

Cole-Parmer®

HG-200 GenoLyte®

Tissue and Cell Lyser for Biological Applications

Accessory Manual

For 115V/230V (04500-05)



For Product Information



Table of Contents

GRINDING BALLS AND DISPENSERS.....	3
GRINDING BEADS.....	3
VIALS AND VIAL SETS.....	4
PRE-LOADED 2 ML DISRUPTION TUBES.....	5
HOLDERS.....	7
PRE-LOADED DISRUPTION TUBES REFERENCE TABLE.....	8
VIALS AND TUBES REFERENCE TABLE.....	9

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GRINDING BALLS AND DISPENSERS





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>2150 Grinding Balls, nominal diameter 5/32 in. (4 mm)</p> <p>Made of 440C stainless steel. Used with vial (#2241R-PEF) for mixing or wet grinding. Sold in package of 5000.</p>
	<p>2151 Grinding Balls, nominal diameter 4/32 in. (3 mm)</p> <p>Made of 440C stainless steel. Used with polypropylene microfuge tube (#2300-500E) or reinforced polypropylene tube (#2310). Sold in package of 1000.</p>
	<p>2154 Grinding Balls, nominal diameter ¼ in. (6.35 mm)</p> <p>Made of 440C stainless steel. Used with reinforced polypropylene tube (#2310) or vial (#2241R-PEF).</p>
	<p>2156 Grinding Balls, nominal diameter 7/16 in. (11 mm)</p> <p>Made of 440C stainless steel. Used with reinforced vial (#6133PC-T). Sold in package of 100.</p>
	<p>2186 Zirconia Grinding Balls, nominal diameter 15/64 in. (6 mm)</p> <p>Made of zirconia. Used with reinforced polypropylene tube (#2310) or vial (#2241R-PEF). Sold in package of 1,000.</p>
	<p>5005B Grinding Balls, nominal diameter 5/16 in. (7.9 mm)</p> <p>Made of 440C stainless steel. Used with polycarbonate vial (#2251-PC).</p>

GRINDING BEADS





Molecular Biology Grade Grinding Beads are treated to inactivate contaminating enzymes and have been tested accordingly. Low Binding Grinding Beads are coated to reduce non-specific binding of nucleic acids and proteins and are used for lysing dilute samples of cells. Acid Washed Grinding Beads are treated to remove fine particles and contaminants. Contact us for detailed instructions.




	<p>Silica Grinding Beads</p> <p>Acid washed silica grinding beads. Available in sizes 800-1000 µm (#2160) and 400-660 µm (#2165). 200 g bottle.</p>
	<p>Low Binding Silica Beads</p> <p>Acid washed and chemically treated to keep samples from binding. Available in sizes 800 µm (#2162), 400 µm (#2167), 100 µm (#2168). 200 g bottle.</p>

	2166 Silica Grinding Beads Molecular Biology Grade, 400-600 µm Acid washed RNase/DNase-free treated silica beads. 200 g bottle.
	2180 Zirconia Grinding Beads, Molecular Biology Grade, 200-400 µm Acid washed RNase/DNase-free treated zirconia beads. 250 g bottle.
	Low Binding Zirconia Beads Acid washed and chemically treated to keep samples from binding. Available in sizes 100 µm (#2181) and 200 µm (#2182). 250 g bottle.
	2302-30 (3 mm) Zirconium Beads Acid washed zirconium beads, 300 g bottle.

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.












	2142-PE (7 mL) Polyethylene Vial Polyethylene vial with screw-on polyethylene cap. The nominal outer diameter measures 5/32 in. x 2 in. long (18 mm x 51 mm). Pre-cleaned. Grinding load per vial 3 g; mixing load 5 mL. Sold in package of 50.
	2241R-PEF (5 mL) Frosted Polyethylene Vial Frosted polyethylene vial with screw-on polyethylene cap and O-ring. The nominal outer diameter measures 1/2 in. x 2 in. long (13 mm x 51 mm). Holds two 1/4 in. (6.35 mm) steel grinding ball (#2154). Not pre-cleaned. 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). Sold in package of 200.
	2251-PC (15 mL) Short Vial Polycarbonate Polycarbonate vial with screw-on cap with red liner. The nominal outer diameter measures 1 1/8 in. x 1 2/3 in. long (29 mm x 42 mm). Holds two 5/16 in. (7.9 mm) stainless steel grinding ball (#5005B). Not pre-cleaned. Grinding load per vial 1 - 5 g; mixing load 10 mL. Sold in package of 100.
	2251S Silicone Lined Cap for 2251-PC, 2250 (15 mL) Short Vial Polycarbonate The polypropylene caps are lined with a thick 3/32 in. red silicone disc that prevents cracking. The cap firmly seals vials. Replacement caps (only). Sold in package of 100.

	<p>2300-500E (2 mL) Skirted Disruption Tube</p> <p>Polypropylene, Self-standing 2 mL microfuge tube with screw-on polyethylene cap. The nominal outer diameter measures 25/64 in. x 1 27/32 in. long (10 mm x 47 mm). Not pre-cleaned. Grinding load per tube 60 - 120 mg; mixing load 1 mL. Sold in package of 500.</p>
	<p>2310 (2 mL) Reinforced Tube</p> <p>Reinforced polypropylene, Self-standing 2 mL microfuge tube with screw-on polyethylene cap. The nominal outer diameter measures 25/64 in. x 1 27/32 in. long (10 mm x 47 mm). Pre-cleaned. Grinding load per tube 60 - 120 mg; mixing load 1 mL. Sold in package of 200.</p>
	<p>6133PC-T (12 mL) Polycarbonate Vial</p> <p>Reinforced polycarbonate vial with slip-on cap. Holds one (11 mm) steel grinding ball (#2156). Not pre-cleaned. Grinding load per vial 1 - 5 g. Not recommended for use with liquids. Sold in package of 100.</p>

PRE-LOADED 2 ML DISRUPTION TUBES

Ideal for fast and simple setup—add samples and you’re ready to go. Vials are self-standing, making it easier to add samples, and are prefilled with your choice of molecular biology grade silica beads, acid washed silica or zirconia beads, silica beads or steel balls. Approximate grinding load per tube 60 - 120 mg; mixing load 1mL.

	<p>2300-500E</p> <p>2 mL Polypropylene microfuge tube. Sold in package of 500.</p>
	<p>2301-100MB</p> <p>2 mL microfuge tube with screw-cap, prefilled with 1200 mg of 100 µm molecular biology grade silica beads. Sold in package of 100.</p>
	<p>2302-100AW2</p> <p>2 mL microfuge tube with screw-cap, prefilled with 600 mg of 100 µm acid washed zirconia beads. Available as 200 µm (#2302-200AW). Sold in package of 100.</p>
	<p>2302-1000AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 1.0 mm acid washed zirconia beads. Sold in package of 100.</p>
	<p>2302-1400AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 1.4 mm acid washed zirconia beads. Sold in package of 100.</p>

	<p>2302-1700AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 1.7 mm acid washed zirconia beads. Sold in package of 50.</p>
	<p>2302-3000AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 3 mm acid washed zirconia beads. Sold in package of 50.</p>
	<p>2302-6000AW</p> <p>2 mL microfuge tube with 6 mm Ceria Stabilized Zirconia beads. For grinding tough plant samples. Sold in package of 100.</p>
	<p>2303-MM1</p> <p>2 mL microfuge tube with screw-cap, prefilled with garnet and zirconia satellites. Sold in package of 100.</p>
	<p>2303-MM2</p> <p>2 mL microfuge tube with screw-cap, prefilled with 800 µm and 1.4 mm acid washed zirconia beads. Sold in package of 100.</p>
	<p>2303-MM3</p> <p>2 mL microfuge tube with screw-cap, prefilled with 100 µm silica beads, 1.4 mm zirconia beads and a 4 mm acid washed silica bead. Sold in package of 100.</p>
	<p>2304-100AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 100 µm acid washed silica beads. Sold in package of 100.</p>
	<p>2304-400AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 400 µm acid washed silica beads. Sold in package of 100.</p>
	<p>2304-800AW</p> <p>2 mL microfuge tube with screw-cap, prefilled with 800 µm acid washed silica beads. Sold in package of 100.</p>
	<p>2305-2800SS</p> <p>2 mL microfuge tube with screw-cap, prefilled with 2.8 mm stainless steel grinding balls. Sold in package of 50.</p>
	<p>2310 (2 mL) Reinforced Tube</p> <p>Reinforced polypropylene, 2 mL with screw-on polyethylene cap. The nominal outer diameter measures 25/64 in. x 1 27/32 in. long (10 mm x 47 mm). Sold in pack of 200.</p>

HOLDERS

The Holders are designed to hold vials securely in place on the HG-200 GenoLyte® during processing. They are lightweight and can also be used on the benchtop and to transport samples within the laboratory.



1210 (2 mL) Holder

Holds 6 centrifuge vials. *(accommodates all 2 mL vials sold by Cole-Parmer®)*



1211 (5 mL) Holder

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



1213 (7 mL) Holder with Shield

Holds 2 polyethylene vials. *(Use only with #2142-PE)*



1218 (12 mL) Holder

Hold 1 polycarbonate vial. *(Use only with #6133PC-T)*



1219 (15 mL) Holder

Hold 1 polycarbonate vial. *(Use only with #2251-PC)*

PRE-LOADED DISRUPTION TUBES REFERENCE TABLE

DO NOT RUN THE VIALS LISTED BELOW OR OTHER STANDARD 2 ML VIALS AT 4000 RPM.

VPN	2 ML VIAL SET	DETAILS
2301-100MB	100 µm Silica Beads (1200 mg)	Economical bead for disrupting bacteria.
2302-1400AW	1.4 mm Zirconia Beads	Suitable for small tissue samples and biomass.
2303-MM1	Garnet & ZrO ₂ Satellites	General Sample Shredding.
2303-MM2	800 micron & 1.4 mm Zirconia Beads	Mycelium & Soft Leaves.
2303-MM3	100 micron Si, 1.4 mm Zr, & 4 mm Si	Biofilms & Plant Tissues.
2304-100AW	100 µm Silica Beads (600 mg)	Suitable for Bacteria.
2302-100AW2	100 µm Zirconia Beads (600 mg)	Zirconium beads are of higher density; excellent for bacterial disruption.
2304-400AW	400 µm Silica Beads	Size is ideal for yeasts such as Saccharomyces.
2304-800AW	800 µm Silica Beads	Size is suitable for molds and pollen.
2302-1000AW	1.0 mm Zirconia Beads	Beads are suitable to disrupt finer soils.
2302-1700AW	1.7 mm Zirconia Beads	Effective for larger tissue samples and fine plant materials.
2305-2800SS	2.8 mm Stainless Steel Grinding Balls	Most dense of all the grinding media, popular for their moderate cost. Good for tissues.
2302-3000AW	3.0 mm Zirconia Beads	Good for larger tissue samples. Excellent chemical resistance to organics.
2302-6000AW	6 mm Ceria Stabilized Zirconia Beads	Ideal for grinding tough plant samples.
2302-200AW	200 µm Zirconium Beads	Suitable for bacteria and small yeast (e.g. Pichia).

VIALS AND TUBES REFERENCE TABLE

Vial Set (VPN)	Vial Size	General Purpose	Grinding Balls	Ball Grinding Quantity	Holder (VPN)	Quantity of Vials (MAX)	Speed Limit (RPM)
2142-PE	7 mL	Cannabis 0.5 g and 4 mL Ethanol	6 mm (#2154)	One	#1213	Two	3000
2241R-PEF	5 mL	Plant, Tissue, Hair, Seeds 0.3 - 1 g	6 mm (#2186) 6 mm (#2154) 4 mm (#2150) wet mixing	One or Two	#1211	Four	4000 3000 for wet mixing
2251-PC	15 mL (short)	Seeds, Corn Soil 1 - 5 g	7.9 mm (#5005B)	One or Two	#1219	One	3000
2310	2 mL	Plant, Tissue, Seeds 80 - 100 mg	3 mm (#2151) 6 mm (#2186, #2154)	3 mm (Five) 6 mm (One or Two)	#1210	Six	4000
2300-500E	2 mL	Plant, Tissue 80 -100 mg	3 mm (#2151)	Five	#1210	Six	3000
6133PC-T	12 mL	Seeds, Corn 1 - 3 g	11 mm (#2156)	One	#1218	One	4000
Pre-Loaded Disruption Tubes	2 mL	*Table	Pre-Loaded	Pre-Loaded	#1210	Six	3000

*Reference Pre-Loaded Disruption Tubes Table for General Purpose Details