



# Water Testing Supplies



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KIMBLE



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# Bottles, BOD

## BOD Bottles

- Ideal for incubating diluted samples of sewage, sewage effluents, polluted waters and industrial wastes to determine the amount of oxygen required during the stabilization of the decomposable organic matter by aerobic biochemical action
- We recommend the 300mL capacity bottles for the five-day BOD test as referenced in Standard Methods for the Examination of Water and Wastewater, 21st Edition, 5210B, 2005
- Specially designed bottle shoulder radius that sweeps all air from inside the bottle during filling
- The interchangeable stoppers have a tapered bottom that prevents air entrapment

- The bottles have a flared mouth to form a water seal around the stopper that prevents air from being drawn into the bottle during incubation
- Stopper joint is compatible with the probes of the leading meters for BOD and dissolved oxygen
- Large, permanently screened-on writing patch on all bottles
- Manufactured from USP Type I borosilicate glass



| Cat. No.       | Cap (mL) | Number Sequence | Barcoding | Dia. x H (mm) | Stopper         | Qty / Case |
|----------------|----------|-----------------|-----------|---------------|-----------------|------------|
| 12-227494-00G  | 60mL     | Un-numbered     | No        | 43 x 115      | Glass Pennyhead | 36         |
| 12-227494-00   | 60mL     | Un-numbered     | No        | 43 x 115      | Glass Robotic   | 36         |
| 12-227494-01G  | 60mL     | 01-36           | No        | 43 x 115      | Glass Pennyhead | 36         |
| 12-227494-01   | 60mL     | 01-36           | No        | 43 x 115      | Glass Robotic   | 36         |
| 12-227494-02G  | 60mL     | 37-72           | No        | 43 x 115      | Glass Pennyhead | 36         |
| 12-227494-02   | 60mL     | 37-72           | No        | 43 x 115      | Glass Robotic   | 36         |
| 12-227494-03G  | 60mL     | 73-108          | No        | 43 x 115      | Glass Pennyhead | 36         |
| 12-227494-03   | 60mL     | 73-108          | No        | 43 x 115      | Glass Robotic   | 36         |
| 12-227494-99G* | 60mL     | Specials        | No        | 43 x 115      | Glass Pennyhead | 36         |
| 12-227494-99*  | 60mL     | Specials        | No        | 43 x 115      | Glass Robotic   | 36         |
|                |          |                 |           |               |                 |            |
| 12-227498      | 300mL    | Un-numbered     | No        | 69 x 143      | Without Stopper | 24         |
| 12-227497-00G  | 300mL    | Un-numbered     | No        | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-00   | 300mL    | Un-numbered     | No        | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-01G  | 300mL    | 01-24           | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-01   | 300mL    | 01-24           | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-02G  | 300mL    | 25-48           | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-02   | 300mL    | 25-48           | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-03G  | 300mL    | 49-72           | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-03   | 300mL    | 49-72           | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-04G  | 300mL    | 73-96           | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-04   | 300mL    | 73-96           | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-05G  | 300mL    | 97-120          | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-05   | 300mL    | 97-120          | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-06G  | 300mL    | 121-144         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-06   | 300mL    | 121-144         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-07G  | 300mL    | 145-168         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-07   | 300mL    | 145-168         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-08G  | 300mL    | 169-192         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-08   | 300mL    | 169-192         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-09G  | 300mL    | 193-216         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-09   | 300mL    | 193-216         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-10G  | 300mL    | 217-240         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-10   | 300mL    | 217-240         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-11G  | 300mL    | 241-264         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-11   | 300mL    | 241-264         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-12G  | 300mL    | 265-228         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-12   | 300mL    | 265-228         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-13G  | 300mL    | 289-312         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-13   | 300mL    | 289-312         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-14G  | 300mL    | 313-336         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-14   | 300mL    | 313-336         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-15G  | 300mL    | 337-360         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-15   | 300mL    | 337-360         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-16G  | 300mL    | 361-384         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-16   | 300mL    | 361-384         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-17G  | 300mL    | 385-408         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-17   | 300mL    | 385-408         | Yes       | 69 x 165      | Glass Robotic   | 24         |
| 12-227497-18G  | 300mL    | 409-432         | Yes       | 69 x 165      | Glass Pennyhead | 24         |
| 12-227497-18   | 300mL    | 409-432         | Yes       | 69 x 165      | Glass Robotic   | 24         |

# Bottles, Boston Round

## Boston Round Bottle

- Clear or Amber, Type III soda-lime glass
- Ideal for solvent, chemical or sample storage
- Available with caps attached or bulk packs without caps



| Cat. No.     | Color | Capacity (oz) | Capacity (mL)* | Dia x H (mm) | Cap Size | Cap Material        | Cap Liner                      | Qty/Case |
|--------------|-------|---------------|----------------|--------------|----------|---------------------|--------------------------------|----------|
| 12-W216830** | Clear | 1             | 30             | 31 x 79      | 20-400   | Without Cap         | —                              | 432      |
| 12-W216800   | Clear | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | Poly-Vinyl                     | 48       |
| 12-W216824   | Clear | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | Poly-Vinyl                     | 432      |
| 12-W216806   | Clear | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 48       |
| 12-W216812   | Clear | 1             | 30             | 31 x 79      | 20-400   | Black Phenolic      | PE Cone                        | 48       |
| 12-W216818** | Clear | 1             | 30             | 31 x 79      | 20-400   | Black Phenolic      | Rubber                         | 48       |
| 12-W216865** | Amber | 1             | 30             | 31 x 79      | 20-400   | Without Cap         | —                              | 432      |
| 12-W216836   | Amber | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | Poly-Vinyl                     | 48       |
| 12-W216859   | Amber | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | Poly-Vinyl                     | 432      |
| 12-W216842   | Amber | 1             | 30             | 31 x 79      | 20-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 48       |
| 12-W216848   | Amber | 1             | 30             | 31 x 79      | 20-400   | Black Phenolic      | PE Cone                        | 48       |
| 12-W216854** | Amber | 1             | 30             | 31 x 79      | 20-400   | Black Phenolic      | Rubber                         | 48       |
| 12-W216831** | Clear | 2             | 60             | 39 x 94      | 20-400   | Without Cap         | —                              | 288      |
| 12-W216807   | Clear | 2             | 60             | 39 x 94      | 20-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 24       |
| 12-W216813   | Clear | 2             | 60             | 39 x 94      | 20-400   | Black Phenolic      | PE Cone                        | 24       |
| 12-W216819** | Clear | 2             | 60             | 39 x 94      | 20-400   | Black Phenolic      | Rubber                         | 24       |
| 12-W216866** | Amber | 2             | 60             | 39 x 94      | 20-400   | Without Cap         | —                              | 288      |
| 12-W216837   | Amber | 2             | 60             | 39 x 94      | 20-400   | White Polypropylene | Poly-Vinyl                     | 24       |
| 12-W216860   | Amber | 2             | 60             | 39 x 94      | 20-400   | White Polypropylene | Poly-Vinyl                     | 288      |
| 12-W216843   | Amber | 2             | 60             | 39 x 94      | 20-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 24       |
| 12-W216849   | Amber | 2             | 60             | 39 x 94      | 20-400   | Black Phenolic      | PE Cone                        | 24       |
| 12-W216854** | Amber | 2             | 60             | 39 x 94      | 20-400   | Black Phenolic      | Rubber                         | 24       |
| 12-W216832** | Clear | 4             | 125            | 48 x 112     | 22-400   | Without Cap         | —                              | 160      |
| 12-W216802   | Clear | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | Poly-Vinyl                     | 24       |
| 12-W216826   | Clear | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | Poly-Vinyl                     | 160      |
| 12-W216808   | Clear | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 24       |
| 12-W216814   | Clear | 4             | 125            | 48 x 112     | 22-400   | Black Phenolic      | PE Cone                        | 24       |
| 12-W216820** | Clear | 4             | 125            | 48 x 112     | 22-400   | Black Phenolic      | Rubber                         | 24       |
| 12-W216867** | Amber | 4             | 125            | 48 x 112     | 22-400   | Without Cap         | —                              | 160      |
| 12-W216838   | Amber | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | Poly-Vinyl                     | 24       |
| 12-W216861   | Amber | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | Poly-Vinyl                     | 160      |
| 12-W216844   | Amber | 4             | 125            | 48 x 112     | 22-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 24       |
| 12-W216850   | Amber | 4             | 125            | 48 x 112     | 22-400   | Black Phenolic      | PE Cone                        | 24       |
| 12-W216855** | Amber | 4             | 125            | 48 x 112     | 22-400   | Black Phenolic      | Rubber                         | 24       |
| 12-W216833** | Clear | 8             | 250            | 60 x 136     | 24-400   | Without Cap         | —                              | 108      |
| 12-W216803   | Clear | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216827   | Clear | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | Poly-Vinyl                     | 108      |
| 12-W216809   | Clear | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216815   | Clear | 8             | 250            | 60 x 136     | 24-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216821** | Clear | 8             | 250            | 60 x 136     | 24-400   | Black Phenolic      | Rubber                         | 12       |
| 12-W216868** | Amber | 8             | 250            | 60 x 136     | 24-400   | Without Cap         | —                              | 108      |
| 12-W216839   | Amber | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216862   | Amber | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | Poly-Vinyl                     | 108      |
| 12-W216845   | Amber | 8             | 250            | 60 x 136     | 24-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216851   | Amber | 8             | 250            | 60 x 136     | 24-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216856** | Amber | 8             | 250            | 60 x 136     | 24-400   | Black Phenolic      | Rubber                         | 12       |

\*Approximate capacity    \*\*Autoclavable

## Boston Round Bottles (continued)

| Cat. No.     | Color | Capacity (oz) | Capacity (mL)* | Dia x H (mm) | Cap Size | Cap Material        | Cap Liner                      | Qty/Case |
|--------------|-------|---------------|----------------|--------------|----------|---------------------|--------------------------------|----------|
| 12-W216834** | Clear | 16            | 500            | 75 x 168     | 28-400   | Without Cap         | —                              | 60       |
| 12-W216804   | Clear | 16            | 500            | 75 x 168     | 28-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216810   | Clear | 16            | 500            | 75 x 168     | 28-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216828   | Clear | 16            | 500            | 75 x 168     | 28-400   | White Polypropylene | Poly-Vinyl                     | 60       |
| 12-W216816   | Clear | 16            | 500            | 75 x 168     | 28-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216822** | Clear | 16            | 500            | 75 x 168     | 28-400   | Black Phenolic      | Rubber                         | 12       |
| 12-W216869** | Amber | 16            | 500            | 75 x 168     | 28-400   | Without Cap         | —                              | 60       |
| 12-W216840   | Amber | 16            | 500            | 75 x 168     | 28-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216846   | Amber | 16            | 500            | 75 x 168     | 28-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216852   | Amber | 16            | 500            | 75 x 168     | 28-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216857** | Amber | 16            | 500            | 75 x 168     | 28-400   | Black Phenolic      | Rubber                         | 12       |
|              |       |               |                |              |          |                     |                                |          |
| 12-W216835** | Clear | 32            | 1000           | 94 x 206     | 33-400   | Without Cap         | —                              | 12       |
| 12-W216805   | Clear | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216829   | Clear | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216811   | Clear | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216817   | Clear | 32            | 1000           | 94 x 206     | 33-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216823** | Clear | 32            | 1000           | 94 x 206     | 33-400   | Black Phenolic      | Rubber                         | 12       |
| 12-W216870** | Amber | 32            | 1000           | 94 x 206     | 33-400   | Without Cap         | —                              | 30       |
| 12-W216841   | Amber | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | Poly-Vinyl                     | 12       |
| 12-W216864   | Amber | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | Poly-Vinyl                     | 30       |
| 12-W216847   | Amber | 32            | 1000           | 94 x 206     | 33-400   | White Polypropylene | PTFE Faced Foamed Polyethylene | 12       |
| 12-W216853   | Amber | 32            | 1000           | 94 x 206     | 33-400   | Black Phenolic      | PE Cone                        | 12       |
| 12-W216858** | Amber | 32            | 1000           | 94 x 206     | 33-400   | Black Phenolic      | Rubber                         | 12       |

\*Approximate capacity \*\*Autoclavable

## Replacement Caps for Boston Round Bottles

| Cat. No.                                        | Cap Size | Qty/Pack | Qty/Case |
|-------------------------------------------------|----------|----------|----------|
| Black Phenolic with Rubber Liner (Autoclavable) |          |          |          |
| 12-W239298                                      | 20-400   | 72       | 144      |
| 12-W239299                                      | 22-400   | 72       | 144      |
| 12-W239300                                      | 24-400   | 72       | 144      |
| 12-W239301                                      | 28-400   | 72       | 144      |
| 12-W239302                                      | 33-400   | 72       | 144      |
| Black Phenolic / PE Cone Liner                  |          |          |          |
| 12-239253                                       | 20-400   | 72       | 144      |
| 12-239255                                       | 22-400   | 72       | 144      |
| 12-239257                                       | 24-400   | 72       | 144      |
| 12-239259                                       | 28-400   | 72       | 144      |
| 12-239260                                       | 33-400   | 72       | 144      |

| Cat. No.                                                             | Cap Size | Qty/Pack | Qty/Case |
|----------------------------------------------------------------------|----------|----------|----------|
| White Polypropylene / PTFE Faced Foamed Polyethylene Liner 12-239229 |          |          |          |
|                                                                      | 20-400   | 72       | 144      |
| 12-239231                                                            | 22-400   | 72       | 144      |
| 12-239233                                                            | 24-400   | 72       | 144      |
| 12-239235                                                            | 28-400   | 72       | 144      |
| 12-239236                                                            | 33-400   | 72       | 144      |
| White Polypropylene / Poly-Vinyl Liner                               |          |          |          |
| 12-239205                                                            | 20-400   | 72       | 144      |
| 12-239207                                                            | 22-400   | 72       | 144      |
| 12-239209                                                            | 24-400   | 72       | 144      |
| 12-239211                                                            | 28-400   | 72       | 144      |
| 12-239212                                                            | 33-400   | 72       | 144      |



# Distillation

- Save Time!

MIDI-VAP 4000 Systems feature a pre-programmed digital controller with automated shut-off when reaction time is completed.
- Save Money!

MIDI-VAP 4000 Systems use 50 mL of sample. Less start-up material means cost savings to you and less reagent waste for disposal.
- Save Space!

10-position manifold heater block requires less than two square feet of lab bench space.



## MIDI-VAP 4000 Ammonia and Phenol Distillation System

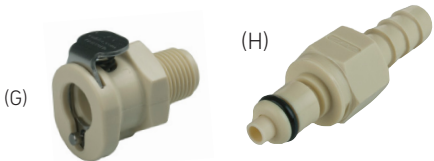
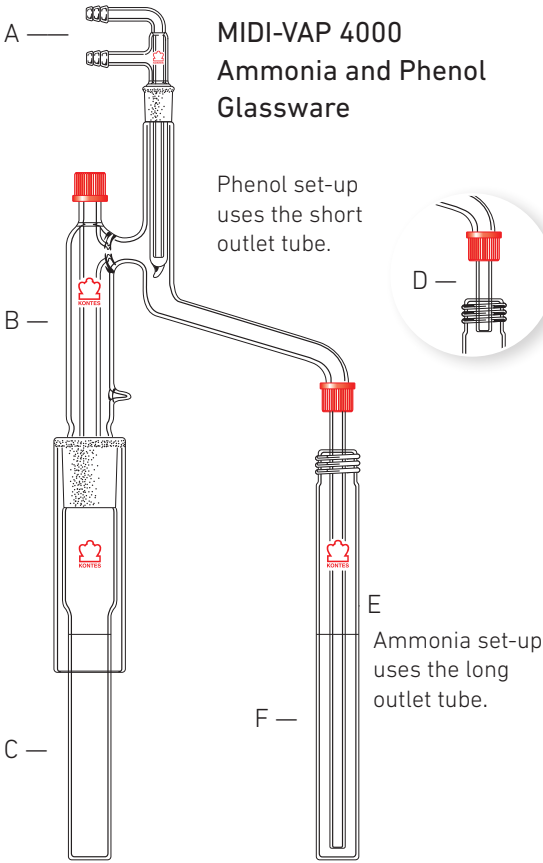
| Catalog No.   | Description                                                                                           | Case Qty. |
|---------------|-------------------------------------------------------------------------------------------------------|-----------|
| 6-479490-4000 | MIDI-VAP 4000 Ammonia and Phenol Complete (Includes 10 sets of glassware, heater and pre-cut tubing.) | 1         |
| 6-479459-0000 | MIDI-VAP 4000 Ammonia & Phenol Glassware, 1 Set                                                       | 1         |
| 6-479459-0005 | MIDI-VAP 4000 Ammonia & Phenol Glassware, 5 Sets                                                      | 1         |
| 6-720440-4000 | MIDI-VAP 4000 Manifold Heater, 115-V (220-V units available. Please call for quote.)                  | 1         |

### MIDI-VAP 4000 Ammonia and Phenol Glassware Set Component Parts

|               |                                                                  |    |
|---------------|------------------------------------------------------------------|----|
| 6-282000-0000 | (A) Cold Finger Condenser                                        | 1  |
| 6-479456-4501 | (B) Distilling Head                                              | 1  |
| 6-479470-0050 | (C) Reaction Tube with Draft Shield, 50 mL, standard taper 29/42 | 1  |
| 6-479458-0000 | (D) Short Stem Outlet Tube for Phenol                            | 1  |
| 6-479458-0001 | (E) Long Stem Outlet Tube for Ammonia                            | 1  |
| 6-479471-0050 | (F) Receiver Tube, GL25 Thread with Cap, 50 mL                   | 1  |
| 6-410479-0014 | High Temp. Cap, Open Top, Red, GL14 (2 supplied)                 | 10 |
| 6-410480-0014 | Sealing Ring, Silicone, for GL14 Cap (2 supplied)                | 10 |
| 6-410481-0014 | Septa, PTFE-Faced, for GL14 Cap (2 supplied)                     | 10 |

### MIDI-VAP 4000 Optional / Replacement Parts

|               |                                                     |    |
|---------------|-----------------------------------------------------|----|
| 6-410479-0025 | High Temp. Cap, Solid Top, Red, GL25                | 10 |
| 6-479400-0018 | (G) Quick Disconnect, female                        | 5  |
| 6-479400-0014 | (H) Quick Disconnect, male                          | 5  |
| 6-479400-0022 | Quick Disconnect, Vacuum Tubing                     | 5  |
| 6-479418-0043 | Ammonia / Phenol Tubing Kit (includes all fittings) | 1  |





## Exclusive Watlow EZ-ZONE Digital Controller

### Features

- Pre-programmed heating cycles for dual temperature ranges
  - cyanide setting is 126 °C
  - ammonia and phenols is 165 °C
- Easy three-step setup saves time
- Automatic shutoff at test completion
- Amber light indicates heating in progress
- Easy to read LED display
- Optional temperature programming

## Heater Block

### Features

- New PTFE gasket prevents spills from entering the interior
- Heavy-duty insulated block facilitates rapid heating
- Isolated wiring eliminates damage from spills
- Easy to adjust needle valves provide accurate control
- Brass hose barbs are impervious to chemical attack
- Consistent, even heating

## MIDI-VAP 4000 Cyanide Distillation System

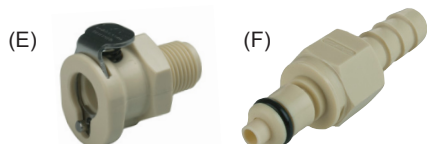
| Catalog No.   | Description                                                                                | Case Qty. |
|---------------|--------------------------------------------------------------------------------------------|-----------|
| 6-479400-4000 | MIDI-VAP 4000 Cyanide Complete (Includes 10 sets of glassware, heater and pre-cut tubing.) | 1         |
| 6-479460-0000 | MIDI-VAP 4000 Cyanide Glassware, 1 Set                                                     | 1         |
| 6-479460-0005 | MIDI-VAP 4000 Cyanide Glassware, 5 Sets                                                    | 1         |
| 6-720440-4000 | MIDI-VAP 4000 Manifold Heater, 115-V (220-V units available. Please call for quote.)       | 1         |

### MIDI-VAP 4000 Cyanide Glassware Set Component Parts

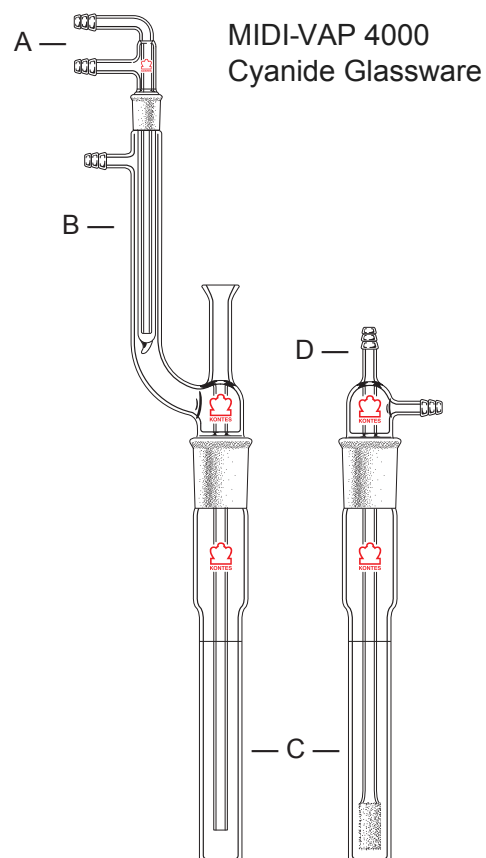
|               |                                                                         |   |
|---------------|-------------------------------------------------------------------------|---|
| 6-282000-0000 | (A) Cold Finger Condenser                                               | 1 |
| 6-479461-0000 | (B) Distilling Head                                                     | 1 |
| 6-479455-0050 | (C) Reaction / Absorption Tube, 50mL, standard taper 29/42 (2 supplied) | 1 |
| 6-479462-0023 | (D) Absorption Impinger, standard taper 29/42                           | 1 |

### MIDI-VAP 4000 Optional / Replacement Parts

|               |                                            |    |
|---------------|--------------------------------------------|----|
| 6-410479-0025 | High Temp. Cap, Solid Top, Red, GL25       | 10 |
| 6-479400-0018 | (E) Quick Disconnect, female               | 5  |
| 6-479400-0014 | (F) Quick Disconnect, male                 | 5  |
| 6-479400-0022 | Quick Disconnect, Vacuum Tubing            | 5  |
| 6-479418-0046 | Cyanide Tubing Kit (includes all fittings) | 1  |



\*220-V, CE certified units available. Please contact your local Kimble Chase sales representative for a quote.



**CAUTION!**  
Midi-Phenol and Midi-Ammonia reactions produce toxic HCN gas. Perform these reactions under a well ventilated fume hood.



## System Specifications

- Corrosion resistant PTFE-coated case
- 30" x 14.25" footprint
- 115V / 1000W / 20A
- 115V UL / CSA certified
- 220V CE certified
- Overtemp protection switch
- Automatic shutoff

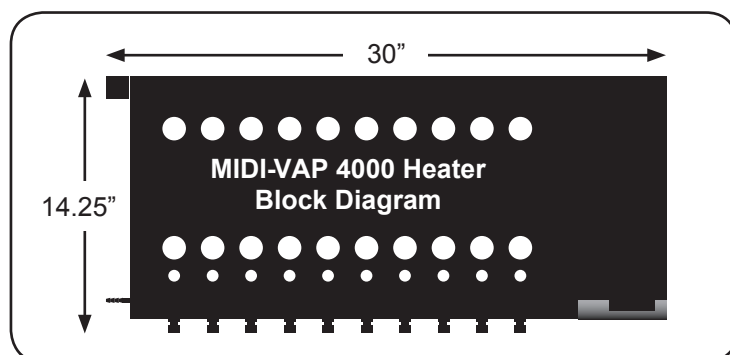
### Approximate Dimensions / Weight

Without Glassware: 30" L x 14.25" W x 7.5" H / ~38 lbs.

Assembled with Glassware: 30" L x 14.25" W x 20" H / ~45 lbs.

### Tubing

Precut with vacuum quick-disconnect fittings provided.



## Accessories for Your MIDI-VAP 4000 Distillation System

### Pressure / Vacuum Diaphragm Pump, 25" Hg, 1.1 CFM

A quiet, reliable vacuum source. Protected internal surfaces provide high resistance to corrosion and solvent attack. Supplied complete with a gauge, a regulator, and fittings.

| Catalog No.   | VAC | Hz | Amps | Case Qty. |
|---------------|-----|----|------|-----------|
| 6-923910-0110 | 115 | 60 | 4.2  | 1         |

### KIMAX® Volumetric Flask with Standard Taper Glass Stopper

- KimCote plastic coating
- Single graduation ring - calibrated to contain
- Designed from ASTM Specification E288, Class A unserialized requirements
- Marking spots are durable white ceramic enamel

| Catalog No.      | Capacity (mL) | ±Tol. (mL) | Stand. Taper Stopper | Approx. Height with Stopper (mm) | Case Qty. |
|------------------|---------------|------------|----------------------|----------------------------------|-----------|
| 186-KC28014-100  | 100           | 0.08       | 13                   | 180                              | 12        |
| 186-KC28014-250  | 250           | 0.12       | 16                   | 250                              | 12        |
| 186-KC28014-500  | 500           | 0.20       | 19                   | 287                              | 12        |
| 186-KC28014-1000 | 1000          | 0.30       | 22                   | 338                              | 4         |
| 186-KC28014-2000 | 2000          | 0.50       | 27                   | 400                              | 2         |



KC28014



Plastic-coated glassware for an added measure of safety.



### ULTRA-WARE® Heavy Wall Filter Flasks with KimCote® Plastic Coating

- KimCote® plastic coating
- Heavy wall borosilicate glass provides mechanical strength for vacuum filtration

| Catalog No.     | Capacity (mL) | Rubber Stopper Size | Hose Connection         | Case Qty. |
|-----------------|---------------|---------------------|-------------------------|-----------|
| 186-953760-0000 | 1000          | 8                   | #2 (for 1/4" ID tubing) | 1         |
| 186-953760-2002 | 2000          | 8                   | #2 (for 1/4" ID tubing) | 1         |

# Hydrometers

## Certificate of Conformance

The Certificate of Conformance indicates the ASTM specifications from which the hydrometers were designed, and states that the reference standards used to calibrate the devices are traceable to NIST.

## Types of Kimble Hydrometers

**Specific Gravity** – With over half of the Kimble hydrometer products falling into this category, this is the most common hydrometer classification. Specific gravity hydrometers are available in a variety of graduation ranges and overall lengths.

### Precision Specific Gravity Hydrometer

| Catalog Number | Graduation Range                                                 | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------------------------------------------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52110-0708   | SG 0.700-0.810                                                   | 0.001 SG             | 16           | 310         | 300                | 6-20058-38375               |
| 6-52110-0809   | SG 0.800-0.910                                                   | 0.001 SG             | 18           | 300         | 500                | 6-20058-50375               |
| 6-52110-0910   | SG 0.900-1.000                                                   | 0.001 SG             | 18           | 310         | 500                | 6-20058-50375               |
| 6-52110-1012   | SG 1.000-1.220                                                   | 0.002 SG             | 16           | 300         | 300                | 6-20058-38375               |
| 6-52110-1214   | SG 1.200-1.420                                                   | 0.002 SG             | 16           | 300         | 300                | 6-20058-38375               |
| 6-52110-1416   | SG 1.400-1.620                                                   | 0.002 SG             | 18           | 300         | 500                | 6-20058-50375               |
| 6-52110-1618   | SG 1.600-1.820                                                   | 0.002 SG             | 18           | 300         | 500                | 6-20058-50375               |
| 6-52110-1820   | SG 1.800-2.000                                                   | 0.002 SG             | 18           | 300         | 500                | 6-20058-50375               |
| 6-52110-2000   | Set of Eight Precision SG Hydrometers (see above specifications) |                      |              |             |                    |                             |



### Tall Form High Precision Specific Gravity Hydrometer

| Catalog Number | Graduation Range | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52111-0708   | SG 0.760-0.830   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-0809   | SG 0.820-0.890   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-0810   | SG 0.880-0.950   | 0.0005 SG            | 18           | 330         | 600                | 6-20058-50375               |
| 6-52111-0910   | SG 0.940-1.010   | 0.0005 SG            | 18           | 330         | 600                | 6-20058-50375               |
| 6-52111-1011   | SG 1.000-1.070   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1111   | SG 1.060-1.130   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1112   | SG 1.120-1.190   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1212   | SG 1.180-1.250   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1213   | SG 1.240-1.310   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1314   | SG 1.300-1.370   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1414   | SG 1.360-1.430   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |
| 6-52111-1415   | SG 1.420-1.490   | 0.0005 SG            | 21           | 330         | 600                | 6-20058-50375               |



### Short Form High Precision Specific Gravity Hydrometer

| Catalog Number | Graduation Range | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) |
|----------------|------------------|----------------------|--------------|-------------|--------------------|
| 6-52112-0809   | SG 0.820-0.890   | 0.001 SG             | 18           | 165         | 140                |
| 6-52112-0909   | SG 0.880-0.950   | 0.001 SG             | 18           | 165         | 140                |
| 6-52112-0910   | SG 0.940-1.010   | 0.001 SG             | 18           | 165         | 140                |
| 6-52112-1011   | SG 1.000-1.070   | 0.001 SG             | 21           | 165         | 140                |
| 6-52112-1111   | SG 1.060-1.130   | 0.001 SG             | 21           | 165         | 140                |
| 6-52112-1112   | SG 1.120-1.190   | 0.001 SG             | 18           | 165         | 140                |
| 6-52112-1113   | SG 1.180-1.250   | 0.001 SG             | 18           | 165         | 140                |
| 6-52112-1213   | SG 1.240-1.310   | 0.001 SG             | 18           | 165         | 140                |





## Broad Range Specific Gravity Hydrometer for Liquids Lighter than Water

| Catalog Number | Graduation Range | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52113-0610   | SG 0.650-1.000   | 0.001 SG             | 18           | 300         | 300                | 6-20058-50375               |

Baume – The Baume scale originally was used in industrial chemistry and pharmacology, but today it is used in brewing, winemaking, sugar beet processing, ophthalmics, and the starch industry. Although specific gravity is a dimensionless number, the Baume scale is graduated in degrees Baume. According to Perry's Chemical Engineers' Handbook (8th Edition), °Be' = 145 – 145/sp gr (heavier than water), and °Be' = 140/sp gr - 130 (lighter than water).

## Narrow Range Baume Hydrometer

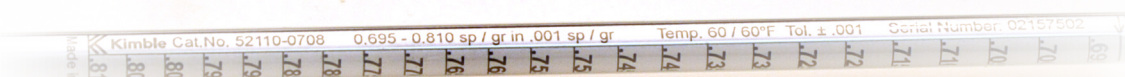
| Catalog Number | Graduation Range | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52120-0012   | 0°-12° Baume     | 0.10° Baume          | 18           | 300         | 500                | 6-20058-50375               |
| 6-52120-0921   | 9°-21° Baume     | 0.10° Baume          | 18           | 300         | 500                | 6-20058-50375               |
| 6-52120-1931   | 19°-31° Baume    | 0.10° Baume          | 18           | 300         | 500                | 6-20058-50375               |
| 6-52120-3951   | 39°-51° Baume    | 0.10° Baume          | 16           | 300         | 300                | 6-20058-38375               |

## Broad Range Baume Hydrometer

| Catalog Number | Graduation Range | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52121-0035   | 0°-35° Baume     | 0.50° Baume          | 16           | 300         | 300                | 6-20058-38375               |
| 6-52121-0050   | 0°-50° Baume     | 0.50° Baume          | 18           | 300         | 500                | 6-20058-50375               |
| 6-52121-0070   | 0°-70° Baume     | 1.0° Baume           |              | 305         | 300                | 6-20058-38375               |

## Dual Scale Baume/SG Hydrometer

| Catalog Number | Graduation Range                | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|---------------------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52122-0026   | 0° - 26° Baume, SG 1.000-1.220  | 0.002 SG, 0.2°Baume  | 16           | 300         | 300                | 6-20058-38375               |
| 6-52122-2443   | 24° - 43° Baume, SG 1.200-1.420 | 0.002 SG, 0.2°Baume  | 16           | 300         | 300                | 6-20058-38375               |
| 6-52122-4255   | 42° - 55° Baume, SG 1.400-1.620 | 0.002 SG, 0.2°Baume  | 18           | 300         | 500                | 6-20058-50375               |
| 6-52122-5465   | 54° - 65° Baume, SG 1.600-1.820 | 0.002 SG, 0.2°Baume  | 18           | 300         | 500                | 6-20058-50375               |
| 6-52122-0072   | 0° - 72° Baume, SG 1.000-2.000  | 0.01 SG, 1.0°Baume   | 16           | 305         | 300                | 6-20058-38375               |



API ASTM – The American Petroleum Institute scale is used to measure the specific gravity of a liquid relative to water. A sample with an API gravity value greater than 10 is lighter than water, and an API gravity value less than 10 is heavier than water. Although specific gravity does not have units, the API scale is graduated in degrees, and was designed such that most values would fall between ten and seventy API gravity degrees. According to Perry's Chemical Engineers' Handbook (8th Edition),  $^{\circ}\text{API} = 141.5/\text{sp gr} - 131.5$ .

### Plain form API ASTM Hydrometer

| Catalog Number | Graduation Range      | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|-----------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52130-0111   | API -1°- +11° ASTM 1H | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-0921   | API 9°-21° ASTM 2H    | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-1931   | API 19°-31° ASTM 3H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-2941   | API 29°-41° ASTM 4H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-3951   | API 39°-51° ASTM 5H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-4961   | API 49°-61° ASTM 6H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-5971   | API 59°-71° ASTM 7H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-6981   | API 69°-81° ASTM 8H   | 0.10° API            | 25           | 330         | 600                | 6-20058-63460               |
| 6-52130-7991   | API 79°-91° ASTM 9H   | 0.10° API            | 25           | 335         | 600                | 6-20058-63460               |
| 6-52130-8910   | API 89°-101° ASTM 10H | 0.10° API            | 21           | 330         | 600                | 6-20058-63460               |

Ethanol – The ethanol hydrometer has dual graduations in 0-100 % and 0-200 proof scales.

### Ethanol Hydrometer

| Catalog Number | Graduation Range             | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|------------------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52150-0200   | 0-100% Ethanol , 0-200 Proof | 1%, 2 Proof          | 16           | 300         | 300                | 6-20058-38375               |

Salt and Brine – The sodium chloride hydrometer is graduated from 0-26.4% sodium chloride, and is used to measure the percentage of a saturated salt solution. The salimeter is graduated from 0-100% saturated sodium chloride. It is used in the measurement of meat packing and pickling brines.

### Salt and Brine Hydrometers

| Catalog Number | Graduation Range                 | Graduation Intervals | Body OD (mm) | Length (mm) | Sample Volume (mL) | Recommended KIMAX® Cylinder |
|----------------|----------------------------------|----------------------|--------------|-------------|--------------------|-----------------------------|
| 6-52140-0100   | 0-100% Saturated Sodium Chloride | 1% of saturation     | 16           | 300         | 300                | 6-20058-38375               |
| 6-52140-0264   | 0-26.4% Sodium Chloride          | 0.5% by weight       | 16           | 300         | 300                | 6-20058-38375               |

# Tubes

## Plain Disposable Borosilicate Glass Tubes

These premium quality tubes feature sturdy, uniform bottoms and consistent lengths. The 10 x 75 and 12 x 75 mm sizes are suitable for cell washing procedures.



- 51 expansion borosilicate glass offers excellent chemical resistance against sodium leaching, a factor common in soda lime glass products
- Tubes are packed in convenient trays for ease of use on bench tops and in drawers
- The 6 x 50 mm size is often referred to as a "Durham tube"
- Trays are shrink-wrapped in plastic film, with tubes remaining in constant alignment for protection against in-transit breakage and contamination
- No marking spot
- Designed from ASTM Specification E890
- Manufactured from 51 expansion borosilicate glass conforming and ASTM E438, Type I, Class B requirements to USP Type I

| Part Number   | Overflow Capacity (mL) | OD x Length (mm) | Case Qty |
|---------------|------------------------|------------------|----------|
| 6-73500-650   | 1                      | 6 x 50           | 1000     |
| 6-73500-1075  | 4                      | 10 x 75          | 1000     |
| 6-73500-1275  | 6                      | 12 x 75          | 1000     |
| 6-73500-13100 | 10                     | 13 x 100         | 1000     |
| 6-73500-1585  | 11                     | 15 x 85          | 1000     |
| 6-60T1685B    | 13                     | 16 x 85          | 1000     |
| 6-73500-16100 | 15                     | 16 x 100         | 1000     |
| 6-73500-16125 | 19                     | 16 x 125         | 1000     |
| 6-73500-16150 | 23                     | 16 x 150         | 1000     |
| 6-73500-18150 | 28.5                   | 18 x 150         | 500      |
| 6-73500-20150 | 36                     | 20 x 150         | 500      |
| 6-73500-25150 | 55                     | 25 x 150         | 500      |

## KIM-KAP™ Polypropylene Closures

KIM-KAP® polypropylene closures for culture tubes.

- Autoclavable
- Color coded



| Part Number | Tube OD (mm) | Color   | Case Qty |
|-------------|--------------|---------|----------|
| 6-73660-13  | 13           | Natural | 1,000    |
| 6-73660-16  | 16           | Natural | 1,000    |
| 6-73660-18  | 18           | Natural | 1,000    |
| 6-73660-20  | 20           | Natural | 500      |
| 6-73660-25  | 25           | Natural | 500      |
| 6-73660-38  | 38           | Natural | 250      |
| 6-73662-13  | 13           | Red     | 1,000    |
| 6-73662-16  | 16           | Red     | 1,000    |
| 6-73662-18  | 18           | Red     | 1,000    |
| 6-73662-20  | 20           | Red     | 500      |
| 6-73662-25  | 25           | Red     | 500      |
| 6-73663-13  | 13           | Green   | 1,000    |
| 6-73663-16  | 16           | Green   | 1,000    |
| 6-73663-18  | 18           | Green   | 1,000    |
| 6-73663-20  | 20           | Green   | 500      |
| 6-73663-25  | 25           | Green   | 500      |
| 6-73664-13  | 13           | Yellow  | 1,000    |
| 6-73664-16  | 16           | Yellow  | 1,000    |
| 6-73664-18  | 18           | Yellow  | 1,000    |
| 6-73664-20  | 20           | Yellow  | 500      |
| 6-73664-25  | 25           | Yellow  | 500      |
| 6-73665-13  | 13           | Blue    | 1,000    |
| 6-73665-16  | 16           | Blue    | 1,000    |
| 6-73665-18  | 18           | Blue    | 1,000    |
| 6-73665-20  | 20           | Blue    | 500      |
| 6-73665-25  | 25           | Blue    | 500      |

## Plain Disposable Soda-Lime Glass Tubes

- All tubes have sturdy, uniform bottoms and consistent lengths
- No marking spot
- Manufactured from 90 expansion soda-lime glass conforming to USP Type III requirements



| Part Number | Overflow Capacity (mL) | OD x Length (mm) | Case Qty |
|-------------|------------------------|------------------|----------|
| 6-60AM10    | 4                      | 10 x 75          | 1000     |
| 6-60BM12    | 6                      | 12 x 75          | 1000     |
| 6-60CM13    | 10                     | 13 x 100         | 1000     |
| 6-60MM190   | 13                     | 16 x 75          | 1000     |
| 6-60EM16    | 15                     | 16 x 100         | 1000     |
| 6-60FM165   | 19                     | 16 x 125         | 1000     |
| 6-60GM166   | 23                     | 16 x 150         | 1000     |
| 6-60KM18    | 28.5                   | 18 x 150         | 500      |

## Disposable Screw Thread Culture Tubes with Marking Spot

These culture tubes are suitable for tissue culture work and general bacteriological use.



- Round-bottomed
- Each tube has a marking area
- Modular trays are shrink-wrapped in plastic film
- Supplied without caps
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

| Part Number   | OD x Length (mm) | GPI Finish; Capacity (mL) | Case Qty |
|---------------|------------------|---------------------------|----------|
| 6-73750-13100 | 13 x 100         | 13-415; 8                 | 1,000    |
| 6-73750-16100 | 16 x 100         | 15-415; 12                | 1,000    |
| 6-73750-16125 | 16 x 125         | 15-415; 16                | 1,000    |
| 6-73750-16150 | 16 x 150         | 15-415; 20                | 1,000    |
| 6-73750-20125 | 20 x 125         | 18-415; 25                | 500      |
| 6-73750-20150 | 20 x 150         | 18-415; 30                | 500      |

## Accessories for Screw Thread Culture Tubes



| Part Number    | Description                                                                   | Case Qty |
|----------------|-------------------------------------------------------------------------------|----------|
| 6-73800-13415  | 13-415 Black Phenolic Cap, Cemented White Rubber Liner                        | 1,000    |
| 6-73800-15415  | 15-415 Black Phenolic Cap, Cemented White Rubber Liner                        | 1,000    |
| 6-73800-18415  | 18-415 Black Phenolic Cap, Cemented White Rubber Liner                        | 1,000    |
| 6-73802-13415  | 13-415 Black Phenolic Cap, Cemented PTFE Faced, White Rubber Liner            | 500      |
| 6-73802-15415  | 15-415 Black Phenolic Cap, Cemented PTFE Faced, White Rubber Liner            | 500      |
| 6-73805-15415  | 15-415 White Polypropylene, Linerless, Economy, for Screw Thread Culture Tube | 1,000    |
| 6-73805B-13415 | 13-415 Natural Polypropylene, Linerless                                       | 1,000    |
| 6-73805B-15415 | 15-415 Natural Polypropylene, Linerless                                       | 1,000    |
| 6-73805B-18415 | 18-415 Natural Polypropylene, Linerless                                       | 500      |

## Amber Plain Disposable Borosilicate Glass Tubes

These premium quality tubes are produced from amber borosilicate glass to give superior protection for light sensitive applications.



- Amber 51 expansion borosilicate glass offers excellent chemical resistance against sodium leaching, a factor common in soda lime glass products
- Tubes are packed in convenient trays for ease of use on bench tops and in drawers
- Trays are shrink-wrapped in plastic film, with tubes remaining in constant alignment for protection against in-transit breakage and contamination
- No marking spot
- Designed from ASTM Specification E890
- Manufactured from amber 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

| Part Number    | Overflow Capacity (mL) | OD x Length (mm) | Case Qty |
|----------------|------------------------|------------------|----------|
| 6-73500-1075A  | 4                      | 10 x 75          | 1000     |
| 6-73500-13100A | 10                     | 13 x 100         | 1000     |
| 6-73500-16100A | 15                     | 16 x 100         | 1000     |

## Disposable Screw Thread Culture Tubes

These tubes are suitable for tissue culture work and general bacteriological use.



- 73760 series and 90 series items that end in 'F' have flat bottoms which contribute to stability
- 73770 series are produced with a round bottom
- Modular trays are shrink-wrapped in plastic film
- Supplied without caps
- No marking spot
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

| Part Number   | GPI Finish; Capacity (mL) | OD x Length (mm) | Case Qty |
|---------------|---------------------------|------------------|----------|
| 6-73770-13100 | 13-415; 8                 | 13 x 100         | 1,000    |
| 6-73770-16100 | 15-415; 12                | 16 x 100         | 1,000    |
| 6-73770-16125 | 15-415; 16                | 16 x 125         | 1,000    |
| 6-73770-16150 | 15-415; 20                | 16 x 150         | 1,000    |
| 6-73770-20125 | 18-415; 25                | 20 x 125         | 500      |
| 6-73770-20150 | 18-415; 30                | 20 x 150         | 500      |
| 6-73760-16125 | 15-415; 16                | 16 x 125         | 1,000    |
| 6-90H13100F   | 13-415; 8                 | 13 x 100         | 1000     |
| 6-90K16100F   | 15-415; 12                | 16 x 100         | 1000     |
| 6-90P20113F   | 18-415; 20                | 20 x 113         | 500      |
| 6-90P20125F   | 18-415; 25                | 20 x 125         | 500      |
| 6-90P20150F   | 18-415; 30                | 20 x 150         | 500      |

## Plain Disposable Plastic Tubes

These non-sterile plastic culture tubes are ideal for use in routine laboratory procedures.



- Polypropylene versions (-200) can be centrifuged up to 3000 RCF and will tolerate most common acids, solvents and alkalis at room temperature
- Polystyrene tubes (-100) are transparent and can withstand up to 1400 RCF
- Autoclavable at 120 °C for 15 minutes
- Will tolerate aqueous solutions, mild bases and weak acids

| Part Number | OD x Length (mm) | Capacity (mL) | Case Qty |
|-------------|------------------|---------------|----------|
| 6-51012-100 | 12 x 75          | 6             | 1,000    |
| 6-51012-200 | 12 x 75          | 6             | 1,000    |
| 6-51013-100 | 13 x 100         | 10            | 1,000    |
| 6-51017-100 | 17 x 100         | 17            | 1,000    |
| 6-51017-200 | 17 x 100         | 17            | 1,000    |

## Reusable Unmarked Culture Tubes

Borosilicate glass tubes with fire-polished top rims and uniform wall thickness for maximum heat transfer and chemical resistance.



- The 6 x 50 mm size is often referred to as a "Durham tube"
- No marking spot
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

| Part Number   | OD x Length (mm) | Overflow Capacity (mL) | Case Qty |
|---------------|------------------|------------------------|----------|
| 6-45060-650   | 6 x 50           | 1                      | 720      |
| 6-45060-13100 | 13 x 100         | 10                     | 720      |
| 6-45060-16150 | 16 x 150         | 23                     | 576      |
| 6-45060-19150 | 19 x 150         | 30                     | 576      |
| 6-45060-25150 | 25 x 150         | 55                     | 288      |
| 6-45060-25200 | 25 x 200         | 75                     | 192      |

## Reusable Culture Tubes with Marking Spot

KIMAX® culture tube has a fire-polished top rim and uniform wall thickness for maximum heat transfer and chemical resistance.



- Durable white ceramic enamel marking spot
- Designed from ASTM Specification E982, Type IV requirements
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

| Part Number   | Overflow Capacity (mL) | OD x Length (mm) | Case Qty |
|---------------|------------------------|------------------|----------|
| 6-45048-1075  | 4                      | 10 x 75          | 720      |
| 6-45048-1275  | 6                      | 12 x 75          | 720      |
| 6-45048-13100 | 10                     | 13 x 100         | 720      |
| 6-45048-15125 | 16                     | 15 x 125         | 720      |
| 6-45048-16100 | 15                     | 16 x 100         | 576      |
| 6-45048-16125 | 19                     | 16 x 125         | 576      |
| 6-45048-16150 | 23                     | 16 x 150         | 576      |
| 6-45048-18150 | 28.5                   | 18 x 150         | 576      |
| 6-45048-20150 | 36                     | 20 x 150         | 576      |
| 6-45048-25150 | 55                     | 25 x 150         | 288      |
| 6-45048-25250 | 95                     | 25 x 250         | 144      |

# Vials, Chromatography

## E-Z Vial® 12 x 32mm Crimp Top (Available in Convenience Packs)



12-225174 12-225173 12-225175 12-225172

- 40% larger opening improves sample accessibility while reducing autosampler needle damage
- Manufactured from Type I borosilicate glass
- Purchase vials and caps separately or together in convenience packs
- Available with or without writing patch

| Cat. No.  | Size (mL) | Description            | Qty / Case |
|-----------|-----------|------------------------|------------|
| E-ZVial   |           |                        |            |
| 12-225175 | 1.8       | Clear                  | 1000       |
| 12-225174 | 1.8       | Clear w/ Writing patch | 1000       |
| 12-225172 | 1.8       | Amber                  | 1000       |
| 12-225173 | 1.8       | Amber w/ Writing patch | 1000       |

## Standard Opening Crimp Vial 12 x 32mm



12-223692 12-223682 12-223692-01 12-223682-01

- Original design used in most autosamplers
- Manufactured from Type I borosilicate glass
- Available with or without writing patch
- Limited volume inserts available separately

| Cat. No.            | Size (mL) | Description               | Qty / Case |
|---------------------|-----------|---------------------------|------------|
| Standard Crimp Vial |           |                           |            |
| 12-223682           | 1.5       | Clear                     | 1000       |
| 12-223682-01        | 1.5       | Clear, with Writing Patch | 1000       |
| 12-223692           | 1.5       | Amber                     | 1000       |
| 12-223692-01        | 1.5       | Amber, with Writing Patch | 1000       |

## Limited Volume Inserts (For E-Z Vials® with Wide Opening)



12-225350-631 12-225265 12-225255 12-225257

| Cat. No.                                    | Size (mL) | Description                           | Qty / Case |
|---------------------------------------------|-----------|---------------------------------------|------------|
| Limited Volume Inserts (Pictured with Vial) |           |                                       |            |
| 12-225255                                   | 0.10      | Glass Insert with Top Spring          | 200        |
| 12-225265                                   | 0.25      | Glass Insert with Bottom Spring       | 100        |
| 12-225257                                   | 0.25      | Polypropylene Insert w/ Bottom Spring | 100        |
| 12-225350-631                               | 0.35      | Glass Flat Bottom Insert              | 1000       |

## Limited Volume Inserts (For Standard Opening Vials)



12-225350-531 12-225260

| Cat. No.                                   | Size (mL) | Description                     | Qty / Case |
|--------------------------------------------|-----------|---------------------------------|------------|
| Limited Volume Insert (Pictured with Vial) |           |                                 |            |
| 12-225260                                  | 0.10      | Glass Insert with Bottom Spring | 100        |
| 12-225350-531                              | 0.25      | Glass Flat Bottom Insert        | 1000       |

## E-Z Seals™ 11mm Aluminum



- For use with 12 x 32mm crimp top vials
- Large target diameter
- Seals available in 4 colors
- Choice of liner

| Cat. No.                                          | Description      | Shelf Pack | Qty / Case |
|---------------------------------------------------|------------------|------------|------------|
| With Natural PTFE / Red Silicone                  |                  |            |            |
| 12-224211-01                                      | Natural Aluminum | 100        | 1000       |
| 12-224211-05                                      | Blue Aluminum    | 100        | 1000       |
| 12-224211-06                                      | Red Aluminum     | 100        | 1000       |
| 12-224211-07                                      | Green Aluminum   | 100        | 1000       |
| With Natural PTFE / Natural Silicone Liner        |                  |            |            |
| 12-224219-01                                      | Natural Aluminum | 100        | 1000       |
| 12-224219-05                                      | Blue Aluminum    | 100        | 1000       |
| 12-224219-06                                      | Red Aluminum     | 100        | 1000       |
| 12-224219-07                                      | Green Aluminum   | 100        | 1000       |
| With Red PTFE / Natural Silicone / Red PTFE Liner |                  |            |            |
| 12-224231-01                                      | Natural Aluminum | 100        | 1000       |
| 12-224231-05                                      | Blue Aluminum    | 100        | 1000       |
| 12-224231-06                                      | Red Aluminum     | 100        | 1000       |
| 12-224231-07                                      | Green Aluminum   | 100        | 1000       |
| With PTFE / Gray Butyl Liner                      |                  |            |            |
| 12-224235-01                                      | Natural Aluminum | 100        | 1000       |



## E-Z Vial® 12 x 32mm Crimp Top Convenience Packs (12 x 32mm Crimp Top Vial with 11mm E-Z Seal™)

| Cat. No.        | Vial             | Seal Color | Septum                 | Qty / Case | Vial Cat. No. | Seal Cat. No. |
|-----------------|------------------|------------|------------------------|------------|---------------|---------------|
| 12-W225175-01   | Clear            | Natural    | PTFE / Red Rubber      | 100        | 12-225175     | 12-224211-01  |
| 12-W225175-0103 | Clear            | Red        | PTFE / Red Rubber      | 100        | 12-225175     | 12-224211-05  |
| 12-W225175-0104 | Clear            | Blue       | PTFE / Red Rubber      | 100        | 12-225175     | 12-224211-06  |
| 12-W225175-0107 | Clear            | Green      | PTFE / Red Rubber      | 100        | 12-225175     | 12-224211-07  |
| 12-W225175-02   | Clear            | Natural    | PTFE / Silicone        | 100        | 12-225175     | 12-224219-01  |
| 12-W225175-0203 | Clear            | Red        | PTFE / Silicone        | 100        | 12-225175     | 12-224219-05  |
| 12-W225175-0204 | Clear            | Blue       | PTFE / Silicone        | 100        | 12-225175     | 12-224219-06  |
| 12-W225175-0207 | Clear            | Green      | PTFE / Silicone        | 100        | 12-225175     | 12-224219-07  |
| 12-W225175-0303 | Clear            | Red        | PTFE / Silicone / PTFE | 100        | 12-225175     | 12-224231-05  |
| 12-W225175-0304 | Clear            | Blue       | PTFE / Silicone / PTFE | 100        | 12-225175     | 12-224231-06  |
|                 |                  |            |                        |            |               |               |
| 12-W225174-01   | Clear with Patch | Natural    | PTFE / Red Rubber      | 100        | 12-225174     | 12-224211-01  |
| 12-W225174-0103 | Clear with Patch | Red        | PTFE / Red Rubber      | 100        | 12-225174     | 12-224211-05  |
| 12-W225174-0104 | Clear with Patch | Blue       | PTFE / Red Rubber      | 100        | 12-225174     | 12-224211-06  |
| 12-W225174-0107 | Clear with Patch | Green      | PTFE / Red Rubber      | 100        | 12-225174     | 12-224211-07  |
| 12-W225174-02   | Clear with Patch | Natural    | PTFE / Silicone        | 100        | 12-225174     | 12-224219-01  |
| 12-W225174-0203 | Clear with Patch | Red        | PTFE / Silicone        | 100        | 12-225174     | 12-224219-05  |
| 12-W225174-0204 | Clear with Patch | Blue       | PTFE / Silicone        | 100        | 12-225174     | 12-224219-06  |
| 12-W225174-0207 | Clear with Patch | Green      | PTFE / Silicone        | 100        | 12-225174     | 12-224219-07  |
| 12-W225174-0303 | Clear with Patch | Red        | PTFE / Silicone / PTFE | 100        | 12-225174     | 12-224231-05  |
| 12-W225174-0304 | Clear with Patch | Blue       | PTFE / Silicone / PTFE | 100        | 12-225174     | 12-224231-06  |
|                 |                  |            |                        |            |               |               |
| 12-W225172-01   | Amber            | Natural    | PTFE / Red Rubber      | 100        | 12-225172     | 12-224211-01  |
| 12-W225172-0103 | Amber            | Red        | PTFE / Red Rubber      | 100        | 12-225172     | 12-224211-05  |
| 12-W225172-0104 | Amber            | Blue       | PTFE / Red Rubber      | 100        | 12-225172     | 12-224211-06  |
| 12-W225172-0107 | Amber            | Green      | PTFE / Red Rubber      | 100        | 12-225172     | 12-224211-07  |
| 12-W225172-02   | Amber            | Natural    | PTFE / Silicone        | 100        | 12-225172     | 12-224219-01  |
| 12-W225172-0203 | Amber            | Red        | PTFE / Silicone        | 100        | 12-225172     | 12-224219-05  |
| 12-W225172-0204 | Amber            | Blue       | PTFE / Silicone        | 100        | 12-225172     | 12-224219-06  |
| 12-W225172-0207 | Amber            | Green      | PTFE / Silicone        | 100        | 12-225172     | 12-224219-07  |
| 12-W225172-0303 | Amber            | Red        | PTFE / Silicone / PTFE | 100        | 12-225172     | 12-224231-05  |
| 12-W225172-0304 | Amber            | Blue       | PTFE / Silicone / PTFE | 100        | 12-225172     | 12-224231-06  |
|                 |                  |            |                        |            |               |               |
| 12-W225173-01   | Amber with Patch | Natural    | PTFE / Red Rubber      | 100        | 12-225173     | 12-224211-01  |
| 12-W225173-0103 | Amber with Patch | Red        | PTFE / Red Rubber      | 100        | 12-225173     | 12-224211-05  |
| 12-W225173-0104 | Amber with Patch | Blue       | PTFE / Red Rubber      | 100        | 12-225173     | 12-224211-06  |
| 12-W225173-0107 | Amber with Patch | Green      | PTFE / Red Rubber      | 100        | 12-225173     | 12-224211-07  |
| 12-W225173-02   | Amber with Patch | Natural    | PTFE / Silicone        | 100        | 12-225173     | 12-224219-01  |
| 12-W225173-0203 | Amber with Patch | Red        | PTFE / Silicone        | 100        | 12-225173     | 12-224219-05  |
| 12-W225173-0204 | Amber with Patch | Blue       | PTFE / Silicone        | 100        | 12-225173     | 12-224219-06  |
| 12-W225173-0207 | Amber with Patch | Green      | PTFE / Silicone        | 100        | 12-225173     | 12-224219-07  |
| 12-W225173-0303 | Amber with Patch | Red        | PTFE / Silicone / PTFE | 100        | 12-225173     | 12-224231-05  |
| 12-W225173-0304 | Amber with Patch | Blue       | PTFE / Silicone / PTFE | 100        | 12-225173     | 12-224231-06  |

LVI™ Vials 12 x 32mm Crimp Top



12-225221-01



12-225220-01

- Borosilicate glass vial with 300µL glass limited volume insert
- Limited Volume Insert is fused to vial which prevents needle damage
- Writing patch on all vials
- Purchase vials and caps separately or together in convenience packs

| Cat. No.     | Size (mL) | Description              | Qty / Case |
|--------------|-----------|--------------------------|------------|
| LVI Vial     |           |                          |            |
| 12-225220-01 | 0.3       | Clear with Writing Patch | 100        |
| 12-225221-01 | 0.3       | Amber with Writing Patch | 100        |



E-Z Seals™ 11mm Aluminum

LVI™ Vials 12 x 32mm Crimp Top Convenience Packs

- 12 x 32mm LVI™ Vial & 11mm Aluminum E-Z Seal™
- Choose clear or amber glass vial
- Writing patch on all vials

| Cat. No.      | Vial             | Seal Color | Septum            | Qty / Case | Vial Cat. No. | Seal Cat. No. |
|---------------|------------------|------------|-------------------|------------|---------------|---------------|
| 12-W225223-01 | Clear with Patch | Natural    | PTFE / Red Rubber | 100        | 12-225220-01  | 12-224211-01  |
| 12-W225225-01 | Amber with Patch | Natural    | PTFE / Red Rubber | 100        | 12-225221-01  | 12-224211-01  |



## E-Z Vial® with Snap Ring 12 x 32mm (Available in Convenience Packs)



- Snap ring vials eliminate the need for crimping and decapping tools
- Vials accept snap cap or 11mm aluminum seal
- 40% larger opening improves sample accessibility while reducing auto sampler needle damage
- Clear or amber Type I borosilicate glass

| Cat. No.                | Size (mL) | Description              | Qty / Case |
|-------------------------|-----------|--------------------------|------------|
| E-Z Vial with Snap Ring |           |                          |            |
| 12-225179               | 1.8       | Clear                    | 1000       |
| 12-225179-01            | 1.8       | Clear with Writing Patch | 1000       |
| 12-225179-02            | 1.8       | Amber                    | 1000       |
| 12-225179-03            | 1.8       | Amber with Writing Patch | 1000       |

## 11mm Snap Caps



- Eliminate the need for crimping and decapping tools
- Fits the WHEATON E-Z Vials® with Snap Ring top
- Manufactured from polyethylene
- Choose from 5 colored caps and a variety of septa

| Cat. No.                                  | Description                 | Shelf Pack | Qty / Case |
|-------------------------------------------|-----------------------------|------------|------------|
| With PTFE / Red Rubber Septa              |                             |            |            |
| 12-242786                                 | Natural Cap                 | 100        | 1000       |
| With PTFE / Silicone Septa                |                             |            |            |
| 12-242775                                 | Natural Cap with Cross Slit | 100        | 1000       |
| 12-242776                                 | Natural Cap                 | 100        | 1000       |
| 12-242776-01                              | Blue Cap                    | 100        | 1000       |
| 12-242776-02                              | Green Cap                   | 100        | 1000       |
| 12-242776-04                              | Red Cap                     | 100        | 1000       |
| 12-242776-05                              | Yellow Cap                  | 100        | 1000       |
| With Red PTFE / Silicone / Red PTFE Septa |                             |            |            |
| 12-242772                                 | Natural Cap                 | 100        | 1000       |
| 12-242772-01                              | Blue Cap                    | 100        | 1000       |
| 12-242772-02                              | Green Cap                   | 100        | 1000       |
| 12-242772-04                              | Red Cap                     | 100        | 1000       |
| 12-242772-05                              | Yellow Cap                  | 100        | 1000       |
| 12-242772-06                              | Natural Cap with Star Slit  | 100        | 1000       |
| With PTFE Septa                           |                             |            |            |
| 242782                                    | Natural Cap                 | 100        | 1000       |

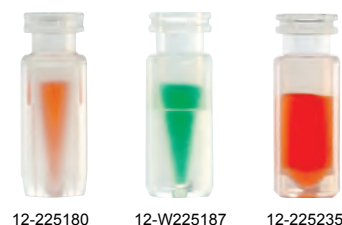
## Limited Volume Inserts (For Snap Ring Vials)



- Available with or without writing patch
- Glass and polypropylene limited volume inserts
- Purchase vials and snap caps separately or together in convenience packs
- Packaged in shrink-wrapped trays of 100 for convenience and cleanliness

| Cat. No.                                    | Size (mL) | Description                           | Qty / Case |
|---------------------------------------------|-----------|---------------------------------------|------------|
| Limited Volume Inserts (Pictured with Vial) |           |                                       |            |
| 12-225255                                   | 0.10      | Glass Insert with Top Spring          | 200        |
| 12-225265                                   | 0.25      | Glass Insert with Bottom Spring       | 100        |
| 12-225257                                   | 0.25      | Polypropylene Insert w/ Bottom Spring | 100        |
| 12-225350-631                               | 0.35      | Glass Flat Bottom Insert              | 1000       |

## 12 x 32mm Polypropylene Vial with Insert



- Economical alternative to glass
- Manufactured from chemical resistant polypropylene
- Vials are packaged 100 per shelf pack and 10 packs per case
- Conical interior ensures maximum retrieval of contents without the hassle of removable inserts

| Cat. No.   | Insert Size | Closure Style       | Closure Size | Qty / Case |
|------------|-------------|---------------------|--------------|------------|
| 12-225180  | 300µL       | Snap / Crimp Finish | 11mm         | 1000       |
| 12-W225187 | 500µL       | Snap / Crimp Finish | 11mm         | 1000       |
| 12-225235  | 750µL       | Snap / Crimp Finish | 11mm         | 1000       |

## 12 x 32mm Glass / Plastic Vial with 0.1mL Insert



- Thermoplastic polymer outer shell provides safety from breakage
- Type I borosilicate glass insert for contact with sample
- 100µL glass insert volume
- Conical interior ensures maximum retrieval of contents without the hassle of removable inserts

| Cat. No   | Closure Style       | Color | Closure Size | Qty / Case |
|-----------|---------------------|-------|--------------|------------|
| 12-225190 | Snap / Crimp Finish | Clear | 11mm         | 100        |
| 12-225200 | Snap / Crimp Finish | Amber | 11mm         | 100        |

## E-Z Vial® with Snap Ring Convenience packs (12 x 32mm Snap Top with 11mm Snap Cap)

| Cat. No.        | Vial             | Cap Color | Septum                 | Qty / Case | Vial Cat. No. | Cap Cat. No. |
|-----------------|------------------|-----------|------------------------|------------|---------------|--------------|
| 12-W224620-01   | Clear            | Natural   | PTFE / Red Rubber      | 100        | 12-225179     | 12-242786    |
| 12-W224620-02   | Clear            | Natural   | PTFE / Silicone        | 100        | 12-225179     | 12-242776    |
| 12-W224620-0203 | Clear            | Red       | PTFE / Silicone        | 100        | 12-225179     | 12-242776-04 |
| 12-W224620-0204 | Clear            | Blue      | PTFE / Silicone        | 100        | 12-225179     | 12-242776-01 |
| 12-W224620-0205 | Clear            | Yellow    | PTFE / Silicone        | 100        | 12-225179     | 12-242776-05 |
| 12-W224620-0207 | Clear            | Green     | PTFE / Silicone        | 100        | 12-225179     | 12-242776-02 |
| 12-W224620-03   | Clear            | Natural   | PTFE / Silicone / PTFE | 100        | 12-225179     | 12-242772    |
| 12-W224620-0303 | Clear            | Red       | PTFE / Silicone / PTFE | 100        | 12-225179     | 12-242772-04 |
| 12-W224620-0304 | Clear            | Blue      | PTFE / Silicone / PTFE | 100        | 12-225179     | 12-242772-01 |
| 12-W224620-0305 | Clear            | Yellow    | PTFE / Silicone / PTFE | 100        | 12-225179     | 12-242772-05 |
| 12-W224620-0307 | Clear            | Green     | PTFE / Silicone / PTFE | 100        | 12-225179     | 12-242772-02 |
|                 |                  |           |                        |            |               |              |
| 12-W224621-01   | Clear with Patch | Natural   | PTFE / Red Rubber      | 100        | 12-225179-01  | 12-242786    |
| 12-W224621-02   | Clear with Patch | Natural   | PTFE / Silicone        | 100        | 12-225179-01  | 12-242776    |
| 12-W224621-0203 | Clear with Patch | Red       | PTFE / Silicone        | 100        | 12-225179-01  | 12-242776-04 |
| 12-W224621-0204 | Clear with Patch | Blue      | PTFE / Silicone        | 100        | 12-225179-01  | 12-242776-01 |
| 12-W224621-0205 | Clear with Patch | Yellow    | PTFE / Silicone        | 100        | 12-225179-01  | 12-242776-05 |
| 12-W224621-0207 | Clear with Patch | Green     | PTFE / Silicone        | 100        | 12-225179-01  | 12-242776-02 |
| 12-W224621-03   | Clear with Patch | Natural   | PTFE / Silicone / PTFE | 100        | 12-225179-01  | 12-242772    |
| 12-W224621-0303 | Clear with Patch | Red       | PTFE / Silicone / PTFE | 100        | 12-225179-01  | 12-242772-04 |
| 12-W224621-0304 | Clear with Patch | Blue      | PTFE / Silicone / PTFE | 100        | 12-225179-01  | 12-242772-01 |
| 12-W224621-0305 | Clear with Patch | Yellow    | PTFE / Silicone / PTFE | 100        | 12-225179-01  | 12-242772-05 |
| 12-W224621-0307 | Clear with Patch | Green     | PTFE / Silicone / PTFE | 100        | 12-225179-01  | 12-242772-02 |
|                 |                  |           |                        |            |               |              |
| 12-W224622-01   | Amber            | Natural   | PTFE / Red Rubber      | 100        | 12-225179-02  | 12-242786    |
| 12-W224622-02   | Amber            | Natural   | PTFE / Silicone        | 100        | 12-225179-02  | 12-242776    |
| 12-W224622-0203 | Amber            | Red       | PTFE / Silicone        | 100        | 12-225179-02  | 12-242776-04 |
| 12-W224622-0204 | Amber            | Blue      | PTFE / Silicone        | 100        | 12-225179-02  | 12-242776-01 |
| 12-W224622-0205 | Amber            | Yellow    | PTFE / Silicone        | 100        | 12-225179-02  | 12-242776-05 |
| 12-W224622-0207 | Amber            | Green     | PTFE / Silicone        | 100        | 12-225179-02  | 12-242776-02 |
| 12-W224622-03   | Amber            | Natural   | PTFE / Silicone / PTFE | 100        | 12-225179-02  | 12-242772    |
| 12-W224622-0303 | Amber            | Red       | PTFE / Silicone / PTFE | 100        | 12-225179-02  | 12-242772-04 |
| 12-W224622-0304 | Amber            | Blue      | PTFE / Silicone / PTFE | 100        | 12-225179-02  | 12-242772-01 |
| 12-W224622-0305 | Amber            | Yellow    | PTFE / Silicone / PTFE | 100        | 12-225179-02  | 12-242772-05 |
| 12-W224622-0307 | Amber            | Green     | PTFE / Silicone / PTFE | 100        | 12-225179-02  | 12-242772-02 |
|                 |                  |           |                        |            |               |              |
| 12-W224623-01   | Amber with Patch | Natural   | PTFE / Red Rubber      | 100        | 12-225179-03  | 12-242786    |
| 12-W224623-02   | Amber with Patch | Natural   | PTFE / Silicone        | 100        | 12-225179-03  | 12-242776    |
| 12-W224623-0203 | Amber with Patch | Red       | PTFE / Silicone        | 100        | 12-225179-03  | 12-242776-04 |
| 12-W224623-0204 | Amber with Patch | Blue      | PTFE / Silicone        | 100        | 12-225179-03  | 12-242776-01 |
| 12-W224623-0205 | Amber with Patch | Yellow    | PTFE / Silicone        | 100        | 12-225179-03  | 12-242776-05 |
| 12-W224623-0207 | Amber with Patch | Green     | PTFE / Silicone        | 100        | 12-225179-03  | 12-242776-02 |
| 12-W224623-03   | Amber with Patch | Natural   | PTFE / Silicone / PTFE | 100        | 12-225179-03  | 12-242772    |
| 12-W224623-0303 | Amber with Patch | Red       | PTFE / Silicone / PTFE | 100        | 12-225179-03  | 12-242772-04 |
| 12-W224623-0304 | Amber with Patch | Blue      | PTFE / Silicone / PTFE | 100        | 12-225179-03  | 12-242772-01 |
| 12-W224623-0305 | Amber with Patch | Yellow    | PTFE / Silicone / PTFE | 100        | 12-225179-03  | 12-242772-05 |
| 12-W224623-0307 | Amber with Patch | Green     | PTFE / Silicone / PTFE | 100        | 12-225179-03  | 12-242772-02 |

# Vials, Scintillation & EPA



## Liquid Scintillation Vials

| Cat. No.                        | Size (mL) | Vial Material | Cap Material  | Liner Material      | Cap Size | Dia. x H (mm)* | Qty / Case |
|---------------------------------|-----------|---------------|---------------|---------------------|----------|----------------|------------|
| <b>Caps Attached to Vials</b>   |           |               |               |                     |          |                |            |
| 12-986540                       | 20        | Glass         | Polypropylene | Foamed Polyethylene | 22-400   | 28 x 61        | 500        |
| 12-986541                       | 20        | Glass         | Polypropylene | Metal Foil / Pulp   | 22-400   | 28 x 61        | 500        |
| 12-986542                       | 20        | Glass         | Urea          | Metal Foil / Cork   | 22-400   | 28 x 61        | 500        |
| 12-986546                       | 20        | Glass         | Urea          | Polyethylene Cone   | 22-400   | 28 x 61        | 500        |
| 12-986548                       | 20        | Glass         | Urea          | Polyethylene Disc   | 22-400   | 28 x 61        | 500        |
| 12-986560                       | 20        | Glass         | Polypropylene | Foamed Polyethylene | 24-400   | 28 x 61        | 500        |
| 12-986561                       | 20        | Glass         | Polypropylene | Metal Foil / Pulp   | 24-400   | 28 x 61        | 500        |
| 12-986562                       | 20        | Glass         | Urea          | Metal Foil / Cork   | 24-400   | 28 x 61        | 500        |
| 12-986568                       | 20        | Glass         | Urea          | Polyethylene Disc   | 24-400   | 28 x 61        | 500        |
| <b>Caps Packaged Separately</b> |           |               |               |                     |          |                |            |
| 12-986580                       | 20        | Glass         | Polypropylene | Foamed Polyethylene | 22-400   | 28 x 61        | 500        |
| 12-986581                       | 20        | Glass         | Polypropylene | Metal Foil / Pulp   | 22-400   | 28 x 61        | 500        |
| 12-986582                       | 20        | Glass         | Urea          | Metal Foil / Cork   | 22-400   | 28 x 61        | 500        |
| 12-986586                       | 20        | Glass         | Urea          | Polyethylene Cone   | 22-400   | 28 x 61        | 500        |
| 12-986590                       | 20        | Glass         | Polypropylene | Foamed Polyethylene | 24-400   | 28 x 61        | 500        |
| 12-986591                       | 20        | Glass         | Polypropylene | Metal Foil / Pulp   | 24-400   | 28 x 61        | 500        |
| 12-986710                       | 20        | HDPE          | Polypropylene | Foamed Polyethylene | 22-400   | 27 x 61        | 500        |
| 12-986720                       | 20        | HDPE          | Polypropylene | Foamed Polyethylene | 22-400   | 27 x 61        | 1000       |
| 12-986711                       | 20        | HDPE          | Polypropylene | Metal Foil / Pulp   | 22-400   | 27 x 61        | 500        |
| 12-986721                       | 20        | HDPE          | Polypropylene | Metal Foil / Pulp   | 22-400   | 27 x 61        | 1000       |
| 12-986714                       | 20        | HDPE          | Polyethylene  | Linerless           | 22-400   | 27 x 61        | 500        |
| 12-986724                       | 20        | HDPE          | Polyethylene  | Linerless           | 22-400   | 27 x 61        | 1000       |
| 12-986722                       | 20        | HDPE          | Urea          | Metal Foil / Cork   | 22-400   | 27 x 61        | 1000       |
| 12-986716                       | 20        | HDPE          | Urea          | Polyethylene Cone   | 22-400   | 27 x 61        | 500        |
| 12-986726                       | 20        | HDPE          | Urea          | Polyethylene Cone   | 22-400   | 27 x 61        | 1000       |
| 12-986750                       | 20        | PET           | Polypropylene | Foamed Polyethylene | 22-400   | 27 x 61        | 500        |
| 12-986740                       | 20        | PET           | Polypropylene | Foamed Polyethylene | 22-400   | 27 x 61        | 1000       |
| 12-986751                       | 20        | PET           | Polypropylene | Metal Foil / Pulp   | 22-400   | 27 x 61        | 500        |
| 12-986741                       | 20        | PET           | Polypropylene | Metal Foil / Pulp   | 22-400   | 27 x 61        | 1000       |
| 12-986754                       | 20        | PET           | Polyethylene  | Linerless           | 22-400   | 27 x 61        | 500        |
| 12-986744                       | 20        | PET           | Polyethylene  | Linerless           | 22-400   | 27 x 61        | 1000       |
| 12-986752                       | 20        | PET           | Urea          | Metal Foil / Cork   | 22-400   | 27 x 61        | 500        |
| 12-986742                       | 20        | PET           | Urea          | Metal Foil / Cork   | 22-400   | 27 x 61        | 1000       |
| 12-986756                       | 20        | PET           | Urea          | Polyethylene Cone   | 22-400   | 27 x 61        | 500        |
| 12-986746                       | 20        | PET           | Urea          | Polyethylene Cone   | 22-400   | 27 x 61        | 1000       |

\*Measurement taken with cap attached.



## Liquid Scintillation Vial

(Without Screw Caps)

- Made from WHEATON 180 low potassium borosilicate glass that conforms to USP Type I and ASTM E 438 Type I, Class A requirements
- Background counts are consistent and low, ultraviolet transmission is high
- Screw caps can be purchased separately
- Packaged in 5 utility trays with each partitioned tray holding 100 vials each
- Utility trays serve as a way to store your samples
- For additional organization of your vials use the WHEATON Vial Rack 868806 or M-T Vial File® W228792



| Cat. No.  | Size (mL) | Vial Material | Cap Size | Dia. x H (mm) | Qty / Case |
|-----------|-----------|---------------|----------|---------------|------------|
| 12-986532 | 20        | Glass         | 22-400   | 28 x 57       | 500        |

## Liquid Scintillation Vial Screw Caps

- Screw caps for WHEATON liquid scintillation vials
- Use as replacement caps or for vials that are provided without caps
- Choose the right size screw cap for your vial
- Select cap and liner material for your application
- Not autoclavable



| Cat. No.  | Cap Size (mm) | Cap Material  | Cap Liner Material | Qty / Case |
|-----------|---------------|---------------|--------------------|------------|
| 12-241009 | 15-425        | Urea          | Metal Foil         | 1000       |
| 12-240804 | 22-400        | Polypropylene | Metal Foil         | 1000       |
| 12-241017 | 22-400        | Urea          | Metal Foil         | 1000       |
| 12-240817 | 22-400        | Urea          | Polyethylene Disc  | 1000       |
| 12-240917 | 22-400        | Urea          | PE Cone            | 1000       |
| 12-241317 | 22-400        | Polyethylene  | Linerless          | 1000       |
| 12-240805 | 24-400        | Polypropylene | Foil / Pulp        | 1000       |
| 12-241018 | 24-400        | Urea          | Metal Foil         | 1000       |
| 12-240818 | 24-400        | Urea          | Polyethylene Disc  | 1000       |

## Scintillation Vial, HDPE



Quarter Turn Cap



Quarter Turn Hanging Cap



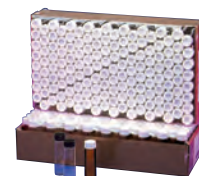
Hanging Cap Sample with 20mL Vial

- 6mL vial made from high density polyethylene
- Hanging cap allows for suspending vial in 20mL vial with 22mm neck finish
- Dimensions with cap attached: 17mm x 57mm
- For additional organization of your vials use the WHEATON Vial Rack 868810
- Linerless polypropylene cap

| Cat. No.  | Size (mL) | Cap Type                   | Qty / Case |
|-----------|-----------|----------------------------|------------|
| 12-225414 | 6         | Quarter Turn               | 1000       |
| 12-225415 | 6         | Quarter Turn Hanging Style | 1000       |

## EPA Vial, 40mL

- Ideal for use in water sampling according to EPA 40 CFR 136, "Guidelines for Establishing Test Procedures for the Analysis of Pollutants"
- Clear vials manufactured from WHEATON 33 low extractable borosilicate glass that conforms to USP Type I and ASTM E438 Type I, Class A requirements
- Amber vials manufactured from WHEATON 320 amber glass that conforms to USP Type I requirements for light transmission to protect light-sensitive products
- Caps attached to vials
- Vials packaged in convenient trays for ease of use



| Cat. No.  | Size (mL) | Size (dr) | *Dia. x H (mm) | Cap Size | Qty / Case |
|-----------|-----------|-----------|----------------|----------|------------|
| 12-225310 | 40        | 10        | 28 x 98        | 24-400   | 72         |

Clear Vial with Open Top Black Phenolic PTFE Faced Silicone Lined Cap

|           |    |    |         |        |    |
|-----------|----|----|---------|--------|----|
| 12-225315 | 40 | 10 | 28 x 98 | 24-400 | 72 |
|-----------|----|----|---------|--------|----|

Amber Vial with Open Top White Polypropylene PTFE Faced Silicone Lined Cap

\*Measurement taken with cap attached.

## Replacement 24-400 Screw Caps & Septa

| Cat. No.   | Description                                                                                     | Qty / Case |
|------------|-------------------------------------------------------------------------------------------------|------------|
| 12-W240518 | Black Phenolic Open Top Screw Cap w/o Septa                                                     | 200        |
| 12-W224600 | White Glass-Filled Open Top Polypropylene Cap with Bonded 5 mils PTFE / 120 mils Silicone Septa | 200        |

## Vials for Environmental Analysis



| Cat. No.   | Size (mL) | Size (dr) | Dia. x H (mm)* | Cap Size | Qty / Case |
|------------|-----------|-----------|----------------|----------|------------|
| 12-W224609 | 20        | 5         | 28 x 60        | 24-400   | 72         |
| 12-W224610 | 25        | 6.25      | 28 x 73        | 24-400   | 72         |

Clear Vial with Open Top White Polypropylene PTFE Faced Silicone Lined Cap (Septa of 5 mils of PTFE facing 120 mils of silicone is bonded to cap.)

|            |    |    |         |        |    |
|------------|----|----|---------|--------|----|
| 12-W224612 | 20 | 5  | 28 x 60 | 24-400 | 72 |
| 12-W224614 | 40 | 10 | 28 x 98 | 24-400 | 72 |

Amber Vial with Open Top White Polypropylene PTFE Faced Silicone Lined Cap (Septa of 5 mils of PTFE facing 120 mils of silicone is bonded to cap.)

\*Cap on

# Miscellaneous

## Bomb Sampler

- Ideal for sub-surface liquid sampling
- 500mL capacity
- These units are constructed of corrosion resistant Type 304 stainless steel
- A weighted plunger with a FKM "O" ring seals the reservoir chamber at the bottom
- Use a cable to lower sampler to desired depth
- Pull second cable to operate the sampling valve and release the chamber
- Cables not included
- Recommended for use with a cable that can support 50 pounds or more and is made from stainless or PTFE coated stainless steel



| Cat. No.  | Capacity (mL) | Dia x Length            | Qty / Case |
|-----------|---------------|-------------------------|------------|
| 12-885200 | 500           | 2.75 x 10" (7 x 25.4cm) | 1          |

## Drum Thieves

- Drum thieves are ideal for quick and easy sample retrieval
- To use, simply insert one end of the drum thief into a drum and hold a finger over the opening on the other end to trap liquid in the tube
- Carefully remove the drum thief and empty the contents into a testing container
- Disposable
- Open ended
- These soda-lime glass units are 43" long and can be easily broken for quick disposal

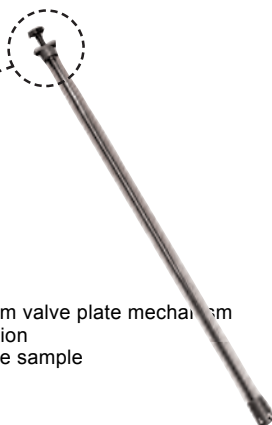


| Cat. No.  | Approx. Capacity (mL) | Dia (mm) | Qty / Case |
|-----------|-----------------------|----------|------------|
| 12-885300 | 25                    | 7.5      | 100        |
| 12-885302 | 75                    | 12       | 24         |
| 12-885303 | 150                   | 18       | 24         |

## Coliwasa, Reusable

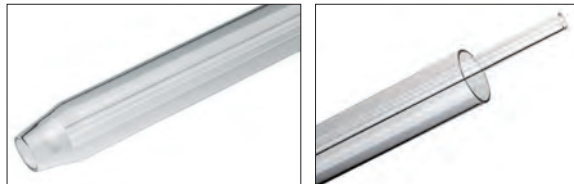


- Uniquely designed top spin bar and bottom valve plate mechanism provides a positive seal for sample retention along with greater control for releasing the sample
- Manufactured from clear PVC
- Sampling can be achieved up to 20'
- Modular design adds flexibility by enabling the connection of several sections to form a longer sampling unit up to 20' (610cm)
- Provided with a 48" long cleaning brush
- Dimensions (ID x OD): 1 3/8" x 1 5/8" (3.5 x 4.12cm)



| Cat. No.                       | Description                        | Approx. Volume (mL) | Qty / Case |
|--------------------------------|------------------------------------|---------------------|------------|
| <b>Coliwasa Unit</b>           |                                    |                     |            |
| 12-885250                      | 4' (122cm) Coliwasa Unit           | 760                 | 1          |
| 12-885252                      | 6' (183cm) Coliwasa Unit           | 1100                | 1          |
| <b>Extension and Connector</b> |                                    |                     |            |
| 12-885253                      | 4' (122cm) Extension and Connector | 760                 | 1          |
| <b>Replacement Parts</b>       |                                    |                     |            |
| 12-885258                      | Bottom Plate and SS Nut            | —                   | 1          |

## Coliwasa Sampler, Glass



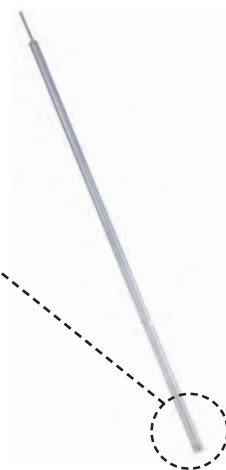
- Used to collect composite liquid samples from top to bottom in drums, tanks and reservoirs
- Easy to use
- Disposable or reusable units available
- Liquid-tight PTFE seal eliminates sample leakage
- PTFE seal design permits sampling to within 1/2" of drum bottom
- After a sample has been collected, lower and press lightly on the inner tube, which positively seats the PTFE seal, locking the sample column into place
- Unit has a tapered bottom with an approximate diameter opening of 1/2", (1.3cm) and a sample capacity of 200mL
- Prescored samplers make disposal easier
- Dimensions: Diameter 7/8" x Length 42", (2.25cm x 106.5cm)

| Cat. No.                 | Description       | Material           | Qty / Case |
|--------------------------|-------------------|--------------------|------------|
| <b>Disposable Unit</b>   |                   |                    |            |
| 12-885220                | Pre-scored        | Soda-Lime Glass    | 12         |
| <b>Reusable Unit</b>     |                   |                    |            |
| 12-885230                | Unscored          | Borosilicate Glass | 12         |
| 12-885231                | Pre-scored        | Borosilicate Glass | 12         |
| <b>Replacement Seals</b> |                   |                    |            |
| 12-885232                | Replacement Seals | PTFE               | 10         |

## Coliwasa, Trumpet



- Use for sampling sludge or semi-solid material
- Disposable soda-lime glass
- Rigidity of the glass makes it suitable for boring through semi-solid sludge-type materials
- Tight PTFE seal keeps in liquid and sludge material
- Outer tube is 40" (101.6cm) long



| Cat. No.  | Description    | Qty / Case |
|-----------|----------------|------------|
| 12-885235 | 200mL Capacity | 1          |

## Drum Opener

- Can be used with hazardous materials
- Cast from lightweight, durable aluminum alloy and features a quarter-turn opening action
- Opens all 3/4" and 3" closures



| Cat. No.  | Qty / Case |
|-----------|------------|
| 12-885295 | 1          |