



# COLONIAL SCIENTIFIC

8439 GLAZEBROOK DRIVE  
RICHMOND, VA 23228  
[www.colonialscientific.com](http://www.colonialscientific.com)

PHONE: (804) 553-0244

FAX: (804) 553-0272

TOLL FREE: 866-898-4360



## WATER AND WASTEWATER TESTING SUPPLIES



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Dear operator,

Welcome to the 2002-2003 Water and Wastewater Products Catalog. This catalog features products that are specific to the water and wastewater industry. This catalog is designed to provide a one stop shop for all of your water testing needs. The most commonly ordered laboratory items are featured in this catalog. However, if you do not see exactly what you are looking for, feel free to call us and we will find the item you need. Also, please check out our web page throughout the year for new additions to our product line.

In addition to great products, we also provide you with exceptional customer service, precise technical knowledge, and very competitive pricing all within a timely manner. Our entire staff is dedicated to finding you exactly what you need or answering any questions you may have.

Thank you for your interest in Colonial Scientific.

Sincerely,

Mike Rinko

COLONIAL SCIENTIFIC  
8439 GLAZEBROOK DRIVE  
RICHMOND, VIRGINIA 23228

# BUFFERS

Colonial Scientific offers the three most widely used buffers in color-coded solutions with matching colored labels. These buffers are standardized at 25°C against NIST standard reference material.

## pH buffer 4 (color coded red)

Ingredients: Potassium biphthalate

Cat. # BU0401	pH buffer 4, Color Coded, 500mL	EA	\$7.50
Cat. # BU0402	pH buffer 4, Color Coded, 1L	EA	\$11.00
Cat. # BU0403	pH buffer 4, Color Coded, 4L	EA	\$24.00
Cat. # BU0404	pH buffer 4, Color Coded, 20L	EA	\$59.00

## pH buffer 7 (color coded yellow)

Ingredients: Potassium phosphate monobasic and sodium hydroxide

Cat. # BU0701	pH buffer 7, Color Coded, 500mL	EA	\$7.50
Cat. # BU0702	pH buffer 7, Color Coded, 1L	EA	\$11.00
Cat. # BU0703	pH buffer 7, Color Coded, 4L	EA	\$24.00
Cat. # BU0704	pH buffer 7, Color Coded, 20L	EA	\$59.00

## pH buffer 10 (color coded blue)

Ingredients: Potassium carbonate, potassium borate, and potassium hydroxide

Cat. # BU1001	pH buffer 10, Color Coded, 500mL	EA	\$7.50
Cat. # BU1002	pH buffer 10, Color Coded, 1L	EA	\$11.00
Cat. # BU1003	pH buffer 10, Color Coded, 4L	EA	\$24.00
Cat. # BU1004	pH buffer 10, Color Coded, 20L	EA	\$59.00

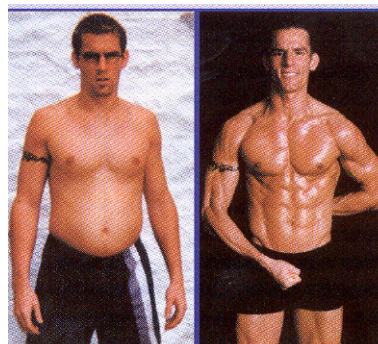
## Individual pH buffer pouches

Cat. # BU9104	pH buffer 4, Color Coded pink, 25/PK	PK	\$28.80
Cat. # BU9107	pH buffer 7, Color Coded yellow, 25/pk	PK	\$28.80
Cat. # BU9110	pH buffer 10, Color Coded blue, 25/pk	PK	\$28.80



**GET EXCELLENT  
RESULTS  
FROM OUR  
BUFFERS!**

BEFORE USING COLONIAL  
SCIENTIFIC BUFFER



AFTER USING COLONIAL  
SCIENTIFIC BUFFER

# CHEMICALS

Cat. # AC0125	Glacial Acetic Acid, ACS Reagent Grade, 2.5L	EA	\$16.50
Cat. # AC024L	Acetone, ACS Reagent Grade, 4L	EA	\$17.50
Cat. # AC034L	Acetonitrile, ACS Reagent Grade, 4L	EA	\$32.00
Cat. # AM021L	Ammonium Chloride, APHA for BOD, 1.15M, 1L	EA	\$9.00
Cat. # CA011L	Calcium Chloride, 2.75%, APHA for BOD, 1L	EA	\$16.00
Cat. # FE011L	Ferric Chloride, 0.025%, APHA for BOD, 1L	EA	\$11.50
Cat. # HY0125	Hydrochloric Acid, Reagent Grade, 2.5L	EA	\$16.00
Cat. # IO011L	Iodine Solution, 0.0282N, APHA and EPA, 1L	EA	\$7.50
Cat. # MA011L	Magnesium Sulfate, 2.25%, APHA for BOD, 1L	EA	\$13.00
Cat. # MA021L	Magnesium Sulfate, 0.003 M, APHA, 1L	EA	\$25.00
Cat. # MA031L	Manganous Sulfate, APHA for DO, 1 L	EA	\$26.00
Cat. # NI0125	Nitric Acid, ACS Reagent Grade, 2.5L	EA	\$15.50
Cat. # PH021L	Phenylarsine Oxide, 0.025 N Solution, EPA, 1L	EA	\$14.00
Cat. # PH031L	Phenylarsine Oxide, 0.00564 N Solution, EPA, 1L	EA	\$48.00
Cat. # PH041L	Phosphate Buffer, pH 7.2, APHA for BOD, 1L	EA	\$14.95
Cat. # PO0125	Potassium Chloride Saturated Solution, 2.5L	EA	\$4.00
Cat. # PO0205	Potassium Iodide, Reagent Grade, 500g	EA	\$47.00
Cat. # SO0111	Sodium Thiosulfate, 0.025N Solution, APHA, 1L	EA	\$10.00
Cat. # SU0125	Sulfuric Acid, Reagent Grade, 2.5L	EA	\$19.25
Cat. # TI011L	TISAB I, 1L	EA	\$26.00



# LAB ACCESSORIES

## ALCONOX

This mild, odorless, nontoxic, powdered wetting agent and detergent is used for cleaning glassware, porcelain, metal, plastic, or rubber. The detergent is effective for penetrating irregular and inaccessible surfaces. Alconox can be used for manual or ultrasonic cleaning.

Cat. # AL0101                      4 lb. Alconox                      EA                      \$23.95



## BENCH COAT



- Used to line benches, shelves, and drawers
- Closed-cell, cross-linked, polyethylene foam, 1/8-inch thick, produces resilient, protective, nonabsorbent work on surface
- Matte-white finish
- Both sides usable

Cat. # BE0101                      12" width 50 ft. roll                      EA                      \$99.50  
 Cat. # BE0102                      18" width 50 ft. roll                      EA                      \$145.50

## DRYING RACK

High quality draining rack is suitable for use with plastic and glass labware. It is made of chemically resistant epoxy coated steel. This rack has eight pegs 110mm long and twenty four pegs 80mm in length. Overall dimensions of the rack are 410 x 300mm. Rack comes with a polystyrene backboard.

Cat. #DR2001                      Drying Rack with polystyrene backboard                      EA                      \$68.00

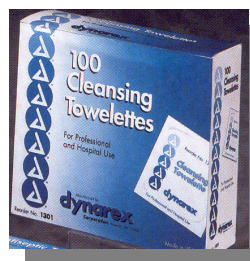


## ANTIBACTERIAL SOAP

Cat. # SO0101                      16 oz. soap                      EA                      \$13.50

## CLEANSING TOWELLETTES

Cat. # TO0201                      Towellettes, 100/pk                      PK                      \$3.00



## ANTIMICROBIAL TOWELLETTES

Cat. # TO0101                      Towellettes 100/pk                      PK                      \$6.50

## KIMWIPES

These one-ply, low-lint wipers are soft, gentle, and absorbent. Each one easily wipes up liquid and dust. They will not scratch delicate surfaces.

Cat. # KI0585                      Kimwipes 5"x8.5" 60/box                      EA                      \$2.75



## LOW POWDER LATEX GLOVES

Cat. # GL0101	Small 100/pk	PK	\$5.95
Cat. # GL0102	Medium 100/pk	PK	\$5.95
Cat. # GL0103	Large 100/pk	PK	\$5.95
Cat. # GL0104	X-large 100/pk	PK	\$5.95

## POWDER-FREE LATEX GLOVES

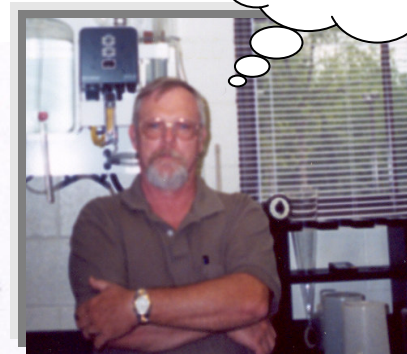
Cat. # GL0201	Small 100/pk	PK	\$10.50
Cat. # GL0202	Medium 100/pk	PK	\$10.50
Cat. # GL0203	Large 100/pk	PK	\$10.50
Cat. # GL0204	X-large 100/pk	PK	\$10.50

# AUTOCLAVE

This fast cool-down autoclave is intended for the sterilization of solid materials. It features a rapid exhaust system and 60 minute cycle timer for automatic operation.

- Temperature range: 121-132<sup>0</sup>C (220-270<sup>0</sup>F)
- Temperature uniformity: +/- 0.5<sup>0</sup> C
- Pressure Range: 15-27 psi (1.0-1.9 bar)
- Dimensions: Chamber 9x18" (22.6x45.7 cm) diameter x depth  
Exterior 18x21x14.5" (45.7x53.3x36.8cm) LxWxH
- Net Weight: 90 lbs.
- Voltage: 120V

This autoclave is great!!



**Cat. # AU0120**

**Autoclave**

**EA**

**\$3495.00**

# AND SUPER VALUE BALANCE

*\*ECONONMICAL\*      \*EASY TO USE\**

## Rugged, portable and packed with features:

- Multiple weighing units (g, oz, dwt, ozt)
- Piece counting mode with multiple sample selection
- Stainless steel weighing pan
- Full digital calibration and simple operation
- Sealed key panel protects against dust and spills
- Auto Power Off
- Standard 9V battery or optional AC adapter
- One year warranty



Cat. # SV120	120g x 0.01g	EA	\$268.00
Cat. # SV200	200g x 0.01g	EA	\$295.00
Cat. # SV610	610g x 0.1g	EA	\$235.00



# AND ANALYTICAL BALANCE

The HM Series Analytical balance combines the advanced performance and features found in a top of the line analytical balance, with prices you would expect to find in an economy model.

**Easy Operation:** Perform any operation with straight forward key entry, reducing errors and speeding operations.

**Adapts to Your Environment:** No matter how well designed your laboratory is, vibration, fluctuating temperatures, air currents, and other environmental factors can influence the performance of your analytical balances. The HM series easily adapts to most operating environments through simple keyboard adjustment.

**Calibration:** One touch automatic calibration and manual calibration

## ADDITIONAL FEATURES

- Motor driven internal calibration weight for enhanced accuracy
- Weighing chamber designed for excellent viewing and unrestricted use
- Conforms with GLP requirements
- Underhook capability for density measurement and weighing magnetic material
- System Diagnostics alerts operator of potential system and operational errors
- Multiple weighing modes

Cat. # HM0202A	HM-202 Series Balance 210gx0.1mg	EA	\$2250.00
Cat. # HM0202B	HM-202 Series Balance 42gx0.01mg	EA	\$2897.00
Cat. # HM0200	HM-200 Series Balance 120gx0.1mg	EA	\$1945.00



# AND MOISTURE BALANCE

*\*Maximum Performance\* \*Water Content to 0.01%\* \*Infrared or Ceramic Heating\**

## AD-4712 BALANCE

- No need to measure sample weight, use amount between 5 and 70 grams
- Very efficient, sheathed, ceramic heater reduces measurement error caused by uneven heating or burning of a sample
- Non-volatile memory preserves temperature and time setting even after unit is turned off
- Using an automatic pan lifting mechanism, the Auto-Tare function compensates for zero drift during drying
- Temperature, Time, Moisture Content, and Weight can be printed, or sent to a computer using the RS-232 interface
- Alarm sounds at the end of the measurement period

## AD-4714A BALANCE

- No need to measure sample weight, use any amount between 5 and 70 grams
- Auto-Tare function compensates for zero drift during drying
- Viewing window allows you to see the sample during drying
- Easy-to-use: simply load the sample and press the start key
- Non-volatile memory preserves temperature and time setting when the unit is off
- Heating lamp shuts off automatically if the maximum temperature setting is reached
- Buzzer sounds at the end of each measurement

## AD-4715 BALANCE

- Fast and accurate moisture percentage determination for a wide range of varied samples
- Moisture content predict mode greatly reduces the time necessary to obtain an accurate reading
- Infrared lamp provides even heat distribution for effective moisture content determination
- Precision accuracy allows the balance to maintain a weighing resolution of 0.001g
- LCD display includes: Moisture content, elapsed time indication, year/ date/ time, remaining indication, temperature unit mode, output, and code
- RS-232C interface can be used in conjunction with a computer or thermal printer



AD-4712



AD-4714A



AD-4715

Cat. # AD4712  
Cat. # AD4714A  
Cat. # AD4715

70g x 0.01g Ceramic Heating, Auto Stop  
70g x 0.01g Infrared Heating, Manual Operation  
300g x 0.001g Infrared Heating, Auto Predict Mode

EA \$2340.00  
EA \$2658.00  
EA \$3800.00



# BEAKERS

## LOW FORM, GLASS

This beaker meets ASTM E 960 Type I Specifications for Classification, Design, Capacity & Dimensions, and Markings. It features an easy-to-pour spout; white, permanent graduations; and a large marking square. Each beaker is made from sturdy, borosilicate glass with a low coefficient of expansion. It is manufactured with uniform wall thickness which offers optimum balance between thermal shock resistance and mechanical strength. Accuracy is +/- 5% of full capacity.

Cat. # BE0201	50mL, 12/pk	PK	\$24.50
Cat. # BE0202	100mL, 12/pk	PK	\$25.50
Cat. # BE0203	150mL, 12/pk	PK	\$26.50
Cat. # BE0204	250mL, 12/pk	PK	\$27.50
Cat. # BE0205	400mL, 12/pk	PK	\$30.50
Cat. # BE0206	600mL, 6/pk	PK	\$26.50
Cat. # BE0207	800mL, 6/pk	PK	\$34.50
Cat. # BE0208	1000mL, 6/pk	PK	\$37.50
Cat. # BE0209	2000mL, 4/pk	PK	\$39.50



## LOW FORM, PP, REUSEABLE

This griffin style beaker features a no-drip pouring spout. It is chemically resistant to most acids, bases, and many common solvents. This beaker is both autoclavable and shatter resistant. Polypropylene beakers will withstand temp. up to 121°C.

Cat. # BE0301	50mL	EA	\$1.20
Cat. # BE0302	100mL	EA	\$1.40
Cat. # BE0303	250mL	EA	\$2.95
Cat. # BE0304	500mL	EA	\$3.45
Cat. # BE0305	1000mL	EA	\$4.45
Cat. # BE0306	2000mL	EA	\$6.45
Cat. # BE0307	5000mL	EA	\$19.55



## LOW FORM, PP, DISPOSABLE

This unbreakable polypropylene beaker can be thrown away after use or steam-autoclaved for reuse. This beaker is highly resistant to strong acids, organic solvents, and other laboratory reagents. It features a special "dripless" lip; rib construction that permits stacking without binding; and a "flat sitting" bottom. The graduated markings are in mL and oz.

Cat. # BE0401	15mL, 100/pk	PK	\$18.90
Cat. # BE0402	30mL, 100/pk	PK	\$22.90
Cat. # BE0403	50mL, 100/pk	PK	\$26.90
Cat. # BE0404	100mL, 100/pk	PK	\$38.90
Cat. # BE0405	150mL, 100/pk	PK	\$68.90
Cat. # BE0406	250mL, 50/pk	PK	\$34.90
Cat. # BE0407	400mL, 50/pk	PK	\$48.90
Cat. # BE0408	600mL, 50/pk	PK	\$28.90

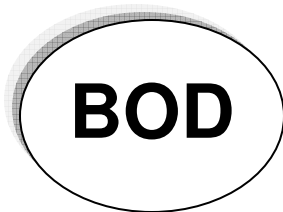


## LOW FORM, PP, DISPOSABLE, TRIPPOUR

This transparent polypropylene beaker has three pouring lips for dripless dispensing. The accuracy is +/- 5%. This beaker is resistant to strong acids and bases, organic solvents, and commonly used laboratory reagents. Write-on, wax-impregnated cardboard caps ensure spillproof, leak resistant closure.

Cat. # BE0501	50mL, 100/pk	PK	\$16.90
Cat. # BE0502	100mL, 100/pk	PK	\$18.90
Cat. # BE0503	250mL, 100/pk	PK	\$22.90
Cat. # BE0504	400mL, 100/pk	PK	\$26.90
Cat. # BE0505	800mL, 100/pk	PK	\$36.90
Cat. # BE0506	1000mL, 100/pk	PK	\$40.90





## BOD BOTTLES

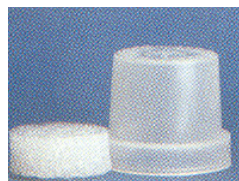
These borosilicate glass bottles are ideal for incubating diluted samples of sewage, sewage effluents, polluted waters, and industrial wastes to determine the amount of oxygen required during the stabilization of the decomposable organic matter by aerobic biochemical action.

300mL bottles are recommended for the five-day BOD test as referenced in *Standard Methods for the Examination of Water and Wastewater*, 18<sup>th</sup> Edition. Their specially designed shoulder radius sweeps all air from inside the bottle during filling. Interchangeable, 400-glass “robotic” stopper has a tapered bottom that also prevents air entrapment. The flared mouth forms a water seal around the stopper that prevents air from being drawn into the bottles during incubation. Stopper joint is compatible with the probes of leading BOD and DO meters. All bottles have permanent marking spots. Numbered versions are bar coded.

Cat. # BO0401	Bar Coded, 300mL, Un-numbered, 24/cs	CS	\$158.99
Cat. # BO0402	Bar Coded, 300mL, Numbered 1-24, 24/cs	CS	\$158.99
Cat. # BO0403	Bar Coded, 300mL, Numbered 25-48, 24/cs	CS	\$158.99
Cat. # BO0404	Bar Coded, 300mL, Numbered 49-72, 24/cs	CS	\$158.99
Cat. # BO0405	Bar Coded, 300mL, Numbered 73-96, 24/cs	CS	\$158.99
Cat. # BO0406	Bar Coded, 300mL, Numbered 97-120, 24/cs	CS	\$158.99
Cat. # BO0407	Bar Coded, 300mL, Numbered 121-144, 24/cs	CS	\$158.99



## BOD BOTTLE CAPS, POLYETHYLENE



This polyethylene cap comes complete with a closed cell foam insert that snaps firmly over the flared mouth of BOD bottles to prevent the evaporation of the water seal during the five day incubation period. The foam insert fits into the cap and exerts pressure on the bottle stopper to hold it securely in place.

Cat. # BO0501	300mL BOD Bottle Plastic Cap, 50/cs	CS	\$30.00
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## BOD BOTTLE RACK

These stackable, rugged wire racks are plastic coated for corrosion resistance and quietness.

Cat. # BO0601	12-Place 300mL BOD Bottle Rack	EA	\$26.95
Cat. # BO0602	24-Place 300mL BOD Bottle Rack	EA	\$42.95



## BOD BOTTLE BRUSH



This bottle brush allows access to entire inside surface of flasks or BOD bottles.

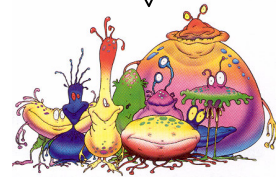
Cat. # BR0701	BOD Bottle Brush	EA	\$6.20
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# BOD INCUBATOR

- Perfect for BOD determinations
- 20 cubic feet capacity
- Temperature range of  $-10^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- Uniformity of  $\pm 5^{\circ}\text{C}$  at  $20^{\circ}\text{C}$
- Sensitivity of  $\pm 0.1^{\circ}\text{C}$
- Microprocessor temperature control
- Mechanical Convection
- Fully gasketed door with key lock
- Holds up to 297-300mL BOD bottles
- Front panel calibration
- Easy-to-clean, corrosion-resistant construction



We like Colonial  
Scientific  
Incubators!



The BOD refrigerated incubator is designed specifically for BOD determinations. The unit is microprocessor controlled and features push button temperature set point selection, high and low temperature protection, and easy to read digital display. Calibrations can be performed on the front panel using a simple procedure. The unit includes jacks for connecting an external chart recorder and an RS-232 interface option for data logging. The interior chamber is 20 ft<sup>3</sup>. The incubator includes 6 interior shelves and 6 shelves in the door unit.

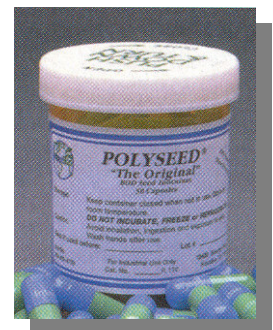
Cat. # BO0801      297-Bottle BOD Incubator, 120V    EA    \$2688.00

## POLYSEED

This polyseed is US EPA accepted. It produces fast, economical BOD analyses with consistent results. Each capsule contains 100mg of specialized bacterial cultures ideal for use in a broad range of areas involving degradation of industrial and municipal waste.

The contents of each capsule are added to one-half liter of APHA standard dilution water at  $20^{\circ}\text{C}$ , then stirred for at least 60 minutes. The resultant mixture provides enough seed inoculum for up to 200 BOD tests. For best results, use within one year of purchase.

Cat. # PO0101      Polyseed, 50/bottle      EA    \$95.00



## BI-CHEM BOD SEED

This BOD seed has been developed as an inoculant for the BOD procedure referenced in "Standard Methods for the Examination of Water & Wastewater". It is accepted by the United States EPA, and it contains a wide variety of microorganisms capable of degrading industrial and municipal wastewater. The test assays performed over a broad range of high and low BOD wastewater confirm that BI-CHEM BOD seed provides final results equivalent to those obtained using fresh municipal activated sludge.

Cat. # PO0201      BI-CHEM BOD seed, 50/bottle    EA    \$50.00



# BOTTLES



BOTTLES!  
BOTTLES!  
BOTTLES!

## DISPENSING BOTTLES

LDPE dispensing bottles have spouts. Sealer cap snaps on easily and gives a tight seal.

Cat. # BO0201	4oz bottle, 24mm Cap, 147mm x 47mm, 12/pk	PK	\$12.95
Cat. # BO0202	6oz bottle, 24mm Cap, 164mm x 55mm, 12/pk	PK	\$14.95
Cat. # BO0203	8oz bottle, 24mm Cap, 176mm x 60mm, 12/pk	PK	\$16.95



## WASH BOTTLES



LDPE washing bottle features a one-piece polypropylene screw cap and nozzle. This bottle delivers a single drop or a fine stream. The tip may be cut back to increase flow. The maximum temperature of LDPE is 80°C.

Cat. # BO0301	4oz bottle, 24mm Cap, 108mm x 47mm, 12/pk	PK	\$32.00
Cat. # BO0302	8oz bottle, 24mm Cap, 137mm x 60mm, 12/pk	PK	\$38.00
Cat. # BO0303	16oz bottle, 28mm Cap, 154mm x 79mm, 12/pk	PK	\$42.00

## CARBOYS

Heavy-duty carboy is molded of low density polyethylene. Spigot is 3/4" and has a serrated tip to securely hold 1/2" to 5/8" ID tubing. Five gallon size is supplied with one molded carrying handle. Maximum temperature for LDPE is 80°C.

Cat. # CA0301	2 gallon carboy	EA	\$66.00
Cat. # CA0302	5 gallon carboy	EA	\$86.00



**\*\*SEE ALSO BOD BOTTLES (PAGE 10) AND SAMPLING CONTAINERS (PAGE 44)\*\***

# BRUSHES

## BOTTLE, CYLINDER, AND JAR TUFTED BRUSH

This brush features a black nylon bristle with a tufted end and a twisted galvanized iron handle with a loop.

Cat. # BR0201	305mm length, 121mm bristle length, 38mm diameter, 3/pk	PK	\$ 9.50
Cat. # BR0202	305mm length, 121mm bristle length, 38mm diameter, 12/pk	PK	\$38.50
Cat. # BR0203	510mm length, 133mm bristle length, 60mm diameter, 3/pk	PK	\$ 9.50
Cat. # BR0204	510mm length, 133mm bristle length, 60mm diameter, 12/pk	PK	\$36.50



## BOTTLE, CYLINDER, AND JAR ROUND BRUSHES



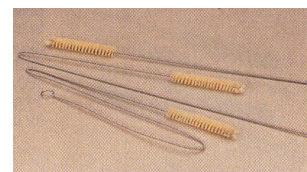
This brush has a completely round tip for effective, safe cleaning of wide mouth glassware such as jars and beakers. These brushes can be used in cleaning cylinders or large test tubes with 38-64mm ID. The brush features a stiff black (127mm long x 64mm diameter) bristle, a fan-shaped tufted end, and a heavy galvanized iron wire. The overall length is 711mm.

Cat. # BR0501	Brush, 2/pk	PK	\$16.50
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## BURET BRUSHES

These buret brushes are for all sizes of burets. They are made of unbleached white animal bristle with fan-shaped tufted end on galvanized iron wire.

Cat. # BR0401	For 10, 25mL burets or 6-13mm ID test tubes, 3/pk	PK	\$ 5.20
Cat. # BR0403	For 50mL burets or 10-19mm ID test tubes, 3/pk	PK	\$ 5.20
Cat. # BR0405	For 100mL burets or 15-30mm ID test tubes, 3/pk	PK	\$ 9.20



## FLASK BRUSH



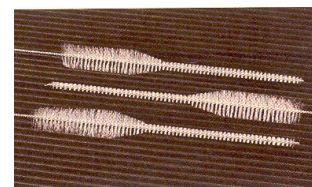
This flask brush is suitable for cleaning volumetric flasks. This brush features a 1.5" diameter bristle and a plastic handle. The flexibility of the curved spring portion to which the bristles are attached enables the brush to reach all parts of the flask.

Cat. # BR0301	12" length, for 250mL flasks, 3" bristle length, 2/pk	PK	\$10.50
Cat. # BR0302	12" length, for 250mL flasks, 3" bristle length, 12/pk	PK	\$55.50
Cat. # BR0303	14" length, for 500mL flasks, 4" bristle length, 2/pk	PK	\$10.50
Cat. # BR0303	14" length, for 500mL flasks, 4" bristle length, 12/pk	PK	\$55.50

## PIPET BRUSHES

These brushes are used for cleaning pipets. The handle is made of galvanized wire; total length is 17" long, tapering from 3/4 to 1" diameter; 1" tapered portion approximately 3" long.

Cat. # BR0601	Brush, 3/pk	PK	\$12.50
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## TEST TUBE

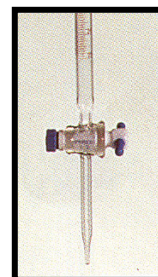


This brush is for use on test tubes, small jars, and cylinders. This brush features a white nylon bristle, a radial tufted end, and a twisted wire handle.

Cat. # BR0101	229mm length, 89mm bristle length, 19mm diameter, 6/pk	PK	\$ 6.50
Cat. # BR0102	279mm length, 102mm bristle length, 35mm diameter, 6/pk	PK	\$ 9.50
Cat. # BR0103	205mm length, 76mm bristle length, 13mm diameter, 6/pk	PK	\$ 9.50
Cat. # BR0104	230mm length, 89mm bristle length, 19mm diameter, 6/pk	PK	\$14.50

## BURET, CLASS A, TEFLON STOPCOCK

These burets are calibrated to Class A tolerances in accordance with ASTM E 542 and E 287. The tips are carefully drawn from accurate bore tubing to insure proper drainage rates. This buret has colored markings with fine, sharp lines and large, easy-to-read numbers. Each buret is supplied with a dust cover and 2 mm-bore Teflon stopcock plug.



Cat. # BU5025	25mL	EA	\$82.00
Cat. # BU5050	50mL	EA	\$84.00
Cat. # BU5100	100mL	EA	\$96.00

## BURET STAND

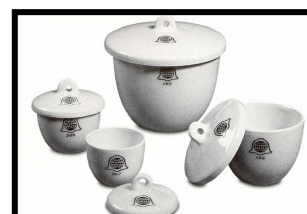
This buret stand has a glazed, white porcelain base that is 13" x 7" (LxW) with 4 rubber feet. The aluminum rod is threaded into the base and secured by a flange and hex nut. The rod is 1/2" diameter and 24" height.

Cat. # BU6000	Buret Stand	EA	\$29.95
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## CRUCIBLES

These high-form crucibles are glazed inside and out except for outside bottom surface. The crucible lids are glazed all over except for the rim.

Cat. # CR0101	50mL, 56mm top OD, 46mm height, 60mm ID	EA	\$ 5.27
Cat. # CR0102	100mL, 68mm top OD, 56mm height, 71mm ID	EA	\$ 6.12



## EVAPORATING DISHES

These evaporating dishes feature a round bottom and a pouring lip. They are glazed inside and out except for the rim.

Cat # DI0501	120ml Evaporating Dish, 3 1/2 x 1 1/2"	EA	\$ 5.50
Cat # DI0502	150ml Evaporating Dish, 4" x 1 3/4"	EA	\$ 7.25
Cat # DI0503	250ml Evaporating Dish, 4 3/4" x 2"	EA	\$10.00

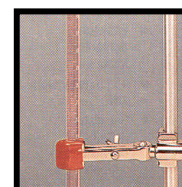


## CLAMPS

### SINGLE CLAMP

This two prong clamp opens to 38mm and is close coupled to lab frame for maximum rigidity.

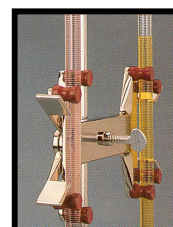
Cat. # CL0101	Single Clamp	EA	\$15.00
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### DOUBLE CLAMP

This double burette clamp holds 2 burets from micro to 100mL size. The finger grip adjusters allow easy height adjustments. The side grip leaves graduations unobstructed. The holding arms operate independently of each other.

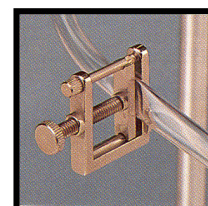
Cat. # CL0102	Double Clamp	EA	\$22.00
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### REGULAR HOSECOCK CLAMP

This hosecock clamp is used for tubing up to 19mm diameter. The convex clamping surface gives greater clamping power with less pressure. The oversized screw head for allows adjustment to the fluid flow. The tubing retaining screw eliminates slipping tubing.

Cat. # CL0103	Hosecock clamp	EA	\$12.95
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# AQUAFAST COLORIMETERS

## AQUAFAST II COLORIMETRY

- FAST, ACCURATE MEASUREMENTS
- BASED ON STANDARD METHODS
- ECONOMICAL TO OPERATE

AQUAfast II colorimeters are designed for simple to use single parameter methods. The lightweight microprocessor-based, AQUAfast II colorimeters offer the ultimate in ease of use and have any features such as a simple three-button user interface which ensures error free readings. The battery-operated compact colorimeter is designed with large display and long reagent shelf life, which makes AQUAfast II ideal for field and lab use. Tablets are easy to add to cuvettes and eliminate any loss of powdered reagent. Sample concentration is easily read from the large, liquid crystal display (LCD). The fast and accurate AQUAfast II colorimeters come in complete kits with rugged carrying case with cuvettes, stir rod and simple to follow instructions. The single parameter units, Drinking Water and Turbidity System come complete with reagents.



### COLORIMETERS

Cat. # AQ2070	Chlorine (free and total) colorimeter (0.05 to 6.0 mg/L range), 50 tests included	EA	\$269.10
Cat. # AQ2009	Fluoride kit colorimeter (0.1 to 2.0 mg/L range), 50 test included	EA	\$269.10
Cat. # AQ2007	Nitrate colorimeter (1 to 40mg/L range), 50 tests included	EA	\$269.10
Cat. # AQ2010	Turbidity colorimeter (0.1 to 2000 NTU range)	EA	\$400.50
Cat. # AQ2020	Drinking Water Colorimeter	EA	\$449.10
	Tests: Aluminum (0.05 to 0.30 mg/L range), 50 tests included		
	Chlorine (free and total) (0.05 to 6.0 mg/L range), 50 tests included		
	Chlorine Dioxide (0.04 to 2.8 mg/L range), 100 tests included		
	Fluoride (0.1 to 2.0 mg/L range), 50 tests included		
	pH (6.5 to 8.4 range), 100 tests included		

### REAGENT KITS

Cat. # AC2027	Aluminum reagent kit (0.05 to 0.30 mg/L range), 50 tests/ pack	PK	\$27.90
Cat. # AC2070	Chlorine (free and total) reagent kit (0.05 to 6.0 mg/L range), 50 tests/ pack	PK	\$10.10
Cat. # AC2099	Chlorine Dioxide reagent kit (0.04 to 2.8 mg/L range), 100 tests/ pack	PK	\$12.60
Cat. # AC2009	Fluoride reagent kit (0.1 to 2.0 mg/L range), 50 tests pack	PK	\$11.70
Cat. # AC2007	Nitrate reagent kit (1 to 40mg/L range), 50 test/ pack	PK	\$19.80
Cat. # AC2001	pH reagent kit (6.5 to 8.4 range), 100 tests/ pack	PK	\$11.70
Cat. # AC2015	Turbidity Standards Kit, set of 4	PK	\$80.10

### REPLACEMENT CUVETTES

Cat. # AC2CUV	Replacement Cuvettes, 24mm, 4/pack	PK	\$26.10
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# **AQUAFast IV COLORIMETRY**

- RUGGED WATERPROOF DESIGN
- PREMIER QUALITY AT AN AFFORDABLE PRICE
- SIMPLE-TO-USE ADVANCED PORTABLE METERS

## **Water analysis is made easy:**

- Step One.** Place the sample in the Auto-Test cuvette.  
**Step Two.** Position the cuvette in the Auqafast IV colorimeter. The Aquafast IV identifies your species of interest.  
**Step Three.** Read the result form the display. Selection of the display units is push-button easy: concentration, absorbance, or percent transmittance

Datalog 100 points in the field with a time and date tag and then download a printer or computer in the lab.

The AQUAfast IV features Auto-ID which, when used in conjunction with Orion's exclusive Auto-Test cuvettes, automatically identifies the species to be measured, selects the method, wavelength and reaction timer. The user never needs to push a button! The Auto-ID ensures the reagent is matched to the method.

The Auto-Test cuvettes are specially designed to work with the AQUAFast IV colorimeter. The AQUAfast IV accepts round cuvettes with diameters of 13, 16, and 24mm.

Two year warranty.



## **REAGENT KITS**

Cat. # AQ4000	Aquafast IV colorimeter	EA	\$890.00
Cat. # AC4027	Aluminum reagent kit (0-3 mg/L range), 30 tests/ pack	PK	\$29.00
Cat. # AC4070	Chlorine (free and total) reagent kit (0-6 mg/L range), 30 tests/ pack	PK	\$29.00
Cat. # AC4099	Chlorine Dioxide reagent kit (0-11 mg/L range), 30 tests/ pack	PK	\$29.00
Cat. # AC4009	Fluoride reagent kit (0-2 mg/L range), 30 tests pack	PK	\$29.00
Cat. # AC4007	Nitrate reagent kit (0-50mg/L range), 30 test/ pack	PK	\$35.00
Cat. # AC4001	pH reagent kit (6.5 to 8.5 range), 30 tests/ pack	PK	\$29.00

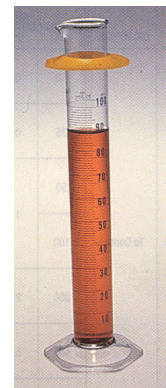
\*SEE PAGE 15 FOR REPLACEMENT CUVETTES



# CYLINDERS

## SINGLE SCALE, "CALIBRATED TO DELIVER", CLASS A, GLASS

- Borosilicate glass cylinder features a spout and a hexagonal base
- Single graduations, with zero at bottom
- The 10mL size has a flare top to facilitate filling
- Sizes 25 to 2000mL include Safe-Guard plastic bumpers



Cat. # CY0010	10mL	0.1 mL subdivisions	160mm	EA	\$ 3.45
Cat. # CY0025	25mL	0.2 mL subdivisions	188mm	EA	\$ 3.85
Cat. # CY0050	50mL	1 mL subdivisions	218mm	EA	\$ 4.85
Cat. # CY0100	100mL	1mL subdivisions	248mm	EA	\$ 5.85
Cat. # CY1000	1000mL	10mL subdivisions	465mm	EA	\$39.00
Cat. # CY2000	2000mL	20mL subdivisions	520mm	EA	\$59.00

## SINGLE SCALE, "CALIBRATED TO CONTAIN", CLASS A, GLASS



- Meets ASTM E 1272 Class A, Style I specifications
- Features hexagonal base for added stability and a hexagonal bumper guard
- Tolerance +/- 5% of total capacity at any calibrated volume

Cat. # GC0010	10mL	0.1 mL subdivisions	182mm	EA	\$20.00
Cat. # GC0025	25mL	0.2 mL subdivisions	210mm	EA	\$10.95
Cat. # GC0050	50mL	0.5 mL subdivisions	218mm	EA	\$11.50
Cat. # GC0100	100mL	1 mL subdivisions	236mm	EA	\$13.50
Cat. # GC2500	250mL	2 mL subdivisions	301mm	EA	\$24.20
Cat. # GC5000	500mL	5 mL subdivisions	362mm	EA	\$29.20
Cat. # GC1000	1000mL	10mL subdivisions	422mm	EA	\$38.50
Cat. # GC2000	2000mL	20mL subdivisions	478mm	EA	\$59.95

## SINGLE SCALE, POLYPROPYLENE

These cylinders feature permanently molded graduations that will not fade after repeated autoclaving. PP cylinders meet stringent international quality criteria according to ISO 6706 standards.

- Maximum temperature: 121<sup>0</sup>C
- Durable molded graduations
- Shatter resistant
- Resistant to most acids, bases, and common solvents
- Autoclavable



Cat. # PC0010	10mL with 0.2mL graduations	EA	\$ 3.00
Cat. # PC0025	25mL with 0.5mL graduations	EA	\$ 3.25
Cat. # PC0050	50mL with 1mL graduations	EA	\$ 4.25
Cat. # PC0100	100mL with 1mL graduations	EA	\$ 5.25
Cat # PC2500	250mL with 2ml graduations	EA	\$ 5.50
Cat # PC5000	500mL with 5ml graduations	EA	\$ 8.25
Cat # PC1000	1000mL with 10ml graduations	EA	\$10.25

# DESSICATORS

## POLYPROPYLENE VACUUM DESSICATOR

- Holds a vacuum of 740mm Hg for 24 hours
- The lid is made of transparent polycarbonate
- Removable pan holds calcium chloride or other drying agents
- Non-corrosive



Cat. # VD0101	6 3/4" OD x 5 7/8" ID	EA	\$35.00
Cat. # VD0102	9 1/4" OD x 7 3/4" ID	EA	\$45.00
Cat. # VD0103	11 1/4" OD x 9 3/4" ID	EA	\$65.00

## GLASS VACUUM DESSICATOR



- Includes cover, sleeve valve, silicone sealing ring, and plate
- Rotating sleeve valve on knob of cover has vacuum tabulation and rubber retaining washer
- Seal is vacuum-tight without grease
- Constricted lower portion of body forms plate support shoulder
- Depth of domed cover adds to effective chamber height
- Includes aluminum plate with 6mm perforations

Cat. # VD0201	100mm ID; 36mm depth	EA	\$115.00
Cat. # VD0202	150mm ID; 51mm depth	EA	\$149.00
Cat. # VD0203	250mm ID; 93mm depth	EA	\$320.00

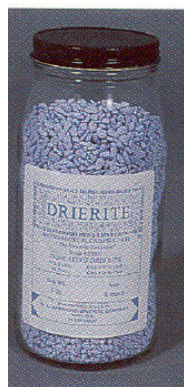
## DESSICATOR

This glass desiccator is designed for fast, efficient drying. Easily cleaned and exhibits a high degree of mechanical strength and chemical inertness. Dessicants can be used repeatedly and safely in this desiccator.

Cat. # DE0200	200mm ID, 315mm height, 125mm chamber depth	EA	\$214.00
Cat. # DE0250	250mm ID, 325mm height, 130mm chamber depth	EA	\$246.00



## DRIERITE DESSICANT

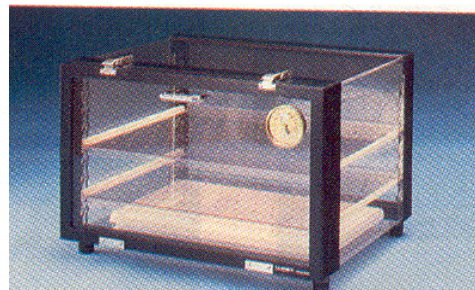


This anhydrous calcium sulfate desiccant has a cobaltous chloride indicator. Drierite is an efficient drying agent giving visual indication of the progress of absorption and exhaustion. It will absorb 6-10% of its weight in water, depending on relative humidity. As drierite absorbs moisture, the indicator color changes from blue to rose-red. Regeneration of calcium sulfate (and restoration of blue form of indicator) is accomplished by heating drierite, layered 1 granule deep, for 1 hour at 120°C.

Cat. # WD0100	1 lb. White Drierite, Non-Indicating	EA	\$ 4.20
Cat. # WD0500	5 lb. White Drierite, Non-Indicating	EA	\$13.20
Cat. # BD0100	1lb. Blue Drierite, Indicating	EA	\$ 8.20
Cat. # BD0500	5 lb. Blue Drierite, Indicating	EA	\$23.20

## SMALL DESSICATOR CABINET

- Electronically operated, 110 Vac
- Dial hygrometer on door is scaled from 1 to 100% relative humidity in increments of 10
- Made of methyl methacrylate which offers clear view of contents
- 8 levels of shelf cleats which allow for placement of 2 sets of shelf rails and 2 clear shelves with small vent holes
- Overall dimensions: 14 3/4" x 19 5/8" x 13 3/4" high



Cat. # DC0015      Small desiccator cabinet      EA      \$610.50

## LARGE DESSICATOR CABINET



- Dial hygrometer on door is scaled from 1 to 100% relative humidity in increments of 10
- Made of methyl methacrylate which offers clear view of contents
- Polystyrene desiccant tray is provided
- Desiccator has shelf cleats which allow for 15 levels of placement and includes 3 sets of shelf rails and 3 clear shelves with small vent holes
- Overall dimensions: 12 1/2" x 15 1/4" x 20" high

Cat. # DC0050      Large desiccator cabinet      EA      \$475.50

## AUTO-DESSICATOR CABINET

- State-of-the-art design
- Draws only 6 watts
- Control contains silica gel desiccant and continuously repeats a 5 hour cycle
- Absorption period lasts 4.5 hours, indicated by a green pilot light; then silica gel is regenerated for a 30 minute period, indicated by a red pilot light; after regeneration the cycle repeats
- No desiccant tray is needed
- Includes 2-wire cord and plug for 120V, 60Hz and two shelves
- Door opening is 10" x 17 7/8" high
- Inside depth is 3 1/4"
- Overall dimensions: 12 1/2" x 15 1/4" x 20" high



Cat. # DC0080      Auto-desiccator cabinet      EA      \$798.50

# WEIGH DISHES

## ALUMINUM WEIGHING DISH



- \*Ideal for weighing, dispensing, and evaporating
- \*Lightweight, yet sturdy
- \*Convenient finger-grip handle can be etched for identification
- \*Withstands temperatures up to 1250°F

Cat. # DI0101 57mm Aluminum Dish, 100/pk      PK      \$14.50

## DISPOSABLE WEIGHING DISH



- \*Polystyrene dishes assure high uniformity, stability, & dependability
- \*Round footprint for balance platform stability
- \*Contour sides for easy, secure handling
- \*Flexible for dependable sample pouring
- \*Conventional heating to 200°F
- \*Resistant to dilute and weak acids, aqueous solutions, alcohols and bases

Cat. # DI0201 41x41x8 (small), 500/pk      PK      \$38.50

Cat. # DI0202 89x89x25 (medium), 500/pk      PK      \$52.50

Cat. # DI0203 140x140x22 (large), 500/pk      PK      \$89.95

## POUR BOAT



- \*No flexing needed to dispense samples
- \*Constructed of very sturdy rubberized polystyrene
- \*Economical flat bottom makes pouring easy

Cat. # DI0301 34x58x5mm (small), 500/pk      PK      \$44.50

Cat. # DI0302 83x134x26mm (medium), 500/pk      PK      \$64.50

Cat. # DI0303 123x197x26 (large), 500/pk      PK      \$104.50

## SQUARE BOAT



- \*Made of sturdy polystyrene
- \*Biologically inert and resistant to dilute and weak acids
- \*Shallow shape and wide flat bottom

Cat. # DI0401 85x85x7mm, 500/pk      PK      \$64.50

# DO METER, PORTABLE, YSI

## MODEL 55

- All readings are automatically temperature compensated and can be corrected for barometric pressure and salinity
- Instrument comes complete with batteries which should last 100 hours and has a low battery display
- Splashproof meter; meter floats if dropped
- Pushbutton and built-in calibration
- Reads ppm or % oxygen
- Large backlit LCD display
- Probe sinks easily with stainless steel body
- Dual oxygen and temperature display
- Comes with cable attached with a choice of two lengths

	Accuracy	Range
Oxygen, ppm	+/- 0.3	0 to 20
Oxygen	+/- 2	0 to 200
Temperature	+/- 0.4	-5 to 45



Cat. # DO0055                      Portable DO Meter, with 12 foot cable                      EA            \$645.00

# DO METER, PORTABLE, YSI

## MODEL 95



- Microelectrode Array (MEA) sensor provides quicker, more stable readings in slow moving or stagnant water
- Meter uses MEA sensor which uses hundreds of small anodes and cathodes instead of one large anode and cathode pair
- Electronic filter helps eliminate reading “noise spikes” in fast moving currents
- Extended DO range of 0 to 50mg/L with 0.01 readout and +/- 0.2 accuracy in stagnant water
- Includes probe, cable, 6 membrane caps, solution, instructions and 2 year manufacturer’s warranty
- MEA sensor has no stirring dependence; Low maintenance requirements
- Cap membranes are easy to replace

Cat. # DO0095                      Portable DO Meter, with 10 foot cable                      EA            \$955.00  
 Cat. # DO0095A                      Membrane Caps, Model 95, 0.5mm, 6/pk                      PK            \$ 35.00  
 Cat. # DO0095B                      Membrane Caps, Model 95, 1.0mm, 6/pk                      PK            \$ 35.00

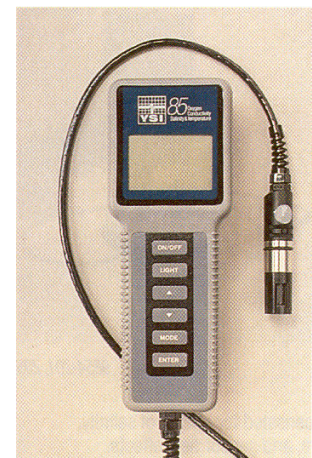
# DO METER, PORTABLE, YSI

## MODEL 85 MULTI-PARAMETER METER

- Designed for field measurements of dissolved oxygen, conductivity, salinity, and temperature
- Measures water as pure as tap water up to and including brine solutions with salinity 2.5 times greater than sea water
- Applications include determining salinity of influent and effluent in wastewater; determining purity of feedwater and compliance of discharge water in manufacturing process water; regulatory monitoring and profiling of rivers and streams; and salinity compensated measurements of dissolved oxygen water
- Four electrode conductivity probe design provides the highest accuracy, lowest maintenance and no platinization
- One button switches unit between salinity, conductivity, temperature compensated conductivity and dissolved oxygen
- Cap membrane kit includes six membranes and a bottle of solution
- Power requirements: six AAA batteries
- Features a large, back-lit display; Floats
- Waterproof to IP65 standards
- Cell constant: 5.0/cm +/-4% for conductivity

Cat. # DO0085    YSI Portable Meter, 10ft. cable                      EA            \$1,390.00

MEASUREMENT	RANGE	RESOLUTION	ACCURACY
Dissolved Oxygen	0-200%	0.1%	+/- 2% saturation
	0 to 20mg/L	0.01 mg/L	+/- 0.3 mg/L
Conductivity	0 to 499.9 $\mu$ S/cm	0.1 $\mu$ S/cm	+/- 0.5% full scale
Salinity	0 to 80 PPT	0.1 PPT	+/- 2% or +/- 0.1 PPT
Temperature	-5 to +65 <sup>o</sup> C	0.1 <sup>o</sup> C	+/- 0.1 <sup>o</sup> C



## DO METER, BENCHTOP, YSI

### MODEL 52

- Autostable feature indicates when the readings have reached a user defined criteria for stability
- Features salinity compensation and large multi-parameter display
- DO meter is designed for field and lab measurement
- Readings are automatically compensated for temperature
- Non-volatile memory is capable of storing 70 DO and temperature readings
- All data stored is date and time stamped
- Batteries are included or optional AC adapter can be used
- RS232 interface



Cat. # DO0052 Model 52 EA \$1156.95  
 Cat. # DO0053 AC Adapter, 110 VAC EA \$ 55.00

## DO/ BOD METER, BENCHTOP, YSI

### MODEL 5000



- Microprocessor-based, menu-driven meter
- Large, graphical LCD display that provides menus and large data fields
- Datalogging up to 100 points
- Auto stabilization
- Keys have tactile and audio response
- RS232 interface
- Features a real time clock
- Dimensions: 9"L x 9.5"W x 4.5"H
- Batteries included
- Optional probe adapter allows meter to be used with other existing YSI probes

Cat. # DO5000 Model 5000 EA \$999.99

## DO/ BOD METER, BENCHTOP, YSI

### MODEL 58

- Provides four-digit LCD readout of dissolved oxygen to 0.1 or 0.01 mg/L, % air saturation, or temperature
- Controls: mode switch, zero knob, O<sub>2</sub> calibration lock knob, salinity compensator knob, on-off stirrer control battery check
- Portable, battery-operated unit with digital LCD
- Suitable for Model 5739 probe
- Meter can be rewired to operate the submersible stirrer
- Includes batteries, 120V AC adapter, and recorder jack
- Probe, probe cable, and stirrer not included



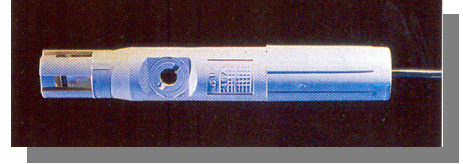
RANGE	READABILITY	ACCURACY
0.0 to 20.0 mg/L	0.1 mg/L	+/- 0.03 mg/L
0.0 to 20.0 mg/L	0.1 mg/L	+/- 0.03 mg/L
0.0 to 200.0% air saturation	1% air	+/- 0.3% air
-5.0 <sup>0</sup> to +45.0 <sup>0</sup> C	0.1 <sup>0</sup> C	+/- 0.3 <sup>0</sup> C

Cat. # DO0058 Model 58 EA \$1550.00

## DO FIELD PROBE, YSI

### Model 5739

- Features pressure compensation, temperature compensation, built-in weight, long-life, polarographic membrane-covered oxygen sensor of established design, protective sensor guard, and durable, molded, plastic
- Screw-apart construction lets you quickly change from one cable length to another
- Ability to replace either probe or cable without replacing the entire assembly
- Usable on Model 58 YSI meter and many older meters
- Upper end is threaded to take cable assembly (see below) for connection to meter
- Includes membrane/ KCl Kit, spare diaphragm, storage bottle, and three O-rings



Cat. # DO5739    Combination Probe                      EA        \$230.00

### Cable Assemblies

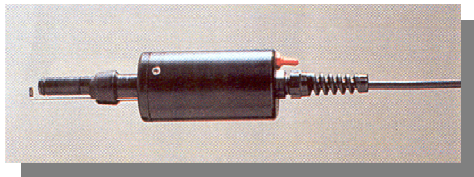
- Detachable leads for connecting the DO field probe (YSI Model 5739)
- Includes water-tight connector for attachment to DO meter, a spare O-ring and a storage reel

Cat. # DO5740    Cable Assembly, 10ft                      EA        \$150.00

Cat. # DO5741    Cable Assembly, 50ft                      EA        \$220.00

## SELF-STIRRING BOD PROBE

### Model 5905 and 5010



- Features a replaceable cap membrane and a removable stirring mechanism
- Use with standard 300mL BOD bottles
- Probe accuracy is the greater of 0.1 mg/L or 2% of readings
- Model 5905 can be adapted to fit all YSI DO meters except model 55
- Model 5010 only works with YSI DO meter models 5000 and 5100
- Cable is 51" long

- Membrane kit contains 6 membrane caps and KCl solution
- Improved membrane life assures measurement consistency and speed maintenance

Cat. # DO5905    BOD probe, Model 5905                      EA        \$535.95

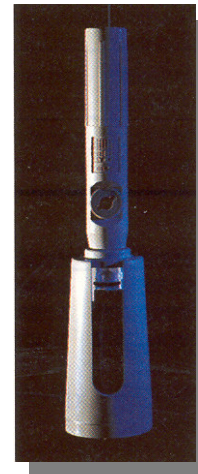
Cat. # DO5010    BOD probe, Model 5010                      EA        \$535.95

Cat. # DO5906    Membrane Kit                                      EA        \$35.00

## SUBMERSIBLE STIRRER

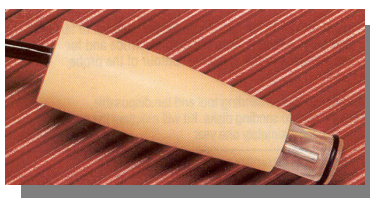
- Portable and Battery Operated
- For use with Model 58 and older YSI DO meters
- Provides required flow of sample past sensing tip of probe
- Power line and probe lead sheathed together in 15 meter cable, which screws onto the Model 5739 YSI combination probe
- Overall dimensions: 108 mm high x 52 mm diameter
- Comes with watertight connector for attachment to meter

Cat. # DO5740    Submersible Stirrer                      EA        \$535.00



## BOD BOTTLE PROBE

### Model 5750



- Usable with all YSI DO meters
- Measures dissolved oxygen and temperature in BOD bottles
- Designed to fit into neck of any bottle with a 0.675" opening
- Probe requires manual stirring or use of magnetic stirrer
- Includes membrane and KCl kit

Cat. # DO5750    Model 5750, 5 ft. cable    EA        \$288.50

# DO FIELD PROBE, YSI



## Model 5239 with Cap Membranes

- Heavy duty probe guard houses the DO and temperature sensors
- Weighted and waterproof; sinks easily
- Uses cap membranes for easy replacement
- Cable is connected directly to the probe body
- Compatible with Model 52 and Model 58
- Includes six cap membranes and KCl solution

Cat. # DO5239A	Model 5239, 10 ft. cable	EA	\$452.25
Cat. # DO5239B	Model 5239, 25 ft. cable	EA	\$462.25

## DO ACCESSORIES PROBE RECONDITIONING KIT

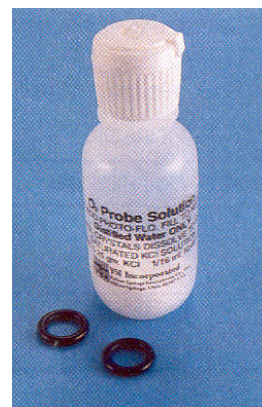
- Used on YSI Model 5739 Probe for the removal of tarnish and silver deposits from the gold electrode and for maintenance of the spherical contour of the probe face
- Includes contoured sanding tool and ten disposable, adhesive-backed sanding disks
- Kit will maintain the surface of one probe for approximately one year

Cat. # DO5741	Probe Reconditioning Kit	EA	\$25.00
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## Membrane/KCl Kits

- Consists of 2 packages of 15 teflon membranes and KCl crystals in 12 oz. dropping bottle to make 30mL solution for filling probe
- Kit contains 30 standard membranes, as supplied with Model 5739 probes
- High sensitivity kit includes 30 high sensitivity membranes, as required when sample temperature is below 15 degrees Celsius or to provide expanded scale range

Cat. # DO5742	Membrane/ KCl Kit	EA	\$15.95
Cat. # DO5743	Membrane/ KCl Kit, High Sensitivity	EA	\$15.95
Cat. # DO5744	Membranes only 150/pk	PK	\$49.95
Cat. # DO5755	Membranes only, High Sensitivity, 150/pk	PK	\$49.95



## O-RING KIT

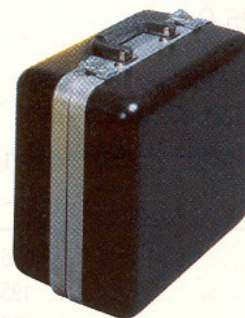
- For replacement of O-rings in YSI oxygen probes
- Kit contains eight rubber O-rings, two each of four different sizes

Cat. # DO5756	O-ring kit	EA	\$11.00
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## DO CARRYING CASE

- Sturdy
- Holds any YSI DO meter, probe, cable, submersible stirrer, and supplies
- Meter can be operated in the case
- Dimensions: 39.5 x 23 x 34.5 cm

Cat. # DO0100	Carrying Case	EA	\$139.00
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# FILTRATION

## FILTER FUNNEL, WHATMAN

This filter funnel is designed for use with Whatman glass microfiber filters. It is ideal for water testing. The three-piece construction permits quick filter changing and easy cleaning. Reservoir, base and stem are borosilicate glass with ground contact flanges. Clamping pressure provides a leak-tight seal. Solutions pass through filter and all retained solids are deposited within the filter circle. The clamps are plastic-coated for chemical resistance. The replaceable filter support plates of transparent acrylic are suitable for most aqueous solutions and some dilute acids at working temperatures to 65 degrees Celsius maximum. Each filter comes with an acrylic filter support plate and 3 clamps.

Cat. # FI0101	7 cm filter diameter, 115 mL, 15.9 cm	EA	\$125.55
Cat. # FI0102	9 cm filter diameter, 200 mL, 17.9 cm	EA	\$145.55



## FILTER FUNNEL HOLDER, WHATMAN

**Holds 47mm filters**

**Used for up to 500mL of liquid**

These low, extractable, borosilicate glass holders are supplied with a 300mL graduated funnel, anodized aluminum clamp, and a No. 8 silicone stopper. The holder with fritted glass support includes a fritted glass support base. The holder with stainless steel support is supplied with a 100 mesh stainless steel support screen, PTFE support-screen gasket, and glass support base. Both holders require an 1000mL Erlenmeyer flask.

Cat. # FI0201	Filter Holder, Fritted Glass Support	EA	\$185.00
Cat. # FI0202	Filter Holder, Stainless Steel Support	EA	\$195.00



## FILTER FUNNEL, GELMAN

This Gelman filter funnel is for vacuum filtration of liquids. It accepts 47mm filter membranes. Dual magnets ensure a tight, no-leak seal between funnel body and stem, eliminating the need for cumbersome clamps. The magnetic connection of the funnel allows one-handed operation and prevents possible twisting and tearing of the filter membrane. A ridge on the base of the stem guides and holds membrane in position. Forcep access points provide easy retrieval of the filter. A connection can be made with a rubber stopper into a filter manifold or a sidearm flask. Durable, chemical-resistant polyphenylsulfone construction is compatible with anti-foaming agents and many other solvents. There are 50mL graduations for accurate sample measurement. These filter funnels are washable, autoclavable, and UV sterilizable.

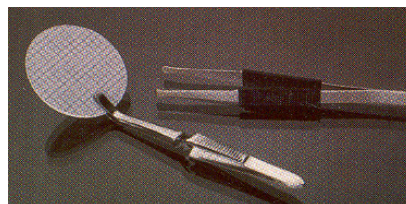
FI0301	150mL	EA	\$120.00
FI0302	300mL	EA	\$135.00
FI0303	500mL	EA	\$148.00



# FILTER FORCEPS

These stainless steel filter forceps have serrated grip-on blades for handling membrane filters without risk of damage or contamination. They are available in bent tip and straight tip. Bent tip forceps feature x-action design that allows membrane to be held without applying constant pressure.

Cat. # FI0401	Bent Tip	EA	\$15.50
Cat. # FI0402	Straight Tip	EA	\$15.50



# FILTER PAPER

## 934-AH Glass Microfiber Filters, Whatman

- 1.5 $\mu$ m retention
- As specified for analysis of water and waste samples in the *Standard Methods for the examination of Water and Wastewater(1992)*
- Retains precipitates such as silver chloride
- Maximum usable temperature 500<sup>0</sup>C

Cat. # FP0501	Filter Disc, 47mm, (Whatman # 1827-055), 100/pk	PK	\$26.30
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## 943-AH Glass Microfiber Filters, Ultrafine, Whatman

- 98% retention efficiency for particles of 0.7 $\mu$ m in liquids
- Rapid flow rate; thickness 0.44mm
- Extremely high loading capacity; borosilicate glass without binders
- Very effective in filtering finely precipitate proteins; can be used in conjunction with GF/D for the successful clarification of extremely “difficult” biochemical solutions and fluids

Cat. # FP0502	Filter Disc, 55mm, (Whatman # 1821-055), 100/pk	PK	\$54.00
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## Glass Fiber Filters, Type A/E, Pall Gelman

- Porosity: Fine
- Flow Rate: Fast
- Particle Retention: 1.0 $\mu$ m
- Ideal for gravimetric analysis of air pollutants and as prefilters for use upstream of membrane filters.
- Standard filter for dissolved and suspended solids testing in sanitary water analysis procedures.
- Binder-free and organic-free.
- DOP efficiency is 99.98%
- Maximum operating temperature in air: 500<sup>0</sup>C

Cat. # FP0503	Filter Disc, 47mm, (Gelman # 61631), 100/pk	PK	\$28.00
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# FLASKS

## ERLENMEYER, NARROW MOUTH

Borosilicate glass flasks meet ASTM E 1404 Type I, Class 1 Specifications for classification, design, capacity and dimensions, and markings. They feature heavy-duty rims to reduce chipping; white, permanent graduations, and a large marking square. Each flask has a low-coefficient of expansion. They are manufactured with uniform wall thickness which offers optimum balance between thermal shock resistance and mechanical strength. Accuracy: +/- 5% of full capacity



Cat. # FN0125	125mL, 5 Stopper, 50-125mL grad., 25mL grad. intervals	EA	\$3.25
Cat. # FN0250	250mL, 6 Stopper, 50-225mL grad., 25mL grad. intervals	EA	\$3.50
Cat. # FN0500	500mL, 7 Stopper, 100-500mL grad., 50mL grad. intervals	EA	\$4.95
Cat. # FN1000	1L, 9 Stopper, 250-1000mL grad., 50mL grad. intervals	EA	\$6.50

## ERLENMEYER, FILTER, HEAVY WALL

This heavy-duty flask with a side arm is designed for vacuum applications. It meets ASTM E 1404 Type I, Class 1 Specifications for classification, design, capacity and dimensions, and markings. It features white, permanent graduations and a large marking square. It is made from sturdy borosilicate glass with a low coefficient for expansion. It is manufactured with uniform wall thickness which offers optimum balance between thermal shock resistance and mechanical strength. Accuracy: +/-5% of full capacity



Cat. # FF0500	500mL filter flask	EA	\$27.00
Cat. # FF1000	1-L filter flask	EA	\$35.00
Cat. # FF2000	2-L filter flask	EA	\$58.00

## VOLUMETRIC, CLASS A, GLASS TS STOPPER

This volumetric flask meets ASTM E 288 Class A Specifications. It features a machine-blown body, a heavy-tubing neck, and a glass TS stopper. The graduation is sharp and permanent. Large, white block letters allow the labeling to be read easily. All sizes are supplied with a TS ground glass stopper.



Cat. # FG0010	10mL	EA	\$10.80	Cat. # FG0250	250mL	EA	\$15.80
Cat. # FG0025	25mL	EA	\$11.80	Cat. # FG0500	500mL	EA	\$31.80
Cat. # FG0050	50mL	EA	\$12.80	Cat. # FG1000	1000mL	EA	\$19.80
Cat. # FG0100	100mL	EA	\$13.80	Cat. # FG2000	2000mL	EA	\$42.00
Cat. # FG0200	200mL	EA	\$14.80				

## VOLUMETRIC, CLASS A, SNAP CAP

This volumetric flask meets ASTM E 288 Class A specifications. Each flask features a machine blown body, a heavy-beaded, heavy-tubing neck tooled for a snap-cap fit. The graduation line is sharp and permanent. The large, white, block-letters allow the labeling to be easily read. All sizes are supplied with a snap cap.



Cat. # VG0010	10mL	EA	\$3.50	Cat. # VF0250	250mL	EA	\$15.50
Cat. # VF0025	25mL	EA	\$5.50	Cat. # VF0500	500mL	EA	\$16.50
Cat. # VF0050	50mL	EA	\$6.50	Cat. # VF1000	1000mL	EA	\$18.50
Cat. # VF0100	100mL	EA	\$8.50	Cat. # VF2000	2000mL	EA	\$38.50
Cat. # VF0200	200mL	EA	\$12.50				

# MUFFLE FURNACE

## SMALL BENCHTOP

### Type 1300 and Type 1400

Economical furnaces are specifically designed for determining suspended solids. Reliable digital control ensures accurate temperature control. Turn the set point knob, and the furnace automatically heats to selected temperature. Sensor break protection removes power to elements, eliminating run away conditions, while calibration port simplifies routine performance checks. Ceramic fiber insulation permits faster heat-up time while reducing energy consumption. Custom-formed refractory cement envelopes the heating elements reducing the penetration of contaminants, extending the longevity of the heating elements. Insulated door with a convenient latching handle forms a useful shelf when open. Door safety switch removes power to heating elements when door is open.

Maximum Temperature:	1100°C		
Chamber Dimensions:	Type 1300	10.2Wx9.5Hx11.4D cm (4x3.75Hx4.5")	
	Type 1400	12.7Wx10.8Hx15.2D cm (5x4.5x6")	
Overall Dimensions:	Type 1300	20.3Wx31.8Hx21.6D cm (5x4.5x6")	
	Type 1400	25.4Wx36.8Hx27.9D cm (10x14.5x11")	
Weight:	Type 1300	6.1kg	
	Type 1400	10kg	
Electrical:	120V		

Furnace is supplied with one-year parts and 90-day labor warranty. Furnace includes a 3-wire cord with plug. Hearth plate and replacement heating elements are sold separately.



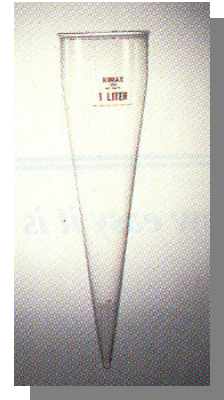
Help! It's Wastewater Operator Stan! Let me out! It's hot in here!

Cat. # FU1300	Type 1300 120V Furnace	EA	\$739.00
Cat. # FU01300A	Type 1300 Heating Element	EA	\$102.25
Cat. # FU1300B	Type 1300 Hearth Plate	EA	\$12.45
Cat. # FU1400	Type 1400 120V Furnace	EA	\$908.00
Cat. # FU1400A	Type 1400 Heating Element	EA	\$124.35
Cat. # FU1400B	Type 1400 Hearth Plate	EA	\$25.50

# IMHOFF

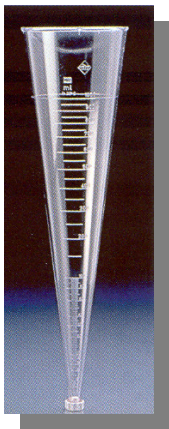
## IMHOFF CONE, GLASS

The pyrex imhoff cone is used in the determination of suspended matter in sewage by the Imhoff sedimentation method. It is available in two styles: sharp-tip for small amounts of suspended matter and the rugged, easy-to-clean, blunt tip for heavy sediments. Each is graduated from 0-1 ml in 0.1 ml, from 1-10 ml in 0.5ml, and from 10-40ml in 1ml, with mark at 1000ml. Each style has a top diameter of 110mm.



Cat. # IM0100	Sharp Tip Cone, 435mm height, 1000ml, 2/pk	PK	\$265.00
Cat. # IM0101	Blunt Tip, 415mm height, 1000ml, 2/pk	PK	\$315.00

## IMHOFF CONE, PLASTIC



This styrene-acrylonitrile imhoff cone is unbreakable and transparent. Each cone features a leakproof screw closure at the tip for easy withdrawal of sediment and ease in cleaning. The molded graduations include: 0-2ml in 1/10 ml, 2-10ml in 1/2 ml, 10-40ml in 1ml, 40-100ml in 2ml and 100-1000ml in 50ml. Top diameter is approximately 4-7/8" x 19-7/8".

Cat. # IM0200	1000ml Imhoff Cone	EA	\$34.50
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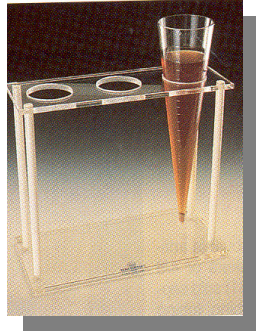
## IMHOFF CONE BRUSH

Tapered brush head flares out in a fan tip for increased scrubbing area when removing stubborn sediments. Natural black bristles and vegetable fiber are wired to form a dense effective cleaning tool. The handle is round and smooth.



Cat. # BR0801	1.9-10.2cm Brush Taper 24.7cm Brush Head Length 61cm Total Length	EA	\$16.55
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# 3-PLACE IMHOFF CONE SUPPORT RACKS



**ACRYLIC**



**STEEL**



**WOOD**

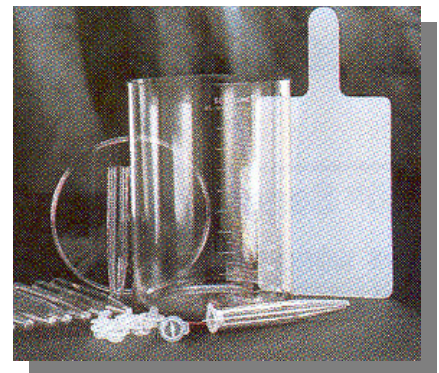
Cat. # IM0301	Acrylic Imhoff Cone Rack	EA	\$99.95
Cat. # IM0302	Steel Imhoff Cone Rack	EA	\$19.95
Cat. # IM0303	Wood Imhoff Cone Rack	EA	\$86.95

# SETTLEOMETER KIT

This economical kit contains everything needed to perform settlometer and centrifuge tests for monitoring sludge quality during the activated sludge process in wastewater treatment. Plastic components are chemically resistant to normal sludge samples (pH 3-10).

Dimensions, Jar: 5.2 diameter x 7.5" height  
 Dimensions, Tube: 0.67 diameter x 4.7" height

Kit consists of: 2-L jar with easy to read graduations; cover; polypropylene paddle; ten 15mL conical polycarbonate centrifuge tubes with molded-in graduations and 10 polypropylene, friction-fit closures; instruction booklet; and data sheet.



Cat. # IM0401	Settleometer Kit	EA	\$99.95
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# MICROSCOPY

## COMPOUND MICROSCOPE



**Viewing Head:** Binocular  
**Viewing Head Type:** Seidentopf  
**Head Rotation:** 360°  
**Head Inclination:** 30°  
**Interpupillary Adjustment:** 55-75mm  
**Diatropic Adjustment:** -5 to +5  
**Eyepieces:** 10x widefield  
**Eye Field Diameter:** 18mm  
**Nosepiece:** Quadruple, reversed  
**Stage Dimensions:** 125x135mm  
**Stage Motion:** Right-hand Coaxial Control/ Rack and Pinion Drive  
**Stage Movement Range:** 30x70mm  
**Focusing Movement:** Coaxial coarse and fine focus controls  
 safety autostop  
**Focusing Range:** 40mm  
**Focusing Graduation:** 2 microns  
**Brightfield Condenser:** 1.25NA Abbe condenser w/ Iris diaphragm  
**Brightfield Objectives:** 4X, 10X, 40X, 100X (oil); Achromatic objectives  
**Phase Centering Tool:** Telescoping Eyepiece (included)  
**Illumination:** 20W variable quartz halogen light source  
**Base Dimensions:** 180x10mm base fitted with anti-skid rubber feet  
**Overall Dimensions:** 210mm (L) x 180mm (W) x 380mm (H)

Cat. # MI1200    Brightfield compound microscope    EA    \$750.00

## STEREO MICROSCOPE

**Viewing Head:** Binocular  
**Head Rotation:** 360°  
**Head Inclination:** 45°  
**Interpupillary Adjustment:** 55-90mm  
**Diatropic Adjustment:** -5 to +5  
**Eyepieces:** 10x widefield  
**Eye Field Diameter:** 20mm  
**Working Distance:** 93mm  
**POD Ring ID:** 85mm  
**Stage Plate:** Frosted & Black/ White Reversible  
**Stage Clips:** Stainless Steel, Spring Loaded, Locked-on  
**Focusing Movement:** Dual Knobs; Rack and Pinion Assembly; Tension Control; Slip-Clutch Mechanism  
**Vertical Travel:** 85mm  
**Upper Illumination:** 15W variable quartz halogen  
**Lower Illumination:** 50W Fluorescent  
**Stereo Zoom Objectives:** 0.7X to 4.5X  
**Base Dimensions:** 255 x 180mm base fitted with anti-skid rubber feet  
**Overall Dimensions:** 255mm (L) x 180mm (W) x 430mm (H)



Cat. # MI1200    Brightfield compound microscope    EA    \$795.00

## MICROSCOPE ACCESSORIES

### BIBULOUS PAPER

This high quality, highly absorbent paper is manufactured for minimum linting and shedding. It is recommended for drying slides, and small parts or components.

Cat. # MI0100      4"x6" Paper    50 sheets/pk      PK    \$4.25

### LENS PAPER

See kimwipes

### COVER GLASS

Cat. # MI0200      22" x 22" square #1 (1ounce)      PK    \$4.00

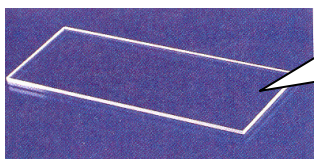
### MICROSCOPE SLIDES

#### Frosted or Plain

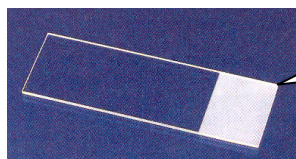
These slides are made of water-white glass for maximum clarity. They are precleaned and ready to use. Each slide is inspected for chips and rough edges before packaging. The frosted ended microscope slides allow for easy labeling. Slides are 3x1".

Cat. # MS0500P      Plain Microscope slides 144/pk      PK    \$14.85

Cat. # MS0500F      Frosted Microscope slides 144/pk      PK    \$18.85



Plain is great!



Frosted is better!

### CAN OF AIR

This can of air is triple filtered for greatest purity. It can be used for cleaning balances, microscopes, computers, delicate electronic assemblies, centrifuge heads, plus a wide variety of laboratory apparatus. The strength of the air blast can be controlled by squeezing the nozzle's trigger harder. Ten ounce can is supplied with six inch extension tube for reaching hard-to-get-at-dust.

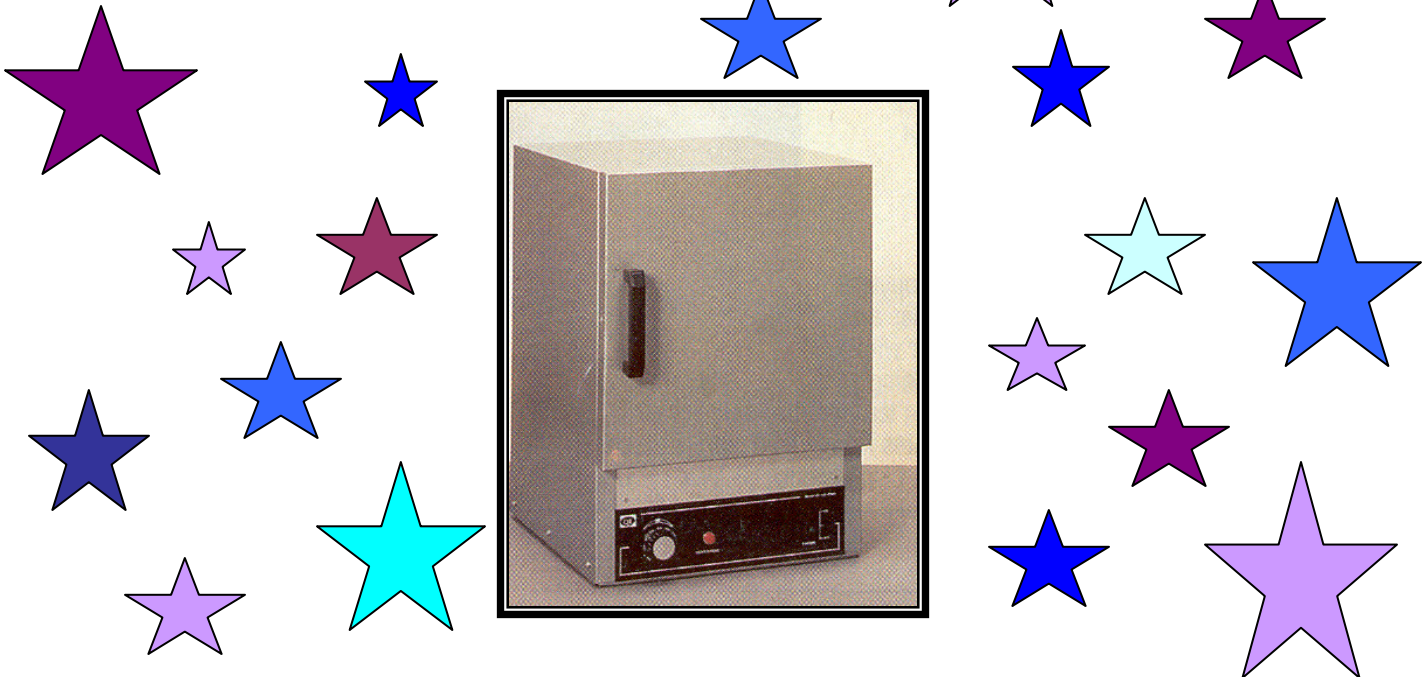


Cat. # AI0100      Can of Air      EA      \$15.00



# QUINCY GRAVITY CONVECTION OVEN

- Compact, low-cost, and dependable
- High quality at an economical price
- UL and CSA recognized components in all ovens
- Use for drying, baking, sterilizing, evaporating, heat-treating, annealing, testing, etc.
- Durable exterior has a hard, scratch-resistant hammer finish and cabinet has a heavy steel double-wall construction
- Work space is insulated from the outer cabinet with one inch of high-density mineral wool
- Interior is made of corrosive-resistant aluminized steel
- Control panel is equipped with an illuminated ON-OFF rocker switch and heat/cycle pilot light
- Temperature range to 225<sup>0</sup>C, automatic thermostat controls temperature
- Energy-efficient, low-watt density incoloy sheathed elements for quick run-up and recovery times
- Perforated heat shield, which absorbs radiant heat and distributes it more evenly, greatly improves temperature uniformity
- Supplied with dual-range thermometer, 50<sup>0</sup>F to 550<sup>0</sup>F/ 10<sup>0</sup>C to 287<sup>0</sup>C
- Specifications:
  - 1200 Watts
  - 18" W x 12 x 16" internal dimensions
  - 60 cycle
  - single phase
  - 115V or 230V



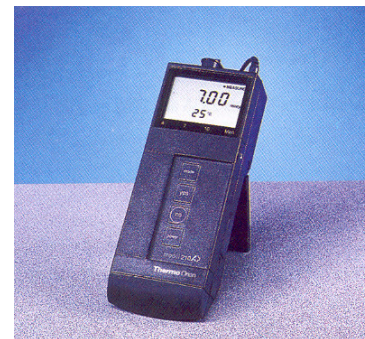
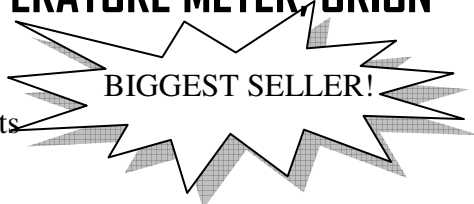
Cat. # OV1001	1200W, 115V	EA	\$428.00
Cat. # OV1002	1200W, 230V	EA	\$428.00

# PH METERS

## BASIC PORTABLE pH/TEMPERATURE METER, ORION

### MODEL 210Aplus

- 2 point pH calibration
- Simple operation yet accurate results
- pH resolution to 0.01



This portable meter is affordable and durable for performing routine pH/temperature measurements in the field or lab. Housed in a splash- and chemical- resistant case, this meter includes a built-in electrode storage sleeve and cable management. Simple four-button operation makes it the meter of choice for many applications. The two step autocalibration with built-in Auto-Buffer-Recognition and automatically calculated and displayed electrode slope value gives the user valuable electrode status feedback to ensure quality results. The meter package includes a low maintenance pH electrode.

Relative Accuracy	+/- 0.02
pH Range	0.00 to 14.00
Resolution	0.01
Calibration Points	2

Cat. # PH210A Model 210Aplus EA \$333.00

## BASIC PORTABLE pH/mV/Rel mV/ORP/TEMPERATURE METER, ORION

### MODEL 230Aplus

- New mV and Rel mV capability
- New ORP mode correlates measurements to Standard Hydrogen Electrode (SHE)
- pH resolution to 0.01



The Model 230Aplus is an affordable, durable, portable meter for performing routine pH/mV/ORP/temperature measurements in the field or laboratory. Housed in a splash- and chemical-resistant case, this meter includes a built-in storage sleeve and cable management. Calibration is fast, easy and accurate using the two step autocalibration with built-in Auto-Buffer-Recognition, built-in buffer/ temperature tables, custom buffer calibration and automatically calculated and displayed electrode slope value. The new ORP modes allow the user to standardize to the Standard Hydrogen Electrode for more reproducible measurements.

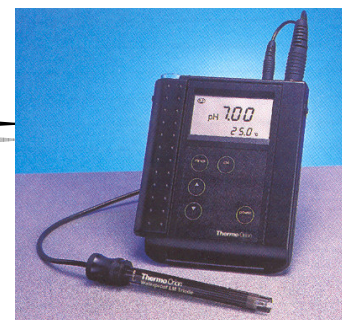
Accuracy	+/- 0.02
pH Range	-2.00 to 19.99
Resolution	0.01
Calibration Points	2

Cat. # PH230A Model 230Aplus EA \$427.50

## BASIC pH/mV/TEMPERATURE METER, ORION

### MODEL 260A

- Waterproof
- Designed for field use
- 3 Point Autocalibration with choice of buffers or manual calibration



Model 260A was designed for accurate measurement of pH, mV, and temperature in the field. A large easy-to-read display monitors electrode response condition and calibration status as well as pH, mV and temperature readings. The battery-operated meter is supplied with a built-in quiver and neckstrap. The meter and electrode package contains a rugged, low-maintenance Thermo Orion Triode 3-in-1 combination pH electrode.

Accuracy	0.01
pH Range	-2.00 to 16.00
Resolution	0.01 pH
Calibration Points	3

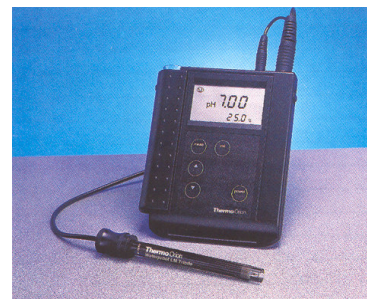
Cat. # PH260A Model 260A EA \$732.60

## ADVANCED pH/mV/TEMPERATURE/ WATERPROOF METER, ORION

### MODEL 265A

- 3 Point Autocalibration with choice of buffers or manual calibration
- Continuous electrode and meter status indicator display
- Bi-directional RS-232 and computer software for easy data transfer

The Model 265A is a portable pH/mV/ temperature meter with advanced features for GLPdoc. The 100 point datalogger with time and date stamp documents readings. The manual, interval or event-controlled RS232 and the included software program simplify data collection and remote operation on a computer. Other advanced features include manual and autocalibration, recalibration timer option, clock, calibration printout, and memory. The meter is supplied with a built-in quiver, neckstrap, RS232 cable and data transfer software. The meter and electrode package contain a rugged, low-maintenance Thermo Orion Triode 3-in-1 combination pH electrode.



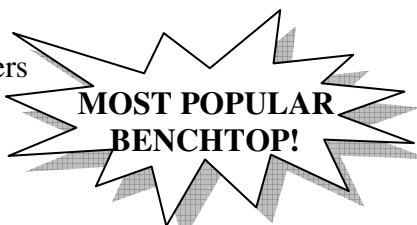
Accuracy	0.01
pH Range	-2.00 to 16.00
Resolution	0.01
Calibration Points	3

Cat. # PH265A      Model 265A      EA      \$909.90

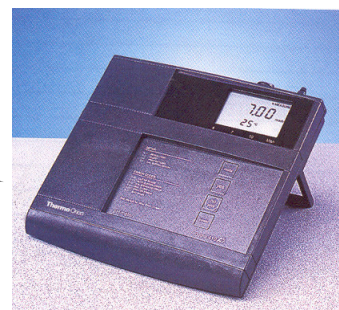
## BASIC BENCHTOP pH/TEMPERATURE METER, ORION

### MODEL 410A

- 3 point autocalibration with choice of 3 buffers
- ROSS Resolution to 0.001 pH units
- Simultaneous pH and Temperature display



The Model 410Aplus meter is a durable, easy-to-use pH meter designed to be a reliable workhorse. Housed in a splash- and chemical- resistant case, three keys "YES," "NO," and "MODE" operate all meter functions. The Model 410Aplus also features autocalibration, automatic temperature compensation, and choice of pH resolution. It is equipped with RS232 interface that allows transfer of data using the optional Thermo Orion Model 900A printer or computer.



Accuracy	+/- 0.005
pH Range	-2.00 to 14.00
Resolution	0.001
Calibration Points	3

Cat. # PH410A      Model 410A      EA      \$412.20

## BASIC BENCHTOP pH/mV/DRP/TEMPERATURE METER

### MODEL 420Aplus

- New 3 Point Calibration
- Autocalibration with up to 3 Buffers
- Simultaneous pH and temperature display

Accuracy	+/- 0.005
pH Range	-2.00 to 19.999
Resolution	0.001
Calibration Points	3

The Thermo Orion 420Aplus is a benchtop meter that gives you the basics for fast, accurate pH measurement. This system is ideal for a busy, multi-user lab. Calibration is fast, easy, and accurate with autocalibration using built-in Auto-Buffer-Recognition, built-in buffer/ temperature tables, and automatically calculated and displayed electrode slope value. The mV mode makes ORP measurements fast and reliable. ROSS resolution to 0.001 pH units ensures accurate measurements. The Model 420Aplus is equipped with RS232 communications that allow the user to record data.



Cat. # PH420A      Model 420A      EA      \$513.90

# BASIC BENCHTOP ISE/pH/mV/DRP/TEMPERATURE METER, ORION

## MODEL 710A

- Affordable Concentration and pH measurements
- Automatic blank correction calculations
- Autocalibration with choice of 5 buffers

Accuracy	+/- 0.005
pH Range	-2.00 to 19.999
Resolution	0.001
Calibration Points	5

The Model 710Aplus is loaded with features to make routine pH and concentration measurements fast, easy, and accurate. Meter accepts up to five standards for concentration calibration to ensure low-level measurement accuracy. Calibrate quickly using pH autocalibration with built-in buffer/ temperature tables. Autoblank correction feature automatically corrects concentration results for background ion levels. Other meter features include ROSS resolution to 0.001 pH units, bi-directional RS232 communication, 25 point datalogging, and simultaneous pH and temperature display. All data , including calibration parameters, will print out when used with the optional Model 900A printer or computer, making record keeping easy and accurate. Three year meter warranty.



Cat. # PH710A                      Model 710A                      EA                      \$884.70

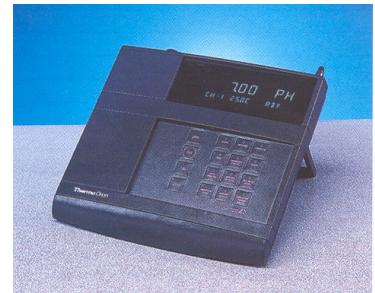
# DUAL CHANNEL ISE/pH/mV/DRP/TEMPERATURE BENCHTOP METER, ORION

## MODEL 720Aplus

- Use up to 5 standards for calibration
- Dual channels for multiple analyses
- Meet GLP requirements with GLPdoc

Accuracy	+/- 0.002
pH Range	-2.00 to 19.999
Resolution	0.001
Calibration Points	5

With dual electrode inputs, the Model 720Aplus allows two measurements at the same time which is perfect for a busy, multi-user laboratory. Measure pH with ROSS resolution to 0.001 pH units. The pH autocalibration feature recognizes five pH buffers using built-in buffer/temperature tables. Express concentration results to three significant digits. Full five point concentration calibration with automatic blank correction improves results of low level measurements. User prompting walks you through each meter operation. You can store data using the internal datalogger or print data using the RS232 interface. GLPdoc records calibration parameters such as slope, temperature, mV of standards, and time and date of calibration, providing a convenient record-keeping system compatible with "Good Laboratory Practices." Three year warranty.



Cat. # PH720A                      Model 720A                      EA                      \$1277.10

# MULTI-CHANNEL ISE/pH/mV/DRP/TEMPERATURE BENCHTOP METER, ORION

## MODEL 920A

- Advanced features for ISE measurements
- Automatic blank correction calculations
- Switchbox Compatible up to 7 channels

Accuracy	+/- 0.002
pH Range	-2.00 to 19.999
Resolution	0.001
Calibration Points	5

The Model 920Aplus provides more features than ever before, making this meter easy to use and smart. Meter accepts up to five standards for concentration calibration to ensure low-level measurement accuracy. Autoblank correction feature automatically corrects concentration results for background ion levels. Attach the Thermo Orion Model 607 Electrode Switchbox to work with up to seven different electrodes. Other features adding to the ease of use include high and low alarm limits and display hold. Model 920Aplus advanced ISE features include pre-programmed incremental techniques, calibration, edit, and temperature-compensated ISE measurement. Use calibration edit feature for reviewing calibration standards to determine working range. With GLPdoc, all measurement parameters, including slope, temperature, mV of standards, and time and date of calibration, automatically print on a computer via RS232. Three year warranty



Cat # PH920A                      Model 920A                      EA                      \$1966.50

**GO AHEAD! YOU CAN SPLURGE!**

I heard it through the grapevine that these are grape probes!!



# PH PROBES

## STANDARD PH ELECTRODES

Silver/ Silver Chloride references are widely used because of their accuracy and broad temperature range. Orion's Standard Line offers a variety of electrodes for any application. **Use with Models 210A, 230A, 260A, 265A, 410A, 420A, 710A, 720A, 920A pH meters.**

### EPOXY BODY, SURE-FLOW COMBINATION PH ELECTRODE WITH BNC CONNECTOR (1 m cable)

**Model 9165BN**



Temperature Range	0-100°C
pH Range	0-14
Junction	Sure-Flow
Type Ref.	Ag/AgCl
Dimensions	120x12mm

Recommended Use: General purpose, ideal for dirty, difficult samples such as soils, sludges, colloids, viscous solutions. Easy-to clean-junction never clogs. Detachable bulb card is included.

Cat. # PH9165                      pH electrode                      EA                      \$164.70

### GLASS BODY, SURE-FLOW COMBINATION PH ELECTRODE WITH BNC CONNECTOR (1 m cable)

**Model 9172BN**



Temperature Range	0-100°C
pH Range	0-14
Junction	Sure-Flow
Type Ref.	Ag/AgCl
Dimensions	120x12mm

Recommended Use: Same as the Model 9165BN as shown above. Ideal for general lab use.

Cat. # PH9172                      pH electrode                      EA                      \$164.70

## SWING ARM PROBE HOLDER

This probe holder features an adjustable arm, base, and holder. It holds up to four 12mm diameter electrodes and one 16mm electrode. This premium electrode holder allows for much more fluid movement of the swing arm.

Cat. # PH0501                      Premium Brand Electrode Holder                      EA                      \$135.00  
 Cat. # PH0502                      Economy Brand Electrode Holder                      EA                      \$ 68.00



## ELECTRODE MAINTENANCE ACCESSORIES

The pH electrode cleaning kit maximizes the life of your pH electrode. The pH storage solution protects the electrodes when not in use.

Cat. # PH9100                      Pint bottle of pH storage solution                      EA                      \$36.00  
 Cat. # PH9000                      pH cleaning solution for general cleaning                      EA                      \$40.50  
 (Includes four 1oz bottles, 15mL beaker and pipette)



# ROSS PH ELECTRODES

## WHY ROSS?

**FASTER RESPONSE:** The ROSS electrode's special internal system provides superior measurement stability, faster response, greater accuracy and more reproducible results than conventional electrodes. With ROSS electrodes you avoid long-term drift or inaccurate readings, even in samples that vary in temperature, while conventional electrodes produce unstable results until they reach thermal equilibrium with the sample.

**TEMPERATURE RESPONSE:** The ROSS electrode continues to perform fast reproducibly and accurately after many, many dramatic temperature changes.

## ~FEATURES~

**SURE-FLOW JUNCTION:** This unique, free-flowing liquid-to liquid junction assures you of the most stable, drift-free measurements. The easy-to-clean junction never clogs—simply press the cap and flush the junction area. Release the cap and the junction is reset. Now even the most problematic, dirty or viscous samples can be easily measured without a clogged junction!!

**NO SAMPLE CONTAMINATION:** Conventional electrodes can leach metal ions into the filling solution and subsequently into the sample. Ross Electrodes do not contain silver or mercury to react with the sample or clog the ceramic frit. Use ROSS pH electrodes where the trace amounts of metal ions (such as samples of biological media) cannot be tolerated.

**DOUBLE JUNCTION DESIGN:** This construction allows you more control over an important variable. Use a filling solution that is similar to the sample in order to minimize junction potential problems in high or low pH samples or non-aqueous solutions. Also change the filling solution to minimize contamination when potassium or chloride in the sample is undesired.

**BEST FOR ROUTINE pH:** Use ROSS electrodes as your standard for all routine pH determinations. They will provide accurate, stable, fast, and reproducible results.

**Reference filling solution:** 3M KCl (supplied with the electrode)

**Use with Models 210A, 230A, 260A, 265A, 410A, 420A, 710A, 720A, 920A pH meters.**

## EPOXY BODY, ROSS SURE-FLOW COMBINATION ELECTRODE WITH BNC CONNECTOR (1 m cable)

### MODEL 8165BN

Recommended Use: Field pH measurement where stability and high performance is desired, on-site soil pH. Rugged durable construction. Detachable bulb guard is included.



Temperature Range	0-100°C
pH Range	0-14
Junction	Sure-Flow
Internal Ref.	ROSS
Dimensions	120x12mm

Cat. # PH8165      Model 8165BN Probe      EA      \$324.90

## GLASS BODY, ROSS SURE-FLOW COMBINATION ELECTRODE WITH BNC CONNECTOR (1 m cable)

### MODEL 8172BN

Recommended Use: General purpose, superior performance, ideal for dirty, difficult samples such as soils, sludges, colloids, viscous materials and organics. Detachable bulb guard is included.



Temperature Range	0-100°C
pH Range	0-14
Junction	Sure-Flow
Internal Reference	ROSS
Dimensions	120x12mm

Cat. # PH8172      Model 8172BN Probe      EA      \$324.90

# ION SELECTIVE ELECTRODES

**APPLICATIONS:** Measurement by ion selective electrode is applicable in water and wastewater samples.

**SAVE TIME AND MONEY:** Electrode measurements are simpler and faster than other analytical techniques. Time-consuming sample preparation steps such as filtrations and distillations are rarely needed. Analysis time is typically under one minute. A direct readout meter displaying concentration in units of your choice is the fastest, easiest ISE measurement system. Orion ISE/pH meters display concentration in units of your choice, completing the ISE measurement system. In comparison with other methods, such as AA or ion chromatography, the initial cost of setup is less and does not require additional expensive readout equipment. Methods are adaptable to both lab and field use. Sample color or turbidity does not affect the measurement. ISEs are inexpensive. Typically, the cost per test is only a few cents. The design of the sensing element determines the sensitivity and selectivity for the ion of interest. Orion ISEs have been designed to provide you with the optimum in performance and reliability.

Cat. #	Species	Connector Type	Construction	Concentration Range	Optimum temp. range	Ref. filling solution	Calibration standard	Required ISA	UM	Price
109512	Ammonia (NH <sub>3</sub> )	BNC	Gas sensing combination	1.0 to 5 x 10 <sup>-7</sup> M	0-50°C	Cat. # F19512	0.1M NH <sub>4</sub> Cl (Cat. # CA9510)	Cat. # IS9512	EA	\$486.00
109770	Chlorine (Cl <sub>2</sub> )	BNC	Solid State combination	3x10 <sup>-4</sup> to 10 <sup>-7</sup> M	0-50°C	None required	100ppm as Cl <sub>2</sub> (Cat. # CA9770)	Iodide reagent (Cat. # IS9770A) Acid reagent (Cat. # IS9770B)	EA	\$95.80
109609	Fluoride (F <sup>-</sup> ) ionplus Design	BNC	Ionplus Sure-Flow solid state combination	Saturated to 10 <sup>-6</sup> M	0-80°C	Cat. # F19000A	0.1M NaF (Cat. # CA9409A) 100ppm F <sup>-</sup> (Cat. # CA9409B) 1ppm F <sup>-</sup> w/ TISAB II (Cat. # CA9409C) 2ppm F <sup>-</sup> w/ TISAB II (Cat. # CA9409D) 10ppm F <sup>-</sup> w/ TISAB II (Cat. # CA9409E)	TISAB II (Cat. # IS9409A) TISAB III (Cat. # IS9409B)	EA	\$562.50
109707	Nitrate (NO <sub>3</sub> <sup>-</sup> ) ionplus Design	BNC	Ionplus Sure-Flow plastic membrane combination	1.0 to 7 x 10 <sup>-6</sup> M	0-40°C	Cat. # F19000F	0.1M NaNO <sub>3</sub> (Cat. # CA9207A) 1000ppm N (Cat. # CA9207B) 100ppm N (Cat. # CA9207C)	Nitrate ISS (Cat. # IS7307)	EA	\$632.70

## REFERENCE FILLING SOLUTIONS

All are 2oz (60ml) bottles

Cat. # F19512	For Ammonia Electrode	EA	\$44.10
Cat. # F19000A	For Fluoride Electrode (ionplus design)	EA	\$65.70
Cat. # F19000F	For Nitrate Electrode (ionplus design)	EA	\$65.70

## CALIBRATION STANDARDS

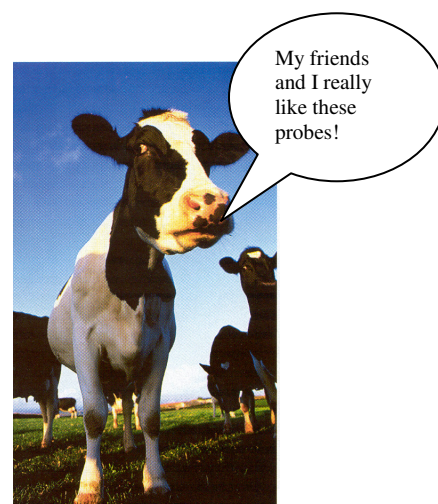
All are 1 pt. (475ml) bottles

Cat. # CA9510	0.1M NH <sub>4</sub> Cl (For Ammonia Electrode)	EA	\$46.80
Cat. # CA9770	1000ppm as Cl <sub>2</sub> (For Chlorine Electrode)	EA	\$52.20
Cat. # CA9409A	0.1M NaF (For Fluoride Electrode)	EA	\$53.10
Cat. # CA9409B	100ppm as F <sup>-</sup> (For Fluoride Electrode)	EA	\$43.20
Cat. # CA9409C	1ppm as F <sup>-</sup> with TISAB II (For Fluoride Electrode)	EA	\$51.30
Cat. # CA9409D	2ppm as F <sup>-</sup> with TISAB II (For Fluoride Electrode)	EA	\$51.30
Cat. # CA9409E	10ppm as F <sup>-</sup> with TISAB II (For Fluoride Electrode)	EA	\$51.30
Cat. # CA9207A	0.1M NaNO <sub>3</sub> (For Nitrate Electrode)	EA	\$54.90
Cat. # CA9207B	1000ppm as N (For Nitrate Electrode)	EA	\$54.90
Cat. # CA9207C	1000ppm as N (For Nitrate Electrode)	EA	\$54.90

## IONIC STRENGTH ADJUSTERS

All are 1pt. (475ml) bottles unless otherwise noted.

Cat. # IS9512	pH Adjusting ISA (For Ammonia Electrode)	EA	\$59.40
Cat. # IS9770A	Acid Reagent (For Chlorine Electrode)	EA	\$52.20
Cat. # IS9770B	Iodide Reagent (For Chlorine Electrode)	EA	\$62.10
Cat. # IS9409A	TISAB II 1 gal. (For Fluoride Electrode)	EA	\$86.00
Cat. # IS9409B	TISAB III concentrate (For Fluoride Electrode)	EA	\$93.60
Cat. # IS9307	Nitrate ISS (For Nitrate Electrode)	EA	\$54.90



# PIPETS

## VOLUMETRIC, GLASS, COLOR-CODED, "TO DELIVER"

These volumetric pipets meet ASTM Class A specifications. The graduation line is sharp and permanent. They are calibrated to deliver. These pipets feature permanent amber markings and color-codings which are enameled onto the glass.



Cat. # PI2005	0.5mL Volumetric Pipet	EA	\$3.50
Cat. # PI2101	1mL Volumetric Pipet	EA	\$3.25
Cat. # PI2102	2mL Volumetric Pipet	EA	\$3.60
Cat. # PI2103	3mL Volumetric Pipet	EA	\$3.85
Cat. # PI2104	4mL Volumetric Pipet	EA	\$2.85
Cat. # PI2105	5mL Volumetric Pipet	EA	\$4.45
Cat. # PI2110	10mL Volumetric Pipet	EA	\$4.70
Cat. # PI2115	15mL Volumetric Pipet	EA	\$5.25
Cat. # PI2120	20mL Volumetric Pipet	EA	\$5.45
Cat. # PI2125	25mL Volumetric Pipet	EA	\$5.60
Cat. # PI2150	50mL Volumetric Pipet	EA	\$10.95
Cat. # PI2100	100mL Volumetric Pipet	EA	\$16.45



These pipets make me happy!

## MEASURING, GLASS, COLOR-CODED, CLASS A

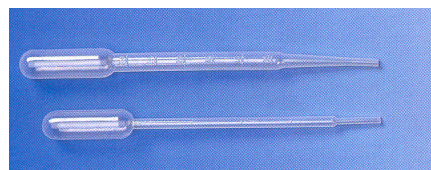
Measuring pipets meet ASTM Class A specifications. They are graduated to the baseline above the tip, and are also calibrated to deliver. Each pipet features permanent amber markings and color-codings which are enameled onto the glass. The top end of sizes 5 to 25mL is constricted.



Cat. # PI3001	0.1mL with 0.01mL subdivision, 0.0025mL Tolerance	EA	\$3.60
Cat. # PI3002	0.2mL with 0.01mL subdivision, 0.004mL Tolerance	EA	\$3.70
Cat. # PI3101	1mL with 0.01 subdivision, 0.01mL Tolerance	EA	\$2.35
Cat. # PI3102	2mL with 0.01 subdivision, 0.01mL Tolerance	EA	\$2.95
Cat. # PI3105	5mL with 0.01 subdivision, 0.02mL Tolerance	EA	\$4.40
Cat. # PI3110	10mL with 0.01 subdivision, 0.03mL Tolerance	EA	\$4.50
Cat. # PI3125	25mL with 0.01 subdivision, 0.1mL Tolerance	EA	\$7.65

## DISPOSABLE TRANSFER PIPET

Cat. # PI0101	3mL 500/pk	PK	\$12.50
Cat. # PI0102	5mL 500/pk	PK	\$13.50
Cat. # PI0103	7mL 500/pk	PK	\$14.50





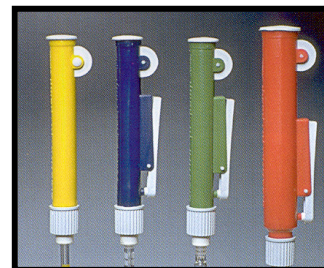
# PIPET ACCESSORIES



## Pi-PUMP

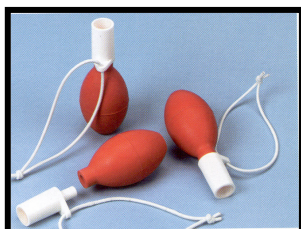
The pi-pump is one of the world's most popular pipetting aids. It is accurate, precise and safe—even for use with toxic or corrosive chemicals. Simply rotate the wheel forward or backward for easy and precise filling or emptying. Color-coded by size for easy identification. When the wheel has stopped, the piston remains in the required position and holds the liquid inside until ejected. Pi-pump provides a firm, positive fit for all standard pipets.

Cat. # PI1045	Yellow, pipets up to 0.2mL	EA	\$14.50
Cat. # PI1065	Blue, pipets up to 2mL	EA	\$13.50
Cat. # PI1085	Green, pipets up to 10mL	EA	\$13.50
Cat. # PI1105	Red, pipets up to 25mL	EA	\$18.50



## PIPET BULBS

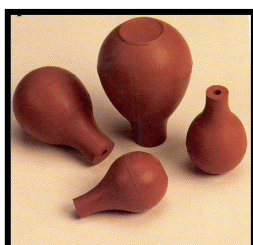
### UNIVERSAL PIPET BULB



This product is very useful to have on hand. It features a 15mL bulb with a white plastic and silicone conical attachment. The design allows for use with small or large pipets. Each bulb comes with a handy elastic band for hanging on a reagent bottle or a wrist. It is autoclavable.

Cat. # PB2062	3/pk	PK	\$22.95
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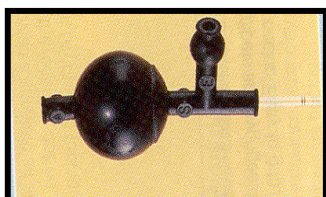
### LARGE PIPET & SYRINGE BULB



All 4 of these rubber bulbs are easy to grip and feature heavy-wall necks.

Cat. # PB2063A	12mL	EA	\$5.95
Cat. # PB2063B	15mL	EA	\$6.05
Cat. # PB2063C	30mL	EA	\$6.34
Cat. # PB2063D	60mL	EA	\$7.25

### PIPET FILLER



This rubber pipet filler is a reliable item for pipets up to 25mL. The pipet filler replaces the hazardous practice of sucking liquids into pipets by the mouth. Each pipet filler is highly resistant to chemicals.

Cat. # PB2064A	Black	EA	\$13.50
Cat. # PB2064B	Red	EA	\$13.50

# REFRIGERATOR/ FREEZER

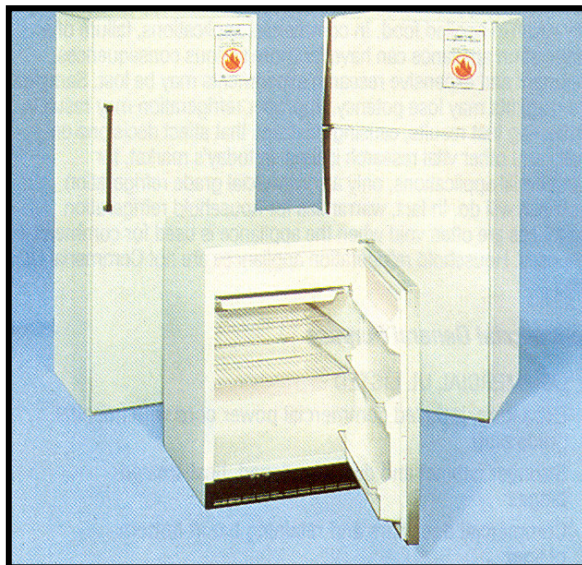
## LAB-LINE

- Features freezer compartment and adjustable shelves
- Freezer has high-impact, ABS interior and polyurethane insulation
- Either Automatic or Manual Defrost
- 240V Refrigerator/Freezer available upon request

**Model 3750** Refrigerator/Freezer can be used as under-counter unit or free standing. Includes two adjustable shelves. Power consumption: 240 watts.

**Model 3763** Refrigerator/Freezer has an independent door for each section. Includes three adjustable shelves. Power consumption: 420 watts.

**Model 3764** Refrigerator/Freezer has a single door for both chamber. Includes two adjustable shelves. Power consumption: 360 watts.



Cat. # RE3750	Model 3750, 120V/ 60Hz	EA	\$1083.75
Cat. # RE3763	Model 3763, 120V/ 60Hz	EA	\$1311.75
Cat. # RE3764	Model 3764, 120V/ 60Hz	EA	\$1182.75

## SPECIFICATIONS

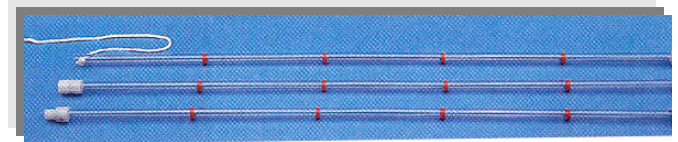
Model	Total Capacity (ft <sup>3</sup> )	Refrigerator Temperature Range (°C)	Refrigerator Compartment WxDxH (in.)	Freezer Temperature Range (°C)	Freezer Compartment Dimensions (WxDxH) (in)	Overall Dimensions (WxDxH) (in)	Refrigerator (ft <sup>3</sup> )	Freezer (ft <sup>3</sup> )
3750	6.1	-1 to 9	21x20.5x20.5	-20.6 to -4	1140x14.5x5	24x24x34.5	5.25	0.85
3763	14.4	0 to 10	25x15.5x36.5	-20 to 0	24x16x15.25	28x28x61.5	10.5	3.9
3764	10	1 to 10	24x16x40	-17 to -6	17.25x12x8	23x23.5x58	8.6	1.4

# SAMPLERS

## *"SLUDGE JUDGE" COLUMN SAMPLER*

TAKE ACCURATE READINGS ON SETTLEABLE SOLIDS EASILY

- Clear acrylic plastic pipe sampler
- Comes in three ¾" x 5 ft. sections
- Graduated in 1 foot increments
- Ideal for sampling solids levels in sewage treatment
- Unit holds approximately 3oz per foot
- Comes with three 5-foot sections of ¾" plastic pipe with screw type fittings
- Enables easy visual inspection of tank depth profiles plus measures depth of solids
- Check valve has a pin extending below the unit to enable easy draining or sampling of liquid in the unit
- Top section includes a nylon line for raising the sampler

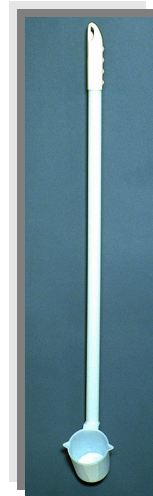


Cat. # SA0100	Sludge Judge	EA	\$59.95
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## *SWING SAMPLING DIPPER*

- HDPE
- 2 pour spouts
- PVC hand grip

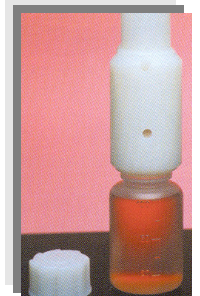
Cat. # SA7075	3 foot handle, 500mL	EA	\$25.50
Cat. # SA7085	6 foot handle, 500mL	EA	\$36.50
Cat. # SA7095	12 foot handle, 500mL	EA	\$73.50
Cat. # SA6505	3 foot handle, 1000mL	EA	\$36.50
Cat. # SA6515	6 foot handle, 1000mL	EA	\$45.50
Cat. # SA6525	12 foot handle, 1000mL	EA	\$75.50



## *LIQUID SAMPLER*

This liquid sampler is manufactured from high density polyethylene and is perfect for environmental applications. The 500mL bottle screws into the end of the handle and is filled via four ports (2 allowing liquid to enter and 2 to allow air to escape). The rod is 6" length by 1 ¼" OD. The handle prevents dropping of sampler.

Cat. # SA4515	Liquid Sampler	EA	\$105.90
Cat. # SA2445	500mL Polypropylene Graduated Bottle, 50/cs	CS	\$195.50

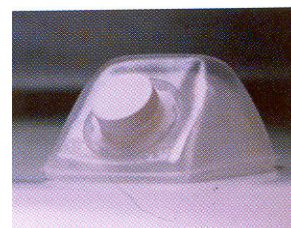


# SAMPLING CONTAINERS

## CUBITAINERS

Low density polyethylene collapsible containers are space-saving for convenient storage. Cubitainer caps are polypropylene with a polyethylene liner.

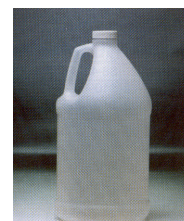
Cat. # CU2001	Quart HDPE cubitainers 144/cs	CS	\$118.00
Cat. # CU2002	Half gallon cubitainers 144/cs	CS	\$134.00
Cat. # CU2003	Gallon cubitainers 60/cs	CS	\$60.80
Cat. # CU2004	Cubitainer caps, 2250/cs	CS	\$95.00



## MILK JUGS

Each jug includes a polypropylene cap with polyethylene liner.

Cat. # JU2001	½ gallon, 108/cs	CS	\$39.85
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## BOTTLES, WIDE MOUTH, HDPE

- \*Leakproof
- \*FDA approved resin
- \*Polypropylene closure
- \*Translucent
- \*Rigid

145mm height, 60mm OD, 35mm ID, 45mm cap size

Cat. # BO0101	8 oz. Economy bottle, 200/cs	CS	\$92.00
Cat. # BO0102	8 oz. bottles 180/cs	CS	\$93.00
Cat. # BO0103	32 oz. bottles 24/cs	CS	\$90.00



## JAR, CLEAR GLASS, WIDE MOUTH, PRECLEANED

Caps are solid polypropylene with Teflon liners.

JA0201	4oz (250mL) 24/cs	58-400mm Cap	CS	\$32.50
JA0202	8oz (250mL) 24/cs	70-400mm Cap	CS	\$35.50
JA0203	16oz (500mL) 12/cs	89-400mm Cap	CS	\$25.50
JA0204	64oz (2L) 6/cs	110-400mm Cap	CS	\$27.50



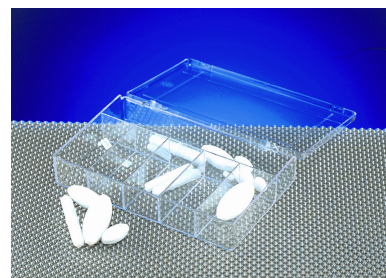
# STIR BARS

## STIR BAR KIT

This kit contains 16 stirring bars packed in a reusable box. They are designed to meet your requirements for a variety of sizes. Kit contains:

- (2) each 8x13mm      (2) each 9.5x51mm      (2) each 9.5x25mm
- (2) each 8x16mm      (2) each 9.5x64mm      (2) each 9.5x38mm
- (2) each 2x7mm Micro Bars      (2) each 3x10mm Micro Bars

Cat. # ST3595                      Stir bar kit                      EA              \$54.50



## OCTAGONAL STIR BAR

These Teflon stir bars feature ALNICO V magnetic cores which are one of the most powerful permanent magnet alloys available. Stir bars should not be stored in a random mass or dropped on a hard surface, especially steel. Stir bars should be stored in pairs to maintain magnetic strength.



Cat. # ST3275	22mm length, 8 mm OD	EA	\$2.45	Cat. # ST3286	15mm length, 10mm OD	EA	\$3.00
Cat. # ST3276	13mm length, 3mm OD	EA	\$2.20	Cat. # ST3287	22mm length, 10mm OD	EA	\$3.10
Cat. # ST3277	13mm length, 8mm OD	EA	\$2.25	Cat. # ST3288	25mm length, 10mm OD	EA	\$3.20
Cat. # ST3278	15mm length, 8mm OD	EA	\$2.30	Cat. # ST3289	35mm length, 10mm OD	EA	\$3.75
Cat. # ST3279	25mm length, 8mm OD	EA	\$2.50	Cat. # ST3290	38mm length, 10mm OD	EA	\$3.75
Cat. # ST3280	28mm length, 8mm OD	EA	\$2.65	Cat. # ST3291	48mm length, 10mm OD	EA	\$4.85
Cat. # ST3281	38mm length, 8mm OD	EA	\$2.85	Cat. # ST3292	51mm length, 10mm OD	EA	\$5.10
Cat. # ST3282	41mm length, 8mm OD	EA	\$3.35	Cat. # ST3293	64mm length, 10mm OD	EA	\$5.70
Cat. # ST3283	51 mm length, 8mm OD	EA	\$3.60	Cat. # ST3294	38mm length, 13mm OD	EA	\$7.80
Cat. # ST3284	64 mm length, 8mm OD	EA	\$5.85	Cat. # ST3295	75mm length, 13mm OD	EA	\$10.50
Cat. # ST3285	13 mm length, 10mm OD	EA	\$2.65				

## STAR BAR

This Teflon star bar stirring bar is excellent for mixing at slow speeds for biological applications. They feature a larger vortex for more complete mixing. The high strength Alnico-V magnet offers maximum coupling. These stir bars are available in a kit with all five sizes or individually.

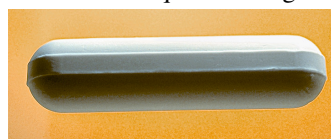


Cat. # ST0455	Set, one of each	EA	\$29.50	Cat. # ST0458	25mm diameter	EA	\$ 5.80
Cat. # ST0456	9.5mm diameter	EA	\$ 4.60	Cat. # ST0459	32mm diameter	EA	\$ 6.80
Cat. # ST0457	19mm diameter	EA	\$ 5.60	Cat. # ST0460	38mm diameter	EA	\$ 7.95

## X-LARGE STIR BAR

This extra large Teflon polygonal stirring bar is heavy duty for stirring large volumes of liquids on large magnetic stirrers.

Cat. # ST0445	57mm, 27mm OD	EA	\$59.50
Cat. # ST0446	108mm, 27mm OD	EA	\$61.50
Cat. # ST0447	159mm, 27mm OD	EA	\$72.50



## STIR BAR RETRIEVER, PP

These polypropylene stir bar retrievers are ideal for use with all stirring bars. The entire retriever is totally encased in chemically resistant polypropylene. The handy ring allows for hanging when not in use.

Cat. # ST3305	18"	EA	\$8.50
Cat. # ST3325	12"	EA	\$7.50



# MAGNETIC STIRRERS AND HOTPLATES

## MAGNETIC STIRRER

- Excellent for microcarrier chemistries
- Solid top formed of pure performance-engineered ceramic material
- Offers high impact strength, acid and alkali resistance and a reflective bright white color to enhance visibility
- Select from a gentle 100 rpm to a vigorous 1000rpm stirring speed
- Excellent slow-speed stirring is provided; turn the speed control knob to start and the unit begins to stir at 100rpm; no need to turn the speed control down once the motor starts
- Strong magnetic coupling insures stirring bar stays locked with drive magnet, even in viscous solutions
- Rugged cast aluminum body provides stability and durability
- Power light indicates when power is supplied to the speed control
- Quiet stirring is achieved using a direct-drive motor/ magnet system
- Complete with a (2" x .38") Teflon-coated stirring bar and grounded 3-wire cord and plug for operation



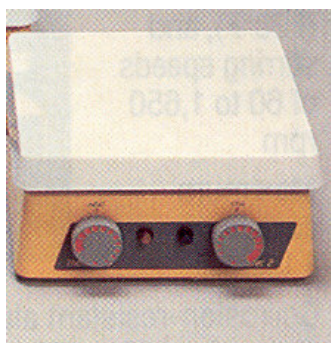
Cat. # ST0100

Stirrer, 120V, 7x7", 18 Watts

EA

\$185.50

## MAGNETIC STIRRER AND HOTPLATE



- Offers high-impact strength, acid and alkali resistance, unsurpassed flatness for maximum heat transfer, and reflective bright white color to enhance visibility
- Heats rapidly up to 538<sup>0</sup>C in 8 minutes; excellent for bringing liquids rapidly to a boil
- Remains flat, even at high temperatures, to ensure maximum heat transfer
- Infinite temperature selection is provided by a percentage input controller
- Select from gentle 100 rpm to a vigorous 1000 rpm stirring speed
- A rugged, cast aluminum body provides stability and durability
- Power lights are provided for both heating and stirring modes
- Quiet stirring is achieved using a direct-drive motor/magnets system
- Strong magnetic coupling ensures stirring bar stays locked with drive magnet, even in viscous solutions
- Excellent slow-speed stirring is provided; go from stop to 100 rpm without having to turn the speed control dial back down
- Complete with one (2" x .38") Teflon-coated stirring bar and grounded three-wire cord and plug for operation

Cat. # ST0200 Stirrer-Hot Plate, 120V, 7x7", 1118V

EA

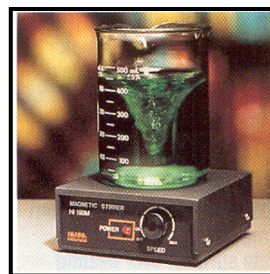
\$295.50



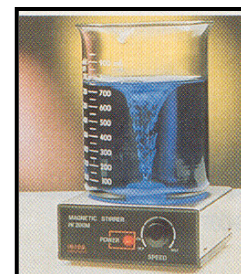
# MINI-STIRRER



- Stainless steel top plate or black ABS plastic case
- 5-speed adjustment from 100 to 1000 rpm
- Excellent value for your money
- Pulse magnetic drive gives full power even at low speeds
- Maximum stirring capacity: 1L
- Speed range: 100 rpm/ from 800 to 1000 rpm (depending on load)
- Size: 120x120x45 mm



PLASTIC

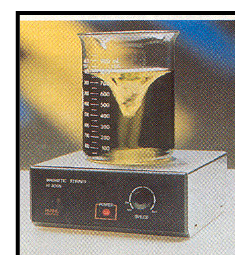


STAINLESS STEEL

Cat. # ST0300	Mini-Stirrer, 110V, 60Hz, Plastic Cover	EA	\$ 62.80
Cat. # ST0301	Mini-Stirrer, 110V, 60Hz, Stainless Steel Cover	EA	\$114.80

# Heavy Duty Stirrer

- Stainless steel top plate
- Maximum speed limiter protects motor
- Continuously variable speed adjustable from 100 to 1000 rpm
- Pulse magnetic drive gives full power even at low speeds
- Maximum stirring capacity: 2.5L
- Speed range: 100 rpm/ from 800 to 1000 rpm (depending on load)
- Size: 180x180x70 mm



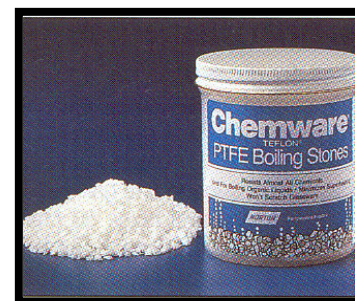
STAINLESS STEEL

Cat. # ST0300	Heavy Duty Stirrer, 110V, 60Hz, Stainless Steel Cover	EA	\$139.80
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# BOILING STONES

These boiling stones promote gentle, efficient boiling by creating many projections on which small bubbles can form. They are unaffected by boiling acids, hydrocarbons, ketones, esters, alcohols, or alkalis in any concentrations. The PTFE chips are ultra-pure.

Cat. # BS0100	450g bottle	EA	\$49.50
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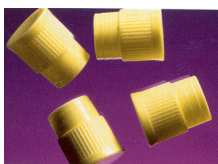
# TEST TUBE

Borosilicate glass culture tubes are resistant to chemical attack and weathering. Contents will not leach out and contaminate solutions. Borosilicate also prevents pH change in lab tests. Tubes resist thermal shock and have the strength to endure rigorous clinical work. Dimensional specifications of these tubes are rigidly controlled for reliable, uniform results.

Cat. # TT0101	12x75mm, 6mL, 1000/cs	CS	\$35.59
Cat. # TT0102	13x100mm, 10mL, 1000/cs	CS	\$43.79
Cat. # TT0103	16x100mm, 15mL, 1000/cs	CS	\$46.39
Cat. # TT0104	16x125mm, 19mL, 1000/cs	CS	\$51.95
Cat. # TT0105	16x150mm, 23mL, 1000/cs	CS	\$53.39



# TEST TUBE CAPS

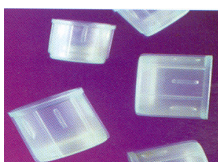


## Hollow Bottom Plug Cap

\*LDPE cap

\*Available in blue, green, lavender, orange, red, white, yellow, and assorted

Cat. # TC8589	Fits 16mm tube 1000/pk	PK	\$24.00
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## Two Position Caps

\*LDPE cap

\*Provide aerobic and anaerobic closure

Cat. # TC8566	Fits 12mm tube 1000/pk	PK	\$17.00
Cat. # TC8596	Fits 17mm tube 500/pk	PK	\$28.00

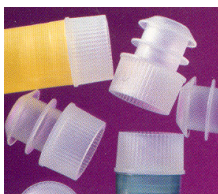


## Hollow Top Plug Cap

\*LDPE cap

\*Available in blue, green, lavender, orange, red, white, yellow, and assorted

Cat. # TC8575	Fits 13mm tube 1000/pk	PK	\$17.00
Cat. # TC8565	Fits 16mm tube 1000/pk	PK	\$16.00
Cat. # TC8595	Fits 17mm tube 1000/pk	PK	\$24.00



## Flange Caps

\*Caps have two flexible flanges to assure a leakproof seal

\*Cap fits 12mm and 13mm test tubes, round cuvettes, and centrifuge tubes

Cat. # TC8559	Fits 12-13mm tube 1000/pk	PK	\$23.00
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# GLASS TUBE CAPS

**These caps are ideal for resealing evacuated glass tubes and for sealing glass culture tubes.**

\*Economical way to recap glass tubes, regardless of manufacturer

\*Available in white, blue, green, lavender, red, gray, and yellow

\*Caps can be written on with indelible ink for easy sample identification.

\*Prevents spills and evaporation by employing a liquid-tight seal.

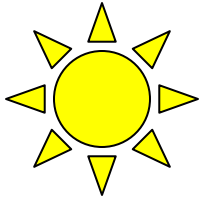
\*Can be frozen, agitated, or centrifuged without cracking or popping off.

(should not be autoclaved)

Cat. # TC8557	Fits 10mm evacuated tube PK	\$28.00
	Fits 10mm culture tube	
Cat. # TC8569	Fits 13mm evacuated tube PK	\$28.00
	Fits 12mm culture tube PK	
Cat. # TC8573	Fits 13mm culture tube PK	\$28.00
Cat. # TC8579	Fits 16mm evacuated tube PK	\$28.00
	Fits 16mm culture tube	
Cat. # TC8589	Fits 16mm tube 1000/pk PK	\$25.00

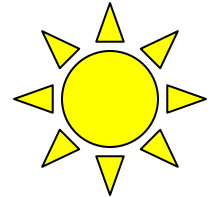






# TURBIDITY METER

## LAMOTTE MODEL 2020

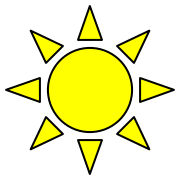


- Compact, portable instrument
- Highly repeatable measurements
- Tungsten filament lamp
- RS-232 port; LCD display
- Meets EPA design specifications for NPDWR and NDPEs turbidity monitoring programs as specified by USPEA method 180.1
- Multi-detector optical configuration assures long term stability and minimizes stray light and color interference
- Readings are determined by the process of signal averaging over a three second period, minimizing fluctuations in readings attributed to large particles
- Sample chamber accepts 25mm diameter flat-bottom, screw-capped, sample tubes
- Unit includes one 9V battery, AC adapter, four sample vials with caps, standardization package consisting of 1.0 NTU and 10.0 NTU AMCO standards and a sturdy carrying case
- Dimensions: 8.5L x 16.2W x 6.7H

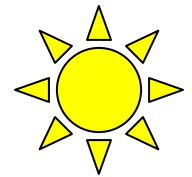


Specifications:	Instrument Type	Nephelometric Turbidity; calibrated in NTUS
	Range	0-1100 NTU
	Resolution	0.01 on 0-11 range 0.1 on 11-110 range 1.0 on 110-1100 range
	Response Time	3 seconds
	Reading Stability	Within 1% of final value within three seconds
	Accuracy	+/- 2% of actual reading below 100 NTU +/- 3% of actual reading above 100 NTU

Cat. # TU2020 Turbidity Meter EA \$785.00



# PRIMARY TURBIDITY STANDARDS



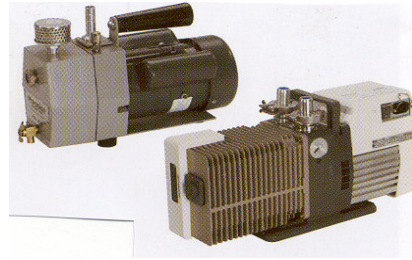
- AEPA-1 Certified Reference Standards for all turbidimeters
- Accurate within 1%, even at levels below 1.0 NTU
- AMCO AEPA-1 EPA-approved primary turbidity standards, certified reference standards for turbidimeters and colorimeters
- Safe and stable, easy to use, no mixing or diluting, value specific (0.0-1800 NTU), and one year shelf life
- Approved by EPA, Standard Methods, ASTM, ASBC, EBC, NIST traceable
- AEPA-1 are aqueous suspensions of styrene divinylbenzene polymer beads
- Stable down to 0.2 NTU and do not settle out of solution
- Standards are prepared, tested, and sealed under Class 100 conditions to prevent particle or bacterial contamination
- Samples from each lot are retained to ensure consistent and reliable quality

Cat. # TU0201	Turbidity Standard, 0.5 NTU, 250ml	EA	\$ 39.00
Cat. # TU0202	Turbidity Standard, 0.5 NTU, 1L	EA	\$ 68.00
Cat. # TU0203	Turbidity Standard, 1.0 NTU, 250ml	EA	\$ 39.00
Cat. # TU0204	Turbidity Standard, 1.0 NTU, 1L	EA	\$ 68.00
Cat. # TU0201	Turbidity Standard, 5 NTU, 250ml	EA	\$ 48.00
Cat. # TU0202	Turbidity Standard, 5 NTU, 1L	EA	\$ 85.00
Cat. # TU0203	Turbidity Standard, 10 NTU, 250ml	EA	\$ 48.00
Cat. # TU0204	Turbidity Standard, 10 NTU, 1L	EA	\$ 85.00
Cat. # TU0201	Turbidity Standard, 20 NTU, 250ml	EA	\$ 82.00
Cat. # TU0202	Turbidity Standard, 20 NTU, 1L	EA	\$135.00
Cat. # TU0203	Turbidity Standard, 40 NTU, 250ml	EA	\$ 83.00
Cat. # TU0204	Turbidity Standard, 40 NTU, 1L	EA	\$135.00



# DIRECT DRIVE VACUUM PUMP

- Quiet, efficient operation
- Free air displacement ranging from 0.7 to 60CFM
- Pressures of 760 torr down to  $1 \times 10^{-4}$  torr
- Small profile
- Easy to maintain
- 120V

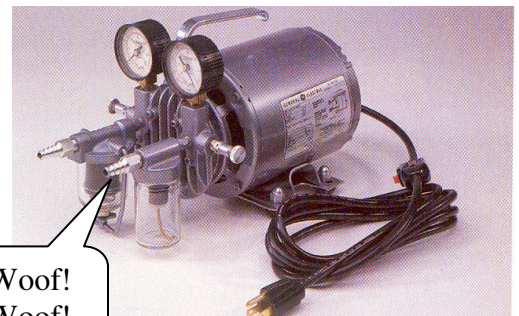


Models	DD20	P40	P100 Series	P200 Series	P300 Series	P420 Series	P765 Series	P1420 Series
Stages	2	2	2	2	2	2	2	2
Motor (HP)	1/8	1/4	3/4	3/4	3/4	3/4	3/4	3/4
RPM 60Hz	3450	3600	1800	1800	1800	1800	1800	1800
50Hz	2875	3000	1500	1500	1500	1500	1500	1500
CFM 60Hz	0.7 (20)	1.4 (40)	3.8(108)	6.8(192)	10.6(300)	14.6(413)	22.3(660)	42.4(1201)
(l/min) 50Hz	0.7 (20)	2.0 (57)	5.4 (153)	9.7 (275)	15 (425)	20.7(586)	30 (850)	60 (1699)
Ultimate Pressure(Torr)	$3.8 \times 10^{-3}$	$2.2 \times 10^{-3}$	$1 \times 10^{-4}$	$1 \times 10^{-4}$	$1 \times 10^{-4}$	$1 \times 10^{-4}$	$1.5 \times 10^{-4}$	$1.5 \times 10^{-4}$
Volume (cu. ft.)	0.9	1.7	2.3	2.3	2.3	2.3	5.6	8.2
Catalog #	VPDD20	VP0P40	VPP100	VPP200	VPP300	VPP420	VPP765	VP1420
Price	\$864.00	\$1311.96	\$1575.60	\$1925.82	\$2101.32	\$2453.11	\$4281.42	\$6139.38

## 1/6 HP VACUUM PUMP

*Air-cooled, motor-driven unit complete with vacuum & pressure gauges, and thermal overload circuit breaker*

- Operated intermittently (10 minutes on, 10 minutes off) at maximum pressure of 25psi
- Operable continuously at pressures up to 20psi
- Pumps 37Lpm of air at atmospheric pressure; 13lpm at 25psi pressure
- Vacuum gauge graduated to 0-30" Hg; pressure gauge graduated to 0-30psi; needle valves included for precise regulation of pressure and vacuum
- Cast iron rotor on motor shaft, fitted with four composition vanes, revolves in housing of special iron alloy and is mounted directly on the motor
- Complete with carrying handle, requiring 6 1/2" x 15 1/4" of bench space
- Includes 0.9L oil, air filter and trap
- 3-wire cord with in-line switch and plug; rated at 4.2 amps
- Parts kit includes full set of parts which should be replaced when pump performance diminishes. Consists of one set vanes, gaskets, filter ring, separator disc and oil wick; two serrated fittings for tubing size 1/4" ID



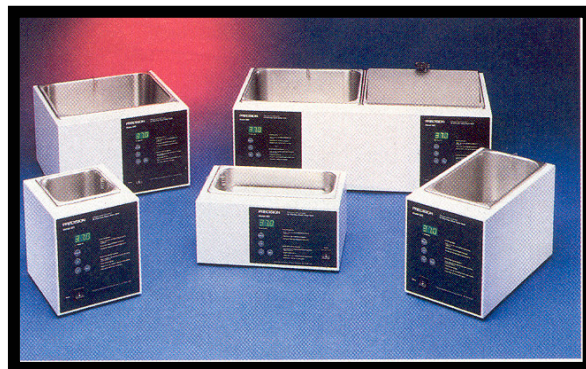
Woof!  
Woof!

Cat. # VP0101	Air Pump, 120V, 60Hz	EA	\$435.50
Cat. # VP0102	Parts Kit	EA	\$ 14.90
Cat. # VP0103	Oil, 1 quart bottle	EA	\$ 9.90

# GENERAL PURPOSE WATER BATH

## *PRECISION SCIENTIFIC*

- For most general laboratory applications
- Totally microprocessor controlled
- Program temperature setpoint with 0.1<sup>o</sup>C precision
- 3-digit LED temperature readout
- Built-in calibration capability
- Automatic over-temperature protection
- Features a broad temperature range (ambient to 99.9<sup>o</sup>C)
- Excellent temperature uniformity (+/- 2<sup>o</sup>C at 37<sup>o</sup>C)
- Digital temperature control.
- Extremely easy to use and maintain
- Temperature setpoint is easily adjusted/programmed from the front-mounted control panel
- One-piece stainless steel interior and epoxy-powder coated exterior cleanup easily
- Other features: over-temperature safety, full insulated chamber with stainless steel diffuse shelf, and gable cover
- 240V Water Baths available upon request



Cat. # WA0280	Model 280, 0.4 gal, 120V	EA	\$ 480.60
Cat. # WA0281	Model 281, 0.7 gal, 120V	EA	\$ 480.60
Cat. # WA0282	Model 282, 1.5 gal, 120V	EA	\$ 576.90
Cat. # WA0283	Model 283, 3.2 gal, 120V	EA	\$ 673.20
Cat. # WA0284	Model 284, 5.2 gal, 120V	EA	\$ 770.40
Cat. # WA0285	Model 285, 4.9 gal, 120V	EA	\$ 866.70
Cat. # WA0286	Model 286, 11.4 gal, 120V	EA	\$1156.50
Cat. # WA0288	Model 288, 3.2 gal, 120V	EA	\$1156.50

## LAB GOODIES

### REFRESHING BEVERAGES

Cat. # GO0100	Mountain Dew, 12/pk	PK	\$6.00
Cat. # GO0200	Coke, 12/pk	PK	\$6.00
Cat. # GO0300	Diet Coke, 12/pk	PK	\$6.00
Cat. # GO0400	Sprite, 12/pk	PK	\$6.00
Cat. # GO0500	Dr. Pepper, 12/pk	PK	\$6.00



### CALCULATOR

Cat. # GO0600	All Purpose Calculator	PK	\$20.00
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### LAB NOTEBOOKS

8.5x11", Waterproof and Chemically Resistant, Conversion Tables included

Cat. # GO0800	Lab Notebook, 100 pages	EA	\$21.95
Cat. # GO0900	Lab Notebook, 200 pages	EA	\$28.95



# COLONIAL SCIENTIFIC

## WATER AND WASTEWATER PRODUCTS

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