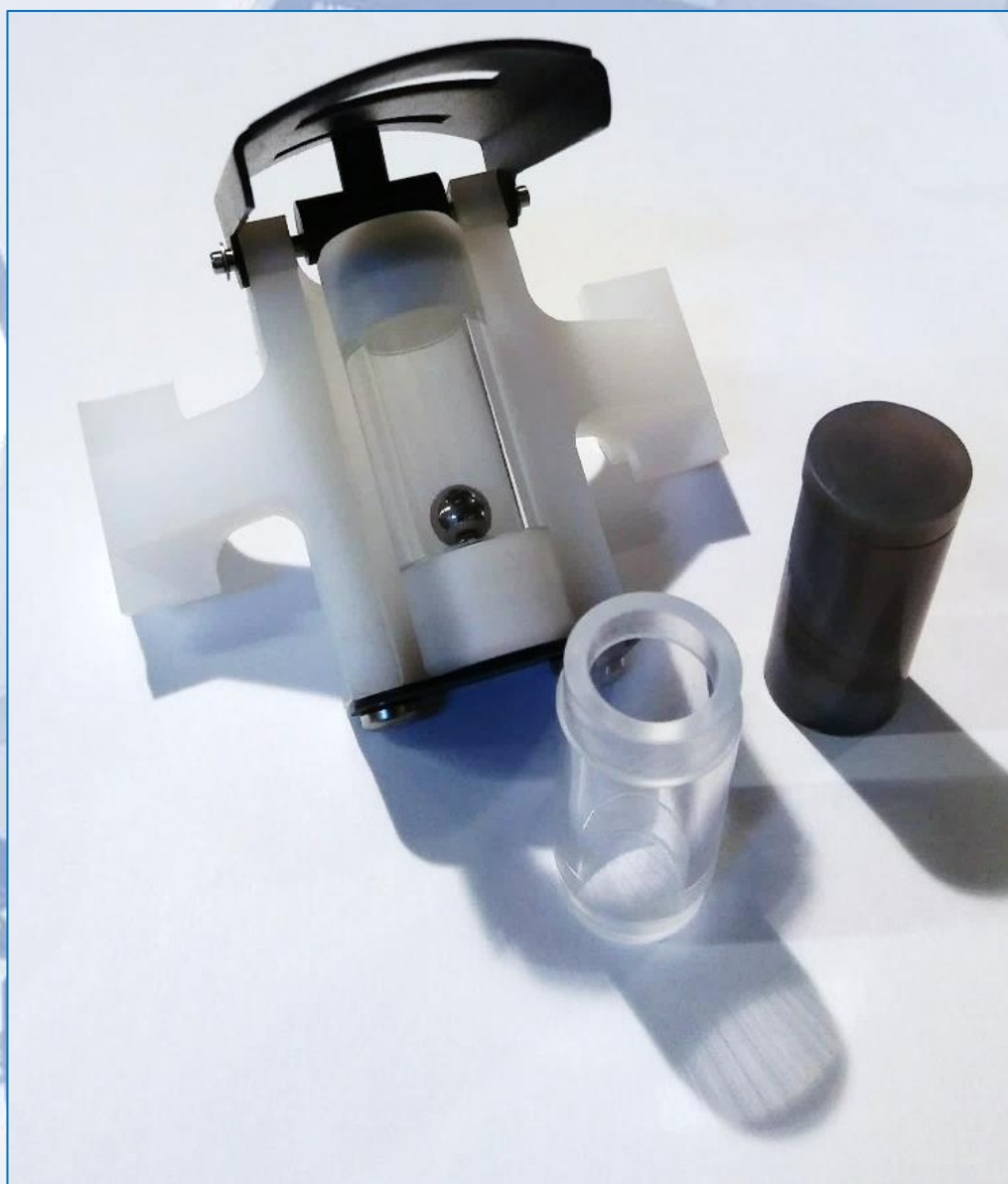


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GRINDING BALLS

Stainless steel and Zirconia balls are useful for grinding large or tough samples. The choice of ball size should be determined based on the sample material and the size of the grinding vial. After use, the grinding balls can be discarded or cleaned for re-use.

	<p>2154 Grinding Balls, nominal diameter ¼ in. (6.35 mm) Made of 440C stainless steel. Used with polyethylene vial (#2241R-PEF).</p>
	<p>2186 Grinding Balls, nominal diameter 15/64 in. (6 mm) Made of zirconia. Used with polyethylene tube vial (#2241R-PEF).</p>
	<p>3118A Grinding Balls, nominal diameter ¼ in. (6 mm) Made of agate. Used with agate vial (#3120).</p>
	<p>5005B Grinding Balls, nominal diameter 5/16 in. (7.9 mm) Made of 440C stainless steel. Used with stainless tool steel vial (#5005).</p>
	<p>5006B Grinding Balls, nominal diameter 5/16 in. (7.9 mm) Made of tungsten carbide. Used with tungsten carbide-lined vial (#5006).</p>

VIALS AND VIAL SETS

Vials can be filled and sealed individually and the larger vials can hold bigger samples. Replacement vials and steel balls can be purchased separately.

	<p>2241R-PEF (5 mL) Frosted Polyethylene Vial (package of 200) Frosted polyethylene vials with screw-on polyethylene cap and O-ring. The nominal outer diameter measures ½ in. x 2 in. long (13 mm x 51 mm). Holds one ¼ in. (6.35 mm) steel grinding ball (#2154), grinding load per vial 1-3 g. Mixing load per vial 3 mL, with maximum speed 3000 rpm using two 5/32 in. (4 mm) steel grinding ball (#2150).</p>
	<p>3120 (3.5 mL) Agate Vial Set 3.5 mL agate vial in a Delrin vial case 7/8 in. diameter x 2 in. long (22.2 mm x 50.8 mm). Includes one ¼ in. (6.35 mm) agate grinding ball (#3118A). One flat gasket for lid. Grinding load 0.5 – 1.0 g: mixing load 2 mL. Agate is fragile, it should not be handled carelessly. Vial set must be sold without a warranty against breakage.</p>
	<p>5005 (5 mL) Stainless Tool Steel Vial Set ¾ in. diameter x 2 1/8 in. long. Includes two slip-on Delrin caps with stainless steel inserts, four polycarbonate center cylinders, and one 5/16 in. (7.9 mm) stainless steel ball (#5005B). Two O-rings for center cylinder. Two flat gaskets for caps. Grinding load 0.5 – 1.5 g.</p>



5006 (5 mL) Tungsten Carbide Vial Set

¾ in. diameter x 2 1/8 in. long. Includes two slip-on Delrin caps with tungsten carbide inserts, four polycarbonate center cylinders, and one 5/16 in. (7.9 mm) tungsten carbide ball (#5006B). Two O-rings for center cylinder. Two flat gaskets for caps. Grinding load 0.5 – 1.5 g.

5006C Replacement Polycarbonate Center Cylinder

Disposable polycarbonate center cylinder; for 5005 and 5006 vial set. Includes two O-rings.

HOLDERS

The Holders are designed to hold vials securely in place on the 5120 Mixer/Mill® during processing. They are lightweight and can also be used on the benchtop and to transport samples within the laboratory.



1211 (5 mL) Holder

Holds 4 polyethylene vials. *(Use only with #2241R-PEF)*



1215 (5 mL) Holder

Hold 1 5005 stainless steel or 5006 tungsten carbide vial. *(Use only with #5005 or #5006)*



1217 (3.5 mL) Holder

Hold 1 3120 agate vial. *(Use only with #3120)*

VIALS AND TUBES REFERENCE TABLE

VPN	Vial Size	General Purpose	Grinding Balls (VPN)	Ball Grinding Quantity	Holder (VPN)	Quantity of Vials (MAX)	Speed Limit (RPM)
2241R-PEF	5 mL	Mixing, Emulsion 1 – 3 mL	4 mm (#2150)	One or Two	#1211	Four	3000
5005	5 mL	Rock, Minerals 0.5 – 1.5 g	7.9 mm (#5005B)	One	#1215	One	3500
5006	5 mL	Rock, Minerals 0.5 – 1.5 g	7.9 mm (#5006B)	One	#1215	One	3500
3120	3.5 mL	Rock, Minerals 0.5 -1 g	6.35 mm (#3118A)	One	#1217	One	3000