Dispensette®

Dispensette® III, Dispensette® *Organic*, and Dispensette® HF bottletop dispensers improve accuracy, safety, and reagent conservation in a broad range of applications. They mount directly on most solvent and reagent bottles for faster, more convenient dispensing. Instruments are autoclavable at 121°C (250°F) for use with sterile reagents.

- **Dispense Most Lab Reagents:** Choose the Dispensette® III for acids, bases, saline solutions, and polar solvents; the Dispensette® *Organic* for HPLC solvents, combinatorial chemistry solvents, DMF, DMSO, concentrated acids such as HCL and HNO_3, organic solvents, and peroxides; or the Dispensette® HF for hydrofluoric acid. See Selection Chart on page 35 for help selecting the best dispenser.

- **Deliver Accurate, Precise Volumes:** Dispensers are accurate to 0.5% (1% for 0.5mL models), with coefficients of variation of 0.1% (0.2% for 0.5mL). Digital models feature accurate and reproducible volume settings via a mechanical digital display. Easy Calibration™ technology simplifies ISO/GLP compliance.

- **Increase Laboratory Safety:** Dispensers mount on reagent bottles to reduce poured reagent transfers. They include a number of safety features to reduce the risk of injury from inadvertent dispensing and splashes. SafetyPrime™ valve system enhances reagent conservation and safety. Many accessories are available for remote, serial and drum dispensing.

- **Resist Wear and Damage:** Unique design ensures smooth operation and eliminates wearing parts. Dispensers disassemble easily to simplify cleaning and maintenance.

The Standard in Bottletop Dispensing For Over 40 Years.

BRAND®

Dispensette® bottletop dispensers

Dispensette® *Organic*
(Analog-adjustable model)

Discharge Tube Safety Screw Cap

One-twist cap helps protect against reagent contact and is easy to attach and remove, even while wearing gloves.

SafetyPrime™ Recirculation Valve

Optional SafetyPrime™ valve reduces splashes during instrument priming and reduces reagent waste. Control lever clearly indicates valve position.

Fits Most Reagent Bottles

The 45mm standard thread, plus included adapters, ensure compatibility with most common reagent bottles. Telescoping filling tube adjusts easily to different size bottles – without measuring or cutting.

Easy Calibration™

Digital adjustable models are equipped with Easy Calibration™ technology to simplify ISO/GLP compliance.

Rotating Valve Block

The valve block can be rotated 360° to allow the bottle label to face the user during dispensing.

Safety Discharge System

Integrated safety discharge system reduces the risk of inadvertent dispensings and splashes.

Dispensette® HF
(Analog-adjustable model)

Dispensette® TA
See page 42

Dispensette® III
(Digital Easy Calibration™ model)

Dispensette® bottletop dispensers

Applications

Dispensette® III
(Digital Easy Calibration™ model)

Dispensette® III: The Dispenser for Most Applications

The Dispensette® III is widely considered "the standard" in bottletop dispensers. Its PFA coated floating piston design has been proven in decades of use for most common laboratory liquids.

Dispensette® HF
(Analog-adjustable only)

The Dispensette® HF: for Hydroflouric Acid

The Dispensette® HF is designed to dispense hydrofluoric acid (HF) in concentrations up to 52%. The fluid path contains no glass components. The polypropylene discharge tube safety screw cap minimizes risk of reagent contact.

Dispensette® *Organic*
(Digital Easy Calibration™ model)

Dispensette® *Organic:* The Dispenser for Organic Solvents and Concentrated Acids

The Dispensette® *Organic* is designed specifically for organic solvents, peroxides, and concentrated acids such as HCl and HNO_3. It is ideal for HPLC and combinatorial chemistry reagents, like THF, TFA, DMF and DMSO.

Dispensette® TA
(Analog-adjustable only)

NEW!
The Dispensette® TA: Trace Analysis

For dispensing high-purity chemicals, HF or bromine please use the Dispensette® TA Trace Analysis. See page 42.

Areas of application / Suggested dispenser (as of August 2010)

- **Dispensette® III (Disp. III)**
- **Dispensette® *Organic* (Disp. *Organic*)**
- **Dispensette® HF (for hydrofluoric acid)**

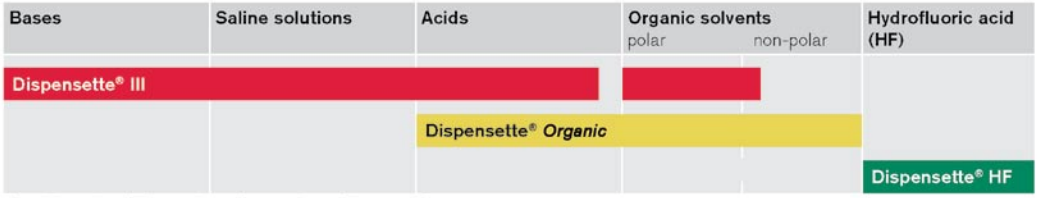
NOTE: The Dispensette® III, Dispensette® *Organic*, and seripettor® bottletop dispensers cannot be used with hydrofluoric acid (HF). Only the Dispensette® HF is specifically designed to dispense hydrofluoric acid (maximum permitted concentration 52%).

Reagent	Disp. III	Disp. *Organic*
Acetaldehyde	+	+
Acetic acid (glacial), 100%	+	+
Acetic acid, 96%	+	+
Acetic anhydride		+
Acetone	+	+
Acetonitrile	+	+
Acetophenone		+
Acetyl chloride		+
Acetylacetone	+	+
Acrylic acid	+	+
Acrylonitrile	+	+
Adipic acid	+	
Allyl alcohol	+	+
Aluminium chloride	+	
Amino acids	+	
Ammonia, 20%	+	+
Ammonia, 20-30%		+
Ammonium chloride	+	
Ammonium fluoride	+	
Ammonium sulfate	+	
n-Amyl acetate	+	+
Amyl alcohol (Pentanol)	+	+
Amyl chloride (Chloropentane)		+
Aniline	+	+
Barium chloride	+	
Benzaldehyde	+	+
Benzene (Benzol)	+	+
Benzine (Gasoline)		+
Benzoyl chloride	+	+
Benzyl alcohol	+	+
Benzylamine	+	+
Benzylchloride	+	+
Boric acid, 10%	+	+
Bromobenzene	+	+
Bromonaphthalene	+	+
Butanediol	+	+
1-Butanol	+	+
n-Butyl acetate	+	+
Butyl methyl ether	+	+
Butylamine	+	+
Butyric acid	+	+
Calcium carbonate	+	
Calcium chloride	+	
Calcium hydroxide	+	
Calcium hypochlorite	+	
Carbon tetrachloride		+
Chloro naphthalene	+	+
Chloroacetaldehyde, 45%	+	+
Chloroacetic acid	+	+
Chloroacetone	+	+
Chlorobenzene	+	+
Chlorobutane	+	+
Chloroform		+
Chlorosulfonic acid		+
Chromic acid, 50%	+	+
Chromosulfuric acid	+	
Copper sulfate	+	
Cresol		+
Cumene (Isopropyl benzene)	+	+

Reagent	Disp. III	Disp. *Organic*
Cyclohexane		+
Cyclohexanone	+	+
Cyclopentane		+
Decane	+	+
1-Decanol	+	+
Dibenzyl ether	+	+
Dichloroacetic acid		+
Dichlorobenzene	+	+
Dichloroethane		+
Dichloroethylene		+
Dichloromethane		+
Diesel oil (Heating oil)		+
Diethanolamine	+	+
Diethyl ether		+
Diethylamine	+	+
1.2 Diethylbenzene	+	+
Diethylene glycol	+	+
Dimethyl sulfoxide (DMSO)	+	+
Dimethylaniline	+	
Dimethylformamide (DMF)	+	+
1.4 Dioxane		+
Diphenyl ether	+	+
Ethanol	+	+
Ethanolamine	+	+
Ethyl acetate	+	+
Ethyl methyl ketone	+	+
Ethylbenzene		+
Ethylene chloride		+
Fluoroacetic acid		+
Formaldehyde, 40%	+	
Formamide	+	+
Formic acid, 100%		+
Glycerol	+	+
Glycol (Ethylene glycol)	+	+
Glycolic acid, 50%	+	
Heating oil (Diesel oil)		+
Heptane		+
Hexane		+
Hexanoic acid	+	+
Hexanol	+	+
Hydriodic acid	+	+
Hydrobromic acid		+
Hydrochloric acid, 20%	+	+
Hydrochloric acid, 20-37%		+
Hydrogen peroxide, 35%		+
Isoamyl alcohol	+	+
Isobutanol	+	+
Isooctane		+
Isopropanol (2-Propanol)	+	+
Isopropyl ether	+	+
Lactic acid	+	
Methanol	+	+
Methoxybenzene	+	+
Methyl benzoate	+	+
Methyl butyl ether	+	+
Methyl formate	+	+
Methyl propyl ketone	+	+
Methylene chloride		+
Mineral oil (Engine oil)	+	+

Reagent	Disp. III	Disp. *Organic*
Monochloroacetic acid	+	+
Nitric acid, 30%	+	+
Nitric acid, 30-70%		+*
Nitrobenzene	+	+
Oleic acid	+	+
Oxalic acid	+	
n-Pentane		+
Peracetic acid		+
Perchloric acid	+	+
Perchloroethylene		+
Petroleum	+	+
Petroleum ether		+
Phenol	+	+
Phenylethanol	+	+
Phenylhydrazine	+	+
Phosphoric acid, 85%	+	+
Phosphoric acid, 85% + Sulfuric acid, 98%, 1:1	+	+
Piperidine	+	+
Potassium chloride	+	
Potassium dichromate	+	
Potassium hydroxide	+	
Potassium permanganate	+	
Propionic acid	+	+
Propylene glycol (Propanediol)	+	+
Pyridine	+	+
Pyruvic acid	+	+
Salicylaldehyde	+	+
Scintilation fluid	+	+
Silver acetate	+	
Silver nitrate	+	
Sodium acetate	+	
Sodium chloride	+	
Sodium dichromate	+	
Sodium fluoride	+	
Sodium hydroxide, 30%	+	
Sodium hypochlorite	+	
Sulfuric acid, 98%	+	+
Tartaric acid	+	
Tetrachloroethylene		+
Tetrahydrofuran (THF)		+
Tetramethylammonium hydroxide	+	
Toluene		+
Trichloroacetic acid		+
Trichlorobenzene		+
Trichloroethane		+
Trichloroethylene		+
Trichlorotrifluoro ethane		+
Triethanolamine	+	+
Triethylene glycol	+	+
Trifluoro ethane		+
Trifluoroacetic acid (TFA)		+
Turpentine		+
Urea	+	
Xylene		+
Zinc chloride, 10%	+	
Zinc sulfate, 10%	+	

* Use ETFE/PTFE bottle adapter



The Dispensette® *Organic* is preferred for many concentrated acids such as HCl and HNO_3.

Hydrofluoric acid (HF): Only Dispensette® HF and Dispensette® TA (see page 42) are specially designed to dispense hydrofluoric acid (maximum permitted concentration 52%).

The above recommendations reflect testing completed prior to publication. Always follow instructions in the operating manual of the instrument as well as the reagent manufacturer's specifications. In addition to these chemicals, a variety of organic and inorganic saline solutions (e.g., biological buffers), biological detergents and media for cell culture can be dispensed.

Status as of: August 2010/13.

Dispensette® bottletop dispensers

Applications

One-handed operation

"Floating piston" design eliminates the seals that often wear and fail on other dispensers. This allows the Dispensette® piston to move very smoothly, permitting safe, simple, one-handed dispensing, even with a nearly-empty reagent bottle.

Dispensing sterile fluids

Dispensette® bottletop dispensers are autoclavable at 121ºC (250ºF) and can be fitted with an optional microfilter to prevent contamination of bottle contents. Sterile technique must be followed.

Serial dispensing

The optional flexible discharge tube with safety handle speeds serial dispensing tasks, and permits fast and precise dispensing even into narrow test tubes. Functions of SafetyPrime™ valve and safety discharge system are fully maintained with the flexible discharge tube.

Dispensing sensitive reagents

Optional drying tube screws into the accessory port of the Dispensette® to protect sensitive reagents from humidity or CO_2. (Absorbing agent not included.)

Dispensing from bulk containers minimizes risk of contaminating high-purity reagents

Simply connect the Dispensette® III or Dispensette® *Organic* to the optional Remote Dispensing System for accurate dispensing from drums and other bulk containers up to 10m (30 feet) away. Maximum delivery height is 1.2 meters. A quick-release connector with integrated valves simplifies changing the bulk container. The drum adapter air inlet filter minimizes risk of contaminating high-purity reagents.

NOTE: Not for use with SafetyPrime™ recirculation valve, pressurized vessels, peroxides (which will react with the platinum-iridium spring), HF or other liquids which attack borosilicate glass, liquids which react with alumina ceramic, PFA, ETFE, FEP or PTFE. Observe all safety instructions, operating exclusions, and limitations of the operating manuals of the Dispensette® bottletop dispensers.

Dispensette® Volume Adjustment

Digital Easy Calibration™ models

- Digital Easy Calibration™ models enable accurate and reproducible volume setting with an easy-to-read display and a convenient adjustment knob. Simply turn the knob. The mechanical digital display indicates the set volume.
- Features unique Easy Calibration™ technology (see below) for calibration adjustment in seconds without tools.
- Excellent for labs with multiple users, and in circumstances requiring frequent volume changes to precise volumes.

Easy Calibration™

Gravimetric testing yields a delivered volume of 9.90mL with a set volume of 10mL. The instrument can be recalibrated in three easy steps.

1

Open housing by moving slide lock.

2

Pull the red knob, set the display to actual delivered volume (e.g., 9.90mL), and restore knob position.

3

Replace housing – done! Adjustment from factory setting is indicated by a red recalibration flag.

Analog-adjustable models

- Analog slide enables rapid volume adjustments
- Calibration adjustments are simplified with included tool

Fixed-volume models

- Fixed-volume for standardized applications
- Calibration adjustments are simplified with included tool

Dispensette® bottletop dispensers

Technical Data & Operating Limitations

Operating limitations (all instruments)

Liquids, which form deposits may make the piston difficult to move or may cause jamming (e.g., crystallizing solutions or concentrated alkaline solutions).

When dispensing inflammable media, make sure to avoid the buildup of static charge, e.g., do not dispense into plastic vessels; do not wipe instruments with a dry cloth.

The Dispensette® is designed for general laboratory applications and complies with the relevant standards, e.g., DIN EN ISO 8655. Compatibility of the instrument for a specific application (e.g., trace material analysis, food sector, etc.) must be checked by the user. Approvals for specific applications in the medicinal/pharmaceutical/foodstuff processing areas are not available.

Items supplied

Each Dispensette® III, Dispensette® Organic, Dispensette® HF includes:

- Certificate of performance
- Discharge tube
- Valve Mounting/Calibration tool
- Adapters and filling tube
- Operating manual
- One-year warranty

Supplied Adapters and Filling Tubes

Nominal Volume, mL	Adapter for bottle thread, mm	Filling tube length, mm
For Dispensette® III and Dispensette® *Organic* (PP)		
0.5	24, 28, 33, 38	125-240
1, 2, 5, 10	28, 33, 38	125-240
25, 50, 100	33, 38	170-330
For Dispensette® HF (PTFE)		
10	S40	125-240

Limitations of use (all instruments)

This instrument is designed for dispensing liquids, observing the following physical limits:
– +15°C to +40°C (59°F to 104°F) of instrument and reagent
– vapor pressure up to max. 600mbar. Aspirate slowly above 300mbar, in order to prevent the liquid from boiling
– kinematic viscosity up to 500mm²/s (dynamic viscosity [mPas] = kinematic viscosity [mm²/s] x density [g/cm³])
– density: Dispensette® III/Dispensette® *Organic*: up to 2.2g/cm³ and Dispensette® HF up to 3.8g/cm³

Operating Exclusions – Dispensette® III

Never use the Dispensette® III with:
– liquids attacking Al_2O_3-ceramic, ETFE, FEP, PFA and PTFE (e.g., dissolved sodium azide*)
– liquids attacking borosilicate glass (e.g., hydrofluoric acid)
– liquids which are decomposed catalytically by platinum-iridium (e.g., H_2O_2)
– hydrochloric acid > 20% and nitric acid > 30%
– tetrahydrofuran
– trifluoroacetic acid
– explosive liquids (e.g., carbon disulfide)
– suspensions (e.g., of charcoal) as solid particles may clog or damage the instrument
– liquids attacking PP (screw cap)

Operating Exclusions – Dispensette® *Organic*

Never use the Dispensette® *Organic* with:
– liquids attacking Al_2O_3-ceramic, tantalum, ETFE,FEP, PFA and PTFE (e.g., dissolved sodium azide*)
– liquids attacking borosilicate glass (e.g.,hydrofluoric acid)
– bases and saline solutions
– explosive liquids (e.g., carbon disulfide)
– suspensions (e.g., of charcoal) as solid particles may clog or damage the instrument
– liquids attacking PP (screw cap)

Operating Exclusions – Dispensette® HF

Never use the Dispensette® HF with:
– liquids attacking Al_2O_3-ceramic, ETFE, PFA, FEP and PTFE (e.g., dissolved sodium azide*)
– liquids which are decomposed catalytically by platinum-iridium (e.g., H_2O_2)
– bases and saline solutions
– explosive liquids (e.g., carbon disulfide)
– suspensions (e.g., of charcoal) as solid particles may clog or damage the instrument
– liquids attacking PP (screw cap)

* Dissolved sodium azide permitted up to a concentration of maximum 0.1%