



technologies



ISO 9001



Sapphire

Bottle Top Dispenser
Dual Inlet Technology

BOTTLE TOP DISPENSER | Sapphire

With Dual Inlet Technology

Save time and increase lab productivity using the Sapphire Bottle Top Dispenser.

This convenient dispenser uses a dual valve technology that allows you to simply rinse and refill your bottle—without dismounting the dispenser!

Featuring functionality, user-friendliness and performance, the Sapphire Bottle Top Dispenser operates in four modes: Dilution, Rinsing, Dual Liquid Handling and Re-circulation.

Sapphire offers four modes of operation:



1. STANDARD DISPENSING

Knob A - Open
Knob B - Closed

In this mode the dispenser dispenses the liquid normally into the receiver from the bottle it is mounted on.



2. PURGING

Knob A - Closed
Knob B - Closed

In this mode the liquid is recirculated into the same bottle on which the dispenser is mounted. This process removes the air from the dispenser without wasting any reagent.



3. DILUTION/RINSING/SECOND LIQUID DISPENSING

Knob A - Open
Knob B - Open

In this mode the liquid from a second source can be dispensed into the receiver. The second liquid can be distilled water, thus allowing the user to rinse the instrument without dismounting from the bottle or for dilution of the reagent in the receiver.



4. BOTTLE REFILLING

Knob A - Closed
Knob B - Open

In this mode the liquid from a second source can be used to refill the bottle without dismounting the dispenser.



INDIA : E-2/549/2015/DE
EU : EP15166828.2
USA : 14715346



Sapphire

Control levers are clearly marked with open and closed arrow positions

Volume Adjustment Knob rotates 180° for effortless volume setting

Adjustable Delivery Nozzle allows for flexible angles of dispensing

360° Rotating Base lets you dispense from any position



CALIBRATION

Every product is calibrated in a ISO 17025 accredited laboratory.

Calibration tool included for quick recalibration in the lab in compliance with GLO/ISO 8655 norms.



CALIBRATION TOOL

CALIBRATION CERTIFICATE

Calibrated in a ISO 17025:2005 accredited lab.



UNIQUE PISTON CONSTRUCTION

PTFE piston with ETP O-ring provides superior chemical resistance and smooth frictionless piston movement.



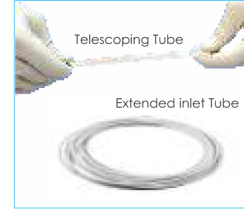
ADAPTERS

Fit most laboratory reagent bottles. Available sizes: 28, 30, 32, 36, 40 & 45 mm



RESERVOIR COVERS

There is an additional set of reservoir covers for the second bottle. Available sizes: 28, 32, 36, 40 & 45 mm



EXTENDABLE TUBES

Coiled extension tube and telescoping inlet tube adjust to a variety of bottle sizes

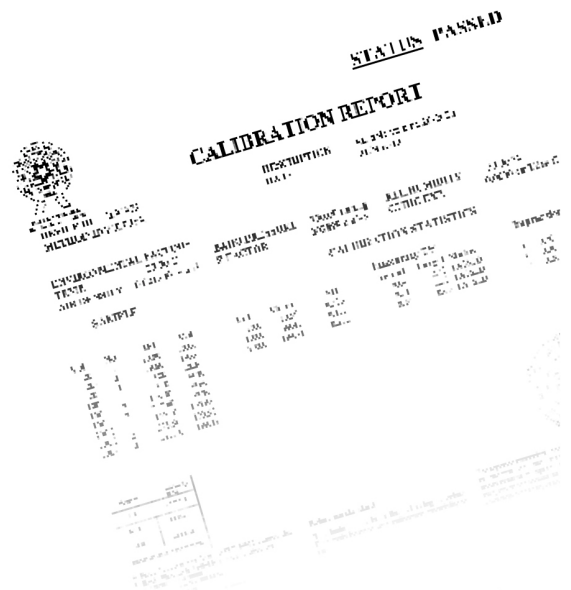
COMPONENT DESCRIPTION

Component	Description
Piston	PTFE & ETP
Cylinder	Borosilicate Glass
Volume Adjustment Knob	PP. 180° Rotation
Valve Housing	PFA
Recirculation Valve Housing	PFA
Valve Assembly	Borosilicate Glass Ball & Seat
Discharge Assembly	PTFE
Delivery Tube	FEP
Inlet Tube	FEP
Calibration	Individually calibrated and certified. In-lab easy calibration by the user is also possible.
Accuracy & Reproducibility	In accordance with ISO 8655 standards.
Compatibility	Excellent compatibility with all reagents except HF

SPECIFICATIONS

Model No.	Vol. Range	Increment	Accuracy		CV	
			±%	± ml	±%	± ml
BTSR2.5	0.25-2.5 ml	0.05 ml	0.6	0.015	0.2	0.005
BTSR5	0.5-5 ml	0.1 ml	0.6	0.030	0.2	0.010
BTSR10	1-10 ml	0.2 ml	0.6	0.060	0.2	0.020
BTSR30	2.5-30 ml	0.5 ml	0.6	0.180	0.2	0.060
BTSR60	5-60 ml	1.0 ml	0.6	0.360	0.2	0.120
BTSR100	10-100 ml	2.0 ml	0.6	0.600	0.2	0.200

Error limits (Accuracy & Coefficient of variation) according to the nominal capacity (= maximum volume) indicated on the instrument, obtained with instrument and distilled water at equilibrium with ambient temperature at 20 °C, and with smooth, steady operation. The error limits are well within the limits of DIN EN ISO 8655-2.



Superior chemical compatibility

PFA, PTFE and borosilicate glass components for use with a wide range of harsh chemicals

Chemicals A - Z	
A	
Acetaldehyde (Ethanal)	A
Acetic acid 96%	A
Acetic acid 100% (glacial)	B/4
Acetic anhydride	B/4
Acetone (Propanone)	B/4
Acetonitrile (MECN)	B/4
Acetophenone	B/4
Acetyl Chloride	B/4
Acetylacetone	A
Acrylic acid	A
Acrylonitrile	B/4
Adipic acid	C/1
Allyl alcohol	A
Aluminum chloride	C/1
Amino acids	C/1
Ammonia 20%	B/4
Ammonia 20-30%	B/4
Ammonium chloride	C/1
Ammonium fluoride	C/1
Ammonium molybdate	C/1
Ammonium sulfate	C/1
Amyl alcohol (Pentanol)	A
Amyl chloride (Chloropentane)	B/4
Aniline	A
Ascorbic acid	C/1
n-Amyl acetate	B/4
B	
Barium chloride	C/1
Benzaldehyde	A
Benzene	B/4
Benzine	A
Benzoyl chloride	B/4
Benzyl alcohol	A
Benzyl chloride	B/4
Bis(2-ethylhexyl) phthalate	B/4
Boric acid 10%	B/1
Bromine	C/4
Bromobenzene	B/4
Bromonaphthalene	A
Butanediol	B/1
Butanol	A
Butanone (MEK)	B/4
Butyl acetate	B/4
Butyl methyl ether	B/4
Butylamine	B/4
Butyric acid	B/4
C	
Calcium carbonate	C/1
Calcium chloride	C/1
Calcium hydroxide	C/1
Calcium hypochlorite	C/1
Carbon disulfide	B/4
Carbon tetrachloride	B/4
Chlorine dioxide	B/4
Chlorine water	B/4
Chloro naphthalene	B/4
Chloroacetaldehyde 45%	B/1
Chloroacetic acid	B/1
Chloroacetone	B/4
Chlorobenzene	B/4
Chlorobutane	B/4
Chloroethanol	B/4
Chloroform	B/4
Nitro-hydrochloric acid (Aqua regia)	B/4
Chlorosulfonic acid	B/4
Chlorosulfuric acid 100%	B/3/4
Chromic acid 100%	B/3/4
Chromosulfuric acid 100%	C/1/3/4
Citric acid	B/1
Copper fluoride	C/1
Copper sulfate	C/1
Cresol	B/1
Cumene (Isopropylbenzene)	B/4
Cyanoacrylate	C/1
Cyclohexane	B/4
Cyclohexanone	B/4
Cyclopentane	B/4

D	
1,2-Diethylbenzene	B/4
1,4-Dioxane (Diethylene dioxide)	B/4
1-Decanol	A
Decane	A
Di-(2-ethylhexyl) peroxydicarbonate	B/4
Dibenzyl ether	B/4
Dichloroacetic acid	A
Dichlorobenzene	A
Dichloroethane	A
Dichloroethylene	B/4
Diesel oil (Heating oil)	A
Diethanolamine	A
Diethylamine	B/4
Diethylene glycol	A
Diethylether	B/4
Dimethyl sulfoxide (DMSO)	B/1/4
Dimethylaniline	A
Dimethylformamide (DMF)	B/4
E	
Ethanol	A
Ethanolamine	B/4
Ether	B/4
Ethyl acetate	B/4
Ethylbenzene	B/4
Ethylene chloride	B/4
Ethylene diamine	A
Ethylene glycol	A
F	
Fluoroacetic acid	B/1/4
Formaldehyde (Formalin)	A
Formamide	A
Formic acid	A
G	
Gamma-butyrolactone	A
Gasoline	B/4
Glycerin <40%	A
Glycolic acid 50%	B/1
H	
Heating oil (Diesel oil)	A
Heptane	A
Hexane	A
Hexanoic acid	B/1
Hexanol	A
Hydriodic acid	B/4
Hydrobromic acid	A
Hydrochloric acid 20% (HCl)	A
Hydrochloric acid 37% (HCl)	B/3
Hydrofluoric acid (HF)	C/5
Hydrogen peroxide	A
I	
Iodine	C/1
Iodine bromide	C/4
Iodine chloride	C/4
Isoamyl alcohol	A
Isobutanol	A
Isooctane	A
Isopropanol	A
Isopropyl ether	B/4
Iso-propylamine	B/4
L	
Lactic acid	C/1
M	
2-Methoxyethanol	A
Methanol	A
Methoxybenzene (Anisol)	B/4
Methyl benzoate	B/1/4
Methyl chloride (Chloromethane)	B/4
Methyl formate	A
Methyl iodide (Iodomethane)	B/4
Methyl methacrylate (MMA)	B/4
Methyl propyl ketone (2-Pentanone)	A
Methyl tert-butyl ether	B/4
Methylene chloride (Dichloromethane) (DCM)	B/4
Methylpentanone	A
Mineral oil (engine oil)	A
Monochloroacetic acid	B/1
N	
N-Butylamine	B/4
Nitric acid 100%	C/3/4

Nitric acid 30-70%	B/4
Nitric acid dil. <30%	B/4
Nitrobenzene	B/4
Nitromethane	B/4
N-methyl-2-pyrrolidone (NMP)	A
O	
Octane	A
Octanol	A
Oil (vegetable, animal)	B/4
Oil of turpentine	B/4
Oleic acid	B/1
Oxalic acid	C/1
P	
Pentane	B/4
Peracetic acid	A
Perchloric acid 100%	B/4
Perchloric acid diluted	A
Perchloroethylene	B/4
Petroleum	B/4
Petroleum ether / spirit	B/4
Phenol	A
Phenylethanol	B/4
Phenylhydrazine	B/1/4
Phosphoric acid 100%	A
Phosphoric acid 85%	A
Piperidine	B/4
Potassium chloride	C/1
Potassium dichromate	C/1
Potassium hydroxide	C/1
Potassium iodide	C/1
Potassium permanganate	C/1
Potassium peroxydisulfate (persulfate)	C/1
Potassium sulfate	C/1
Propionic acid (Propanoic acid)	A
Propylene glycol (Propane-1,2-diol)	A
Propylene oxide	A
Pyric acid (Trinitrophenol)	B/4
Pyridine	B/4
Pyruvic acid	B/1
R	
Resorcin	C/1
S	
Salicylaldehyde	A
Scintillation fluid	A
Silver acetate	C/1
Silver nitrate	C/1
Sodium acetate	C/1
Sodium chloride (kitchen salt)	C/1
Sodium dichromate	C/1
Sodium fluoride	C/1
Sodium hydroxide 30%	C/1
Sodium hypochlorite	C/1
Sodium thiosulfate	C/1
Sulfonitric acid 100%	B/3/4
Sulfur dioxide	B/4
Sulfuric acid 100%	B/4
T	
1,1,2-Trichlorotrifluoroethane	B/4
Tartaric acid	C/1
Tetrachlorethylene	B/4
Tetrahydrofuran (THF)	B/4
Tetramethylammonium hydroxide	C/1/4
Toluene	B/4
Trichlorethylene	B/4
Trichloroacetic acid	B/1/4
Trichlorobenzene	B/4
Trichloroethane	B/4
Trichloromethane (Chloroform)	B/4
Triethanolamine	A
Triethylene glycol	A
Trifluoroacetic anhydride (TFAA)	B/4
Trifluoromethane (Fluoroform)	B/4
U	
Urea	C/1
X	
Xylene	B/4
Z	
Zinc chloride 10%	C/1
Zinc sulfate 10%	C/1

Code explanations

A = Good resistance B = Acceptable with limitations C = Not recommended

1 = Possible crystallisation - blockage or possible coating peeling

2 = Swelling of plunger, possible peeling.

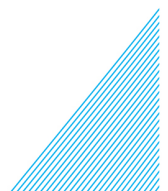
3 = Acid vapours (better resistance with lower concentration).

Rinse the instrument in the rinse mode otherwise do not leave instrument on bottle.

4 = Risk of damage, softening or discoloration of external parts through vapours.

Rinse the instrument in the rinse mode otherwise do not leave instrument on bottle.

5 = Chemical degradation of glass parts (plunger/barrel).





High-quality laboratory instruments for your liquid handling needs



LH Technologies, LLC
3055 N. Oak Grove Ave
Waukegan, IL 60087

PH: 847-336-7556
FAX: 847-336-7571
info@LHTechno.com



ISO 13485



ISO 9001

Visit LHTechno.com for:

- New liquid handling products
- Helpful technical information
- FAQs, instruction manuals, and more