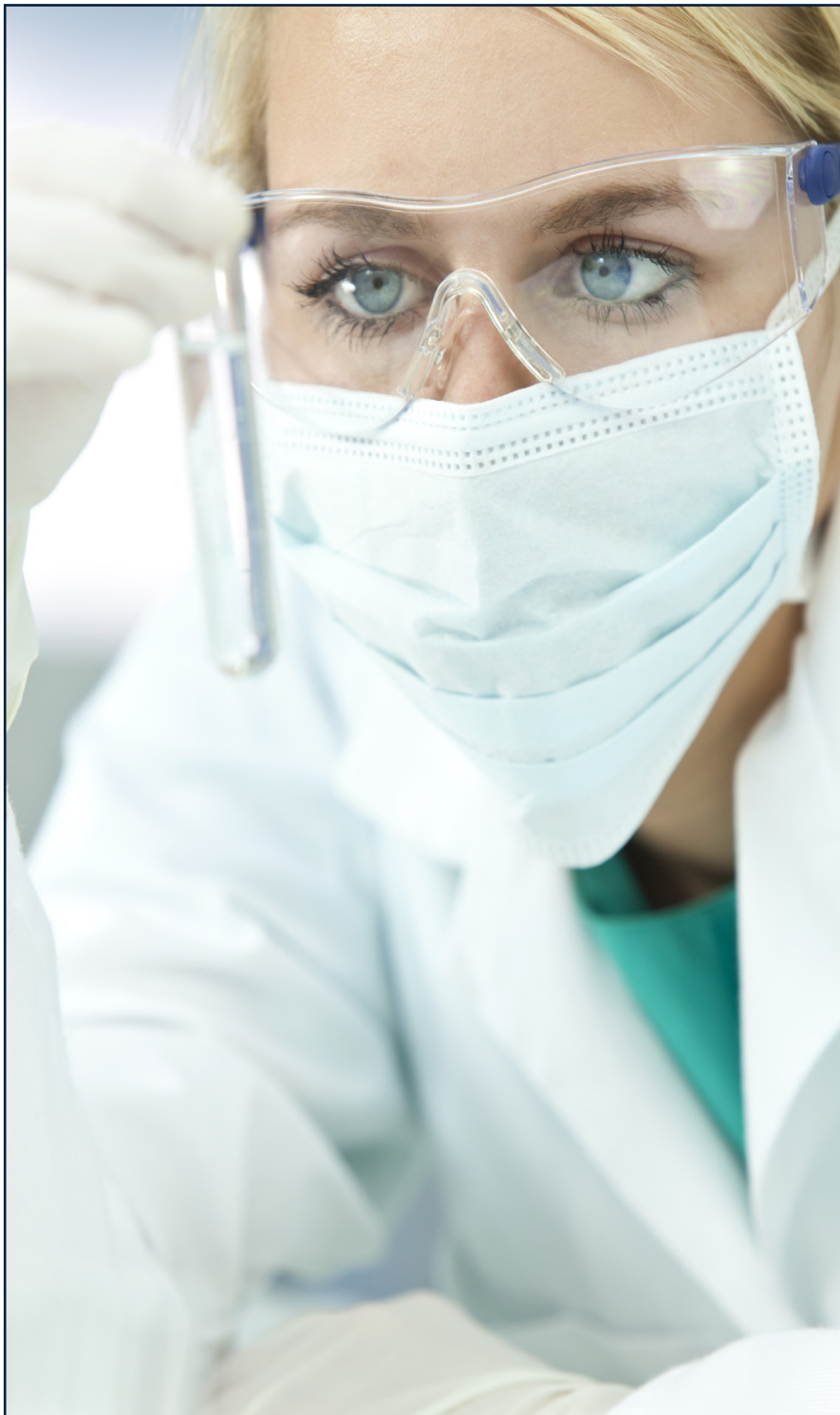
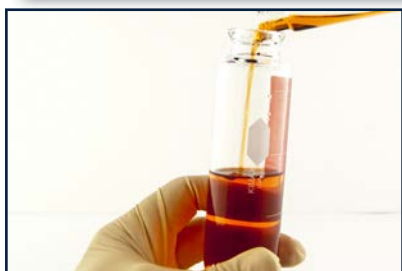


# CENTRIFUGE TUBES

Choose KIMAX® borosilicate tubes for strength, durability and speed.



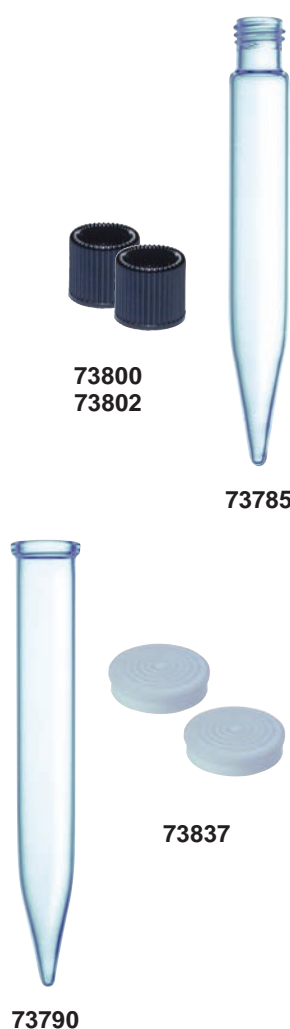
*Your experienced guide to glass centrifuge tubes . . .*

*Your guide to quality centrifuge tubes.***We're here to help.**

If you don't find what you need, please contact us for assistance. Our customer service / technical group has the experience and knowledge to help you make the right choices. We can also custom design and fabricate tubes to your exact requirements. Just let us know how we can help.

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## **Disposable Centrifuge Tubes**

### **Disposable Screw Thread Centrifuge Tubes, Plain**

Tubes are made from borosilicate glass in compliance with ASTM Specification E438, Type I, Class A or B glass requirements. The 5, 10, and 15 mL sizes have conical bottoms and the 50 mL has a bullet nose. These tubes can withstand centrifugation up to 2980 RCF. They are plastic shrink wrapped in modular trays for cleanliness and safety. **Closures are not supplied.** See 73800 and 73802 below.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
73785-5	5	13 x 110	13-415	125
73785-10	10	16 x 114	15-415	125
73785-15	15	17 x 126	15-415	125
73785-50	50	29 x 137	24-400	72

#### **Accessory Closures**

73800-13415	Phenolic Cap with Rubber Liner, 13-415	1000
73800-15415	Phenolic Cap with Rubber Liner, 15-415	1000
73802-13415	Phenolic Cap with PTFE Liner, 13-415	500
73802-15415	Phenolic Cap with PTFE Liner, 15-415	500
73802-24400	Phenolic Cap with PTFE Liner, 24-400	144

### **Disposable Snap Cap Centrifuge Tubes, Plain**

Tubes are made from borosilicate glass in compliance with ASTM Specification E438, Type I, Class A or B glass requirements. The 5, 10, and 15 mL sizes have conical bottoms and the 50 mL has a bullet nose. These tubes can withstand centrifugation up to 2980 RCF. The 5, 10, and 15 mL sizes have a finished top for a snap-cap closure. The 50 mL size has a tooled top. Tubes are plastic shrink wrapped in modular trays for cleanliness and safety. **Snap cap closures are not supplied.** See 73837 below.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Snap-Cap Size	Case Qty.
73790-5	5	13 x 110	1	125
73790-10	10	16 x 114	2	125
73790-15	15	17 x 126	2	125
73790-50	50	29 x 137	-	72

#### **Accessory Closures**

73837-1	Snap Cap, Polyethylene, cap size 1	500
73837-2	Snap Cap, Polyethylene, cap size 2	500

**Reusable Centrifuge Tubes, Ungraduated**

**Reusable Snap Cap Centrifuge Tubes with Beaded Tops**

Plain, ungraduated, KIMAX conical centrifuge tube with a beaded top.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Case Qty.
411800-0015	15	20 x 120	125
411800-1015	15	20 x 120	10

**Replacement Part**

73837-2	Snap Cap, Polyethylene, cap size 2	500
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**Reusable Micro Centrifuge Tubes with Beaded Tops**

Plain KIMAX tube with a regular beaded top. Designed from ASTM Specification E237.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Case Qty.
45150-2	2	11 x 66	12
45150-5	5	13 x 101	12

**Reusable Centrifuge Tube with Beaded Top**

Plain, standard taper, KIMAX tube. Top is beaded for strength. Designed from Federal Specification NNN-T-780, Type II ungraduated requirements.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Case Qty.
45160-15	15	17 x 118	12

**Reusable Threaded Centrifuge Tubes with Attached Caps**

Plain, conical KIMAX tube with a PTFE / rubber lined black phenolic screw cap attached.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Size	Case Qty.
410090-0015	15	17 x 130	15-415	12
410090-0050	50	28 x 158	24-410	12

**Replacement Parts**

45066C-15	Cap with PTFE / Rubber Liner, 15-415	300
45066C-24	Cap with PTFE / Rubber Liner, 24-410	150

**Reusable Round Bottom Centrifuge Tubes with ⌘ Glass Flat Head Stoppers**

Plain, round bottom ungraduated KIMAX centrifuge tube with a flat head ⌘ stopper. The flat head design permits stoppers to be placed on work surfaces without contaminating the ground zone and also facilitates the use of this vessel as a shaking tube. Do not centrifuge with stopper in tube.

Catalog Number	Cap. (mL)	O.D. x Approx. Length with Stopper (mm)	⌘ Stopper	Case Qty.
411050-0050	50	28 x 140	13	1
411050-0100	100	32 x 210	16	1



411800



45150



45160



410090



411050

**Reusable Centrifuge Tubes, Standard Wall****Reusable Beaded Top Centrifuge Tube, Graduated with White Scale, Pour Spout**

KIMAX tube with a short tapered bottom. Graduated and calibrated "to contain". Top end has a pour spout. Scale and marking spot are durable white ceramic enamel.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45186-50	50	0-10 in 0.5 10-50 in 1	0 to 2 - ±0.2 Above 2 to 10 - 0.3 Above 10 - 0.5	29 x 118	12



45186

**Reusable Beaded Top Centrifuge Tubes, Graduated with White Scales**

Standard taper KIMAX tube. Graduated and calibrated "to contain". Top is beaded for strength. Scale and marking spot are printed in durable white ceramic enamel.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45165-10	10	0.1	0 to 0.2 - ±0.05	17 x 108	12
45165-15	15	0.1	Above 0.2 to 1 - ±0.10 Above 1 to 3 - 0.15 Above 3 - 0.20	17 x 118	12
45165-50	50	0-10 in 0.5 10-50 in 1	0 to 1 - ±0.075 Above 1 to 2 - 0.15 Above 2 to 5 - 0.30 Above 5 to 10 - 0.50 Above 10 - 1.00	29 x 133	12



45165

**Reusable Beaded Top Centrifuge Tube, Graduated with Red Stain Scale**

Standard taper KIMAX tube calibrated "to contain". Top is beaded for strength. Scale is permanent red stain. Marking spot is sandblasted. **For a 50 mL tube with finer lower end subdivisions, see 45167.** Designed from Federal Specification NNN-T-780, Type I requirements.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45164-15	15	0.1	0 to 0.2 - ±0.05 Above 0.2 to 1 - 0.10 Above 1 to 3 - 0.15 Above 3 - 0.20	17 x 118	12



45164

**Reusable Beaded Top Centrifuge Tube, Graduated with White Scale, Hopkins Vaccine**

KIMAX tube used to standardize vaccines. Calibrated "to contain". The stem is graduated 0.01 mL to 0.05 mL in 0.01 mL subdivisions and the body has graduations at 1, 5 and 10 mL. Scale and marking spot are durable white ceramic enamel.

Catalog Number	Cap. (mL)	±Tolerance Stem	±Tolerance Body	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45225-10	10	0.0025	0.20	17 x 119	4	12



45225



**Reusable Centrifuge Tubes, Standard Wall****Reusable Threaded Centrifuge Tubes, Graduated with White Scales, Unattached Caps**

Standard taper KIMAX tube with a screw thread finish. Graduated and calibrated "to contain". Cap supplied has white rubber liner. Scale and marking spot are durable white ceramic enamel. Replacement caps are 45066B-15 and 45066B-24.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
45166-15	15	0.1	0 to 0.2 - ±0.050 Above 0.2 to 1 - 0.100 Above 1 to 3 - 0.150 Above 3 - 0.200	17 x 130	15-415	12
45166-50	50	0-10 in 0.5 10-50 in 1	0 to 1 - ±0.075 Above 1 to 2 - 0.150 Above 2 to 5 - 0.300 Above 5 to 10 - 0.500 Above 10 - 1.000	29 x 147	24-410	12

**Reusable Threaded Centrifuge Tube, Graduated with White Scale, Unattached Cap**

Large-capacity, 100 mL KIMAX tube with 28-410 GPI screw thread closure. Cap supplied has PTFE-faced liner. Graduated and calibrated "to contain". Scale and marking spot are durable white ceramic enamel. Dimensions from 8" oil and weathering tube used in ASTM D2158. For replacement cap, use 45066C-28.

Catalog Number	Cap. (mL)	Subdivision (mL)	Tolerance ±(mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45246-100	100	0-1 in 0.05 1-3 in 0.1 3-6 in 0.2 6-10 in 0.5 10-100 in 1	0-0.1 - ±0.02 Above 0.1-0.30 - 0.03 Above 0.3-1 - 0.05 Above 1-3 - 0.10 Above 3-5 - 0.20 Above 5-10 - 0.50 Above 10 - 1.00	37 x 203	6	12

**Reusable Centrifuge Tubes, Graduated with White Scales, ₪ Glass Pennyhead Stoppers**

KIMAX tube with a top finished to accept a ₪ stopper. Graduated and calibrated "to contain". Scale and marking spot are durable white ceramic enamel. Do not centrifuge with stopper in tube.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length with Stopper (mm)	₪ Stopper Size	Shelf-Pack Qty.	Case Qty.
45153-15	15	0.1	0 to 0.2 - ±0.050 Above 0.2 to 1 - 0.100 Above 1 to 3 - 0.150 Above 3 - 0.200	17 x 156	13	6	12
45153-50	50	0-10 in 0.5 10-50 in 1	0 to 1 - ±0.075 Above 1 to 2 - 0.15 Above 2 to 5 - 0.30 Above 5 to 10 - 0.50	29 x 173	19	6	12

**Reusable Centrifuge Tubes, Graduated with Red Scales, ₪ Glass Flat Head Stoppers**

KIMAX conical-type graduated centrifuge tube with a flat head ₪ stopper. Flat head design permits stoppers to be placed on work surfaces without contaminating the ground zone and also facilitates the use of this vessel as a shaking tube. Do not centrifuge with stopper in tube.

Catalog Number	Cap. (mL)	₪ Stopper	Subdivision (mL)	O.D. x Approx. Length with Stopper (mm)	Case Qty.
410550-0025	2.5	9	0.1	11 x 103	1
410550-0005	5	9	0.1	13 x 128	1
410550-0013	13	13	0.1	17 x 150	1
<b>Tube Only</b>					
410551-0005	Centrifuge Tube, 5 mL				1
410551-0013	Centrifuge Tube, 13 mL				1



45166



45246



45153



410550

**Reusable Centrifuge Tubes, Heavy-Duty**



45196



45194



45174



45212



14720

**Reusable Beaded Top Centrifuge Tube, Heavy-Duty**

Plain, standard taper KIMAX tube is a heavy-duty version of 45160-15. Made with heavier walled tubing to withstand higher centrifugation speed. Top is beaded for strength.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Case Qty.
45194-12	12	17 x 118	12

**Reusable Threaded Centrifuge Tube, Heavy-Duty, with Unattached Cap**

Plain standard taper KIMAX tube made with heavier walled tubing to withstand higher centrifugation speeds. Top has screw thread finish. Cap with rubber liner is included but not attached. Replacement cap is 45066B.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
45196-40	40	29 x 140	24-410	12

**Replacement Part**

45066B-24	Phenolic Cap with Rubber Liner, 24-410			150
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**Reusable Threaded Centrifuge Tubes, Heavy-Duty, with Unattached Caps**

KIMAX tube with a heavy wall to withstand higher centrifuge speeds. Useful for clinical work and in many microbiological applications. Marking spot is sandblasted. Supplied with autoclavable caps with rubber liners. Cap is not attached. Replacement cap is 45066B.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
45212-35	35	29 x 100	24-410	12
45212-50	50	29 x 123	24-410	12

**Replacement Part**

45066B-24	Phenolic Cap with Rubber Liner, 24-410			150
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**Reusable Centrifuge Tubes, Heavy-Duty, with Flathead PTFE Stoppers**

Standard taper KIMAX tube with color-coded PTFE stopper. Made with heavier walled tubing to withstand higher centrifugation speeds. (Do not centrifuge with stopper in tube).

Catalog Number	Cap. (mL)	Stopper Size	O.D. x Approx. Length with Stopper (mm)	Case Qty.
45174-13	13	13	17 x 145	6
45174-50	50	16	29 x 170	6

**Reusable Threaded Centrifuge Tube, Heavy-Duty, with Unattached Cap**

KIMAX tube with a screw thread finish and a small bottom area for better concentration of sediment thus facilitating decanting of liquid. Supplied with an unattached, white polypropylene closure with a pulp / vinyl coated liner.

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
14720-200	200	60 x 145	38-400	1

*See Oil Centrifuge Tubes on pages 9 and 10.*

**Reusable Centrifuge Tubes, Heavy Duty****Reusable Beaded Top Centrifuge Tube, Heavy-Duty, Graduated with White Scale**

Standard taper KIMAX tube is a heavy-duty version of 45165-15. Made with heavier walled tubing to withstand higher centrifugation speeds. Top is beaded for strength. Calibrated "to contain". Scale is durable white ceramic enamel.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45199-12	12	0.1	0 to 0.2 - ± 0.05 Above 0.2 to 1 - 0.10 Above 1 to 3 - 0.15 Above 3 - 0.20	17 x 118	12

**Reusable Threaded Centrifuge Tubes, Heavy-Duty, Graduated with White Scales, Unattached Caps**

Standard taper KIMAX tube is a heavy-duty version of 45166. Calibrated "to contain". Scale is durable white ceramic enamel. Made with heavier walled tubing to withstand higher centrifugation speeds. Top has a screw thread finish. Autoclavable cap with rubber liner is included but not attached. Replacement cap is 45066B.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	GPI Thread Finish	Case Qty.
45200-10	10	0.1	0 to 0.2 - ±0.05 Above 0.2 to 1 - 0.10 Above 1 to 3 - 0.15 Above 3 - 0.20	17 x 116	15-415	12
45200-40	40	0-10 in 0.5 10-40 in 1	0 to 1 - ± 0.10 Above 1 to 2 - 0.20 Above 2 to 5 - 0.30 Above 5 to 10 - 0.50 Above 10 - 1.00	29 x 140	24-410	12

**Replacement Parts**

45066B-15	Phenolic Cap with Rubber Liner, 15-415	150
45066B-24	Phenolic Cap with Rubber Liner, 24-410	150

**Reusable Centrifuge Tubes, Heavy-Duty, Graduated with Amber Scales, ⌘ PTFE Flathead Stoppers**

KIMAX tube with a standard taper bottom and a graduated scale. Calibrated "to contain". With top finish to accept a ⌘ stopper. Scale is printed in permanent amber stain. Marking spot is sandblasted. (Do not centrifuge with stopper in tube.)

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length with Stopper (mm)	⌘ Stopper Size	Case Qty.
45176-13	13	0.1	0 to 0.2 - ±0.05 Above 0.2 to 1 - 0.10 Above 1 to 3 - 0.15 Above 3 - 0.20	17 x 140	13	6
45176-50	50	0-10 in 0.5 10-50 in 1	0 to 1 - ±0.10 Above 1 to 2 - 0.20 Above 2 to 5 - 0.30 Above 5 to 10 - 0.50 Above 10 - 1.00	29 x 170	16	6

**Reusable Centrifuge Tube, Heavy-Duty, Graduated with White Scale, ⌘ Glass Pennyhead Stopper**

Standard taper KIMAX tube is a heavy-duty version of 45153-15. Calibrated "to contain". Scale and marking spot are durable white ceramic enamel. Tooled for a ⌘ stopper, which is included. (Do not centrifuge with stopper in tube.) Replacement stopper is 41900R-13.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length with Stopper (mm)	⌘ Stopper Size	Case Qty.
45201-10	10	0.1	0 to 0.2 - ±0.05 Above 0.2 to 1 - 0.15 Above 1 to 3 - 0.10 Above 3 - 0.20	17 x 137	13	6



45199



45200



45176



45201



**Reusable Centrifuge Tubes, High Strength**

45500



45600



45550



45167

**Reusable High Strength Centrifuge Tubes**

Plain KIMBLE (HS) High Strength 15 mL and 30 mL reusable centrifuge tubes are manufactured from Type 1, Class B, borosilicate glass. The tubes have been chemically strengthened to achieve a greater mechanical strength than standard borosilicate centrifuge tubes. These tubes can be centrifuged up to 13,100 RCF when used with an accessory rubber adapter sleeve in a 50 mL rotor cavity. Excluding caps, the tubes can withstand temperatures up to 300°C. Screw cap tube is supplied with 73802 cap with PTFE-faced rubber liner.

**Plain**

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	Case Qty.
45500-15	15	18 x 102	6
45500-30	30	24 x 106	6

**Screw Thread**

Catalog Number	Cap. (mL)	O.D. x Approx. Length (mm)	GPI Thread Size	Case Qty.
45600-15	15	18 x 102	20-400	6
45600-30	30	24 x 106	24-400	6

**Replacement Parts**

45550-15	Rubber Adapter Sleeve, 15 mL	2
45550-30	Rubber Adapter Sleeve, 30 mL	2
73802-20400	Phenolic Cap with PTFE / Rubber Liner, 20-400	144
73802-24400	Phenolic Cap with PTFE / Rubber Liner, 24-400	144

**Reusable Centrifuge Tube, Graduated with White Scale, for Solubility Index**

KIMAX tube with standard taper. Calibrated "to contain". Scale is durable black ceramic enamel. Marking spot is white. Top is beaded for strength. Used in the determination of the solubility index of dry milk solids or whey products as specified by the American Dairy Products Institute.

Kimble Article No.	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45167-50	50	0-1 in 0.1 1-2 in 0.2 2-10 in 0.5  10-20 in 1 and at 50	0 to 1 - ±0.075 Above 1 to 2 - 0.150 Above 2 to 5 - 0.300 Above 5 to 10 - 0.50 Above 10 - 1.0	29 x 133	6	12

**Centrifuge Tubes for Petroleum Testing****Centrifuge Tube, Graduated with White Scale, API**

KIMAX tube with a long taper calibrated "to contain". Used to determine the bottom sediment and water in petroleum. Made in accordance with the specifications of the American Petroleum Institute. (API Standard 2542). Scale and marking spot are durable white ceramic enamel.

Catalog Number	Cap. (%)	Subdivision (%)	±Tolerance (%)	O.D. x Approx. Length (mm)	Case Qty.
45170-125	100 (12.5 mL)	0-3 in 0.2 3-10 in 0.5 10-50 in 1 and at 100	0 to 1 - ± 0.10 Above 1 to 2 - 0.15 Above 2 to 5 - 0.20 Above 5 to 10 - 0.40 Above 10 to 25 - 0.50 Above 25 - 1.00	17 x 118	12

**Centrifuge Tube, Goetz, Graduated with Black Scale, Glass Pennyhead Stopper**

KIMAX tube used for the determination of small quantities of solids in large volumes of liquids. Calibrated "to contain". Stem is graduated in 0.01 mL to 0.2 mL and the body has graduations at 25, 50, and 100 mL. Recommended for the determination of free water and sediment in diesel and other distillate fuels, as a pass-fail indication of product quality (ASTM D2709). Durable black ceramic enamel scale. White marking spot. Stopper is size 16. (Do not centrifuge with stopper in tube.)

Catalog Number	Cap. (mL)	±Tolerance (mL)	O.D. x Approx. Length with Stopper (mm)	Shelf-Pack Qty.	Case Qty.
45220-100	100	0 to 0.2 - ± 0.01 At 25 - 1.00 Above 25 - 2.00	58 x 185	2	6

**Centrifuge Tube, Oil, Graduated with Red Scale**

KIMAX graduated tube is used for the determination of water and sediment in petroleum products per ASTM method D3904. Calibrated "to contain". Top is tooled for a size 5 rubber stopper.

Catalog Number	Cap. (mL)	Subdivisions (mL)	O.D. x Approx. Length (mm)	Case Qty.
412510-0000	100	0-3 in 0.1, 3-10 in 0.5, and at 15, 20, 25, 50, and 100	58 x 170	1

**Centrifuge Tubes, Oil, Graduated with White Scales**

KIMAX tube used in the determination of bottom sediment and water in petroleum products and in the determination of foots in raw linseed oil by the gravimetric method (ASTM D1966). Calibrated "to contain". Stem diameter holds 1.5 mL. Scale and marking spot are durable white ceramic enamel.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45244-100	100	0-1.5 in 0.1 1.5-5 in 0.5  5-10 in 1 10-25 in 5 and at 50, 100	0 to 1.5 - ± 0.03 Above 1.5 to 3 - 0.20 Above 3 to 5 - 0.30 Above 5 to 10 - 0.50 Above 10 to 25 - 1.00 Above 25 - 2.00	58 x 158	6	12

**Graduated in %. 100 mL equals 200%**

Catalog Number	Cap. (%)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45244-200	200 (100 mL)	0-3% in 0.10% 3-5 in 0.50 5-10 in 1 10-100 in 10 100-200 in 20	0 to 1.5 - ± 0.03 Above 1.5 to 3 - 0.20 Above 3 to 5 - 0.30 Above 5 to 10 - 0.50 Above 10 to 25 - 1.00 Above 25 to 100 - 2.00	58 x 158	6



45170



45220



412510

1.5 mL  
stem  
capacity

45244-100



45244-200

## Centrifuge Tubes for Petroleum Testing

**Polyethylene Snap Caps fit all the tubes on this page.**



**Accessory Snap Caps, 6 / Case**

**28150R-6** Size #6, Yellow

**Case Price: 23.90**



**45240**



**45241**



**45243-200**



**45243-100**

### Centrifuge Tube, Oil, Graduated with White Scale, 8"

KIMAX tube used in the determination of water and sediment in crude mineral oils, fuel oils and other petroleum products (D1796 and MPMS 10.4 standards); in determination of volume of precipitate formed by centrifuging definite quantities of steam cylinder stocks and black oils and other lubricating oils (ASTM D91 and D128); in tests for water-insoluble solids in methylcellulose (ASTM D1347); and in testing for acidity of distillation residues or hydrocarbon liquids of gasoline or petroleum solvents (ASTM D1093). Calibrated "to contain". Scale and marking spot are durable white ceramic enamel. Also referenced in ASTM D4007. Top is tooled for a snap cap.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45240-100	100	0-0.5 in 0.05 0.5-2 in 0.1 2-3 in 0.2 3-5 in 0.5 5-10 in 1 10-25 in 5 25-100 in 25	0 to 0.1 - ± 0.02 Above 0.1 to 0.3 - 0.03 Above 0.3 to 1 - 0.05 Above 1 to 3 - 0.10 Above 3 to 5 - 0.20 Above 5 to 10 - 0.50 Above 10 - 1.00	37 x 203	6	12

### Centrifuge Tube, Oil and Weathering (End Point Index), Graduated with White Scale, 8"

KIMAX tube used extensively in California for the determination of residues in Liquified Petroleum (LP) gases, ASTM Method D2158. Calibrated "to contain". Different graduations than 45240. Scale and marking spot are durable white ceramic enamel. Top is tooled for a snap cap.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45241-100	100	0-1 in 0.05  1-3 in 0.1 3-6 in 0.2 6-10 in 0.5 10-100 in 1	0 to 0.1 - ± 0.02 Above 0.1 to 0.30 - 0.03 Above 0.3 to 1 - 0.05 Above 1 to 3 - 0.10 Above 3 to 5 - 0.20 Above 5 to 10 - 0.50 Above 10 - 1.00	37 x 203	6	12

### Centrifuge Tubes, Oil, Graduated with White Scales, Short Cone, 6"

KIMAX tube designed for field use in testing petroleum. Calibrated "to contain". Scale and marking spot are durable white ceramic enamel. Referenced in ASTM D4007. Top is tooled for a snap cap.

Catalog Number	Cap. (mL)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Shelf-Pack Qty.	Case Qty.
45243-100	100	0-0.5 in 0.05  0.5-2 in 0.1  2-3 in 0.2 3-5 in 0.5 5-10 in 1 10-25 in 5 and at 50, 100	0 to 0.1 - ± 0.02 Above 0.1 to 0.3 - 0.03 Above 0.3 to 0.5 - 0.05 Above 0.5 to 1 - 0.075 Above 1 to 1.5 - 0.10 Above 1.5 to 2 - 0.20 Above 2 to 3 - 0.30 Above 3 to 5 - 0.50 Above 5 to 10 - 0.75 Above 10 to 25 - 1.00 Above 25 - 1.50	45 x 165	6	12

#### Graduated in %. 100 mL equals 200%.

Catalog Number	Cap. (%)	Subdivision (mL)	±Tolerance (mL)	O.D. x Approx. Length (mm)	Case Qty.
45243-200	200 (100 mL)	0-0.1% in 0.10% 1-4 in .20 4-6 in .40 6-10 in 1 10-20 in 2 20-50 in 10 and at 100, 200	0 to 0.1 - ± 0.02 Above 0.1 to 0.3 - 0.03 Above 0.3 to 0.5 - 0.05 Above 0.5 to 1 - 0.075 Above 1 to 1.5 - 0.10 Above 1.5 to 2 - 0.20 Above 2 to 3 - 0.30 Above 3 to 5 - 0.50 Above 5 to 10 - 0.75 Above 10 to 25 - 1.00 Above 25 - 1.50	45 x 165	6

## Nomogram for Computing Relative Centrifugal Force

One of the questions asked most frequently in the field of centrifugation is how does one relate revolutions per minute (R.P.M.) to relative centrifugal force (R.C.F.)? The following nomograph may be used directly or the R.C.F. may be calculated from the formula.

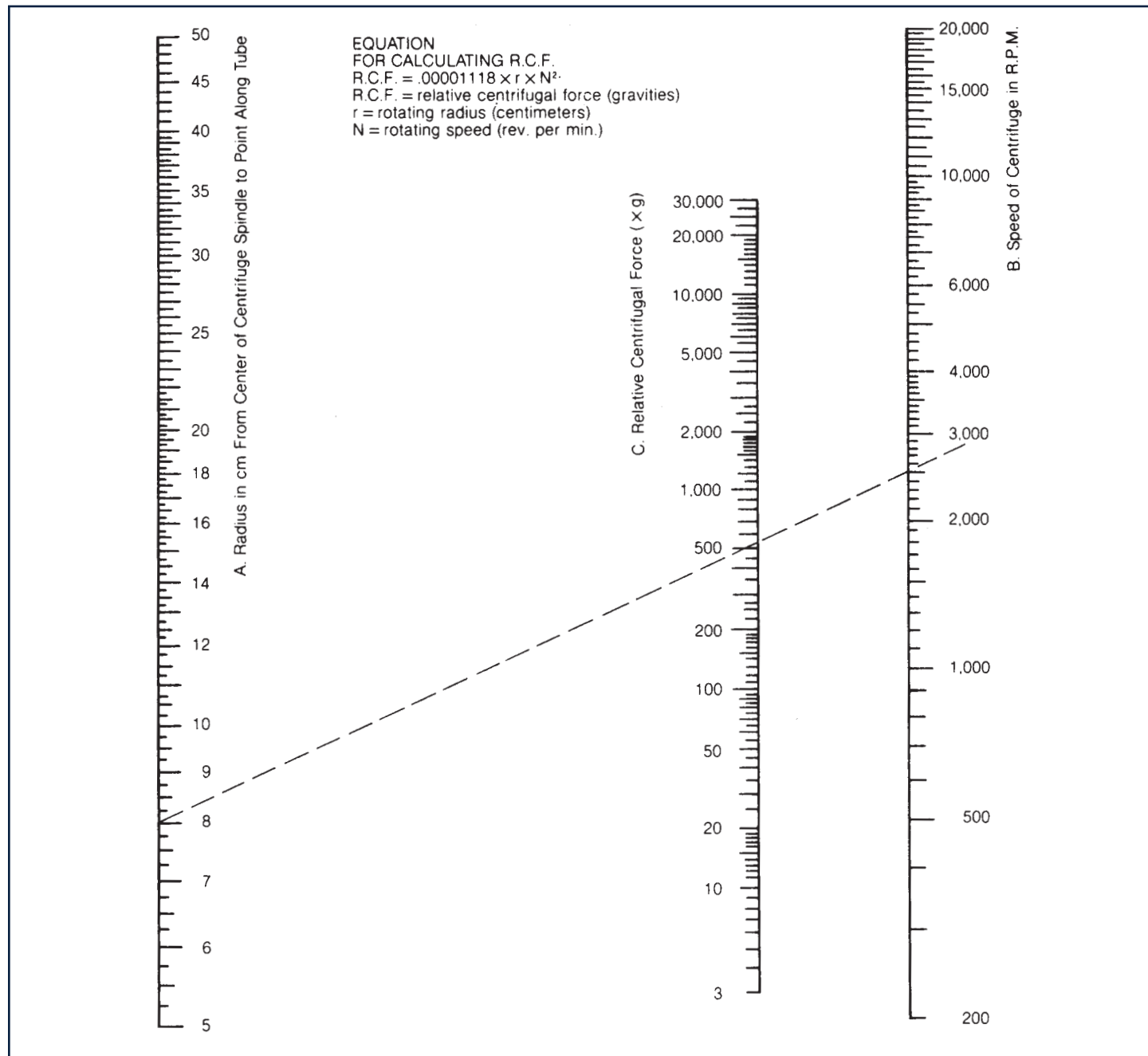
Equation for Calculating R.C.F.

$R.C.F. = .00001118 \times r \times N^2$  (R.C.F. = relative centrifugal force (gravities);  $r$  = rotating radius;  $N$  = rotating speed)

### Sample Calculation

The relative centrifugal force (R.C.F.) at a radial distance of 8 cm from the center of centrifuge spindle when operating at a speed of 2500 R.P.M., may be determined by placing a straight edge on the nomogram connecting the 8 cm point on the Radius from Center Spindle Scale (A), with the 2500 R.P.M. point on the Speed Scale (B). The point of intersection on the Relative Centrifugal Force Scale (C), or 550 g is the relative centrifugal force ( $550 \times 32 = 17600$  psi).

If the desired R.C.F. is known, the speed of rotation for a given radius may be found by connecting the two points and reading the Speed Scale at intersection.

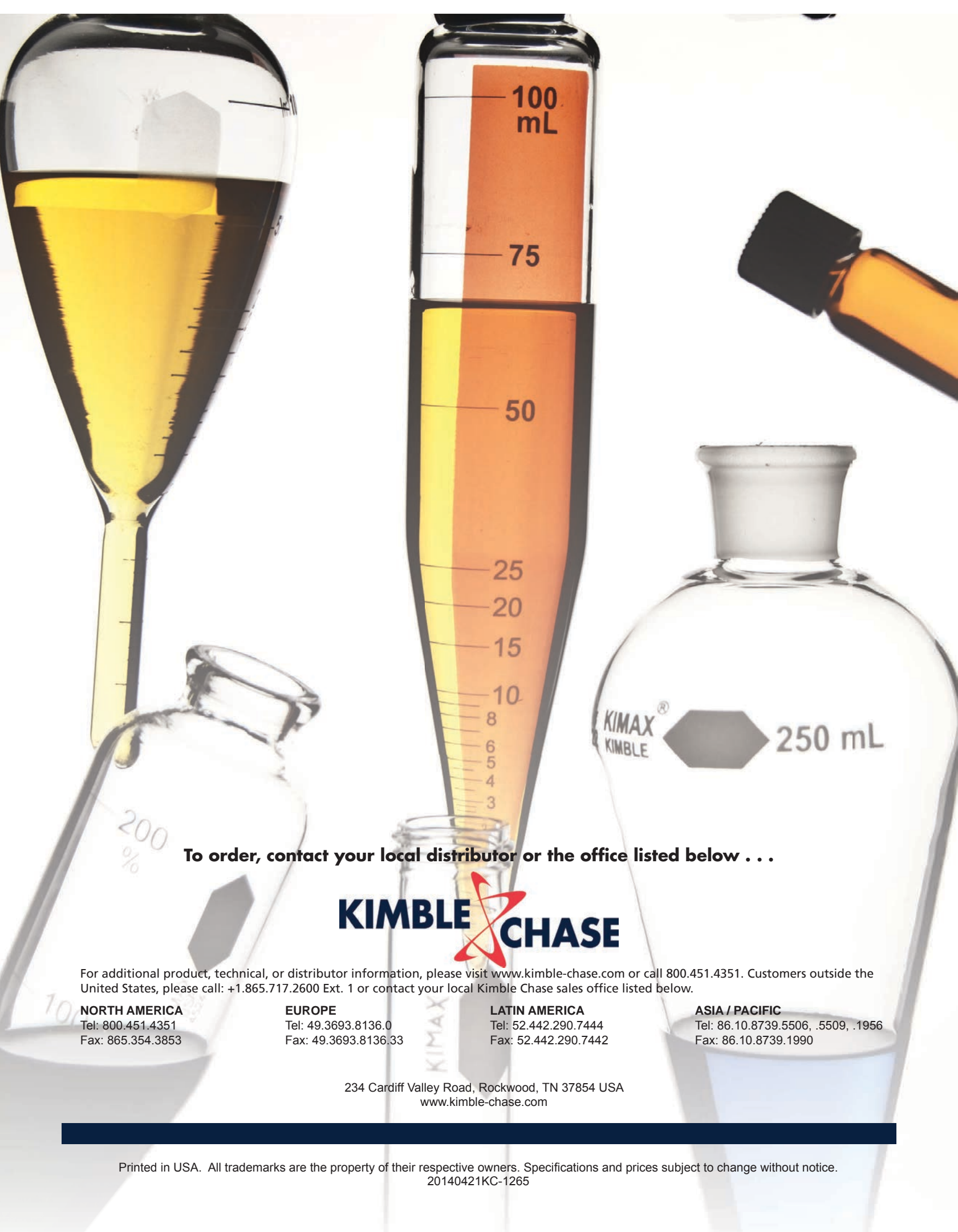


# KIMBLE CHASE - CENTRIFUGE TUBES

Centrifuge Tube Quick Reference Chart and Page Index									
Cat. No.	Page	Shape	Graduations	Stopper / Cap	< 15mL	≥ 15mL	Heavy Duty	Max RCF	Test Reference
14720	6	round	ungraduated	screw cap		x		3550	
45150	3	conical	ungraduated	beaded	x			2980	
45153	5	conical	white ceramic	pennyhead	x	x		2980	D2792
45160	3	conical	ungraduated	beaded		x		2980	
45164	4	conical	red stain	beaded		x		2980	
45165	4	conical	white ceramic	beaded top	x	x		2980	
45166	5	conical	white ceramic	screw cap	x	x		2980	
45167	8	conical	black	beaded		x		2980	ADPI
45170	9	conical	white ceramic	beaded	x			2980	API 2542, D96
45174	6	conical	ungraduated	flathead	x	x	x	2050	
45176	7	conical	red/brown stain	flathead	x	x	x	2050	
45186	4	conical	white ceramic	beaded top		x		2000	
45194	6	conical	ungraduated	beaded	x		x	2980	
45196	6	conical	ungraduated	screw cap		x	x	3550	
45199	7	conical	white ceramic	beaded	x		x	2980	
45200	7	conical	white ceramic	screw cap	x	x	x	2980	
45201	7	conical	white ceramic	pennyhead	x		x	2980	
45212	6	round	ungraduated	screw cap		x	x	3550	
45220	9	conical	black ceramic	pennyhead		x		800	ASTM D2709
45225	4	capillary	white ceramic	beaded	x			2980	
45240	10	conical	white ceramic	snap cap		x		800	ASTM D91, D96, D128, D1093, D1347, D1796, D4007
45241	10	conical	white ceramic	snap cap		x		800	ASTM D2158
45243	10	conical	white ceramic	snap cap		x		800	ASTM D96, D3326, D4007,
45244	9	conical	white ceramic	—		x		800	ASTM D96, D1966
45246	5	conical	white ceramic	screw cap		x		2980	
45500	8	round	ungraduated	—	x	x	high strength	13100*	
45600	8	round	ungraduated	screw cap	x	x	high strength	13100*	
73785	2	conical	ungraduated	screw cap	x	x		2980	
73790	2	conical	ungraduated	snap cap	x	x		2980	
410090	3	conical	ungraduated	screw cap	x	x		2980	
410550	5	conical	red ceramic	flathead	x	x		2980	
411050	3	round	ungraduated	flathead		x		2980	
411800	3	conical	ungraduated	snap cap		x		2980	
412510	9	conical	red ceramic	#5 stopper		x		800	

\* when used with rubber adapter sleeve





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