

Lab Tools for Chemistry & Life Sciences

■ Liquid Handling ■ Life Science Plastics ■ Laboratory Vacuum

■ Volumetric Labware ■ Pipetting Robots



BRANDTECH Scientific is the US and Canadian division of the Brand Group

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How to reach BRANDTECH Scientific, Inc.

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Accept no substitutes

To ensure delivery of genuine BRANDTECH products, be sure to request them by name from your dealer or give your dealer our catalog number. For example, ask for the “BRAND Dispensette® S from BRANDTECH”, to guarantee that you get the world’s favorite bottle-top dispenser.

California Residents:

For information concerning California Proposition 65, each product pages on www.shop.brandtech.com contains the appropriate information.

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Table of Contents

LIQUID HANDLING	2	LIFE SCIENCE PLASTICS	79
Introduction to Liquid Handling	2	BRANDplates® Microplates	79
Pipettes & Tips	4	Sample Prep & Storage	88
Transferpette® S	4	BRAND® Insert 2in1	90
Transferpette electronic	8	BRANDplates Insert System	92
Pipette Tips & Filter Tips	12	Polypropylene & Deep-Well Plates	94
PLT™ Pipette Leak Testing Unit	19	BRAND Microcentrifuge Tubes	95
HandyStep® S	20	PCR Consumables	96
HandyStep touch	22	BRAND PCR Tubes, Strips & Plates	96
PD-Tip™ // Precision Dispenser Tips	25	Spectrophotometry Cuvettes	98
Transferpetto™	27	BRAND Plastic Cuvettes	98
Automated Liquid Handling	28	BRAND UV-Cuvettes	100
Liquid Handling Station	28	BRAND Fluorimetry Cuvettes	102
Bottletop Dispensers	33	GENERAL LAB SUPPLIES	103
Dispensette® S	33	Stainless Steel Support Jacks	103
Dispensette S Trace Analysis	37	Test Tube Racks	105
seripettor®	44	Sample Cups for Clinical Analyzers	106
seripettor <i>pro</i>	46	Mucosol® Universal Detergent	106
VITLAB® piccolo™	48	Volumetric Glassware	107
Burettes	49	Class A, USP, Certified Volumetric Glassware	107
Titrette®	49	Plastic Labware	110
Pipette Controllers	53	PFA Trace Analysis Labware	110
macro™	53	Volumetric Labware and Containers	113
accu-jet® S Pipette Controller	54	VITLAB® General Laboratory Products	120
ASPIRATION	56	Reference	126
BVC Fluid Aspiration Systems	56	Plastics Reference	126
QuikSip™ Bottletop Aspirator	57	BRAND Quality Grade Reference	127
VACUUM PRODUCTS	58	APPENDIX	128
VACUUBRAND® Vacuum Products	58	Trademarks	128
Rotary Vane Pumps	65	Quality and Certifications	129
VACUU·PURE® Dry Screw Vacuum Pumps	66	TERMS & CONDITIONS	130
Vacuum Applications	68		
Vacuum Gauges & Controllers	74		
Non-Chemistry Diaphragm Vacuum Pumps	76		
Vacuum Pump Ordering Information	77		

Introduction to Liquid Handling

Dispenser, Burette, Pipette, or Robotic System—What Kind of Liquid Handling Do I Need?

Liquid handling instruments take many forms in the laboratory, and it's not always easy to know which type will make your job easier. BRANDTECH® is not only your liquid handling source, we are also your resource for understanding and identifying the best liquid handling tool for the job.

- **Bottletop Dispensers**—are designed to repeatedly dispense preset volumes of liquid from a bottle. Due to their design, dispensers are typically dedicated to a single reagent. Features to look for in a bottletop dispenser include:
 - **Chemical resistance**—Is the dispenser suitable for the chemicals to be dispensed? If so, can the dispenser remain on top of the bottle, or does the manufacturer recommend removing it after each/daily use?
 - **Safety features**—If using the dispenser with hazardous chemicals, does it have features that will help prevent splashes or inadvertent dispensing? These include reinforced discharge tubes with caps, safety discharge valves, enclosed cylinders and priming valves to help purge bubbles.
 - **Thread adapters**—Can the dispenser be attached directly to the original reagent bottle, or will the chemical have to be transferred from one bottle to another?



- **One-handed operation**—Instruments with a ‘floating piston’ design have very low resistance, and allow the dispensing operation to be performed with one hand. Instruments with wiping seals have more resistance, and either need to be spring-loaded or used with a bottle-stand for one-handed operation.

Bottletop Burettes, while similar in appearance to bottletop dispensers, perform an entirely different function. Bottletop burettes are designed for titration, a chemistry technique for determining concentrations in which the total volume to be dispensed is unknown until the endpoint is reached. Features to look for in a bottletop burette include:

- **Accuracy**—Is the bottletop burette accurate enough for the intended application? The Titrette® bottletop burette matches the Class A accuracy of glass burettes. Most bottletop burettes do not even meet the standards for Class B burettes.
- **Easy Maintenance**—Many titrants are salt solutions that can form crystals that wear the piston seal. Can the instrument be easily disassembled for cleaning and in-lab maintenance?
- **Reliability**—Many titrant solutions are also corrosive. Is the instrument manufactured from quality components (including the electronics) that will resist corrosion and prevent premature failure?

Pipettes aspirate, and dispense liquid – the movement from one container to another is performed purely by the operator. Pipettes fall into two broad categories: In an air-displacement pipette, the piston does not come in direct contact with the pipetted liquid. Rather there is an “air cushion” between the piston and the liquid, which is drawn up into a disposable pipette tip. These instruments are designed around the physical characteristics of water, and the further the properties of the pipetted liquid diverge from water’s properties (density, volatility, viscosity) the less accurate the pipetted volume will be.

With positive displacement pipettes, the liquid comes in direct contact with the piston. Because there is no air cushion, a positive displacement pipette is much more tolerant of viscosity, volatility and density differences than an air-displacement pipette. Additionally, the positive displacement principle is well suited for accurate fractional dispensing, as in a repeating or stepping pipette.

Air-displacement and positive displacement pipettes can be either fully mechanical or electronic/motorized. Electronic pipettes have the advantage that they can reduce the amount of operating forces and can significantly reduce repetitive motion. Because they are automated rather than manually operated, they can reduce user error.

Pipetting robots are essentially electronic pipettes that can be moved in three dimensions to move liquids in pre-defined positions. Software allows virtually all aspects of the pipetting to be automated for highly reproducible results. While smaller pipetting robots may not drastically increase throughput, they have a number of advantages—eliminating repetitive motion; eliminating user-errors in tedious tasks; and freeing up scientists to perform more “cognitive work” rather than performing repetitive manual procedures. Additionally, some automated pipetting systems offer documentation for sample tracking and process control, verification, and reporting.



Transferpette® S

Transferpette S pipettes are designed to deliver premium performance, simple operation, light weight, comfort, and easy service.

- **Thumb-tip volume selection**—Set and secure the volume without even shifting your hand position!
- **Short pipetting stroke**—Reduces risk of repetitive strain injury.
- **Fully autoclavable at 121 °C**—Repeatedly autoclavable without disassembly or recalibration.
- **Light weight and rugged**—Made with advanced precision materials for chemical resistance, dimensional stability and light weight.
- **Full pipetting range**—Adjustable and fixed-volume single channel pipettes from 0.1 µL to 10 mL; multichannels from 0.5 µL to 300 µL.
- **Economical**—Fast, in-house cleaning, repair and calibration (without tools) for long, economical service; accepts most quality tips.



The Transferpette S –
the performance standard
in pipetting



Transferpette® S Single & Multichannel Pipettes

One-handed operation

Set the volume, pipette, and eject the tip—
all without changing your grip

Volume change protection

Helps prevent accidental volume adjustments

Clearly accurate

4-digit display for precise volume settings;
always remains visible during pipetting

Convenient

Manifold rotates 360° in both directions
to allow you to pipette from any angle

Ergonomic

Low operating forces and short stroke

Reduced static strain

Pipette suspends from relaxed hand

Smooth operation

Specially selected sealing material
provides uniformly smooth pipetting stroke

Low strain

Improved O-rings and the stepped design
of the tip ejector reduce tip mounting and ejection
forces; O-rings support broad tip compatibility

Easy cleaning and maintenance

Patented individually removable nose cones and seals can be
easily removed for cleaning or replacement



Transferpette® S Single & Multichannel Pipettes

Precision workmanship, high grade materials, "Made in Germany" quality – it's what you see on first glance and appreciate every time you use the Transferpette S. The finer points of the design will be evident when the instrument is in your hand.

- **Slim hand grip**—Provides a comfortable and secure fit in any hand—right, left, big or small
- **One-handed operation**—Perform all functions (set volume, pipette, tip ejection) without changing your grip
- **Volume-change protection**—Simple to operate and clearly shows when the volume setting is locked
- **Slim shaft**—Narrow tubes? With the slim shaft, easily pipette into narrow tubes such as 15 mL conical tubes
- **Easy cleaning**—The shaft tucks inside the handgrip for smooth surfaces, making cleaning easier
- **Low forces**—Short pipetting stroke, easy mounting and tip ejection make pipetting a breeze

Color-coded

At-a-glance identification of pipette size and matching tips

Volume-change protection

Secures the set volume from accidental adjustment

Slim hand grip

Fits comfortably and securely in all hands

Slim shaft

Easy access to small vessels



One-handed operation



Volume-change protection



Integrated shaft coupling



Covered nameplate—identifies pipettes without messy tape!



Red recalibration flag indicates adjustment from factory specifications.



Benchtop rack for 6 Transferpette S single- or multi-channel pipettes.



Transferpette® S Single & Multichannel Pipettes



Adjustable volume



Fixed volume



Shelf/rack mount



Wall mount

Capacity, µL**	Model	Type of Tips See page 16	A* < ± %	CV* ≤ %	Subdivision, µL	Cat. No.	2024 List Price
Transferpette S Adjustable Volume Single Channel Pipettes							
0.1-1	D-1	A, I	2	1.2	0.001	705868	\$357.00
0.1-2.5	D-2.5	A [^] , B, C [^] , I [^] , J	1.4	0.7	0.002	705869	357.00
0.5-10	D-10	A [^] , B, C, I [^] , J, K	1	0.5	0.01	705870	357.00
2-20	D-20	D, E, L, M	0.8	0.4	0.02	705872	357.00
5-50	D-50	D, E, L, M	0.8	0.3	0.05	705873	357.00
10-100	D-100	D, E, L, M	0.6	0.2	0.1	705874	357.00
20-200	D-200	D, E, L, M, N	0.6	0.2	0.2	705878	357.00
100-1000	D-1000	F, O	0.6	0.2	1	705880	357.00
500-5000 (0.5-5 mL)	D-5000	G	0.6	0.2	5	705882	357.00
1000-10000 (1-10 mL)	D-10000	H	0.6	0.2	10	705884	357.00

Transferpette S Fixed Volume Single Channel Pipettes							
10	F-10	A [^] , B, C, I [^] , J, K	1	0.5	—	705808	213.00
20	F-20	D, E, L, M	0.8	0.4	—	705816	213.00
25	F-25	D, E, L, M	0.8	0.4	—	705820	213.00
50	F-50	D, E, L, M	0.8	0.4	—	705828	213.00
100	F-100	D, E, L, M	0.6	0.2	—	705838	213.00
200	F-200	D, E, L, M, N	0.6	0.2	—	705844	213.00
500	F-500	F, O	0.6	0.2	—	705854	213.00
1000	F-1000	F, O	0.6	0.2	—	705862	213.00

Pipette includes performance certificate, operating manual, shelf/rack mount and three year warranty

Starter Set	Models	Cat. No.	2024 List Price
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Transferpette S Single Channel Starter Sets			
Micro	D-2.5, D-10, D-100	705890	\$912.00
Mid-Size	D-20, D-200, D-1000	705891	912.00
Macro	D-1000, D-5000, D-10000	705892	912.00
Standard	D-10, D-100, D-1000	705893	912.00

Starter Sets include three pipettes with performance certificates, operating manual, three shelf/rack mounts.

Transferpette S Single Channel package sets			
Package 1	D-2.5, D10, D-20, D-200, D-1000	705896	1,460.00
Package 2	D-10, D-100, D-200, D-1000, D-5000	705897	1,460.00

Package Sets include five pipettes, and a benchtop rack.

Capacity, µL**	A* < ± %	CV* ≤ %	Subdivision, µL	Transferpette S -8 Channel	2024 List Price	Transferpette S -12 Channel	2024 List Price
Transferpette S -8/-12 Multichannel Pipettes							
0.5-10	A, B, C, I, J, K	1.6	1.0	0.01	705900	705920	\$1,120.00
5-50	D, E, L, M, N	0.8	0.4	0.05	705906	705926	1,120.00
10-100	D, E, L, M, N	0.8	0.3	0.1	705908	705928	1,120.00
20-200	D, E, L, M, N	0.8	0.3	0.2	705910	705930	1,120.00
30-300	D, E, M, N	0.6	0.3	0.5	705912	705932	1,120.00

Pipette includes performance certificate, operating manual, shelf/rack mount, reagent reservoir, pack of replacement O-rings. One-year warranty.

A*=Accuracy, CV=Coefficient of Variation * The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C) and with smooth operation. ^ Calibration and possible adjustment necessary.

** Tip selection chart see page 14

			2024 List Price
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Accessories			2024 List Price
Benchtop Rack—for up to six Transferpette S single or multichannel pipettes, pack of 1		704807	\$240.00
Individual Multichannel Stand - for all Transferpette multichannel pipettes, pack of 1		703440	68.00
Shelf/rack Mount—for all Transferpette S single or multichannel pipettes, pack of 1		704811	50.00
Wall mount- for all Transferpette S single or multichannel pipettes, pack of 1		704812	80.00
Autoclavable Reagent Reservoirs – PP, with translucent lids, pack of 10		703459	59.00
Autoclavable Reagent Reservoirs – PP, sterile, individually wrapped, 100 pieces total		703411	390.00
Autoclavable Reagent Reservoirs – PP, sterile, 40 packs of five, 200 pieces total		703409	375.00



Transferpette® electronic

The BRAND® Transferpette electronic single- and multichannel pipettes combine the innovation of the Transferpette with the convenience and automation of motorized, electronic pipettes. The result is an accurate, ergonomic instrument for use in most laboratory applications. Both single and multichannel models are available in five volume ranges, and feature an autoclavable pipette shaft or manifold, respectively.

- Delivers precise, accurate volumes
- Increases sample throughput
- Easy disassembly for cleaning
- Maximizes pipetting comfort

Transferpette electronic pipettes from BRAND – performance, value, and unbelievable comfort



Single and Multi-channel stand



Charging stand

for up to three single channel pipettes (excluding 5 mL)



Transferpette® electronic Single & Multichannel Pipettes

Clear, legible LCD screen

Transferpette® -12

PIP

2000 µl

electronic 200µl

ON

REF

Intuitive interface

User-friendly design allows easy operation, even for new lab techs

Adjustable finger rest

The adjustable finger rest adapts the instrument to your most comfortable hand position

Soft touch pipetting key

Rechargeable battery

Over 4000 pipetting cycles between charges means well over a full day of uninterrupted pipetting

Multichannel O-rings

Improved O-rings and stepped design of tip ejector reduce tip mounting and ejection forces; O-rings support broad tip compatibility

Easy maintenance

Patented individually removable tip cones for easy cleaning and seal replacement—allows in-lab service



Transferpette® electronic Single & Multichannel Pipettes

Innovative Ergonomics

The Transferpette electronic pipettes are the first single and multichannel pipettes respectively, to be independently certified “Ergonomics Approved” by a Nationally Recognized Testing Laboratory (NRTL), TÜV Rheinland. The combination of ergonomic features and intuitive design resulted in outstanding user acceptance ratings of 1.54 and 1.55.

Reduce pipetting strain!

From the very beginning, the development of the Transferpette electronic was driven by the goal of reducing the strain of pipetting without sacrificing performance. It was that focus that led to such innovations as the adjustable finger rest.



Five Operating Modes

Quickly and easily scroll to one of five convenient operating modes that support all of the most common pipetting applications.

Pipetting (PIP Mode)

Program for standard pipetting. Previously set volume is aspirated into the pipette tip and then discharged.

Mixing of samples (PIPMix Mode)

Program for mixing liquids. The sample is repeatedly aspirated and discharged, and the number of cycles is displayed.

Reverse pipetting (revPIP mode)

Program especially designed for greater accuracy when pipetting liquids with a high viscosity, high vapor pressure or low surface tension.

Pipetting for electrophoresis (GEL mode)

Program for loading of electrophoresis gels. (Not available on 1000 µL and 5 mL instruments).

Dispensing (DISP mode)

Program for dispensing liquid in pre-defined steps. A single aspirated volume is dispensed in a number of equal aliquots.



Transferpette® electronic Single & Multichannel Pipettes

Items supplied

The Transferpette electronic is supplied with the following items:

- Battery
- AC adapter with US plug (except instruments 705339, 705340, 705343, 705346, and 705347)
- One pipette tip sample pack (single channels only)
- Silicone oil
- Operating manual
- One-year warranty

Additional items supplied

Multichannel models also include:

- Pipette stand
- Reagent reservoir
- Tip cone tool
- Set of replacement O-rings



Stand for Transferpette-8/-12 multichannel pipettes



Single and multichannel pipette stand

Capacity, µL**	Tip Type See pg. 14	A* \pm		CV* \leq		Subdivision, µL	Cat. No.	2024 List Price
Transferpette electronic single channel pipettes								
0.5-10 with charger	A*, B, C, I*, J, K	1.0	0.1	0.4	0.04	0.01	705319	\$650.00
2-20 with charger	A*, B, C, J, K	1.0	0.2	0.4	0.08	0.02	705320	650.00
10-200 with charger	D, E, L, M, N	0.8	1.6	0.2	0.4	0.2	705323	650.00
50-1000 with charger	F, O	0.6	6	0.2	2	1.0	705326	650.00
250-5000 (0.25-5 mL) with charger	G	0.6	30	0.2	10	5.0	705327	650.00
0.5-10 without charger	A*, B, C	1.0	0.1	0.4	0.04	0.01	705339	610.00
2-20 without charger	A*, B, C	1.0	0.2	0.4	0.08	0.02	705340	610.00
10-200 without charger	D, E	0.8	1.6	0.2	0.4	0.2	705343	610.00
50-1000 without charger	F, O	0.6	6	0.2	2	1.0	705346	610.00
250-5000 (0.25-5 mL) without charger	G	0.6	30	0.2	10	5.0	705347	610.00
Transferpette-8 electronic eight channel pipette								
0.5-10	A*, B, C, I*, J, K	1.2	0.12	0.8	0.08	0.01	705419	1,175.00
1-20	A*, B, C, J, K	1.0	0.2	0.5	0.1	0.02	705420	1,175.00
5-100	D, E, L, M, N	0.8	0.8	0.25	0.25	0.1	705423	1,175.00
10-200	D, E, L, M, N	0.8	1.6	0.25	0.5	0.2	705424	1,175.00
15-300	D, E, M, N	0.6	1.8	0.25	0.75	0.5	705426	1,175.00
50-1250	P, Q	1.0	12.5	0.25	3.125	1.0	705398	1,175.00
Transferpette-12 electronic twelve channel pipette								
0.5-10	A, B, C, I, J, K	1.2	0.12	0.8	0.08	0.01	705469	1,410.00
1-20	A, B, C, J, K	1.0	0.2	0.5	0.1	0.02	705470	1,410.00
5-100	D, E, L, M, N	0.8	0.8	0.25	0.25	0.1	705473	1,410.00
10-200	D, E, L, M, N	0.8	1.6	0.25	0.5	0.2	705474	1,410.00
15-300	D, E, M, N	0.6	1.8	0.25	0.75	0.5	705476	1,410.00
50-1250	P, Q	1.0	12.5	0.25	3.125	1.0	705448	1,410.00

A* = Accuracy, CV* = Coefficient of Variation

* The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C/68 °F) and with smooth operation.

** Tip selection chart see page 14

^ Calibration and possible adjustment needed.

Accessories

Spare NiMH battery	705500	100.00
Single Channel Charging Stand - for up to three pipettes (excluding 5 mL), pack of 1	705392	520.00
Single Channel Stand - for 5 mL, pack of 1	705386	155.00
Stand for Transferpette-8/-12 multichannel pipettes - holds one pipette, pack of 1	703440	68.00
AC adapter with US plug for Transferpette electronic	705352	96.00
New! Single and multichannel pipette stand	705384	240.00

Pipette Tips & Filter Tips

BRAND® pipette tips and filter tips are manufactured in a cleanroom under state-of-the-art production conditions. They are automatically rack packed and packaged to ensure consistently high quality.

- High-purity polypropylene, free from DiHEMDA and oleamide
- Manufactured without lubricants
- Cadmium-free pigments
- Graduation for a quick volume check
- Rack-packed tips and filter tips up to 1000 µL free of DNA (<40 fg), RNase (<8.6 fg), endotoxins (<1 pg) and ATP (<1 fg)
- Autoclavable at 121 °C (2 bar), acc. DIN EN 285
- Environmentally friendly packaging systems
- CE-marked according to IVD-Directive 98/79 EC
- BIO-CERT® tips sterile according to ISO 11137 and the AAMI guidelines; a SAL of 10^{-6} is obtained

Superior quality tips –
priced for value



BRAND Pipette tips, quality fit for reliable results

Optimum results are achieved in combination with BRAND microliter pipettes. BRAND quality tips seat perfectly for precise analyses.

BRAND pipette and filter tips are tested and designed to fit BRAND pipettes and most of the pipettes from GILSON®, Thermo Fisher Scientific FINNPIPETTE®, Eppendorf® and BIOHIT®/Sartorius®. The 5 mL tip is exclusively tested for BRAND pipettes and Thermo Fisher Scientific FINNPIPETTE. The 10 mL tip is suitable for BRAND and Eppendorf pipettes.



High Quality Tips

Pipette tips are the most frequently used disposables in the laboratory. As laboratory tests have become increasingly sensitive, tip requirements have become more stringent over time. From the raw materials, to the molding machines, and quality control procedures, many parameters need to be considered to meet the highest standards for research and standardized applications.

For the manufacturing of pipette tips and filter tips, BRAND exclusively uses raw materials that are free from the additives di (2-hydroxyethyl) methyl dodecyl ammonium (DiHEMA) and 9-octadecenamide (oleamide). These additives are often found in raw polypropylene, and can interfere with biological tests, leading to false results. Only highly polished molds are used, so that no parting agents or demolding aids are needed.



One of the world's largest cleanroom facilities

BRAND disposable items for the life sciences are produced using the most advanced cleanroom techniques in one of the world's largest cleanrooms for laboratory disposable items. The ongoing cleanroom monitoring includes continuous measurements of air particulates, positive air pressure, air exchange rate, room temperature, and the relative humidity, among other things. This ensures that the actual parameters can immediately be checked against the nominal values. Deviations are detected immediately and suitable countermeasures can be taken before the limit values are exceeded. The high-precision control of environmental conditions provides a very high degree of stability in the corresponding parameters, especially the room temperature. This uniformity, together with quality testing of the final product by batch, guarantees the consistently high quality in the life science products from BRAND. For the production of disposable items, Class 8, 7, and 5 cleanrooms are available, Class 8 compliance with ISO 14644-1 is certified by external, independent auditors.

Pipette Tip Packaging Options

TipBox/TipRefill System

Dual function hinged and push-on lid

Simply rotate 180° to change closure method

Transparent window

For easy visual inspection

Usable with a partially loaded multichannel pipette

Rimless tip-tray border enables problem-free loading of individual pipette tips

Colored tip-trays with side panel labeling

Contents of box are always clearly visible



No deflection during tip loading

Tip-tray fabricated from especially rigid polypropylene

Open and close with one hand

Clamping mechanism holds the tip-tray securely in the box

Pipette tips Filter tips Volume range	Transferpette® single channel Nominal volume												Transferpette multichannel Nominal volume							
	1 µl	2.5 µl	10 µl	20 µl	20 µl***	25 µl	50 µl	100 µl	200 µl	500 µl	1000 µl	5 mL	10 mL	10 µL	50 µL	100 µL	200 µL	300 µL	1250 µL	
0.1 - 20 µL (A)	✓	✓*	✓*	✓*										✓						
0.5 - 20 µL (B)		✓*	✓*	✓*										✓						
1 - 50 µL (C)		✓*	✓*	✓*										✓						
2 - 200 µL** (D)					✓	✓	✓	✓	✓						✓	✓	✓	✓	✓	
5 - 300 µL (E)					✓	✓	✓	✓	✓						✓	✓	✓	✓	✓	
50 - 1000 µL** (F)										✓	✓									
50 - 1250 µL (P)											✓									✓
50 - 1250 µL XL (P)											✓									✓
0.5 - 5 mL (G)												✓								
1 - 10 mL (H)													✓							
0.1 - 1 µL (I)	✓	✓	✓											✓						
0.5 - 10 µL (J)		✓	✓	✓										✓						
1 - 20 µL (K)			✓	✓										✓						
2 - 20 µL (L)					✓	✓	✓	✓	✓						✓	✓	✓	✓	✓	
5 - 100 µL (M)					✓	✓	✓	✓	✓						✓	✓	✓	✓	✓	
5 - 200 µL (N)									✓						✓	✓	✓	✓	✓	
50 - 1000 µL (O)										✓	✓									
50 - 1250 µL (P)											✓*									✓*
50 - 1250 µL XL* (Q)											✓*									✓*

✓ = Tip volume less than pipettes nominal volume

** = Calibration and possible adjustment needed

*** = Bulk tips are yellow or blue colored. racked tips are colorless in a yellow-colored or blue-colored tip tray

*** = Transferpette with yellow color code

+ 1250 µl = Length 86 mm, 1250 µL XL = Length 102 mm



TipRefill

TipRefills reduce waste by 20% compared to filled TipBoxes. All rack packed pipette tips and filter tips up to 1000 μ L are free of DNA, RNases, endotoxins and ATP (for detailed information see page 127). BIO-CERT® TipRefills are sterile according to ISO 11137 and the AAMI guidelines, and have a SAL of 10^{-6} .



TipRefills



TipBox



Bulk



TipBox 5/10 mL

TipRefills sterile and non-sterile

The TipBox refill unit is protected in environmentally compatible recyclable PET packaging. Sterile TipRefills are supplied with a transfer aid for sterile handling of tip rack.

Bulk packed in bags non-sterile

All tips are produced under supervised state-of-the-art clean-room conditions, automatically shrink-wrapped in reclosable bags, and packaged in cardboard boxes. The batch number is printed on every bag.

TipBox sterile and non-sterile

Made of polypropylene with a hinged push-on lid, the tip box is stackable and repeatedly autoclavable at 121 °C (2 bar), according to DIN 285. (Empty TipBox, ordering information see page 17)

TipBox 5/10 mL non-sterile

The 5 mL and 10 mL tips are only available non-sterile in the TipBox configuration.

Pipette Tip Size & Descriptions



0.1 - 20 µL (A)
0.1 - 1 µL (Filter) (I)

The nano-cap™ tip was developed for the nanoliter range and is ideal for molecular biological applications such as PCR. At 37 mm long, it features a capillary rise that is visible to the naked eye at 0.1 µL. The capillary part of the tip conveniently fills gel wells for most gel electrophoresis systems. It is suitable for pipettes up to 20 µL. The racked tips are colorless in a grey-colored tip tray.



0.5 - 20 µL (B)
0.5 - 10 µL (Filter) (J)

The slender design and 46 mm length allow pipetting in microtubes and microplates without touching the walls. Graduations at 2 µL and 10 µL simplify a quick volume check. The racked tips are colorless in a grey-colored tip tray.



1 - 50 µL (C)
1 - 20 µL (Filter) (K)

At 50 mm, this tip is ideal for working to the bottom of narrow containers. Graduations at 2.5, 10, 25 and 50 µL for quick volume check. The racked tips are colorless in a grey-colored tip tray.



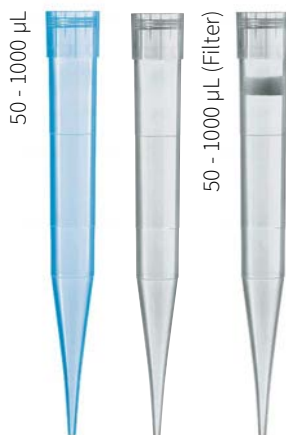
2 - 200 µL (D)
2 - 20 µL (Filter) (L)

A tested and proven thin-walled tip. Lighter in weight, 50 mm long and can be used with virtually all pipettes with yellow color code. Graduations at 20 µL and 100 µL for quick volume check. Bulk tips are colored yellow. The racked tips are colorless in a yellow-colored tip tray.



5 - 300 µL (E)
5 - 100 µL (Filter) (M/N)

This thin-walled tip is suitable for reverse pipetting and plate washing. It is 53 mm long and can also be used with pipettes with yellow color code. It is particularly suited for working with multichannel pipettes. Graduations at 50 and 100 µL for quick volume check. The racked tips are colorless in a green-colored tip tray.



50 - 1000 µL (F)
50 - 1000 µL (Filter) (O)

A proven thin-walled tip designed for routine laboratory and research pipetting. Its length is 70 mm. Graduations are at 250, 500 and 1000 µL for a quick volume check. Bulk tips are colored blue. The racked tips are colorless in a blue-colored tip tray.

0.5 - 5 mL (G)

Its particularly slender shape, 160 mm length, and approx. 9.6 mm diameter allows pipetting even from narrow volume measuring equipment such as volumetric flasks with NS 12/21. Suitable for Transferpette® and Thermo Fisher Scientific FINNPIPETTE® microliter pipettes.



1 - 10 mL (H)

At 156.5 mm length and approximately 15 mm diameter, this tip is ideal for working with the Transferpette S 10 mL and is compatible with Eppendorf® systems.



0.1 - 20 µL



0.5 - 20 µL



1 - 50 µL



2 - 200 µL



5 - 300 µL



50 - 1000 µL



1250 µL, 86 mm



102mm



	Quantity	Pack of	Non-Sterile Cat. No.	2024 List Price	Sterile Cat. No.	2024 List Price
Pipette tips, 0.1 – 20 µL, nano-cap™						
Bulk	2,000	2 bags, 1000 each	732002	\$119.00	—	—
Bulk, xxl	10,000	10 bags, 1000 each	732022	495.00	—	—
Tip-Refill	960	10 refills, 96 each	732102	68.00	732122	inquire
TipBox	480	5 boxes, 96 each	732202	35.60	—	—
TipBox sterile	960	10 boxes, 96 each	—	—	732222	130.00
Pipette tips, 0.5 – 20 µL, ultra-micro tips						
Bulk	2,000	2 bags, 1000 each	732004	90.00	—	—
Bulk, xxl	10,000	10 bags, 1000 each	732024	385.00	—	—
Tip-Refill	960	10 refills, 96 each	732104	21.00	732124	inquire
TipBox	480	5 boxes, 96 each	732204	14.00	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732224	\$28.80
Pipette tips, 2 – 200 µL (bulk tips are yellow colored)						
Bulk	1,000	1 bag, 1000 each	732008	24.20	—	—
Bulk, xxl	10,000	10 bags, 1000 each	732028	185.00	—	—
Tip-Refill	960	10 refills, 96 each	732108	21.00	732128	inquire
TipBox	480	5 boxes, 96 each	732208	14.00	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732228	28.80
Pipette tips, 5 – 300 µL						
Bulk	1,000	1 bag, 1000 each	732010	38.20	—	—
Bulk, xxl	10,000	10 bags, 1000 each	732030	325.00	—	—
TipRefill	960	10 refills, 96 each	732110	21.00	732130	inquire
TipBox	480	5 boxes, 96 each	732210	inquire	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732230	28.80
Pipette tips, 50 – 1000 µL (bulk tips are blue colored)						
Bulk	1,000	2 bags, 500 each	732012	26.60	—	—
Bulk, xxl	5,000	10 bags, 500 each	732032	100.00	—	—
Tip-Refill	960	10 refills, 96 each	732112	54.00	—	—
TipBox	480	5 boxes, 96 each	732212	14.00	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732232	60.00
Pipette tips, 0.5 – 5 mL						
Bulk	200	1 bag, 200 each	702595	53.00	—	—
Bulk, xxl	1,000	5 bags, 200 each	702600	245.00	—	—
TipBox 5 mL	28	1 box, 28 tips	702605	54.00	—	—
Pipette tips, 1 – 10 mL						
Bulk	200	2 bags, 100 each	702603	103.00	—	—
Bulk, xxl	1,000	10 bags, 100 each	702604	470.00	—	—
TipBox 10 mL	18	1 box, 18 tips	702608	109.00	—	—
Pipette tips, 50-1250µL Length 86mm						
Bulk	1,000	2 bags, 500 each	732014	54.00	—	—
Bulk, xxl	3,000	6 bags, 500 each	732034	46.00	—	—
TipRack	480	5 TipRacks, 96 each	732114	120.00	732134	150.00
TipBox	480	5 boxes, 96 each	732214	98.00	732234	215.00
Pipette tips, 50-1250µL Length 102mm						
TipRack	480	5 TipRacks, 96 each	732116	120.00	732136	120.00
TipBox	480	5 boxes, 96 each	732217	98.00	732236	215.00

Filter Tips

BRAND® Filter tips are non-self sealing and have a PE filter that is free from chemical additives. Permeability is controlled by the combination of pore size and filter length, so that no aerosols can reach the pipette shaft. These filters function with consistent reliability. Liquids can pass very slowly if they accidentally contact the filter. Since the filter does not swell, as with self-sealing filter tips,

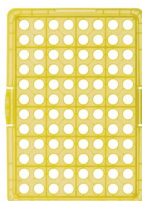
the sample can be recovered from the filter by simply actuating the pipette's blow-out function, or by centrifugation if necessary. This is clearly an important advantage of non-self-sealing filters, especially when working with valuable samples. The absence of filter additives protects samples from contamination.



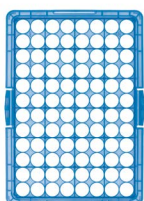
0.1 - 1 µL, 0.5 - 10 µL, 1 - 20 µL



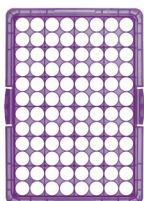
2 - 20 µL, 5 - 100 µL, 5 - 200 µL



50 - 1000 µL (Filter)



50 - 1250 µL (Filter)



TipBox, with tip-tray, empty

	Quantity	Pack of	Non-Sterile Cat. No.	2024 List Price	Sterile Cat. No.	2024 List Price
Filter tips, 0.1-1 µL						
TipRack, refill	960	10 refills, 96 each	732602	\$205.00	732622	inquire
TipBox	480	5 boxes, 96 tips each	732702	inquire	—	—
TipBox, sterile	960	10 boxes, 96 tips each	—	—	732722	162.00
Filter tips, 0.5 - 10 µL						
TipRack, refill	960	10 refills, 96 each	732604	56.00	732624	60.00
TipBox	480	5 boxes, 96 tips each	732704	inquire	—	—
TipBox, sterile	960	10 boxes, 96 tips each	—	—	732724	65.00
Filter tips, 1 - 20 µL						
TipRack, refill	960	10 refills, 96 each	732606	inquire	732626	inquire
TipBox	480	5 boxes, 96 tips each	732706	inquire	—	—
TipBox, sterile	960	10 boxes, 96 tips each	—	—	732726	65.00
Filter tips, 2 - 20 µL						
TipRack, refill	960	10 refills, 96 each	732608	inquire	732628	inquire
TipBox	480	5 boxes, 96 each	732708	inquire	—	—
TipBox, sterile	960	10 boxes, 96 tips each	—	—	732728	65.00
Filter tips, 5 - 100 µL						
TipRack, refill	960	10 refills, 96 each	732610	inquire	732630	60.00
TipBox	480	5 boxes, 96 each	732710	inquire	—	—
TipBox, sterile	960	10 boxes, 96 tips each	—	—	732730	65.00
Filter tips, 5 - 200 µL						
TipRack, refill	960	10 refills, 96 each	732612	inquire	732632	58.00
TipBox	480	5 boxes, 96 each	732712	inquire	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732732	65.00
Filter tips, 50 - 1000 µL						
TipRack, refill	960	10 refills, 96 each	732614	—	732634	60.00
TipBox	480	5 boxes, 96 tips each	732714	inquire	—	—
TipBox, sterile	960	10 boxes, 96 each	—	—	732734	65.00
Filter tips, 50-1250µL Length 86 mm						
TipRack	480	10 TipRacks, 96 each	—	—	732636	270.00
TipBox	480	5 boxes, 96 each	—	—	732736	270.00

	Cat. No.	2024 List Price
TipBox, with tip-tray PP, stackable, empty, pack of 1		
up to 20 µL	732990	\$8.60
for 200 µL	732992	8.60
for 300 µL	732994	8.60
for 1000 µL	732996	8.60



PLT™ Pipette Leak Testing Unit

Improve process reliability with functional validation of air-displacement pipettes

The most frequent cause of inaccuracy in piston-operated pipettes is leakage. This arises from damage either to the seals, pistons, or tip cones. Often not detectable by the naked eye, leaks may lead to significant volume errors. The patented BRAND PLT Pipette Leak Tester detects even the smallest leaks in air displacement pipettes within seconds.

- Limit values for all common sizes of single and multichannel pipettes in the volume range between 1 µL to 10 mL are pre-programmed
- Test with or without tips
- Results in seconds

A calibration certificate only reflects the results at the time of testing. The time between calibrations is crucial, since leaks can occur at any time. Well over 80% of pipettes sent in for repair have leaks and are outside their volume tolerances, even if they do not drip. To ensure accurate results, air-displacement pipettes should be checked at regular intervals and the results compared to ISO 8655-2 error limits.

While the PLT unit cannot replace regular gravimetric testing, daily pipette checks can provide confidence during the periods between calibrations. Even the smallest leaks are detected and quantified! Process reliability for the pipettes is thus significantly improved.

Testing with and without the tip

To check the complete pipette system, the test is conducted with a tip mounted. When a leak has been identified, the test can be repeated without a tip to determine whether the leak arises from the tip cone/tip coupling region.

Dynamic or static test?

In the **dynamic test** the pipette button must be pushed down numerous times during the measurement period. This may detect damage to the piston or the seal.

In the **static test**, the pipette button is not pressed during the test procedure, i.e. the piston does not move. This may detect damage to the seal or the tip cone.

Items supplied:

The PLT unit is supplied with universal power supply (100-240 V, 50/60 Hz), single-channel adapters for testing with and without tips and carrying/storage case.

Description	Cat. No.	2024 List Price
PLT Pipette Leak Testing Unit	703970	\$2,310.00
Multichannel Pipette Adapter, Pack of 1	703977	315.00
Filters, PE, for Pipette Adapter, Pack of 10	703978	16.20
PLT Connect Software	703980	325.00



Single-channel adapter for pipettes with tip mounted Single-channel adapter for pipettes without tip PE filter in single and multichannel adapters Multichannel adapter for pipettes with and without tips

PLT Connect Software allows tracking of instruments and printing of reports



Quantifiable results are generated, with pass/fail criteria for each pipette size, based on over 35 years of experience.



HandyStep[®] S

The BRAND[®] HandyStep S repeating pipette provides unprecedented versatility in a purely mechanical repeating pipette. In conjunction with BRAND PD-Tip[™] II Precision Dispenser Tips, the HandyStep S offers nearly sixty different volume settings with accuracy, precision, and dependability.

- **Comfortable**—The slim design of the HandyStep S is lightweight, well-balanced, and provides a convenient control layout for smooth dispensing and one-handed volume selection.
- **Reliable**—The robust construction, using innovative polymers, delivers a dependable instrument.
- **Ready-to-go**—The mechanical design, with no batteries to charge or replace, means the HandyStep S is ready when you are. A convenient integrated table provides a quick reference for dispensed volumes.
- **Flexible**—Ten sizes of PD-Tip II Precision Dispenser Tips allow the HandyStep S to dispense 59 different volumes. The open design allows use of third party tips—no more being locked into a sole source.
- **Contact-free**—The tip ejection system allows tip removal without handling.

More than just precise—
slim, light, and dependable



Technical Data

Operating limits and exclusions

Liquids unsuitable for use with the HandyStep S include, but are not limited to, those with:

- Vapor pressure exceeding 500 mbar
- Viscosity: 20 mPa s with 50 mL PD-Tips II; 260 mPa s with 5 mL PD-Tips II ; 977 mPa s with 1 mL PD-Tips II
- Reagents that attack PP (PD-Tip II cylinder), HDPE (PD Tip II piston), LCP (PD-Tip II piston 0.1 mL) or PC/PBT and polycarbonate
- Temperature of instrument and reagent must be between 15 °C and 40 °C
- Instrument and tips must not be autoclaved

Items supplied

The HandyStep S is supplied with the following items:

- Performance certificate
- Shelf/rack mount
- One each: 0.1 mL, 1 mL and 10 mL PD-Tip II Precision Dispenser Tips
- Operating manual
- Two-year warranty



HandyStep® S Repeating Pipette

Setting at a glance

Easy to read volume setting indicator

Perfectly aligned

Dispensing lever optimally positioned for easy thumb movement

Simple

Combined piston locking/filling lever makes aspiration easy

Hands-free disposal

Ergonomic tip ejector, for safe and contact-free ejection of contaminated dispenser tips

Chart topper

Tip/volume chart assists with tip selection and volume setting

Big wheel

Volumes easily adjusted with a simple thumb movement

Comfortable

Finger rest provides balance, convenient control access, and relaxed pipetting

Shelf/rack mount

Shelf/rack mount keeps your HandyStep S close at hand and retrofits to Transferpette® S carousel stand



Flexible

Compatible with PD-Tip II Precision Dispenser Tips, as well as many third-party tip



HandyStep S with BRAND® PD-Tip II Precision Dispenser Tips

Accuracy Table

Nominal Volume PD-Tip II, mL	Volume Range, µL	Stroke setting ^A % of nominal volume (A* ≤ ± %)			Stroke setting ^A % of nominal volume (CV* ≤ %)		
		1 Δ 2%	3 Δ 6%	5 Δ 10%	1 Δ 2%	3 Δ 6%	5 Δ 10%
0.1	2-10	4.0	2.4	1.6	6.0	3.0	2.0
0.5	10-50	2.5	1.5	1.0	2.5	1.5	1.0
1	20-100	2.5	1.5	1.0	2.0	1.2	0.8
1.25	25-125	2.5	1.4	0.9	2.0	1.1	0.7
2.5	50-250	1.8	1.1	0.7	1.5	0.9	0.6
5	100-500	1.8	1.1	0.7	1.5	0.9	0.7
10	200-1000	1.8	1.1	0.7	2.0	1.2	0.8
12.5	250-1250	1.8	1.1	0.8	3.2	2.0	1.4
25	500-2500	1.5	0.9	0.6	3.04	1.5	1.0
50	1000-5000	1.5	0.8	0.5	5.0	1.8	1.2

A*=Accuracy, CV=Coefficient of Variation

*Error limits refer to the partial volume set relative to the PD-Tip II, obtained when instrument, PD-Tip II and distilled water are equilibrated at ambient temperature (20 °C) and with smooth operation. The testing is according to DIN EN ISO 8655-5.

Note: the nominal volume is the maximum adjustable partial volume for each PD-Tip II size.

Volume table

Setting	1	1.5	2	2.5	3	3.5	4	4.5	5
PD- Tip II, mL	Volume, µL								
0.1	2	3	4	5	6	7	8	9	10
0.5	10	15	20	25	30	35	40	45	50
1	20	30	40	50	60	70	80	90	100
1.25	25	37.5	50	62.5	75	87.5	100	112.5	125
2.5	50	75	100	125	150	175	200	225	250
5	100	150	200	250	300	350	400	450	500
10	200	300	400	500	600	700	800	900	1000
12.5	250	375	500	625	750	875	1000	1125	1250
25	500	750	1000	1250	1500	1750	2000	2250	2500
50	1000	1500	2000	2500	3000	3500	4000	4500	5000
Steps	49	32	24	19	15	13	11	10	9

Description	Cat. No.	2024 List Price
HandyStep S repeating pipette	705110	\$475.00
HandyStep S shelf/rack mount	705130	\$39.20



HandyStep® touch

- Touchscreen operation with intuitive menu navigation and integrated help function
- Two models available: HandyStep touch or HandyStep touch S with expanded functionality
- Menu languages: English, German, Spanish, French and Chinese
- Variable volume adjustment from 1.0 µL to 50 mL
- Inductive charging with optional charging stand

A closer look

Versatile

HandyStep touch with the standard modes Multi-Dispensing, Auto-Dispensing, Pipetting and Favorites;

HandyStep touch S with the additional functions Sequential Dispensing, Multi-Aspiration and Titration

Long-lasting

Many hours of continuous operation with a single battery charge

Robust

High-quality materials provide long service life, and smooth surfaces make cleaning/ disinfection easy

Easy

Automatic size detection of BRAND® PD-Tip™ //

Efficient

In addition to PD-Tip II, compatible third party tips can also be used.

Simple

Automatic tip ejection by the press of a button prevents contamination

USB-C connection

For quick charging by cable

STEP button

Ergonomically arranged STEP button for effortless volume filling and delivery

Convenient

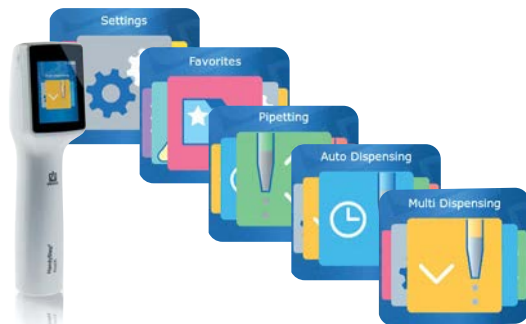
Inductive charging with the optional charging stand



HandyStep® touch Repeating Pipette

Be flexible and have the right solution at hand for every application. Even complex procedures are easy to carry out – no problem with the expanded functionality of the HandyStep touch S.

Mode	Function	HandyStep touch	HandyStep touch S
Multi Dispensing (MULTI-DISP)	Successive dispensing of a set volume	✓	✓
Auto Dispensing (AUTO-DISP)	Automatic dispensing by the instrument	✓	✓
Pipetting (PIP)	Pipetting a defined volume	✓	✓
Sequential Dispensing (SEQ-DISP)	Successive dispensing of different volumes	–	✓
Multi Aspirating (MULTI-ASP)	Aspirating different volumes	–	✓
Titration	Manual or successive delivery of liquids for titration	–	✓
Favorites	Saving favorites for quick access	✓	✓
Settings	Individual customization of the device (e.g. brightness or device name)	✓	✓



Functions of the HandyStep touch



Expanded functionality on the HandyStep touch S

The clearly structured menus make fast work with intuitive operation possible, while the most important functions and parameters are always in view.



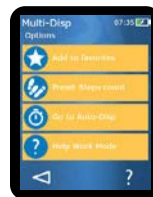
Easy to understand

Main menu with all modes for quick selection



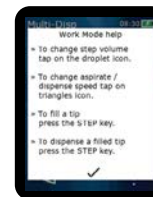
Clearly structured

Working mode with all important information



Organized

All options visible at a glance



Helpful

Internal help right where it is needed

HandyStep® touch Repeating Pipette

Technical Data

Operating limits and exclusions

Liquids unsuitable for use with the HandyStep touch and PD-Tip™ II Precision Dispenser Tips include, but are not limited to, those with:

- Vapor pressure exceeding 500 mbar
- Viscosity: 20 mPa s with 50 mL PD-Tips II; 260 mPa s with 5 mL PD-Tip II; 977 mPa s with 1 mL PD-Tip II
- Chemicals incompatible with tips used, see page 30 for PD-Tip II materials of construction ; and polycarbonate (device housing)
- Temperature of instrument and reagents must be between 15° and 40 °C
- The HandyStep touch cannot be autoclaved

Items supplied

Each HandyStep touch includes:

- Li-Ion battery
- Universal power adapter
- Shelf/rack mount
- Five assorted volume PD-Tip II Precision Dispenser Tips
- Performance certificate
- Operating manual
- One-year warranty

Use the tips you want

The only electronic repetitive pipette compatible with all standard repeating pipette tips. The HandyStep touch accepts:

- BRAND PD-Tip II Precision Dispenser Tips
- Rainin® Encode™ Precision Dispenser Tips
- Eppendorf® Combitips advanced®
- Fisherbrand® Dispenser Tips
- VWR® Combi-Syringes
- Gilson® Repet-Tips

Accuracy and precision for the HandyStep touch

PD-Tip II	Volume Range	Increment	A* < ±				CV* ≤			
			100%	50%	10%	1%	100%	50%	10%	1%
0.1 mL	1 µL-100 µL	0.1 µL	1	1	1.6	8	0.5	1	2	12
0.5 mL	5 µL-500 µL	0.5 µL	0.9	0.9	1	5	0.3	0.6	1	5
1.0 mL	10 µL-1000 µL	1 µL	0.6	0.9	1	5	0.3	0.5	0.8	4
1.25 mL	12.5 µL-1250 µL	1.25 µL	0.6	0.6	0.9	5	0.2	0.5	0.7	4
2.5 mL	25 µL-2500 µL	2.5 µL	0.5	0.6	0.7	3.5	0.15	0.3	0.6	3
5.0 mL	50 µL-5000 µL	5 µL	0.5	0.5	0.7	3.5	0.15	0.4	0.7	3
10.0 mL	100 µL-10 mL	10 µL	0.4	0.5	0.7	3.5	0.15	0.5	0.8	4
12.5 mL	125 µL-12.5 mL	12.5 µL	0.5	0.5	0.8	3.5	0.15	0.6	1.4	6.5
25.0 mL	250 µL-25 mL	25 µL	0.5	0.5	0.6	3	0.15	0.3	1.0	6
50.0 mL	500 µL-50 mL	50 µL	0.5	0.5	0.5	3	0.15	0.4	1.2	9

A* = Accuracy, CV* = Coefficient of variation

*Error limits refer to the nominal volumes and partial volumes relative to the PD-Tip II obtained with instrument and distilled water at equilibrium with ambient temperature at 20 °C. The tolerances specified in ISO 8655 are not exceeded.

The nominal (100%) volume is the maximum volume which is printed on the PD-Tip II.

Description	Cat. No.	2024 List Price
HandyStep touch repeating pipette		
HandyStep touch	705200	\$1,240.00
HandyStep touch S	705210	1,540.00
Inductive charging stand bundles		
HandyStep touch & Charging stand	705201	1,350.00
HandyStep touch S & Charging stand	705211	1,800.00
Accessories		
Charging stand	705220	420.00
Support stand	705230	175.00
Shelf/rack mount	705235	42.00
Universal AC adapter	705250	105.00
Spare battery	705225	97.00



Support stand with HandyStep touch



Inductive charging with the optional charging stand



PD-Tip™ // Precision Dispenser Tips

The perfect team

Automatic size detection with PD-Tip II from BRAND®

Patented coding on the pistons of the PD-Tip II from BRAND allows automatic tip size recognition with the HandyStep touch, saving time and preventing errors. After inserting a PD-Tip II, the size is automatically recognized and displayed, making it easy to select the volume to be dispensed. The next time a new PD-Tip II of the same size is inserted, all instrument settings are maintained. Easy!



Multi dispensing with the HandyStep touch and PD-Tip II



Sequential dispensing with the HandyStep touch S and PD-Tip II

BRAND encoded PD-Tip II Precision Dispenser Tips are manufactured from high-quality virgin plastics for use with all standard repeating pipettes in a wide variety of applications.

- **Compatible**—with most pipettes. PD-Tip II Precision Dispenser Tips are an excellent choice for the BRAND HandyStep S, HandyStep electronic, and HandyStep touch repeating pipettes; the black-handled Eppendorf® Repeater® 4780*; the Fisherbrand® repeating pipette; the Rainin® AutoRep™ E and AutoRep™ S; the Gilson® Repetman®; and other repeating pipettes using standard tips. PD-Tip II Precision Dispenser Tips are encoded for automatic recognition by the BRAND HandyStep touch and HandyStep electronic repeating pipettes, the Rainin AutoRep E, and the Gilson Repetman.
- **Reliable**—A precision seal between the piston and cylinder ensures smooth operation, increased accuracy, and increased precision. Extended piston design minimizes dead volume and maximizes fluid utilization.
- **Quality**—Manufactured from high quality materials PD-Tip II Precision Dispenser Tips are made entirely from high-quality virgin polyethylene and polypropylene. (Piston of 0.1 mL tip is liquid crystal polymer-LCP).

PD-Tip™ // Precision Dispenser Tips

The perfect tips for your repeating pipette

Preserve Sample Integrity with BIO-CERT® quality sterile tips

BIO-CERT PD-Tip II Precision Dispenser Tips are sterile, individually wrapped and certified free of DNA, RNase, endotoxins, and ATP to meet the most stringent sample integrity requirements. For more information on the sterility and purity levels, see page 127.

Calibration support

BRAND PD-Tip II Precision Dispenser Tips are supplied with a batch Certificate of Performance which documents tip accuracy and precision testing.



Capacity, mL	Pack of	PD-Tip II	2024 List Price
PD-Tip II Precision Dispenser Tips, non-sterile			
0.1 mL	100	705700	\$150.00
0.5 mL	100	705702	150.00
1 mL	100	705704	150.00
1.25 mL	100	705706	150.00
2.5 mL	100	705708	150.00
5 mL	100	705710	150.00
10 mL	100	705712	150.00
12.5 mL	100	705714	150.00
25 mL, (one adapter included)	50	705716	100.00
50 mL, (one adapter included)	25	705718	49.60
PD-Tip II Precision Dispenser Tips, non-sterile, assorted pk. 0.5, 1, 1.25, 2.5, 5, 10 and 12.5 mL sizes	20/size	705720	200.00
Adapter for 25 mL and 50 mL PD-Tip II Precision Dispenser Tips, non-sterile, PP, autoclavable	10	702398	120.00

Capacity, mL	Pack of	PD-Tip II	2024 List Price
Precision Dispenser PD-Tip II, BIO-CERT sterile			
Individually wrapped			
0.1 mL	100	705730	\$205.00
0.5 mL	100	705732	205.00
1 mL	100	705734	205.00
1.25 mL	100	705736	205.00
2.5 mL	100	705738	205.00
5 mL	100	705740	205.00
10 mL	100	705742	205.00
12.5 mL	100	705744	205.00
25 mL, (one adapter included)	25	705746	62.00
50 mL, (one adapter included)	25	705748	62.00
Adapter for 25 mL and 50 mL PD-Tip II BIO-CERT sterile, PP, autoclavable	5	702399	92.00

*The Eppendorf Repeater Plus, Repeater® M4, Repeater Pro, Stream, XStream, E3 and E3x are designed to preclude their operation with any tips other than Eppendorf Combitips advanced®.



Transferpettor™ Positive Displacement Pipette



The Transferpettor positive displacement pipette is ideal for use with liquids that render traditional air-displacement pipettes ineffective. Unlike air displacement pipettes, the piston of the Transferpettor directly expels the media from the tip, wiping the tip walls completely clean. This results in negligible residual wetting and highly accurate, reproducible results, especially with viscous, foaming, high-vapor-pressure, and other “problematic” liquids.

The Transferpettor is suitable for use with viscous solutions and high density media such as concentrated protein solutions, oils, fats, resins, and glycerin. It is also suitable for use with high-vapor-pressure media (up to 500 mbar), including alcohols, acetone, and hydrocarbons that would otherwise vaporize in an air displacement tip.

Technical Data

Operating limits and exclusions

Liquids unsuitable for use with the Transferpettor include, but are not limited to, those with:

- Density exceeding 13.6 g/cm³
- Viscosity exceeding 40,000 cSt (mm²/s), depending on instrument capacity
- Vapor pressure exceeding 500 mbar
- Chemicals that attack either PP or PE (see page 126)
- Temperature of instrument and reagents must be between 15 °C and 40 °C
- Instrument, tips, and seals are not autoclavable

Items supplied

The Transferpettor pipette includes:

- One tip and seal
- Seal mounting/removal tool
- Performance certificate
- Operating manual
- One-year warranty

Capacity, μL	A* $\leq \pm$		CV* \leq		Max Viscosity mm ² /sec	Subdivision, μL	Color	Cat. No.	2024 List Price
	%	μL	%	μL					
Transferpettor									
100-500 μL	0.5	2.5	0.2	1.0	40,000	1.0	Green	702804	\$445.00
200-1000 μL	0.5	5.0	0.2	2.0	20,000	1.0	Yellow	702806	445.00
1-5 mL	0.5	25.0	0.2	10.0	6,000	10	Red	702810	445.00
2-10 mL	0.5	50.0	0.2	20.0	2,000	10	Orange	702812	445.00
Reusable Transferpettor Tips - Polypropylene, pack of 10									
For Transferpettor 100-500 μL							Green	702852	35.60
For Transferpettor, 200-1000 μL							Yellow	702854	35.60
For Transferpettor, 1-5 mL							Red	702858	35.60
For Transferpettor, 2-10 mL							Orange	702860	35.60
Reusable Transferpettor Piston Seals - Polyethylene, pack of 10									
For Transferpettor, 100-500 μL							Green	702864	59.00
For Transferpettor, 200-1000 μL							Yellow	702866	59.00
For Transferpettor, 1-5 mL							Red	702870	59.00
For Transferpettor, 2-10 mL							Orange	702872	59.00
Transferpettor Station Keeps 2 instruments, tips, and seals conveniently at hand in the workplace								702890	205.00

A* = Accuracy, CV* = Coefficient of Variation

* The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C/68 °F) and with smooth operation.



Liquid Handling Station

The Liquid Handling Station (LHS) pipetting robots from BRAND® combine 45 years of experience in manual liquid handling with over 30 years of manufacturing high-precision disposable items. The system is designed for medium sample throughput. It works on the same air-interface principle as the piston-operated pipettes widely used in laboratories.

The LHS has 8 working positions, 7 of which are freely configurable for use with reagent reservoirs, tubes, microplates, PCR products, and tips. There are 6 liquid ends available with single and multichannel volumes up to 1000 µL. Adapters and racks bring labware to an even height, reducing unnecessary vertical movements to save time during pipetting.

The LHS flow, offering all the same features as the LHS with the addition of laminar flowbox functions, is a benchtop cleanroom for your samples. The airflow and HEPA filtration protect samples against particles and microorganisms, and meets requirements of ISO 14-644-1 (Class 5) and GMP annex 1 (Class A).

Standalone typical applications include

- PCR, qPCR and ELISA Set-up
- Serial Dilutions
- Replication and Plate Reformatting
- DNA Normalization
- Cherry Picking
- Cell Culture
- General Liquid Transfer

Truly a benchtop system, the LHS closes the gap between electronic pipettes and highly complex, expensive robots
Compact. Efficient. Affordable.



Liquid Handling Station

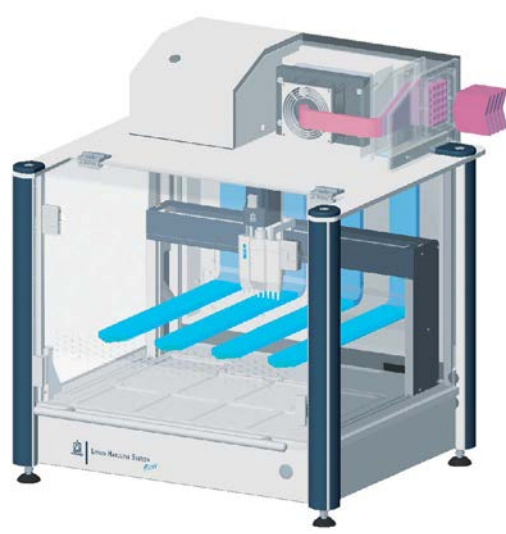
Liquid Handling Station

Unit includes motor control unit, operating software (single license), USB cable, power cable, user manual, and on-site training.



Liquid Handling Station flow

System includes FlowBox filtration unit, motor control unit, operating software (single license), USB cable, power cable, user manual, and on-site training.



Description	Cat. No.
LHS	
Liquid Handling Station	709400
Liquid Handling Station flow	709402

LHS flow Air Handling Specifications

	Door closed	Door open
Noise level	60 dBA	67 dBA
Speed of air	0.4 m/s	0.5 m/s
Volumetric flow	22 m3/h	29 m3/h
Air exchange	260 times/h	330 times/h
Filter	HEPA 14 acc. to DIN EN 1822	

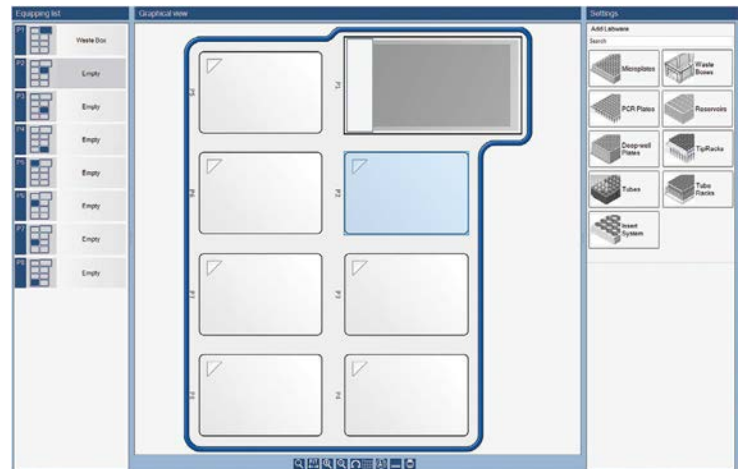


Liquid Handling Station

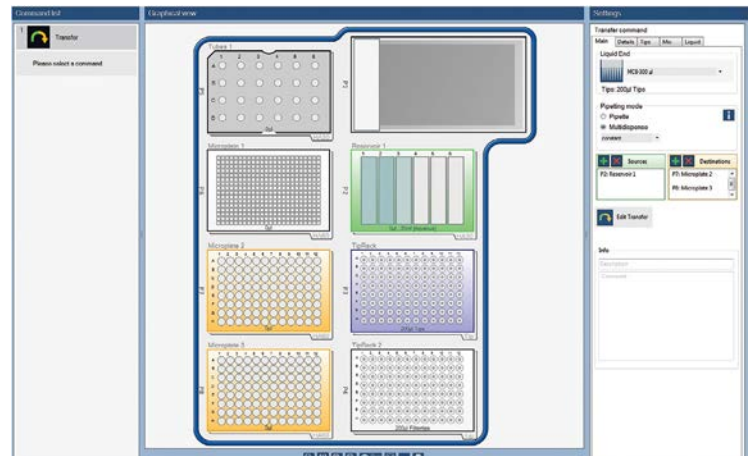
Software

The LHS comes with very intuitive software. No programming skills are needed. Conventional pipetting tasks can be easily set up as a work-flow in four easy steps.

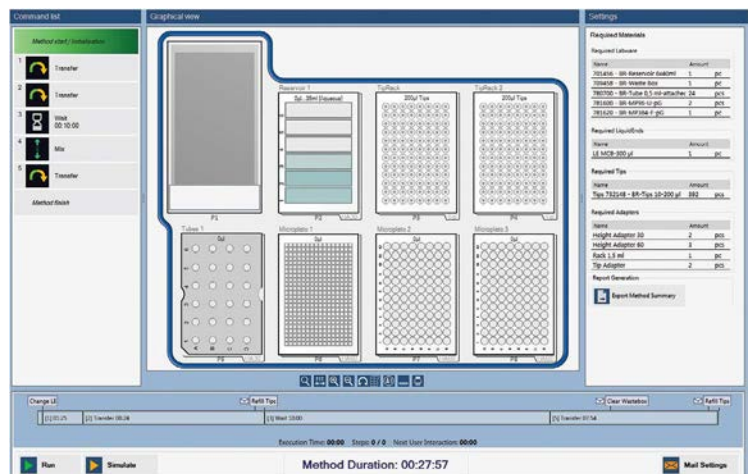
1. **Define name of pipetting method**—(Not shown)
2. **Set up the work table**—Select work positions, and labware/consumables



3. **Define the transfer commands**—Starting with high level commands: Transfer, Wait, Mix & Break. Then refining with predefined parameters such as liquid types, tip prewetting and immersion depth.



4. **Execute**—Starts with a layout confirmation, then runs the method. Progress can be monitored and there is even a simulation function to avoid potential errors.



Accessories



Liquid Ends (Pipette modules)



Holder for Liquid Ends



Racks for single vessels & plates



Height adapters

Description	Positions	Pack of	Cat. No.
Liquid Ends (Pipette modules)*			
SC 1 - 50 µL	-	1	709410
SC 10 - 200 µL	-	1	709413
SC 40 - 1000 µL	-	1	709416
MC 1 - 50 µL	-	1	709420
MC 20 - 300 µL	-	1	709423
MC 40 - 1000 µL	-	1	709426
*Autoclavable at 121 °C, 20 min. DE-M marking, quality certificate included			
Holder for Liquid Ends			
for 3 Liquid Ends	-	1	709463
for 5 Liquid Ends	-	1	709465
Adapters			
Height adapter 60 mm	-	1	709430
Height adapter 30 mm	-	1	709432
Tip adapter	-	1	709434
Adapter racks for single vessels & plates			
Microtube rack 1.5 mL	24	1	709450
Microtube rack 0.5 mL	24	1	709452
Microtube rack 5.0 mL	9	1	709453
Tube rack, 12 x 75mm	24	1	709455
96-well PCR rack	-	1	709446
384-well PCR rack**	-	1	709448
384-well universal adapter		1	709449
Reservoir rack for 40 mL reservoirs		1	709443
Cuvette rack	16	1	709436
PCR cooler- 96-well, indirect cooling		2	709456 *
Waste box		5	709458 *

*Accessories not shown; Additional racks upon request. **Optimized for BRAND PCR plates



Teleshake 95

Description	Cat. No.
Heater/Shaker	
Teleshake 95	709470
Controllers	
Single TEC Control (1 black slot module)	709472
Multi TEC Control (2 black slot module)	709474
Adapter Plates	
Universal adapter for 96-well PCR plates low profile	709477
Universal adapter for 96-well PCR plates standard	709478
Universal adapter for 384-well PCR plates standard	709479
Adapter for 96-well BRANDplates F- and C-bottom	709480
Adapter for 96-well BRANDplates V-bottom	709481
Adapter for 96-well BRANDplates U-bottom	709482

Liquid Handling Station

Description	Working vol. per column*	Bottom style	Cat. no.
Reagent Reservoirs, PP, pack of 10			
1-column	150 mL	pyramid bottom,	701440
12-column, low profile	12 mL	pyramid bottom,	701442
Reservoir, non-sterile, with cover** (qty. 24)	40 mL	V-bottom, low dead vol.	701460
Reservoir, sterile, with cover** (qty. 24)	40 mL	V-bottom, low dead vol.	701462

* The indicated volume applies to the use with automated systems ** Graduated, 4 reservoirs per blister



Reagent reservoirs



LHS Robotic Tips

Our robotic tips are manufactured following a strict set of manufacturing requirements. Special consideration is made for tight tolerances and tip straightness to ensure precise and accurate liquid movement. All tips and filter tips are free of DNA, RNase, endotoxins, and ATP. Sterile tips and packaging are manufactured exclusively under BIO-CERT quality certification.

Volume, µL	Pack of	Non-Sterile Cat. no.	Sterile Cat. no.
TipRack robotic tips			
1-50	10 TipRacks, 96 each	732146	732166
10-200	10 TipRacks, 96 each	732148	732168
10-300	10 TipRacks, 96 each	732150	732170
40-1000	10 TipRacks, 96 each	732152	732172
TipRack robotic filter tips			
1-20	10 TipRacks, 96 each	732646	733666
10-100	10 TipRacks, 96 each	732650	734670
10-200	10 TipRacks, 96 each	732652	734672
40-1000	10 TipRacks, 96 each	732654	734674



BRAND® tips

Accuracy table

Liquid End	Volume range, µL	Volume step, µL	A* ≤ ± %	CV* ≤ %
1-channel	1-50	50	1.5	0.5
		25	2.0	0.8
		5	6.0	3.0
	10-200	200	1.0	0.3
		100	1.5	0.4
		20	4.0	1.5
40-1000	1000	1.0	0.2	
	500	1.5	0.3	
	100	3.0	1.0	
8-channel	1-50	50	1.5	0.6
		25	2.0	1.0
		5	8.0	4.0
	20-300	300	1.2	0.4
		150	1.6	0.6
		30	5.0	2.5
	40-1000	1000	1.2	0.3
		500	1.6	0.5
		100	4.0	2.0

* Final test values related to the nominal capacity (maximum volume) or the indicated volume steps indicated on the Liquid End, obtained when Liquid End and distilled water are equilibrated at ambient temperature within the Liquid Handling Station (20 °C, according to DIN EN ISO 8655. A = Accuracy, CV = Coefficient of variation



Dispensette S bottle-top dispensers build on the fifty year history of BRAND® dispensing expertise. Continual upgrades makes this the safest and most convenient bottle-top dispenser ever, all while retaining the features that make the Dispensette the world's favorite bottle-top dispenser. The Dispensette S mounts directly on most solvent and reagent bottles for faster, more convenient dispensing. Instruments are autoclavable at 121 °C for use with sterile reagents.

- **Dispense most lab reagents**—Choose the Dispensette S for acids, bases, and saline solutions, as well as many organic solvents; the Dispensette S Organic for organic solvents, including combinatorial chemistry solvents, concentrated acids such as HCl and HNO₃, trifluoroacetic acid (TFA), tetrahydrofuran (THF), and peroxides. See Selection Chart on page 40 for help choosing the best dispenser.
- **Deliver accurate, precise volumes**—Dispensers are accurate to 0.5% (0.6% for 1 mL models), with coefficients of variation of 0.1% (0.2% for 1 mL). Digital models feature accurate and reproducible volume settings via a mechanical digital display.
- **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. Recirculation 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 system eliminates seals for a lifetime of reliable dispensing.
- **HF and trace analysis dispensing**—For dispensing of high purity acids and solvents, or hydrofluoric acid, choose the Dispensette S Trace Analysis. For details, see page 39.



The standard in bottle-top dispensing for a half century

Dispensette® S Bottletop Dispensers

Easy Calibration™ technique

Adjustments according to ISO 9001 and GLP done within seconds

Discharge valve with safety ball

Closes when discharge tube is not mounted to prevent accidental dispensing

Large window

Allows easy priming verification

Hinged screw cap

Swings out of the way when dispensing

Threaded safety cap

Coarse thread allows fingertip on/off

Calibration mechanism

Visible flag indicates calibration has been adjusted from factory specifications

Volume selection

With scalloped track for reproducible volume setting

Recirculation Valve

Eliminates reagent waste and splashing during priming

Freely rotating valve block

Allows bottle label to always face user

Olive-shaped filling valve

For firm filling tube attachment

Recirculation tube

Safely returns reagent to the bottle

Telescoping filling tube

Adjusts easily to a broad range of bottle sizes with no measuring or cutting required



Dispensette S Organic Digital without recirculation valve

Dispensette S Analog-adjustable with recirculation valve



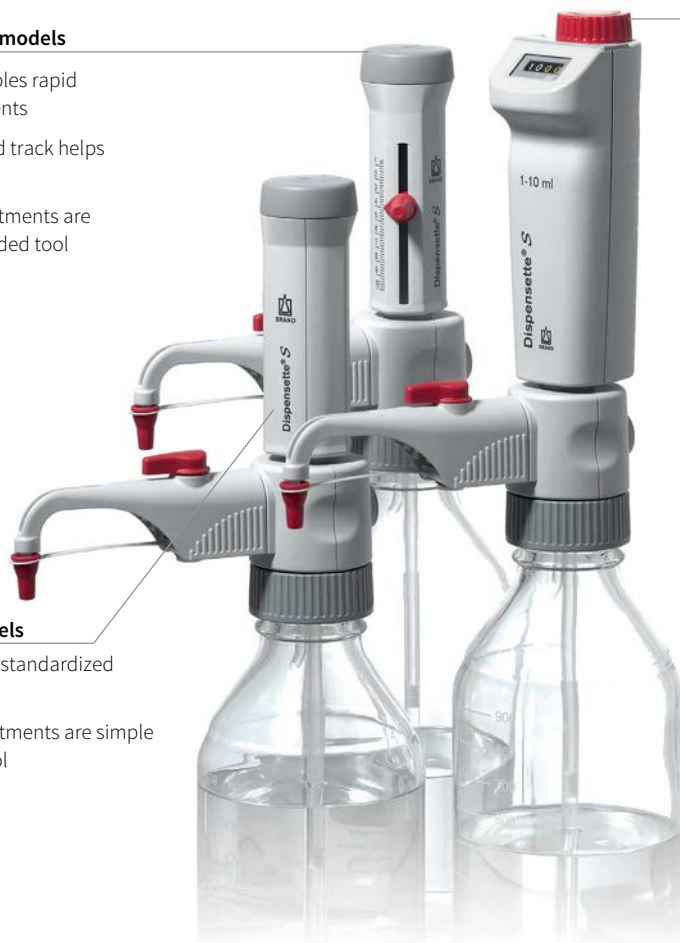
Dispensette S Volume Adjustment

Digital models

Analog-adjustable models

- Analog slide enables rapid volume adjustments
- Internal scalloped track helps secure setting
- Calibration adjustments are simple with included tool

- Enable accurate and reproducible volume setting with an easy-to-read display and a convenient adjustment knob.
- Mechanical adjustment mechanism displays the volume in digits
- Features unique Easy Calibration™ technology for calibration adjustment in seconds without tools
- Excellent for labs with multiple users, requiring frequent volume changes to specific volumes



Fixed-volume models

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

Product Features

Both the Dispensette S and Dispensette S Organic are constructed using the “floating piston” principle.

Each piston is matched with precise tolerances to the cylinder of the instrument. A thin film of the dispensed liquid, just a few μm thick, acts as a non-wearing seal that reduces friction, so dispensing is easy and convenient.

- The GL45 mm standard thread, plus included adapters, fit most common lab bottles.
- The valve block can be rotated 360° so that the bottle label always faces the user for safety.
- A telescoping filling tube adjusts to different bottle sizes.
- The instrument is easy to disassemble for cleaning.
- The valves are replaceable for simple, economical service.
- The valve design eliminates seals for trouble-free operation.
- The Dispensette S and Dispensette S Organic are autoclavable at 121 °C.
- Easy to calibrate and adjust in order to comply with ISO 9001 and GLP guidelines. A positive indicator automatically indicates adjustment from factory settings.
- An extensive line of accessories facilitates specialized dispensing tasks like sterile applications or dispensing from large containers.

Dispensette® S Bottletop Dispensers

Applications



One-handed operation

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



Dispensing sterile fluids

Dispensette S and Dispensette S Organic bottletop dispensers are autoclavable at 121 °C 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. Integrated recirculation valve helps purge bubbles before use.



Dispensing sensitive reagents

Optional drying tube screws into the accessory port of the Dispensette S to protect sensitive reagents from humidity or CO₂ (Absorbing agent not included).

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

Simply connect the Dispensette S or Dispensette S Organic to the optional Remote Dispensing System for accurate dispensing from drums and other bulk containers up to 10 meters 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 recirculation valve, pressurized vessels, peroxides (which will react with the platinum-iridium spring), HF or other liquids which attack borosilicate glass, alumina ceramic, PFA, ETFE, FEP or PTFE. Observe all safety instructions, operating exclusions, and limitations of your specific operating manual of the Dispensette S bottletop dispenser model.*



Remote Dispensing System



Dispensette® S Trace Analysis

For dispensing high-purity chemicals

The Dispensette S Trace Analysis bottle-top dispenser provides outstanding performance for precise-volume dispensing of high-purity media for trace analysis. The Dispensette S Trace Analysis is also suitable for dispensing HF (Pt-Ir valve spring model).

The components of the fluid path have been selected to only contain the highest purity materials, such as fluoroplastics and sapphire. Depending on application, either platinum-iridium (Pt-Ir) or tantalum (Ta) valve springs can be chosen. The volume range is from 1 to 10 mL.

- Especially well-suited for dispensing acids, bases and hydrogen peroxide (Tantalum (Ta) models only).
- Trace metal content of dispensed liquid is generally in the low ppb range or, depending on application, even in the low ppt range.

Dispensing of high-purity chemicals in trace analysis

- Plastics in contact with media consist of high-purity materials such as PTFE, ETFE, PCTFE, FEP and PFA. The purest sapphire is used for replaceable valves. Depending on the application, platinum-iridium or tantalum are available as spring materials.
- A field-tested cleaning process before use in trace analysis is described in the operating manual.
- Easy to disassemble for replacement of the dispensing cartridge.

Recommended application range

Dispensing medium	Valve spring: Pt-Ir	Valve spring: Ta
Acetic acid	+	+
Ammonia solution	+	+
Bromine	+	+
Hydrochloric acid	+	+
Hydrofluoric acid*	+	-
Hydrogen peroxide	-	+
Nitric acid	+	+
Perchloric acid	+	+
Phosphoric acid	+	+
Sodium hydroxide, 30%	+	-
Sulfuric acid	+	+
Water	+	+

+ suitable – not suitable

* Hydrofluoric acid reacts slightly with sapphire resulting in mildly elevated aluminum values. To reduce these values we recommend discarding 3-5 dispensings of 2 mL each before performing the analysis.

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. Should you require information on chemicals not listed, please feel free to contact BRANDTECH.

Status as of: 0517/2



The high-purity materials release virtually no metal ions after appropriate cleaning. This makes the Dispensette S Trace Analysis bottle-top dispenser a superior choice for trace analysis.

Replaceable dispensing cartridge

If the piston seal is worn after a long period of use, the entire dispensing cartridge can easily be replaced without tools by the user. The cartridge is fully adjusted at the factory and delivered with a performance certificate. No calibration is required after replacement.

Serial dispensing

For easy serial dispensing, an optional flexible discharge tube with textured safety handle (not approved for HF) permits fast and precise dispensing, even into narrow test tubes. Integrated recirculation valve helps purge bubbles before dispensing.

Performing trace analysis?

See the VITLAB® PFA trace analysis labware on page 110



Areas of Application / Suggested Dispenser

■ Dispensette® S (Disp. S) ■ Dispensette S Organic (Disp. S Organic)

Reagent	Disp. S	Disp. S Organic	Reagent	Disp. S	Disp. S Organic	Reagent	Disp. S	Disp. S Organic
Acetaldehyde	+	+	Cyclohexane		+	Methylene chloride		+
Acetic acid (glacial), 100%	+	+	Cyclohexanone	+	+	Mineral oil (Engine oil)	+	+
Acetic acid, ≤ 96%	+	+	Cyclopentane		+	Monochloroacetic acid	+	+
Acetic anhydride		+	Decane	+	+	Nitric acid, ≤ 30%	+	+
Acetone	+	+	1-Decanol	+	+	Nitric acid, 30-70% * / **		+
Acetonitrile	+	+	Dibenzyl ether	+	+	Nitrobenzene	+	+
Acetophenone		+	Dichloroacetic acid		+	Oleic acid	+	+
Acetyl chloride		+	Dichlorobenzene	+	+	Oxalic acid	+	
Acetylacetone	+	+	Dichloroethane		+	n-Pentane		+
Acrylic acid	+	+	Dichloroethylene		+	Peracetic acid		+
Acrylonitrile	+	+	Dichloromethane		+	Perchloric acid	+	+
Adipic acid	+	+	Diesel oil (Heating oil), bp 250-350 °C		+	Perchloroethylene		+
Allyl alcohol	+	+	Diethanolamine	+	+	Petroleum, bp 180-220 °C		+
Aluminium chloride	+		Diethyl ether		+	Petroleum ether, bp 40-70 °C		+
Amino acids	+		Diethylamine	+	+	Phenol	+	+
Ammonia, ≤ 20%	+	+	1,2 Diethylbenzene	+	+	Phenylethanol	+	+
Ammonia, 20-30%		+	Diethylene glycol	+	+	Phenylhydrazine	+	+
Ammonium chloride	+		Dimethyl sulfoxide (DMSO)	+	+	Phosphoric acid, ≤ 85%	+	+
Ammonium fluoride	+		Dimethylaniline	+	+	Phosphoric acid, 85% + Sulfuric acid, 98%, 1:1	+	+
Ammonium sulfate	+		Dimethylformamide (DMF)	+	+	Piperidine	+	+
n-Amyl acetate	+	+	1,4 Dioxane		+	Potassium chloride	+	
Amyl alcohol (Pentanol)	+	+	Diphenyl ether	+	+	Potassium dichromate	+	
Amyl chloride (Chloropentane)		+	Essential oil		+	Potassium hydroxide	+	
Aniline	+	+	Ethanol	+	+	Potassium permanganate	+	
Barium chloride	+		Ethanolamine	+	+	Propionic acid	+	+
Benzaldehyde	+	+	Ethyl acetate	+	+	Propylene glycol (Propanediol)	+	+
Benzene (Benzol)	+	+	Ethylbenzene		+	Pyridine	+	+
Benzine (Petroleum benzin), bp 70-180 °C		+	Ethylene chloride		+	Pyruvic acid	+	+
Benzoyl chloride	+	+	Fluoroacetic acid		+	Salicylaldehyde	+	+
Benzyl alcohol	+	+	Formaldehyde, ≤ 40%	+		Scintillation fluid	+	+
Benzylamine	+	+	Formamide	+	+	Silver acetate	+	
Benzylchloride	+	+	Formic acid, ≤ 100%		+	Silver nitrate	+	
Boric acid, ≤ 10%	+	+	Glycerol	+	+	Sodium acetate	+	
Bromobenzene	+	+	Glycol (Ethylene glycol)	+	+	Sodium chloride	+	
Bromonaphthalene	+	+	Glycolic acid, ≤ 50%	+		Sodium dichromate	+	
Butanediol	+	+	Heating oil (Diesel oil), bp 250-350 °C		+	Sodium fluoride	+	
1-Butanol	+	+	Heptane		+	Sodium hydroxide, ≤ 30%	+	
n-Butyl acetate	+	+	Hexane		+	Sodium hypochlorite	+	
Butyl methyl ether	+	+	Hexanoic acid	+	+	Sulfuric acid, ≤ 98%	+	+
Butylamine	+	+	Hexanol	+	+	Tartaric acid	+	
Butyric acid	+	+	Hydroiodic acid, ≤ 57% **	+	+	Tetrachloroethylene		+
Calcium carbonate	+		Hydrobromic acid		+	Tetrahydrofuran (THF) * / **		+
Calcium chloride	+		Hydrochloric acid, ≤ 20%	+	+	Tetramethylammonium hydroxide	+	
Calcium hydroxide	+		Hydrochloric acid, 20-37% **		+	Toluene		+
Calcium hypochlorite	+		Hydrogen peroxide, ≤ 35%		+	Trichloroacetic acid		+
Carbon tetrachloride		+	Isoamyl alcohol	+	+	Trichlorobenzene		+
Chloro naphthalene	+	+	Isobutanol	+	+	Trichloroethane		+
Chloroacetaldehyde, ≤ 45%	+	+	Isooctane		+	Trichloroethylene		+
Chloroacetic acid	+	+	Isopropanol (2-Propanol)	+	+	Trichlorotrifluoro ethane		+
Chloroacetone	+	+	Isopropyl ether	+	+	Triethanolamine	+	+
Chlorobenzene	+	+	Lactic acid	+	+	Triethylene glycol	+	+
Chlorobutane	+	+	Methanol	+	+	Trifluoro ethane		+
Chloroform		+	Methoxybenzene	+	+	Trifluoroacetic acid (TFA)		+
Chlorosulfonic acid		+	Methyl benzoate	+	+	Turpentine		+
Chromic acid, ≤ 50%	+	+	Methyl butyl ether	+	+	Urea	+	
Chromosulfuric acid	+		Methyl ethyl ketone	+	+	Xylene		+
Copper sulfate	+		Methyl formate	+	+	Zinc chloride, ≤ 10%	+	
Cresol		+	Methyl propyl ketone	+	+	Zinc sulfate, ≤ 10%	+	
Cumene (Isopropyl benzene)	+	+						

* Choose ETFE/PTFE adapters, if required, ** use PTFE seal for valve block catalog number #704486

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. Should you require information on chemicals not listed, please feel free to contact BRANDTECH Scientific. Status as of: 0218/13

Note:

For dispensing HF, we recommend the use of the Dispensette S Trace Analysis bottle top dispenser with platinum-iridium valve spring (See page 39 & 40).



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, (e.g., for production and administration of food, pharmaceuticals, and cosmetics) are not available.

Items supplied

Each Dispensette S, Dispensette S Organic, Dispensette S Trace Analysis includes:

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

Supplied adapters & filling tubes

Nominal Volume, mL	Adapter for bottle thread, mm	Filling tube length, mm
For Dispensette S & Dispensette S Organic (PP)		
1, 2, 5, 10	24, 28, 33, 38, S40	125-240
25, 50, 100	33, 38, S40	170-330
For Dispensette S Trace Analysis (ETFE, PTFE*)		
10	28, 33, 38, S40*	125-240

Limitations of use (all instruments)

This instrument is designed for dispensing liquids, observing the following physical limits:

- Use between +15 °C and +40 °C (instrument and reagent)
- Vapor pressure up to max. 600 mbar (Aspirate slowly above 300 mbar, in order to prevent the liquid from boiling)
- Kinematic viscosity up to 500 mm²/s (dynamic viscosity [mPas] = kinematic viscosity [mm²/s] x density [g/cm³])
- Density—Dispensette S/Dispensette S Organic—up to 2.2 g/cm³ and Dispensette S Trace Analysis up to 3.8 g/cm³

Operating exclusions – Dispensette S

Never use the Dispensette S with:

- Liquids which attack Al₂O₃-ceramic, ETFE, FEP, PFA and PTFE (e.g., dissolved sodium azide*)
- Liquids which attack borosilicate glass (e.g., hydrofluoric acid)
- Liquids which are decomposed catalytically by platinum-iridium (e.g., H₂O₂)
- 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 S Organic

Never use the Dispensette S Organic with:

- Liquids which attack Al₂O₃-ceramic, tantalum, ETFE, FEP, PFA and PTFE (e.g., dissolved sodium azide*)
- Liquids which attack 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 S Trace Analysis

Never use the Dispensette S Trace Analysis with:

- Liquids which attack Al₂O₃ sapphire or fluoroplastics like ETFE, FEP, PFA, PCTFE, PTFA and PTFE (e.g., dissolved sodium azide*)
- Liquids which are decomposed catalytically by platinum-iridium (e.g., H₂O₂) or tantalum, depending on the construction of the instrument
- Organic solvents
- Trifluoroacetic acid
- Explosive liquids (e.g., carbon disulfide)
- Suspensions (e.g., of charcoal) as solid particles may clog or damage the instrument
- The Dispensette S Trace Analysis must not be autoclaved

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

Dispensette® S Bottletop Dispensers

Dispensette S						Without recirculation valve	With recirculation valve
Volume, mL	Increments, mL	A* <±		CV* ≤		2024	
		%	µL	%	µL	Cat. No.	List Price

Dispensette S, Digital

0.1-1	0.005	0.6	6	0.2	2	4600310	\$649.60	4600311	\$687.00
0.2-2	0.01	0.5	10	0.1	2	4600320	649.60	4600321	687.00
0.5-5	0.02	0.5	25	0.1	5	4600330	649.60	4600331	687.00
1-10	0.05	0.5	50	0.1	10	4600340	649.60	4600341	687.00
2.5-25	0.1	0.5	125	0.1	25	4600350	873.40	4600351	916.00
5-50	0.2	0.5	250	0.1	50	4600360	890.00	4600361	927.00

Dispensette S, Analog-adjustable

0.1-1	0.02	0.6	6	0.2	2	4600100	569.80	4600101	596.40
0.2-2	0.05	0.5	10	0.1	2	4600120	569.80	4600121	596.40
0.5-5	0.1	0.5	25	0.1	5	4600130	570.00	4600131	596.40
1-10	0.2	0.5	50	0.1	10	4600140	570.00	4600141	596.40
2.5-25	0.5	0.5	125	0.1	25	4600150	794.00	4600151	820.00
5-50	1.0	0.5	250	0.1	50	4600160	815.00	4600161	841.40
10-100	1.0	0.5	500	0.1	100	4600170	1,267.00	4600171	1,300.00

Dispensette S, Fixed-volume

1		0.6	6	0.2	2	4600210	570.00	4600211	596.40
2		0.5	10	0.1	2	4600220	570.00	4600221	596.40
5		0.5	25	0.1	5	4600230	570.00	4600231	596.40
10		0.5	50	0.1	10	4600240	570.00	4600241	596.40

Dispensette S Organic						Without recirculation valve	With recirculation valve
Volume, mL	Increments, mL	A* <±		CV* ≤		2024	
		%	µL	%	µL	Cat. No.	List Price

Dispensette S Organic, Digital

0.5-5	0.02	0.5	25	0.1	5	4630330	\$714.00	4630331	\$751.00
1-10	0.05	0.5	50	0.1	10	4630340	714.00	4630341	751.00
2.5-25	0.1	0.5	125	0.1	25	4630350	958.00	4630351	1,001.00
5-50	0.2	0.5	250	0.1	50	4630360	980.00	4630361	1,017.00

Dispensette S Organic, Analog-adjustable

0.5-5	0.1	0.5	25	0.1	5	4630130	613.00	4630131	655.00
1-10	0.2	0.5	50	0.1	10	4630140	613.00	4630141	655.00
2.5-25	0.5	0.5	125	0.1	25	4630150	857.00	4630151	900.00
5-50	1.0	0.5	250	0.1	50	4630160	879.00	4630161	921.00
10-100	1.0	0.5	500	0.1	100	4630170	1,385.00	4630171	1,427.00

Dispensette S Organic, Fixed-volume

5		0.5	25	0.1	5	4630230	613.00	4630231	\$655.00
10		0.5	50	0.1	10	4630240	613.00	4630241	\$655.00

Dispensette S Trace Analysis						Without recirculation valve	With recirculation valve
Volume, mL	Valve Spring	A* <±		CV* ≤		2024	
		%	µL	%	µL	Cat. No.	List Price

Dispensette S Trace Analysis, Analog-adjustable

1-10	Platinum-iridium	0.5	50	0.1	10	4640040	\$1,417.00	4640041	\$1,459.00
1-10	Tantalum	0.5	50	0.1	10	4640240	1,417.00	4640241	1,459.00

A*=Accuracy, CV*=Coefficient of Variation

* The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C/68 °F) and with smooth operation.



Dispensette S



Dispensette S Organic



Dispensette S Trace Analysis



Dispensette Accessories



For Dispensette S ♦ cap		With Recirculation valve	Without recirculation valve	With recirculation valve		
Discharge tube	Shape	Length, mm	Cat. No.	2024 List Price	Cat. No.	2024 List Price
For Nominal Volume, mL						
1, 2, 5, 10	fine tip	105	708002	\$37.20	708102	\$191.80
5, 10	standard	105	708005	35.00	708104	191.80
25, 50, 100	fine tip	135	708006	44.60	708106	202.40
25, 50, 100	standard	135	708008	44.60	708109	191.80

For Dispensette S Organic ♦ cap				2024		2024
Discharge tube	Shape	Length, mm	Cat. No.	List Price	Cat. No.	List Price
For Nominal Volume, mL						
5, 10	fine tip	105	708012	\$44.60	708112	\$207.80
5, 10	standard	105	708014	35.00	708114	202.40
25, 50, 100	fine tip	135	708016	44.60	708116	207.80
25, 50, 100	standard	135	708019	39.00	708119	202.40

Dispensette S Trace Analysis ♦ cap				2024		2024
Discharge tube	Shape	Length, mm	Cat. No. Pt - Ir	List Price	Cat. No. Ta	List Price
Without Recirculation Valve	fine tip	105	708022	\$37.60	708024	\$37.60
With Recirculation Valve	fine tip	105	708122	234.40	708124	234.40

	Cat. No.	2024 List Price
Flexible discharge tube (for Dispensette S, Dispensette S Organic)		
PTFE, coiled, length 800 mm (= 31.5") with safety handle		
2, 5, 10	708132	\$245.00
25, 50, 100	708134	261.00
Not suitable for use with hydrofluoric acid. For nominal volume, mL		
Flexible discharge tubes for Dispensette S Trace Analysis—Not for use with HF		
10	708132	245.00

Dispensette® S Bottletop Accessories



Dispensing cartridge



Recirculation tube

Telescoping filling tubes



Filling valve



Drying tube

Dispensette S Trace Analysis ♦ cap

	Cat. No.	2024 List Price
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Replacement parts Dispensette S Trace Analysis

Dispensing element

Nominal volume 1-10 mL, calibrated, includes quality certificate	708035	\$1,017.00
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For nominal volume, mL	Length, mm (inches)	Cat. No.	2024 List Price
Telescoping filling tubes, FEP			
0.5, 1, 2, 5, 10	70 - 140 (2.6" - 5.5")	708210	\$30.60
0.5, 1, 2, 5, 10 - standard	125 - 240 (4.9" - 9.5")	708212	42.60
0.5, 1, 2, 5, 10	195-350 (7.7"-13.8")	708214	60.80
0.5, 1, 2, 5, 10	250 - 480 (9.8" - 18.9")	708216	48.60
25, 50, 100 - standard	170 - 330 (6.7" - 13.0")	708218	61.80
25, 50, 100	250 - 480 (9.8" - 18.9")	708220	65.00
Recirculation tube			
Recirculation tube only		6747	6.80

	Cat. No.	2024 List Price
Filling valve for Dispensette S and Dispensette S Organic, nominal volume, mL		
1, 2, 5, 10, each	6734	\$71.40
25, 50, 100, each	6735	79.80
For Dispensette S Trace Analysis, each	6739	143.80
Discharge valve for Dispensette S nominal volume, mL		
1, 2 each	6749	85.20
5, 10 each	6727	90.60
25, 50, 100, each	6728	106.60
Discharge valve for Dispensette S Organic, nominal volume, mL		
1, 2, 5, 10 each	6729	90.60
25, 50, 100, each	6730	106.60
Discharge valve for Dispensette S Trace Analysis, nominal volume, Pt-Ir, Ta		
Platinum-Iridium	6732	149.20
Tantalum	6733	149.20
Drying tube		
Without drying agent, each	707930	69.40
Micro filter connector assembly with Luer-slip connection		
To fit 0.2µm filter for sterile dispensing. Autoclavable.	704495	29.20



Dispensette® S Bottletop Accessories



Amber bottle



Bottle stand

	Cat. No.	2024 List Price
Amber bottle - ethylene-acrylate coated		
Threaded Bottle, PP screw cap, LDPE pouring ring, 250 mL, 33 mm	704004	\$34.20
Threaded Bottle, PP screw cap, LDPE pouring ring, 500 mL, 33 mm	704006	46.00
Threaded Bottle, PP screw cap, LDPE pouring ring, 1000 mL, 45 mm	704008	59.60
Bottle Stand, PP, 220 mm x 160 mm x 325 mm	704275	389.00



Size	PP Cat. No.	2024 List Price	ETFE Cat. No.	2024 List Price
Bottle thread adapters				
33/24 mm	704325	\$12.20	704375	\$31.80
33/28 mm/S28 mm	704328	12.20	704378	37.60
45/33 mm	704396	12.20	704398	42.40
45/35 mm	704431	23.80	--	--
45/38 mm	704397	12.20	704399	42.40
45/S40 mm (PP/PTFE)	704343	12.20	704391	67.20
Fits 33/STJ19/26	704419	40.80	--	--
Fits 33/STJ24/29	704424	40.80	--	--
Fits 33/STJ29/32	704429	48.00	--	--



Remote Dispensing System for Dispensette S

	Cat. No.	2024 List Price
Remote Dispensing (for Dispensette S, Dispensette S Organic)		
Remote Dispensing System (dispenser not included)	704261	\$703.00
Accessories		
Filling tube, FEP, 10 m, outer diameter 7.6 mm	704267	394.00
Thread adapter, Steel, outer thread 2", inner thread 3/4"	704270	181.00
Thread adapter, PTFE, inner thread 3/4" (33 mm), to connect remote dispensing system with drums with GL outer thread	704282	117.20
Support rod connector, for wall mounting unit	704268	106.60
Table/shelf clamp, for wall mounting unit	704272	49.80
Thread adapter, PTFE, 3/4", 33mm for direct mounting of Dispensette S on drum	704281	96.00

seripettor®

The seripettor bottletop dispenser is an economical wiping seal dispenser suitable for many commonly used reagents in biological and chemical laboratories. It precisely dispenses a wide variety of liquids. Optional accessories, such as the flexible discharge tube, are available to increase productivity and convenience.

- **Dispenses most non-aggressive liquids**—The seripettor is a low-cost, reliable tool for dispensing measured volumes of weak acids, alkaline solutions, polar solvents, isotonic solutions, and agar culture media at up to a max. temperature of 60 °C. See chemical selection guide on page 47.
- **Simplifies dispensing**—Notched volume selector allows for quick and exact volume adjustment. Spring-driven refill function enables one-handed operation.
- **Convenient cleaning and maintenance**—Innovative design permits simple disassembly and easy replacement of wearing parts, extending instrument life.
- **Fits most reagent containers**—The 45 mm standard thread, plus the included adapters with 33 mm, 38 mm and 40 mm thread, fits most common lab bottles.
- **Dispenses sterile media**—Accessories are available for sterile dispensing.



A rugged, economical tool for routine dispensing



Technical data

Operating limits and exclusions

Never use this instrument with:

- Liquids which attack FEP, PP, PE or EPDM
- Non-polar solvents like hydrocarbons and halogenated hydrocarbons
- Concentrated or oxidizing acids
- Explosive liquids (e.g., carbon disulfide)

This instrument is designed for dispensing liquids, observing the following limits:

- Vapor pressure up to 500 mbar
- Density up to 2.2 g/cm³
- Temperature of use between 15 °C and 40 °C of instrument and reagent (agar culture media up to 60 °C)
- Viscosity
 2 mL instrument: 300 mm²/s
 10 mL instrument: 150 mm²/s
 25 mL instrument: 75 mm²/s
 (dynamic viscosity [mPas] = kinematic viscosity [mm²/s] x density [g/cm³])

Sterile dispensing

Optional accessories are available to make dispensing of agar and other sterile liquids quick and easy with the seripettor. These include:

- Sterile dispensing cartridges
- Valve block cap
- Special filling tube for autoclaving
- 0.2 µm membrane filter



Sterile dispensing cartridge installation

Items supplied

Each seripettor bottletop dispenser includes:

- Spare dispensing cartridge
- Discharge tube
- 250 mm filling tube
- Operating manual
- Three PP adapters: 45/S40 mm, 45/38 mm, and 45/33 mm. See page 43 for other adapters
- One-year warranty

Volume, mL	Subdivision, mL	A* <± %	CV* ≤ %	Cat. No.	2024 List Price
seripettor					
0.2-2	0.04	1.2	0.2	4720120	\$170.40
1-10	0.2	1.2	0.2	4720140	170.40
2.5-25	0.5	1.2	0.2	4720150	218.40

A*=Accuracy, CV*=Coefficient of Variation

* The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C/68 °F) and with smooth operation.

Description	Photo	Pack of	Cat. No.	2024 List Price
Replacement parts				
Dispensing cartridge, for 2 mL seripettor, non-sterile		1 3	704500	\$79.00
Dispensing cartridge, for 10 mL seripettor, non-sterile		1 3	704502	79.00
Dispensing cartridge, for 25 mL seripettor, non-sterile		1 3	704504	111.80
Dispensing cartridge, for 2 mL seripettor, sterile		2 7	704507	138.40
Dispensing cartridge, for 10 mL seripettor, sterile		2 7	704506	138.40
Dispensing cartridge, for 25 mL seripettor, sterile		2 5	704508	149.00
Flexible discharge tubing for 25 mL seripettor, PTFE, 800 mm		3 1	704523	277.00
Flexible discharge tubing for 2 mL & 10 mL seripettor, PTFE, 800 mm		3 1	704522	165.00
Discharge tube for 2 mL seripettor		6 1	704518	50.00
Discharge tube for 10 mL and 25 mL seripettor		6 1	704520	50.00
Valve block cap for 2 mL & 10 mL seripettor, PP		4 1	704552	44.60
Valve block cap for 25 mL seripettor, PP		4 1	704554	44.60
Filling tube, 250 mm		- 2	704532	14.00
Filling tube, 500 mm		- 2	704534	20.00
Filling tube for sterile applications, 250 mm		- 1	704536	14.00
Filling tube for sterile applications, 500 mm		- 1	704538	20.00
Membrane filter, 0.2 µm, non-sterile		5 10	26535	150.00

Bottles & adapters

See detailed listing on page 43



[1] Dispensing cartridge, non-sterile



[2] Dispensing cartridge, sterile



[3] Flexible discharge tube



[4] Valve block cap



[5] 0.2 µm membrane filter



[6] Discharge tube

seripettor® pro

The seripettor pro is a bottletop dispenser designed to handle a wider range of liquids than the seripettor for customers who do not require all of the features of the Dispensette. Like the seripettor, it features an easily-replaceable wiping seal dispensing cartridge, making it especially suitable for liquids that tend to form crystals.

- **Wide chemical range**—Valves and seals on the seripettor pro allow a broader range of liquids to be dispensed than the regular seripettor.
- **Protects light-sensitive reagents**—Pump assembly with Hastelloy® stainless steel spring. An opaque upper sleeve helps protect liquid from UV-light during dispensing operations, while permitting observation of cylinder to confirm purging of bubbles.
- **Replaceable dispensing cartridge**—Quick-change cartridge makes service a breeze and keeps life-time service costs low. If wiping seals wear out, or are damaged by crystallizing reagents, just change the inexpensive cartridge, and you're back in business!
- **Telescoping filling tube**—Filling tube adjusts to fit many bottles without cutting.
- **Discharge tube with a threaded safety screw cap**—Attach and remove the discharge tube with a quick twist.
- **Spring-loaded piston**—One-handed, semi-automatic operation is possible.
- **Threaded safety cap**—Cap is attached and removed with a quick twist.

An economical, versatile wiping-seal dispenser



Volume, mL	Subdivision, mL	A* <±%	CV* ≤%	Cat. No.	2024 List Price
seripettor pro					
0.2-2	0.04	1.2	0.2	4720420	\$431.40
1-10	0.2	1.2	0.2	4720440	\$431.40
2.5-25	0.5	1.2	0.2	4720450	\$612.40

A*=Accuracy, CV*=Coefficient of Variation

* The value of accuracy and coefficient of variation are final test values referring to the delivered nominal volume, instrument and distilled water at equilibrium with ambient temperature (20 °C/68 °F) and with smooth operation.



[1] Dispensing cartridge, non-sterile

[2] Flexible discharge tube

[3] Telescoping filling tubes, FEP

Description	Photo	Pack of	Cat. No.	2024 List Price
Replacement parts				
Dispensing cartridge, for 2 mL seripettor pro, non-sterile	1	3	704500	\$79.00
Dispensing cartridge, for 10 mL seripettor pro, non-sterile	1	3	704502	79.00
Dispensing cartridge, for 25 mL seripettor pro, non-sterile	1	3	704504	111.80
Discharge tube for 2 mL seripettor pro		1	707915	102.20
Discharge tube for 10 mL seripettor pro		1	707916	96.00
Discharge tube for 25 mL seripettor pro		1	707918	96.00

Bottle thread adapters see detailed thread adapter listing on page 47

For Nominal Volume, mL	Length, mm	Photo	Pack of	Cat. No.	2024 List Price
Telescoping filling tubes					
2, 10	70 - 140	3	1	708210	\$30.60
2, 10	125 - 240	3	1	708212	42.60
2, 10	195 - 350	3	1	708214	60.80
2, 10	250 - 480	3	1	708216	48.60
25	170 - 330	3	1	708218	61.80
25	250 - 480	3	1	708220	65.00

Items supplied

Each seripettor pro bottletop dispenser includes:

- Spare dispensing cartridge
- Discharge tube
- Three PP adapters: 45/S40 mm, 45/38 mm and 45/33 mm.
- Telescoping filling tube
- Operating manual
- One-year warranty

Operating limits and exclusions

Never use this instrument with:

- Liquids which attack PP, PE, Al₂O₃ - ceramic, ETFE, FEP, PFA and PTFE (e.g., dissolved sodium azide*)
- Liquids which attack borosilicate glass (e.g., hydrofluoric acid)
- Liquids which are decomposed catalytically by platinum-iridium (e.g., H₂O₂)
- Non-polar solvents like hydrocarbons and halogenated hydrocarbons
- Concentrated or oxidizing acids (excluding HCl)
- Explosive liquids (e.g., carbon disulfide)
- Suspensions (e.g., of charcoal) as solid particles may clog or damage the instrument

This instrument is designed for dispensing liquids, observing the following limits:

- Vapor pressure up to 500 mbar
- Density up to 2.2 g/cm³
- Temperature 15 °C to 40 °C
- Viscosity
2 mL instrument: 300 mm²/s
10 mL instrument: 150 mm²/s
25 mL instrument: 75 mm²/s
(dynamic viscosity [mPas] = kinematic viscosity [mm²/s] x density [g/cm³])

*Dissolved sodium azide permitted up to a max. of 0.1%

Areas of application / Chemical selection list

■ seripettor dispenser

■ seripettor pro dispenser

Reagent	seripettor	seripettor pro	Reagent	seripettor	seripettor pro
Acetaldehyde		+	Glycol (Ethylene glycol)	+	+
Acetic acid, 5%	+	+	Glycolic acid, 50%	+	+
Acetic acid, 96%		+	Hexanoic acid	+	+
Acetic acid (glacial), 100%		+	Hexanol		+
Acetone		+	Hydriodic acid	+	+
Acetonitrile		+	Hydrobromic acid		+
Acetophenone	+		Hydrochloric acid, 37%		+
Acetylacetone	+	+	Hydrogen peroxide, 35%	+	
Acrylic acid		+	Isoamyl alcohol		+
Acrylonitrile		+	Isobutanol	+	+
Adipic acid	+	+	Isopropanol (2-Propanol)	+	+
Agar (60 °C)	+		Lactic acid	+	+
Allyl alcohol	+	+	Methanol	+	+
Aluminium chloride	+	+	Methyl benzoate		+
Amino acids	+	+	Methyl ethyl ketone		+
Ammonia 30%	+	+	Methyl propyl ketone		+
Ammonium chloride	+	+	Mineral oil (Engine oil)		+
Ammonium fluoride	+	+	Monochloroacetic acid		+
Ammonium sulfate	+	+	Nitric acid, 10%		+
Amyl alcohol (Pentanol)	+	+	Oxalic acid	+	+
n-Amyl acetate		+	Perchloric acid		+
Aniline		+	Phenol		+
Barium chloride	+	+	Phosphoric acid, 85%		+
Benzaldehyde		+	Piperidine		+
Benzyl alcohol		+	Potassium chloride	+	+
Benzylamine		+	Potassium dichromate	+	+
Benzylchloride		+	Potassium hydroxide	+	+
Boric acid, 10%	+	+	Potassium hydroxide in ethanol	+	+
Butanediol	+	+	Potassium permanganate	+	+
1-Butanol		+	Propionic acid	+	+
Butylamine		+	Propylene glycol (Propanediol)	+	+
n-Butyl acetate		+	Pyridine		+
Calcium carbonate	+	+	Pyruvic acid	+	+
Calcium chloride	+	+	Salicylaldehyde		+
Calcium hydroxide	+	+	Salicylic acid	+	+
Calcium hypochlorite		+	Silver acetate	+	+
Chloroacetaldehyde, 45%		+	Silver nitrate	+	+
Chloroacetic acid		+	Sodium acetate	+	+
Chromic acid, 50%		+	Sodium chloride	+	+
Copper sulfate	+	+	Sodium dichromate	+	+
Cumene (Isopropyl benzene)		+	Sodium fluoride	+	+
Diethylene glycol	+	+	Sodium hydroxide, 30%	+	+
Dimethyl sulfoxide (DMSO)		+	Sodium hypochlorite (active Chlorine approx. 10%		+
Dimethylaniline		+	Sulfuric acid, 10%	+	+
Ethanol	+	+	Tartaric acid		+
Formaldehyde, 40%	+	+	Urea	+	+
Formamide	+	+	Zinc chloride, 10%	+	+
Formic acid, 100%		+	Zinc sulfate, 10%	+	+
Glycerol	+	+			

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. Should you require information on chemicals not listed, please feel free to contact BrandTech. Status as of: 1017/8

For the most current version of this chart, visit our website www.brandtech.com.

NOTE: The seripettor & seripettor pro bottletop dispensers cannot be used with hydrofluoric acid (HF). See page 37 for a description of the Dispensette S Trace Analysis Pt-Ir dispenser which is the only BRAND dispenser designed for use with HF.



VITLAB® piccolo™



The piccolo is a compact wiping seal dispenser for dispensing small measured quantities of liquids in all areas of biochemical and medical research.

Made from high quality materials, its small size and semi-automatic operation make it a natural for standardized procedures and kits where small volumes of reagents need to be dispensed. The spring-loaded piston design enables one-handed operation.

The piccolo comes in two versions—The piccolo 1 is a fixed volume instrument, while the piccolo 2 model has two preset volumes.

Never use the piccolo with aggressive media. The piccolo is especially designed for applications in connection with aqueous and highly diluted agents.

All piccolo instruments are supplied with a GL 28 thread, valve mounting tool, 150 mm filling tube, and operating manual.

Instrument type	Volume setting(s), µL	A* ±%	CV* ≤%	Cat. No.	2024 List Price
Piccolo bottle-top dispenser					
piccolo 1	100	3.0	0.4	V1610501	\$465.00
piccolo 1	200	2.5	0.4	V1610502	465.00
piccolo 1	250	2.0	0.4	V1610503	465.00
piccolo 1	500	1.5	0.3	V1610504	465.00
piccolo 1	1000	1.0	0.2	V1610506	465.00
piccolo 2	100 / 250	2.0	0.4	V1611503	526.00
piccolo 2	500 / 1000	1.0	0.2	V1611506	526.00
piccolo 2	1000 / 2000	1.0	0.2	V1611508	526.00

A* = Accuracy, CV* = coefficient of variation according to DIN EN ISO 8655-5
Other volumes are available upon request.

An adapter is available to mount the piccolo to GL 32/33 mm threaded bottles. Inquire about other thread adapters for the piccolo.

Description	Dispenser thread	Bottle thread	Cat. No.	2024 List Price
Adapter				
piccolo thread adapter	GL28	GL32	V1670145	\$41.80

The BRAND® Titrette bottle-top burette makes routine titrations faster, easier, and more accurate. The Titrette minimizes the risk of spills from poured transfers to glass or plastic burettes, eliminates meniscus reading errors, and offers accuracy that satisfies the tolerances for Class A glass burettes. The instrument is well suited for general chemistry, water treatment applications, food/beverage analysis, industrial titrations, and environmental work in the lab or field.



Digital display

User selectable resolution of two or three decimal places

Power button

Power on/off with user adjustable auto-off function

Inspection window

Allows visual confirmation of the absence of bubbles, amber windows included for light sensitive reagents

Titration and recirculating valve

Eliminates reagent waste and splashing during priming

Titrating tube

Horizontally and vertically adjustable

Threaded safety cap

Coarse thread allows fingertip on/off

CLEAR/select button

Multifunction button clears display, transfers data via optional PC interface

PC interface (optional)

Eliminates transcription errors

User replaceable batteries

Pause button

Stops incrementing of display, useful for re-priming of instrument

Hand wheels

Non-slip handwheels provide variable titration speed from steady stream to dropwise

Drying tube (optional)

Accessory port for drying tube (rear) affords protection of moisture-sensitive titrants

Freely rotating valve block

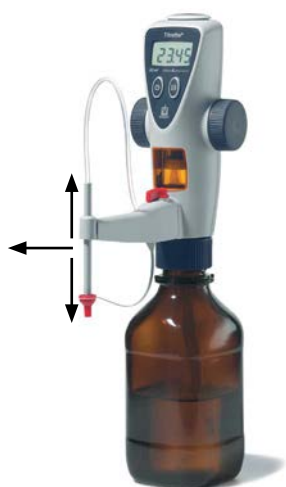
GL 45 mm thread allows bottle label to always face user

Telescoping filling tube (inside bottle)

Adjusts easily to a broad range of bottle sizes with no measuring or cutting required

The world's only
bottle-top burette
with Class A precision

Titrette® Bottletop Burette

**Lightweight and compact**

All components move within the housing, reducing headroom requirements. The compact design and light weight ensure stability. The titrating tube can be horizontally and vertically adjusted to provide flexibility when using a magnetic stirrer or different bottle sizes.

**User serviceable**

The Titrette can be quickly and easily disassembled for cleaning, to replace the piston/cylinder, or to replace the batteries. Maintenance is conveniently and easily completed in the lab, in a few minutes and the instrument is ready to go again!

**Light protection**

Amber colored light shield inspection windows are included to protect light sensitive media. Installation is quick and easy, as the windows just clip into place.

Chemical Applicability

The Titrette is suitable for use with the following titrating agents up to a concentration of 1mol/L

- | | | |
|--|--|--|
| - Acetic acid | - Oxalic acid solution | - Sodium nitrite solution |
| - Alcoholic potassium hydroxide solution | - Perchloric acid | - Sodium thiosulfate solution |
| - Ammonium iron (II) sulfate solution | - Perchloric acid in glacial acetic acid | - Sulfuric acid |
| - Ammonium thiocyanate solution | - Potassium bromate solution | - Tetra-n-butylammonium hydroxide solution |
| - Barium chloride solution | - Potassium bromate bromide solution | - Triethanolamine in acetone* |
| - Bromide bromate solution | - Potassium dichromate solution | - Zinc sulfate solution |
| - Cerium (IV) sulfate solution | - Potassium hydroxide solution | |
| - EDTA solution | - Potassium iodate solution | |
| - Hydrochloric acid | - Potassium permanganate solution* | |
| - Hydrochloric acid in acetone | - Potassium thiocyanate solution | |
| - Iodide iodate solution* | - Silver nitrate solution* | |
| - Iodine solution* | - Sodium arsenite solution | |
| - Iron (II) sulfate solution | - Sodium carbonate solution | |
| - Nitric acid | - Sodium chloride solution | |
| | - Sodium hydroxide solution | |

This partial list reflects testing completed prior to publication of this catalog Status as of 11 15/4. Always follow instructions in the operating manual of the instrument as well as the reagent manufacturer's specifications. For information on reagents not listed, please contact us.

* Use amber-colored lightshield inspection window



Technical Data

Operating limits and exclusions

This instrument is designed for titrating liquids, observing the following limits:

- Temperature of instrument and reagents must be between 15 °C and 40 °C
- Vapor pressure up to 500 mbar
- Viscosity up to 500 mm²/s
- Altitude—maximum 3000 m above sea level
- Relative humidity—20% to 90%

Chemically resistant materials

When the Titrette is properly handled, dispensed liquid will only come into contact with the following chemically resistant materials: borosilicate glass, Al₂O₃, ETFE, PFA, FEP, PTFE, platinum-iridium; PP (screw cap).

Limitations of use

- Chlorinated and fluorinated hydrocarbons or chemical combinations which form deposits may make the piston difficult to move or may cause jamming.
- Suitability of the instrument for a special application (e.g., trace material analysis) must be checked by the user. For additional information, please contact the manufacturer.
- The Titrette is NOT autoclavable!



Items supplied

- Titrette bottletop burette
- 45 mm thread
- Performance certificate
- Telescoping filling tube, 170-330 mm
- Recirculation tube
- 2 batteries, AAA/UM4/LR03
- 4 PP bottle adapters: 45/33 mm, 45/S40 mm, 33 mm/STJ29/32 and 45/38 mm
- 2 amber-colored light shield inspection windows
- Operating manual
- One-year warranty

Comparison of Error Limits

Volume mL	Partial volume mL	Titrette bottletop burette				Bottletop burettes according to DIN EN ISO 8655-3				Glass burettes Class A according to DIN EN ISO 385 and ASTM E287	
		A* ≤ ± %	μL	CV* ≤ %	μL	A* ≤ ± %	μL	CV* ≤ %	μL	EL** (DIN EN ISO) Volumetric Tolerance (ASTM) ± μL	
10	10	0.10	10	0.05	5	0.3	30	0.1	10	20	
	5	0.20	10	0.10	5	0.6	30	0.2	10	20	
	1	1.00	10	0.50	5	3	30	1	10	20	
25	25	0.07	18	0.025	6	0.2	50	0.1	25	30	
	12.5	0.14	18	0.05	6	0.4	50	0.2	25	30	
	2.5	0.70	18	0.25	6	2	50	1	25	30	
50	50	0.06	30	0.02	10	0.2	100	0.1	50	50	
	25	0.12	30	0.04	10	0.4	100	0.2	50	50	
	5	0.60	30	0.20	10	2	100	1	50	50	

A* = Accuracy, CV* = Coefficient of Variation
 * Error limits related to the nominal capacity (= maximum volume) indicated on the instrument, obtained when instrument and distilled water are equilibrated at ambient temperature (20° C) and with smooth operation.
 ** Error limit—EL = A + 2CV
 The maximum resolution of the display—The titration volume is displayed in steps of 1 μL for instruments with 10 mL and 25 mL size and in steps of 2 μL for 50 mL size instruments. For titration volumes above 20 mL the display will automatically switch to steps of 10 μL.

NOTE: If you need an official certification which confirms the error limits that are much stricter than those of DIN EN ISO 8655-3, we recommend a calibration certificate from an accredited calibration laboratory (e.g., the DAKKS laboratory at BRAND).

Titrette® Bottletop Burette

PC interface (optional)

The Titrette is available with an optional RS232 communications interface.

- The titration results are automatically transmitted to the PC by double-clicking the CLEAR key. This eliminates transcription errors while recording primary data, and complies with GLP requirements.
- The Titrette sends the titrated volume, the serial number of the instrument, the nominal volume and the adjustment value, as well as the next scheduled calibration date with each data transfer. Thus, all raw data is collected.
- The transmitted data is recognized as keyboard inputs by the PC. This universal input format ensures that the instrument is compatible with all PC applications that accept keyboard inputs.
- To connect the instrument to a USB interface, simply use a standard USB/RS232 adapter.



Description	Standard Cat. No.	Standard 2024 List Price	Interface Cat. No.	Interface 2024 List Price
Titrette bottletop burette				
10 mL	4760141	\$1,390.00	4760241	\$1,920.00
25 mL	4760151	1,390.00	4760251	1,920.00
50 mL	4760161	1,390.00	4760261	1,920.00

Interface models include: connector cable (Sub-D plug connector, 9-pin), one CD (driver software and open RS232 communication protocol). The CD also includes an example application in XLS-file format, as well as a special operating manual.

Description	Cat. No.	2024 List Price
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Titrating tube

With screw cap and integrated discharge and recirculation valve. Pack of 1		
For 10 mL vol.	707525	\$135.00
For 25 mL and 50 mL vol.	707529*	135.00

* For instruments manufactured from Jan 2012 onwards (serial #01K)

Filling valve For nominal volume, mL

With olive-shaped nozzle and sealing ring for Titrette. Pack of 1		
10, 25, 50	6636	87.40

Telescoping filling tube For nominal volume, mL

10, 25, 50- standard	170 - 330 mm (6.7" - 13.0")	708218	61.80
10, 25, 50	250 - 480 mm (9.8" - 18.9")	708220	65.00

Dispensing cylinder with valve head. Pack of 1

For 10 mL vol.	707533	225.00
For 25 mL vol.	707535*	225.00
For 50 mL vol.	707537*	225.00

* For instruments manufactured from Jan 2012 onwards (serial #01K)

Piston head, Pack of 1

For 10 mL vol.	707531	87.00
For 25 mL vol.	707530	87.00
For 50 mL vol.	707532	87.00

Inspection window

Inspection Windows (clear and amber 2 each)	6783	27.00
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Drying tube

Drying Tube with sealing-ring (without drying agent). Pack of 1	707930	69.40
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Description	Color	Cat. No.	2024 List Price
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Reservoir bottle — Boro 3.3 / soda-lime glass

2000 mL	clear	23310	\$195.00
2000 mL	amber	23320	270.00
Bottle adapter 33 mm-STJ 29/32		704429	48.00

More bottles and adapters available see page 45.



Suction bellows

Just a simple squeeze of the suction bellows powers the aspiration of up to 50 mL. Need to fill a 100 mL pipette? Just squeeze the bellows again and continue! The bellows are replaceable, if necessary, after years of use.

Blow-out bulb

Simply press the convenient blow-out bulb to empty the last drop from blow-out pipettes.

Unique valve system (inside)

Wide air channels allow fast filling of large pipettes. Sensitive valves give precise control of low-volume pipettes. The replaceable valve system is designed to ensure appropriate drain times for accurate measurement.

Pressure release valve (inside)

Valve facilitates easy compression of the suction bellows.

Pipette Adapter with Filter (inside)

Detachable, autoclavable silicone adapter fits 0.1-200 mL pipettes. Hydrophobic filter limits over aspiration into unit.



Simple thumb pressure controls aspiration and dispensing speed.

Pipetting Lever

A single lever controls filling, meniscus setting, and delivery speed, improved for finer control with small volume pipettes. Aspirate quickly for productivity or slowly for meniscus control. Press down gently on the lever to dispense drops; press firmly for a steady stream.



A laboratory standard for decades, the macro pipette controller has been completely redesigned for even finer control of all volumetric and serologic pipettes from 0.1-200 mL. All of the function that made this the world's favorite manual pipette controller has been retained - from the "one-size-fits-all" silicone adapter, and the reinforced ridge for easy tip wiping, to the sensitive toggle for smooth aspiration and dispensing.

- **Simplifies pipetting**—Operation is as simple as squeezing the suction bellows and adjusting a lever. One squeeze of the bellows powers aspiration and dispensing up to 50 mL. Equipped with a convenient blowout bulb to empty "to contain" pipettes. The macro is an excellent tool for laboratories with multiple and novice users.
- **Fits most pipettes**—The macro is compatible with glass and plastic 0.1 to 200 mL serological, volumetric, and graduated pipettes with a maximum suction tube outer diameter of 9.2 mm, calibrated "to deliver" and "to contain." The modified control mechanism allows finer control with small volume pipettes.
- **Improves lab ergonomics**—The macro eliminates the awkward hand positioning associated with rubber pipette bulbs while increasing control of meniscus-level and flow rate. Relaxed grip design, low weight 125 g (4oz.), and low-resistance operation minimize strain from prolonged pipetting.
- **Pipettes to Class A tolerances**—A 3 µm hydrophobic membrane filter (included) reduces cross-contamination, protects against overaspiration, and allows proper drain times for Class A pipettes.
- **Autoclavable for decontamination and sterile pipetting**—The macro withstands repeated autoclaving at 121 °C.

Description	Cat. No.	2024 List Price
macro Pipette Controller		
Gray	26200	\$112.00
Blue	26202	112.00
Magenta	26203	112.00
Green	26201	112.00

Includes spare 3 µm filter and operating manual

Description	Cat. No.	2024 List Price
macro Accessories		
Membrane filter, 3 µm (PP, PTFE), non-sterile, each	26052	\$22.80
Membrane filter, 3 µm (PP, PTFE), non-sterile, pack of 10	26056	123.00
Silicone adapter, 44 mm long, each	26146	14.60
Adapter housing (gray PP) 49 mm long, each	26220	14.60
Silicone suction bellows with gray PP screw ring, each	26225	54.00
Valve system (PP, PTFE, Silicone), each	26128	60.00



accu-jet® S Pipette Controller



- Simple:** Enhanced comfort and precise control for delicate cell culture work
- Easy:** Adjustable power and precision at your fingertips
- Efficient:** Keep pipettes clean & sterile with integrated rest position

It Stands Alone

The accu-jet S pipette controller stands alone as a versatile and well-balanced addition to your lab

It makes lab work simple, easy and efficient, whether you use it for cell culture work, reagent preparation, or general pipetting.

Adjust power and precision on the fly, with pressure sensitive buttons that smoothly control pipetting speed, and achieve precise meniscus control when used with pipettes as small as 0.1 mL. The new well-balanced design features an ergonomic grip for comfortable uninterrupted use, and the integrated rest position lets you put it

down without sacrificing the cleanliness or sterility of your serological pipette.

A wall mount also provides additional storage, freeing up space on your work area for disinfection or decontamination tasks. It's quick and convenient, and ready when you are.



Gravity delivery or blow-out with motor power



Direct outlet of sample vapors



Membrane filter and check valve prevent liquid penetration and over-aspirating liquid



Smart charging technology prevents lazy battery effect and over-aspirating liquid



accu-jet® S Pipette Controller

accu-jet S Highlights

- For glass and plastic pipettes from 0.1 to 200 mL
- Four attractive colors
- Two color charge indicator LED/light
- NiMH battery with intelligent charging technology lasts up to 8 hours.
- Ergonomic handgrip with a lightweight, well-balanced design
- Quick: Fills a 25 mL pipette at maximum motor speed in only 3 seconds
- Adapter, adapter housing and filter are autoclavable



Charging indicator

Bright LED visually indicates battery capacity. Get 8 hours from a fully charged battery, LED turns red when 2 hours of charge remains.

Mode selection

Gravity delivery or blow-out with motor power

Variable motor speed

Smooth control of the pipetting speed

Pipette adapter

Firmly holds pipettes and provides protection against over-aspiration.

Pipetting buttons

Precise and continuous liquid aspiration and dispensing



Rest position with inserted pipette

Color	Cat. No.	2024 List Price
anthracite	26350	\$525.00
berry	26351	525.00
petrol	26352	525.00
amethyst	26353	525.00

(100-240 V/50-60 Hz) Universal AC adapter included.



Efficient single-handed operation



Wall mount for space-saving storage

Description	Pack of	Cat. No.	2024 List Price
Membrane filters for accu-jet S pipette controller			
0.2 µm, sterile	1	26530	\$18.80
0.2 µm	10	26535	150.00
3 µm	1	26052	22.80
3 µm	10	26056	123.00

Description	Cat. No.	2024 List Price
Replacement Parts for the accu-jet S pipette controller		
Universal AC adapter	26606	\$105.00
Snap tape	26547	40.00
Wall support	26539	79.00
NiMH battery	26630	47.00
Silicone adapter with non-return valve	26508	45.40

BVC Fluid Aspiration Systems

The BVC family of fluid aspiration systems is an easy-to-use solution for cell culture work.

- **Safety containment**—The BVC is available with a 2 or 4 liter vessel for safe collection and disposal of your biological waste. An autoclavable hydrophobic 0.2 µm safety filter offers enhanced protection from contamination of the environment and vacuum source. The VHC^{PRO} hand controller keeps all fluid within the aspiration tubing for the ultimate in containment and cleaning convenience.
- **Chemically-resistant bottles** - Standard versions include a 4 liter heavy duty polypropylene collection bottle. "G" models feature a 2 liter borosilicate glass collection vessel with fragment protection coating for use with aggressive disinfectants such as bleach.
- **Three models**—basic, control, and professional to serve your liquid aspiration needs. The control & professional models include an integrated vacuum pump; the basic requires an external vacuum source.
- **Reliable aspiration capability**—The control and professional models feature powerful VACUUBRAND® chemistry-design vacuum pumps with exceptionally long service life and enough power for two users. The professional model includes a contact-free liquid level sensor for worry-free aspiration. High quality components mean years of trouble-free operation, resulting in low operating costs.
- **Compact, quiet and stylish**—Streamlined design incorporates bottle, controls and pump (control & professional models), in a lab friendly small footprint.
- **VHC^{PRO} hand controller**—Ergonomic design allows easy, comfortable fluid aspiration in a number of different hand positions.



BVC professional

VHC PRO with optional stand



BVC basic

BVC professional G

Description	Cat. No.	2024 List Price
BVC BioChem-VacuuCenter systems		
BVC basic with 4 liter polypropylene bottle	20727000	1,420.00
BVC basic G with 2 liter glass bottle	20727100	1,560.00
BVC control, with 4 liter polypropylene bottle, 100-120 V, 50-60 Hz	20727203	2,880.00
BVC control G, with 2 liter glass bottle, 100-120 V, 50-60 Hz	20727303	3,030.00
BVC professional, with 4 liter polypropylene bottle, 100-120 V, 50-60 Hz	20727403	3,510.00
BVC professional G, with 2 liter glass bottle, 100-120 V, 50-60 Hz	20727503	3,510.00

Description	Cat. No.	2024 List Price
BVC Accessories		
4 liter collection bottle, polypropylene, with filter and inlet tube	20635810	\$610.00
2 liter collection bottle, glass, with filter and inlet tube	20635809	690.00
2 liter bottle adapter for BVC control and BVC professional (included in BVC control G and BVC professional G)	20635839	105.00
VacuHandControl VHC ^{PRO} with 2.5 meters of tubing	20688061	330.00
8-channel pipette tip adapter, with ejector for VHC ^{PRO}	20635679	585.00
Pipette tip adapter w/ ejector for VHC ^{PRO}	20635638	105.00
Stand for VHC ^{PRO}	20635680	205.00
Connector, to add second VHC ^{PRO} to BVC bottle aspiration cap	20699943	86.00
Protection filter, 0.2µm	20638266	67.00
Quick coupling to connect VHC ^{PRO} to BVC bottle aspiration cap	20635807	230.00
Quick coupling to connect bottle to pump	20635808	200.00
BVC Shuttle - allows easy movement of BVC under Biosafety cabinet	20696880	285.00



VHC^{PRO} with stand

VHC^{PRO} 8-channel adapter



BVC Shuttle

QuikSip™ Bottletop Aspirator

The QuikSip is a convenient bottletop aspirator that removes supernatants, cell culture media, and other biological liquids from dishes, flasks, culture bottles, centrifugation tubes, multiwell plates, and more. It is small, portable, and does not require an external vacuum or power source. The QuikSip includes a unique thumb-operated controller that is compatible with disposable pipette tips, micropipettes, and glass Pasteur pipettes.

Operating limits and exclusions

Liquids unsuitable for use with the QuikSip bottletop aspirator include, but are not limited to:

- Concentrated or oxidizing acids
- Non-polar solvents, such as hydrocarbons and halogenated hydrocarbons
- Hydrofluoric acid (HF)
- Reagents that attack PP, PE, EPDM, and silicone
- Temperature of instrument and reagents must be between 15 °C and 40 °C
- Piston/cylinder cartridge and pump housing are not autoclavable

QuikSip Bottletop Aspirator

- Please order Bottletop Aspirator (4723180) and cell-culture hand control unit (25950) separately
- Both items come with operating manuals and one-year warranty
- Bottletop Aspirator includes
 - Two PP thread adapters - 45/32mm and 45/S40mm
 - Spare piston/cylinder cartridge
- Cell-culture hand control unit includes
 - Suction tube
 - 3 adapters



Ordering information

Description	Cat. No.	2024 List Price
QuikSip bottletop aspirator	4723180	\$308.80
Cell-culture unit	25950	117.20
8-channel manifold; PP, autoclavable, pack of 1	704526	25.60
25 mL replacement piston/cylinder cartridge, pack of 3	704504	111.80

Bottles & adapters

See detailed listing on page 43.

VACUUBRAND® Vacuum Products

A Complete Range of Vacuum Solutions

VACUUBRAND has been a pioneer in laboratory vacuum for over 50 years, and brings convenience, performance, reliability, and economy to laboratory vacuum supply. VACUUBRAND pump-control options also offer distinct productivity advantages compared with uncontrolled pumps, central vacuum systems, and competitive vacuum products.

- **Unsurpassed reliability**—Even with aggressive vapors. VACUUBRAND chemistry diaphragm pumps have rugged diaphragms and valves made of corrosion resistant materials, and heads with a metallic stability core for long term reliability even in harsh chemical applications. 100% quality control testing after “run-in” ensures performance right out of the box.
- **Whisper quiet**—These are among the quietest diaphragm vacuum pumps available, operating at decibel levels comparable to a quiet conversation.
- **Lower lifetime cost**—The high flow rates, corrosion-resistant flow path materials, reliability (typical service intervals well in excess of 15,000 working hours) and durability of VACUUBRAND pumps can drastically lower yearly operation and maintenance costs.
- **Exceptional performance**—Pump options with high flow rates allow for reduced process times and high throughput.

With a dedicated focus on vacuum technology for laboratory applications, VACUUBRAND develops solutions that make the work scientists do easier and more efficient. VACUUBRAND offers a complete range of solutions from oil-free and chemically-resistant vacuum pumps to intuitive, touch-screen controllers and easy-to-use vacuum gauges.



PC 3001 VARIO select
2 mbar, 1.18 cfm

Groundbreaking control for any vacuum application – VACUU-SELECT® electronic vacuum control

The VACUU-SELECT vacuum controller is a quantum leap forward in harnessing vacuum to perform your labwork. A multilingual touch screen interface uses smart-phone style icons to quickly navigate to the desired procedure for simple automation of rotary evaporation, short path distillation, concentration, filtration, drying ovens and more. Want to modify an existing procedure, or create a new one? Dragging and dropping application building blocks is as easy as swiping a finger.

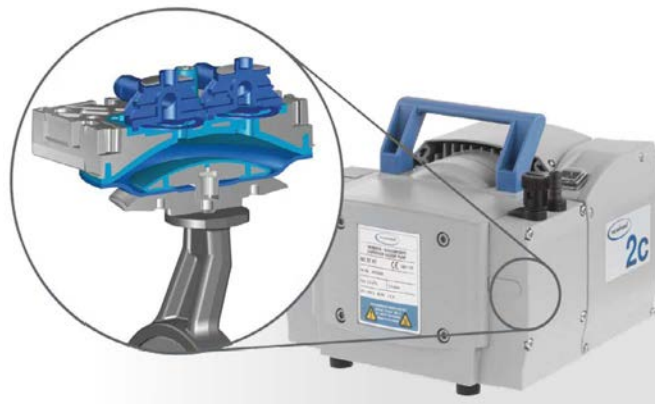
VACUU-SELECT control is now incorporated in our pumping systems that have traditionally had electronic control. When paired with VARIO

speed controlled pumps, it delivers continuously optimized vacuum levels for faster evaporation without bumping. In the multitasking PC 520 select and PC 620 select vacuum systems, a VACUU-SELECT controller provides independent touch screen control for two applications running simultaneously.

VACUU-SELECT controllers can be used with vacuum pumps by other manufacturers, and on central vacuum systems, based on those system performance specifications.

The essential oil-free, corrosion-resistant vacuum pump

High performance VACUUBRAND® chemistry-design diaphragm pumps provide dry vacuum levels as deep as 0.6 mbar, making them an excellent choice for most applications from benchtop research to pilot plant installations. Pumps without controls are well-suited to high flow applications like vacuum ovens, or for applications in which the control is provided by the vacuum application apparatus. Even operations that don't require solvent recovery or sophisticated control, benefit from a pump designed with your applications in mind. All chemistry-design multistage models feature an integrated gas ballast that permits continuous purging of condensed vapor from the pump.



Inset shows diaphragm head assembly, which incorporates thick fluoropolymer, molded over stability core, providing chemical resistance and long term reliability.

The VACUUBRAND nameplate—the sign of a quality product

VACUUBRAND continuously works to perfect an integrated management system in all departments; conforming with ISO 9001 and ISO 14001. The standard of performance is quality, customer focus, employee involvement and environmental orientation. Each vacuum pump goes through a performance test of hours to days at the VACUUBRAND facility, measuring specifications and equipment reliability with computer-controlled measuring and test instruments, with a fully automated final test. An interlock system prevents the manufacturing of a serialized nameplate until all test parameters are met. This ensures that every vacuum pump bearing the VACUUBRAND name is not only designed to an exceptionally high level engineering standard, but also offers extraordinary lifetime economy because of their low service costs and above-average lifetimes.

What's in a name?

A quick guide to VACUUBRAND diaphragm pump names

To get a better handle on the vacuum pump you are looking at, VACUUBRAND has a nomenclature that makes pump identification relatively easy:

M = "Membrane"/diaphragm pump

E, Z, D or V = From "eins," "zwei," "drei," and "vier" or 1, 2, 3 or 4 in German

Indicates the number of pump stages which gives vacuum depth. An "E" pump provides 70-100 mbar, and is suitable for filtration, degassing, solid-phase extraction, aspiration, desiccation, and other pressure differential applications. Z, D, or V pumps provide increasingly deeper vacuum levels typically used for evaporative applications.

C = Chemistry design

A full fluoropolymer flowpath suitable for use with aggressive chemicals. If selecting a "non-C" diaphragm pump, make sure that the vapors passing through the pump are compatible with the materials of construction of the flowpath - typically aluminum and FKM elastomer (aluminum and PTFE in the case of the ME 1)

NT = "New Technology"

A series of pumps incorporating design changes for improved performance and easier service.

AK and EK = solvent recovery accessories

AK indicating a glass "accumulating" catchpot on the inlet (or in the case of 2AK, inlet and outlet), while EK represents an outlet "emission" condenser.

Synchro = Dual application system

A two-application vacuum system with flow control and check valves for each.

PC = Pumping unit, Chemistry

An integrated vacuum system with pump, solvent recovery, and control accessories.

SELECT = Electronic Control

Select models incorporate the innovative VACUU-SELECT electronic controller.

Become a Vacuum Expert—A Short Course in Lab Vacuum

How deep of a vacuum do I need?

Vacuum pump specifications are typically stated as ultimate vacuum and flow rate. The ultimate vacuum required is task dependant. Most laboratory applications operate best in the range of 1-100 mbar. For filtration, liquid aspiration, and other pressure-differential (“fluid movement”) applications, 100 mbar is sufficient, achieving 90% of the possible “force” (i.e., potential pressure difference). An ultimate vacuum of 7 mbar is effective for rotary evaporation of most solvents more volatile than water. For challenging applications, like rotary evaporation of very high temperature boiling point solvents or centrifugal concentration of high boilers like DMF, a 2 mbar ultimate vacuum is needed. VACUUBRAND® oil-free diaphragm pumps can do the job for all the above applications. VACUUBRAND oil-free pumps are whisper quiet, economical, and environmentally friendly, requiring no costly oil changes or cold traps to protect the pump. A good rule of thumb is “never use an oil pump when an oil-free pump will do the job.” Freeze-drying requires deeper vacuum, typically referred to as “fine vacuum”, in the range of the unit 'mbar' should be on the same line as the value 10^{-3} –1. Rotary vane, hybrid or screw pumps are required for these applications.

What about “flow rate”?

The flow rate required for an application is determined by the application, system leakage, and your time requirements. The maximum flow rate, sometimes called “free air capacity” or “displacement”— specification of a vacuum pump represents its peak ability to move vapor at atmospheric pressure. It is important to note that actual flow rate decreases from the displacement specification to zero as a pump reaches its ultimate vacuum. A pump’s flow curve illustrates its working flow rate through its operating range and can be useful for the selection of the correct pump for an application (see figure to the right). If a pump can’t provide enough flow under vacuum, the application will proceed more slowly or in some cases not at all. VACUUBRAND pumps are designed to retain more flow rate throughout their working range, and only drop off sharply close to their ultimate vacuum.

Control

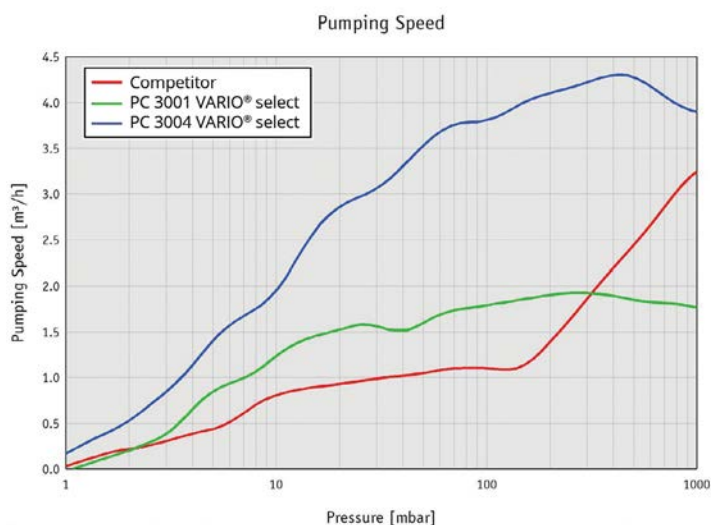
Gauges and controllers enable you to monitor and manage your laboratory vacuum applications. Whether you simply need to monitor your application, provide on/off control, need flow rate control, or require precise adaptive vacuum control, VACUUBRAND offers mercury-free gauges and controllers, as well as integrated systems to meet your requirements.

Solvent recovery

Catchpots and condensers protect the pump and your lab atmosphere from application vapors. An inlet catchpot captures condensed vapors from the vacuum line before they degrade pump performance. The outlet condenser (cooled by external means) and catchpot provide near 100% recovery of vapors that pass harmlessly through the pump’s corrosion-resistant fluoropolymer flowpath. Depending on the temperature of your application and the vapor pressure of your solvent, you may not even need a condenser, an outlet catchpot may be sufficient.

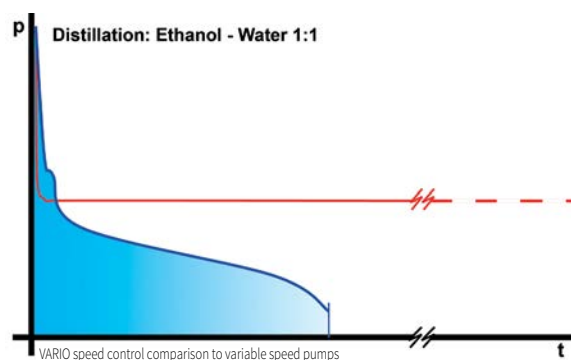
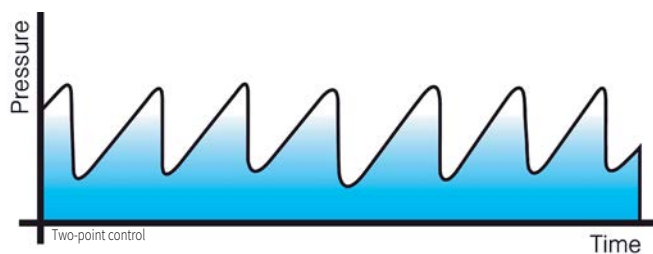
Corrosion resistance

Evaporative and other corrosive applications can be very destructive to ordinary vacuum pumps. Conventional rotary vane pumps require frequent oil changes and cold traps to minimize the damaging effects of corrosive chemical vapors. VACUUBRAND oil-free chemistry-design pumps incorporate a fully chemical resistant flow path for excellent corrosion resistance and low maintenance. For non-corrosive, non-evaporative applications, VACUUBRAND offers the VACUUPURE® 10 screw pump as well as a comprehensive line of high-performance Aluminum-FKM diaphragm pumps.



Types of electronic vacuum control

- Traditional two-point control**—Found in systems with single-speed pumps, such as, the PC 620 select two-application system or non-VARIO® single application systems. Analogous to a home thermostat, the pump runs until the desired setpoint is reached, at which point the vacuum supply is interrupted via a solenoid valve. The vacuum level is allowed to rise to a set hysteresis above the setpoint, at which point vacuum supply is restored, maintaining the vacuum between two-points. In an evaporative application, the setpoint necessarily can not be below what would cause bumping and foaming. Every point above that - even within the hysteresis- is somewhat suboptimal for evaporation, lengthening the time of evaporation by some amount. As the solute concentration increases, the setpoint will need to be adjusted to maintain evaporation speed, either by programming or manual intervention.
- VARIO speed control**—VACUUBRAND®'s proprietary control for variable speed vacuum pumps automatically adjusts the pump's motor speed to find boiling points and continuously optimize vacuum levels for faster evaporation. This results in reduced noise, maintenance, and power consumption, and improved solvent recovery when used with an outlet condenser. Increasing solute concentration or multiple solvents is easily handled with VARIO speed control.
- Variable speed pumps**—(as supplied by other manufacturers) Less sophisticated software can only find the first boiling point, often overshooting, requiring frequent manual intervention.



- Competitive product in the automatic mode - First boiling pressure is determined, and then maintained. Evaporation dramatically slows because the vacuum is not continuously adapted to changing boiling pressures in mixtures
- VACUUBRAND VARIO controlled vacuum adapts automatically to all boiling points in the mixture, continuously optimizing the process for fast run times without bumping.

Vacuum pumps with manual control

Popular VACUUBRAND chemistry-design vacuum pumps are available with manual flow control to provide the most basic management of vacuum where electronic control is unnecessary to achieve good results.

Centrifugal concentration, gel drying, and even simple rotary evaporation applications can often be effectively managed with manual control systems.

Diaphragm valve

A manually controlled PTFE diaphragm valve

Bourdon analog gauge

Dial (Bourdon) relative pressure gauge

Inlet catchpot

An "AK" inlet catchpot helps protect the pump from any condensation



PC 101 NT
Vacuum System
7 mbar, 1.4 cfm

Vacuum Pumps with Control

VARIO® vacuum with the VACUU-SELECT® controller

VACUUBRAND® VARIO select vacuum systems offer users unsurpassed control of critical vacuum applications. A low maintenance chemistry-design pump is integrated with a variable speed motor and the VACUU-SELECT touch screen controller. The system automatically finds and follows boiling curves, continuously optimizing the vacuum level without having to program presets. It's the ultimate productivity tool!

VARIO vacuum with the VACUU-SELECT controller. Automatic control of all common lab applications with touch-screen control!

- **Intuitive**—The new VACUU-SELECT controller offers smart-phone like intuitive operation of all aspects of vacuum control. Use or modify one of several different self-operating protocols for different applications, or assemble your own custom protocol using the easy drag and drop interface.
- **Faster**—VARIO variable speed pumps continuously optimize the vacuum levels for up to 30% faster evaporations, even with solvent mixtures.
- **Less “babysitting”**—Protocols operate automatically, reducing the need for oversight, freeing you up to be a scientist rather than a machine operator.
- **Virtually no bumping**—VARIO control gently approaches boiling points, minimizing bumping, foaming, or other artifacts of “overpumping” caused by lesser control options.
- **Quiet**—Standard VACUUBRAND pumps are whisper-quiet, even when running at full speed. Typical VARIO operation is a small fraction of that.
- **Extremely low maintenance**—Because the pump only runs as fast as necessary to maintain optimum vacuum, service intervals are greatly extended over the typical 15,000 working hours of full speed operation.
- **Sustainable**—VARIO pumps not only eliminate the oil use and dry ice traps used for protective purposes of rotary vane pumps, they also have reduced use of wearing parts and electricity consumption compared with conventional diaphragm pumps. *The most sustainable vacuum pumps ever!*
- **Share protocols**—A USB port allows downloading and uploading of protocols on a flash drive.

Standard VACUUBRAND two-point control (PC 510/610 select) and electronic multitasking systems (PC 511/520/611/620 select) also feature the VACUU-SELECT controller for intuitive operation.

Already have a pump? A VACUU-SELECT complete vacuum controller can provide many of the convenience functions to your existing single speed diaphragm vacuum pump from any manufacturer. See page 74



PC 3001 VARIO select
Vacuum System 2 mbar, 1.18 cfm

Low-profile outlet condenser reduces
height requirements.

Touch screen, automatic control
of all common lab applications!

Outlet condenser with catchpot

Condenser with an “EK” outlet catchpot captures vapors that pass through the pump, helping protect the lab atmosphere and environment

Electronic control

Solenoid valve, operated by a VACUU:SELECT® controller, provides precise two-point electronic control for critical applications

**Manual control**

PTFE diaphragm valve provides approximate control of vacuum levels for less demanding applications

PC511 select
7 mbar, 1.4 cfm

Pumps with dual application control

VACUUBRAND® dual application vacuum systems harness the power of VACUUBRAND oil-free pumps to increase lab efficiency and reduce the cost of vacuum generation. Operating two different applications from a single pump saves money and lab bench space.

These vacuum systems are available with manual control, electronic control, or both. Integrated check valves minimize interaction between applications.

All dual application systems include a high-performance 7 mbar or

1.5 mbar VACUUBRAND NT series vacuum pump. Select a 7 mbar system (MZ 2C NT Synchro™, PC 511 select, or PC 520 select) for most lab applications and 1.5 mbar systems (MD 4C NT Synchro, PC 611 select, PC 620 select) for larger applications or those with higher boiling point solvents.

Selecting the best pump for your application

Vacuum Pump Selection Guide online!

Not sure which vacuum pump or system is best for your lab? Help is available through the VACUUBRAND Vacuum Pump Selection Guide.

This free guide has been designed to suggest an appropriate VACUUBRAND vacuum pump or system for a wide variety of laboratory applications, including fluid aspiration, centrifugal concentration, rotary evaporation, and more.

Simply choose “Vacuum Pump Selection Guide” from the left hand navigation menu at www.brandtech.com to find the guide. Answer a few simple questions about your application. The software suggests the pump, controls, and solvent capture accessories that are right for your application. It even offers options for limited budgets or applications where control is critical. Because applications can vary, these suggestions are a great starting point to discuss with your BRANDTECH® representative.

Networked Vacuum

VACUU-LAN® Mini-Network

The VACUU-LAN Mini-Network is a great way to serve up to three applications from a single pump, increasing utility without eating up valuable lab space. It builds on VACUUBRAND®'s pioneering technology in vacuum local area networks for new laboratories and renovations, transferring the technology into a simple-to-install unit to add capability to existing labs. Three VACUU-LAN vacuum ports with flow control are mounted onto a bar—each port has an integrated

check valve to minimize interference and the possibility of cross-contamination. Corrosion resistant materials are used throughout the vapor flowpath for long life in chemistry labs. The bar can be mounted to ring stands or laboratory framework with the pre-installed mounting support rods, or can be easily attached to walls. Vacuum can be supplied by any VACUUBRAND chemistry-design pump, or even diaphragm pumps from other manufacturers.



VACUU-LAN Mini Network (for ordering information see page 77)

VACUU-LAN vacuum port



VACUU-LAN networks for new lab construction and renovation

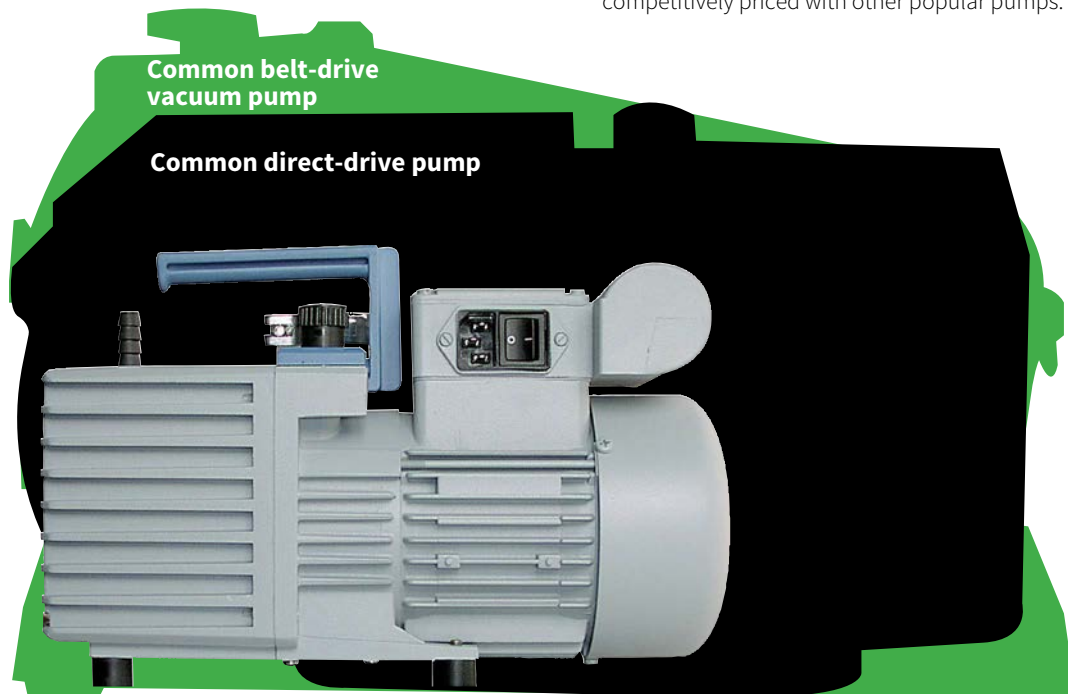
Fully-customized VACUU-LAN vacuum local area networks can provide the vacuum for your laboratory construction or renovation project.

The modular network can be integrated into laboratory furniture and fume hoods, and powered by a quiet, compact VACUUBRAND chemistry design vacuum pump that fits under your lab bench. With a VACUU-LAN vacuum local area network, you have high-performance vacuum (as deep as 2 mbar/1.5 Torr) at each bench or fume hood port, without the instability and user interference of a central vacuum system, and without the bench space required for individual pumps. Individual ports can even be configured for electronic control, for fully programmable vacuum supply directly from the network. This modular approach offers long-term flexibility; install the vacuum you need where you need it, only when you need it.

Two decades of global experience developing VACUU-LAN laboratory vacuum local area networks, for small college labs and major research institutions, make this VACUUBRAND innovation the smart choice for your laboratory vacuum. For more information on this innovative technology, contact BRANDTECH Scientific.

VACUUBRAND® XS-Series rotary vane vacuum pumps for fine vacuum applications

- **Rugged**—The XS-series have been designed from the ground-up for service in chemistry labs. They provide exceptional water vapor tolerances with minimal impact on ultimate vacuum. Internal components are designed to improve corrosion resistance, reduce wearing forces, enhance performance and simplify maintenance. Internal steel surfaces are nitrogen-plasma treated for chemical resistance and mechanical hardness.
- **Quiet**—XS-pumps are extremely low-noise and low vibration, even compared to earlier VACUUBRAND rotary vane models.
- **Energy efficient**—Pumps have very low power consumption and generate low levels of waste heat compared to competitive models.
- **Great value**—On top of all of these advantages, VACUUBRAND XS-series rotary vane pumps are competitively priced with other popular pumps.



Big vacuum in a small package!

VACUUBRAND RZ 2.5

Extremely compact compared to popular pump models

- **Compared with a belt-drive pump**, the RZ 2.5 takes up 1/3 of the bench space, weighs half as much, occupies less than 1/4 the volume, and delivers superior flowrates.
- **Compared with competitive direct drive pumps**, the RZ 2.5 takes up half the space and weighs half as much.

Don't forget...

Adding accessories to your rotary vane pump can extend the pump lifetime and make your workplace more pleasant.

- **Inlet hose barbs**—Match the pump to your vacuum hose. A 10 mm (3/8") polypropylene hose barb is included with RZ 2.5 and RZ 6 pumps, inlet centering and clamping rings (and outlet, where applicable) are included with the pump.
- **Inlet catchpot**—Collects condensates and particles from the vacuum line, before they can contaminate pump oil and reduce pump lifetime.
- **Oil mist filter**—Captures up to 99% of oil-mist from the outlet of your pump, keeping your lab atmosphere and bench top clean (included with RC 6).
- **Pump oil B**—For best performance, and long life, use Pump Oil B (supplied with all new pumps). Its special viscosity formula is an excellent choice for VACUUBRAND pumps.

VACUU·PURE® Dry Screw Vacuum Pumps

PURE VACUUM. NOTHING ELSE.



VACUU·PURE 10

VACUU·PURE 10C

Both models offer:

- 10^{-3} mbar vacuum range
- 100% oil-free
- No abrasion
- No wear parts

VACUU·PURE reliably delivers oil-free vacuum technology down to the 10^{-3} mbar range, while providing three important benefits:

100% oil free—This enables clean processes and pure products, and protects the laboratory and environment. Save both time and operating costs, since there is no need to dispose of waste oil or to interrupt your work for oil changes.

No abrasion—The unique operating principle (gap sealing) enables contact-free rotation of the spindles. The abrasion-free operation ensures an ultrapure vacuum as well as contamination-free exhaust air.

No wear parts—Components are manufactured with the highest precision, down to the smallest detail. The spindles rotate contact-free. No wear parts means processes can run without interruption, saving time, reducing operating costs and enabling trouble-free operation.

In addition to these benefits, the VACUU·PURE 10C features wetted material made of chemically resistant polymers. A thick-walled PEEK encapsulation protects the spindles and stator inside the pumping chamber, providing high chemical resistance.

VACUU·PURE covers many applications, and is especially developed for processes down to 10^{-3} mbar. However, unlike other fine vacuum pump technologies it can be used across the entire pressure range from atmospheric pressure to its ultimate vacuum. With pumping speed of up to $10\text{m}^3/\text{h}$ (10C is $9\text{m}^3/\text{h}$), the VACUU·PURE pump is very capable. Additionally, it offers exceptional vapor and condensate compatibility. Easy installation, user friendliness, and the rugged air cooled design enable trouble-free operation. VACUU·PURE is not only a versatile pump for the laboratory, it is an ideal solution for demanding processes.

Applications

- Freeze drying
- Fore vacuum generation for turbomolecular pumps
- Distillation
- Schlenk line
- Analytical applications
- Heat treatment
- Drying
- Degassing
- Coating

VACUU-PURE 10C shown with optional inlet separator (AK) and outlet condenser (EK 600), and the VACUU·PURE Shuttle.



Chemically resistant materials

VACUU·PURE 10C is well-suited for work with aggressive gases and vapors, and requires no cold trap for many applications!

Cantilevered spindles

100% oil-free flow path

Rotatable inlet

Vertical or horizontal orientation possible

Regeneration mode

Quick drying cycles after high condensate load

Air cooled

Versatile use

Modbus RTU interface

Easy system integration and remote control via process control systems

Dry vacuum technology taken to the next level.

VACUU-PURE reliably delivers the benefits of oil-free vacuum technology in the pressure range of 10^{-3} mbar.

The special screw pump design with two cantilevered spindles and a magnetic gear allows fully oil-free operation. The spindles run contact-free and with no abrasion.

No abrasion makes VACUU-PURE ideal for clean processes and pure products requiring deep ultimate vacuum - something that was previously unreachable with oil-free technologies. Additionally, it provides high pumping speed for light gases in the pressure range down to 10^{-1} mbar. This makes it particularly well-suited as a dry fore pump for turbomolecular pumps.

The unique design of VACUU-PURE gives it an exceptionally high condensate compatibility, making a gas ballast unnecessary even at high vapor loads. No gas ballast means no loss in pumping speed or increased noise. The integrated regeneration mode enables rapid drying of the pump after the end of the process significantly increasing sample throughput.

VACUU-PURE can operate continuously at higher pressures so that even larger systems can be evacuated from atmospheric pressure down to 10^{-3} mbar without the need for another pump technology.

In drying processes, both the primary drying and subsequent residual drying steps can be performed with a single pump.

The high chemical resistance of the VACUU-PURE 10C makes it well-suited for work with aggressive vapors and gases. A cold trap is not needed in many cases to protect the pump. Drying processes, manipulation of oxygen or moisture-sensitive compounds (e.g., in Schlenk lines), distillations, and even coating processes can be run without downtime.

Without wear parts to change or troublesome oil changes to perform, VACUU-PURE enables continuous operation without the need for regular maintenance.

Technical Data

Pump	VACUU-PURE 10	VACUU-PURE 10C
Pumping Speed	10 m ³ /h	9 m ³ /h
Ultimate Vacuum	5 x 10 ⁻³ mbar (at 1013 mbar ambient pressure)	
Dimensions (L x W x H), approx.	50.7 x 26.9 x 41.3 cm	
Weight, approx.	21.5 kg	

Vacuum Applications

Vacuum pumps provide the operational muscle for your rotary evaporator.

As such VACUUBRAND® offers a full range of pumps and systems with integrated control that help optimize your rotary evaporation application.

To find the vacuum pump or system that best meets your needs, answer the following questions:

How much vacuum do I need?

The vacuum capacity required from a pump to support a rotary evaporation application is determined by the typical application temperatures and the solvents being evaporated. Virtually all rotary evaporation applications can be accomplished with diaphragm vacuum pumps. The vacuum pump should have the ability to reach the vapor pressure of the solvent at the application temperature. For most common solvents and bath temperatures, a two-stage (MZ-series) pump provides sufficient vacuum levels, whereas for high boiling point solvents, such as DMF, DMSO or NMP, a three-stage (MD-series) pump would be preferred.

How much control do I need?

Rotary evaporation applications often require significant oversight and control because the heat and high surface area increase evaporation rates. This can lead to solvent “bumping” or boiling over if vacuum is poorly controlled.

VARIO® adaptive vacuum control

The best way to prevent bumping is with a self-regulating, hysteresis-free vacuum control. Adaptive control, an innovation exclusive to VACUUBRAND VARIO pumps and systems, combines an electronic controller and a speed-controlled motor. Over twenty years of proprietary software refinement allows our VARIO pumps to automatically perform the following tasks:

- Find and follow boiling points, hysteresis-free, without programming, even for solvent mixtures or changing conditions
- Evaporate up to 30 percent faster than two point control
- Shut the pump off when evaporation is completed

For most benchtop rotary evaporators, the PC 3001 VARIO select vacuum system is an excellent choice. The powerful integral pump provides a deep 2 mbar ultimate vacuum – enough to evaporate DMSO at a bath temperature of 50 °C. It’s truly the ultimate system for the benchtop rotary evaporator.

Manual control

For applications that require only minimal control, select the economical PC 101 NT vacuum system for basic evaporation and vapor capture. It includes a 7 mbar MZ 2C NT pump along with a stand, inlet catchpot, and outlet condenser, plus a manual flow-control valve and dial gauge for economy. It’s an excellent choice for basic evaporation. Or support two evaporators with an economical, space-saving Synchro™ system.

Did you know?

Outlet condensers not only help collect solvent vapors, keeping the lab atmosphere clean, but they also make VACUUBRAND pumps even quieter!



PC 3001 VARIO select
Vacuum System
2 mbar, 1.18 cfm



PC 101 NT
7 mbar, 1.4 cfm



The VACUU-SELECT® complete vacuum controller lets you select a setpoint, run a complex program 'ramp', or even automatically find the first boiling point. It works with benchtop diaphragm pumps from all manufacturers.

Do I need solvent recovery?

Solvent vapor that makes it past the evaporator's condenser can condense in the vacuum line. For best pump performance, an inlet catchpot "AK" can keep these condensed vapors out of the pump. Solvent vapors that pass through the pump can be captured efficiently at atmospheric pressure at the diaphragm pump outlet with an outlet condenser "EK," minimizing pollution of the laboratory environment.

Consider the MD 1C +AK+EK for labs that already have a stand-alone vacuum controller or one integrated into their evaporator. It features the same chemistry-design pump and solvent recovery as the 2 mbar PC 3001 VARIO select system, but without control.

For applications that do not require either control or solvent recovery, consider a stand alone pump such as the MZ 1C or MD 1C. They provide superior flow rates at working vacuum to competitive pumps, with a significantly lower price and very small footprint. Integrated gas ballast provides high condensate tolerance. The MD 1C is also preferred by customers who address vacuum control and solvent recovery through other methods.



MZ 1C
vacuum pump
12 mbar, 0.5 cfm



MD 1C +AK+EK
vacuum pump
2 mbar, 0.88 cfm

Electronic control

Some rotary evaporation applications might benefit from control, but might not require the precision of adaptive control. The PC 510 select system is an excellent choice for these applications. It is a great workhorse system for evaporation of many common solvents in rotary evaporators up to 5 liters in size. The integrated MZ 2C NT pump evaporates all but the highest boiling point solvents at reasonable bath temperatures, and the system includes a controller that allows preset or semi-automatic setting of vacuum level, with appropriate hysteresis adjustment. Solvent recovery is provided by an inlet catchpot and outlet condenser.

Need to run two evaporators? Consider the PC 520 select. See pages 63 & 77 for description and ordering information. It will provide different conditions to two applications at once, saving bench space and the cost of an additional pump or system. If you have a limited budget and anticipate needing a second electronically controlled port in the future, consider a PC 511 select or PC 611 select. The second flow-controlled port adds minimal cost, but can easily be upgraded to full electronic control with the purchase of a VACUU-SELECT complete (see page 74).

What about larger or multiple rotary evaporators?

BRANDTECH® Scientific provides VACUUBRAND's comprehensive line of chemistry-design diaphragm vacuum pumps, including models that can operate rotary evaporators up to 100 liters or larger, with or without integrated VARIO adaptive control.

We also offer systems that will run two different evaporation applications simultaneously without interference! Still not sure? Contact BRANDTECH Scientific for more information.

NOT SURE WHAT PUMP IS RIGHT FOR YOUR NEEDS?

See our Vacuum Pump Selection Guide at www.vacuubrand.com/vpsg.

Vacuum Oven/Gel Dryer Vacuum Solutions

Vacuum oven solutions

How much vacuum do I need?

Vacuum ovens typically require a pump with vacuum levels below 10 mbar because the evaporative effect of elevated temperature is often offset by the poor thermal transfer of the oven environment.

How much flow do I need?

Due to the highly variable solvent content and sample size, choosing an appropriate vacuum pump for an oven can be challenging. A distinction should be made between residual drying of damp samples vs. drying of high moisture content “wet” samples, which require considerably more flowrate. For residual drying, some assumptions can be made based on oven size.

The MZ 2C NT +2AK vacuum pump is an excellent selection for labs with smaller vacuum ovens (<1.0 cubic foot in capacity) and semi-dry samples. Its performance, small footprint, and integrated catchpots for solvents make it a popular choice for gels and residual drying. Evaporation of higher boiling point solvents, however, may require a more powerful pump, such as the MD 1C +AK+EK.

Laboratories with larger ovens (>1.0 cubic feet in capacity) or with samples having a high moisture content do well with the PC 201 NT. It can generate vacuum levels for evaporation of most solvents, and its high flow rate reduces process times. For truly wet samples, calculations should be made to determine the right pump size. Contact BRANDTECH® Scientific for assistance.

Why use a cold trap?

Using a cold trap for solvent recovery gives users greater flexibility when selecting a pump for vacuum ovens. The cold trap reduces vapor loads and eliminates the need for solvent capture by the pump. These applications are typically best-served by a stand alone pump such as the compact, economical MD 1C vacuum pump.



MD 1C
vacuum pump
2 mbar, 0.88 cfm

Gel dryer vacuum solutions

How much vacuum do I need?

The vacuum level required for gel drying applications is usually determined by the concentration of SDS-PAGE. For standard-sized gels with SDS-PAGE concentrations up to 10%, select the MZ 2C NT +2AK. It has the power to provide excellent results in most gel-drying applications and its two catchpots capture condensing vapors for clean operation.



MZ 2C NT+2AK
vacuum pump
7 mbar, 1.4 cfm

For SDS-PAGE concentrations greater than 10%, choose the MD 1C +AK+EK. Its integral pump achieves deeper vacuum levels for enhanced evaporative performance, and the catchpots and condenser protect the pump and the lab atmosphere without the cost and inconvenience of a cold trap.



PC 201 NT
vacuum system,
1.5 mbar, 2.2 cfm

Filtration, SPE and aspiration

Fluid movement applications, such as filtration, fluid aspiration, and solid phase extraction, typically don't require deep vacuum levels or high flow rates. For fluid aspiration, the best choice is usually an integrated solution like our BVC control or professional (see page 56).

However, when using an unpowered collection system like the BVC basic, or for filtration or SPE, these types of applications are best served by the VACUUBRAND® ME 1C and ME 4C NT. Users seeking additional capability or users with special circumstances, may want to consider the

VACUUBRAND MZ 2C NT +2AK or MD 1C +AK+EK pumps with integrated solvent recovery.

When choosing the pump for your filtration or solid phase extraction application, consider the following factors:

How much vacuum do I need?

Vacuum filtration and solid phase extraction typically require just enough vacuum depth to generate a pressure differential between atmospheric pressure and the receiving vessel. These applications do not usually require control unless the vacuum level is too deep and may cause filtrate boiling.

The ME 1 vacuum pump is an excellent selection for most fluid movement applications. It is a simple, compact, stand alone pump with sufficient vacuum to perform effective vacuum filtration. For corrosive vapors, choose the ME 1C.

How much flow do I need?

Labs running multiple filtration applications may require a pump with higher flow rates to maintain sufficient vacuum at all workstations.

For 2-4 filtrations, choose the ME 2C NT; for more than 4 filtrations, the ME 4C NT vacuum pump is an excellent pump. The higher flow rate ensures better results and faster process times in large-scale filtration labs. For solid phase extraction (SPE), choose the ME 2C NT for small applications, the ME 4C NT for medium size, and the ME 8C NT for larger scale extractions.

Do I need solvent recovery?

During normal filtration and solid phase extraction applications, solvent recovery is not typically needed. However, pumps with higher performance and solvent recovery can support a broader range of applications or may be suitable for teaching laboratories, where aspiration of liquids may be inevitable. They are an excellent choice for labs seeking to support several different applications with only one pump.



ME 1C Vacuum Pump
100 mbar, 0,5 cfm



MZ 2C NT +2AK
Vacuum Pump 7 mbar, 1,4 cfm

Environmental Responsibility

For decades, VACUUBRAND has looked at environmentalism from both a manufacturing and product side. They manufacture pumps designed to minimize their impact on the environment, through reduced energy and water consumption, solvent capture, and elimination of waste oil, all while conforming to the ISO 14001 standard. Recycling waste material and heat, collecting rainwater for non-potable applications, and more has been the norm at VACUUBRAND long before it was fashionable. Find out more at vacuubrand.com

Centrifugal Concentration Vacuum Solutions

The high performance and convenience of VACUUBRAND® pumps and systems makes them an excellent choice for most centrifugal concentration applications. VACUUBRAND offers a wide variety of pumps for excellent, reproducible results. When selecting the best pump for your lab, consider the following issues:

How much vacuum do I need?

Centrifugal concentration generally requires greater ultimate vacuum than other evaporative applications because it is usually performed at room temperature. Fortunately, VACUUBRAND diaphragm pumps are available with enough power for room temperature evaporation of solvents with boiling points as high as that of DMF.

The performance demands of most tabletop concentrators are often well served with one of VACUUBRAND's three-stage vacuum pumps, the MD 1C or MD 4C NT. Both of these pumps are powerful enough to evaporate DMF. Select the MD 1C for supporting smaller concentrators and the MD 4C NT with its higher flow rate for larger benchtop concentrators. For more volatile solvents, a pump like an MZ 2C NT would be an excellent choice.

For very high boiling point solvents at room temperature, such as DMSO or ethylene glycol, rotary vane or screw pump technology may be required. We suggest the unique VACUU-PURE 10C or RC 6 Chemistry-HYBRID™ pump for deeper vacuum with maximum convenience.

Do I need solvent recovery?

Large centrifugal concentrators often come with cold traps, reducing the need for integrated solvent recovery with the pump. Concentrators without cold traps should have solvent recovery integrated with the pump to prevent pump contamination and pollution of the laboratory environment.

When using a small concentrator without a cold trap, choose the MD 1C +AK+EK. It provides excellent flow rates at working vacuum to effectively operate a smaller concentrator without a cold trap (something not possible with many competitive pumps). It also captures solvent vapors itself.

Are my samples prone to bumping?

When samples often bump in a centrifugal concentrator, control may be necessary to prevent cross-contamination. For more volatile solvents, use our VARIO systems that adjust vacuum levels automatically.

What about larger concentrators?

VACUUBRAND pumps are available for “mega” sized concentrators used in the drug discovery marketplace. Please contact BRANDTECH® Scientific for assistance in selecting the best pump for these applications.



MD 12C VARIO select,
1.5 mbar, 8.4 cfm

Pump economy and sustainability

When comparing the costs of vacuum pumps, it is important to include accessories that are needed and lifetime repair and maintenance costs. Rotary vane pumps require mist filters, catchpots, and cold traps (including dry ice, liquid nitrogen or electricity costs), plus frequent oil changes. Competitive diaphragm pumps have much shorter service intervals (3,000-4,000 hours) compared with VACUUBRAND oil-free diaphragm pump (15,000+ hours). In addition, competitive diaphragm pumps often recommend cold traps to enhance performance, adding substantially to operating costs and inconvenience.



MD 4C NT vacuum pump
1.5 mbar, 2.2 cfm

Lyophilization is a demanding vacuum application that requires a deeper vacuum than can be achieved with diaphragm technology alone. It is usually best-served by the innovative VACUUBRAND® VACUU·PURE® or RC 6 Chemistry-HYBRID™ pump.

How much vacuum do I need?

Lyophilization applications typically require vacuum levels as deep as 10^{-3} mbar. Oil-sealed rotary vane pumps are often used to meet this requirement, however, frequent oil changes and vulnerability to corrosion make them less than ideal. To help address these concerns, VACUUBRAND developed the VACUU·PURE oil-free screw pump and the RC 6 Chemistry-HYBRID pump.

The VACUU·PURE reliably delivers the benefits of oil-free vacuum technology down to the 10^{-3} mbar range. The working principle of VACUU·PURE is based on gap sealing. The unique operating principle enables contact-free rotation of the spindles allowing the vacuum pump to operate oil- and abrasion- free making it an ideal choice for clean processes and pure products. There is no scheduled maintenance to replace wear parts and no need for oil changes, saving both time and maintenance costs. VACUU·PURE is available in a chemically-resistant version to handle aggressive gases and vapors without the use of a cold trap in most cases.

The RC 6 combines the advantages of a chemistry diaphragm pump with the ultimate vacuum of a two-stage rotary vane pump. The diaphragm pump keeps the oil reservoir under vacuum reducing the concentration of corrosive vapors, which extends the life of the pump. This design also reduces oil changes and maintenance costs. The RC 6 Chemistry-HYBRID pump, like other oil-sealed pumps, should always be operated with a cold trap.

The VACUU·PURE and the RC 6 Chemistry-HYBRID pumps are suitable to handle common lab scale freeze dryers. For larger scale-up processes, contact BRANDTECH Scientific.

Rotary vane options?

VACUUBRAND recommends that you should "never use an oil pump when an oil-free pump will do the job." The unique design of VACUU·PURE delivers the benefits of an oil-free and chemically-resistant pump down to the 10^{-3} mbar range. However, if circumstances require an oil pump, consider the RC 6 Chemistry-HYBRID pump or a VACUUBRAND rotary vane pump such as the RZ 2.5 and RZ 6. These pumps feature the same high performance, innovative design, and quality assurance as VACUUBRAND oil-free vacuum pumps and systems.



RC 6 Chemistry-HYBRID
vacuum pump 2×10^{-3} mbar, 4.1 cfm

Save money with a VACUUBRAND system!

Because VACUUBRAND pumps provide high flow-rates at working vacuum levels, they can provide cost savings, both initially, and over the life of the pump.

- **Synchro** multi-tasking systems harness the power of the VACUUBRAND pump for two applications, reducing the cost per application.
- **No cold trap required** to protect VACUUBRAND chemistry diaphragm pumps in most applications; a huge cost saving in purchase and refrigerant costs.
- **Productivity savings** with the self-adjusting VARIO systems, which free you up to perform other work with minimal pump oversight. Their continually optimized vacuum level can speed evaporation by up to 30%.
- **Modular distributed vacuum systems** enable even greater saving by delivering vacuum where you need it. See page 64 for VACUU·LAN® systems.

Find out more details on how to save money with VACUUBRAND vacuum pumps at www.brandtech.com.

Vacuum Gauges & Controllers

VACUUBRAND® vacuum gauges and controllers enable you to monitor and control vacuum generation for most laboratory applications. Gauges are compatible with most laboratory vacuum pumps and house vacuum, and feature both analog and digital displays. They help to rid laboratories of toxic, harmful mercury by replacing McLeod gauges and other manometers.

- **Meets the requirements of most vacuum applications—** VACUUBRAND vacuum gauges cover the range from atmospheric pressure to 1×10^{-3} mbar/Torr/hPa. They are easy to read and feature a digital readout and analog indicator to simplify both data recording and trend-monitoring.
- **Rugged operation—**Gauges and controllers are manufactured without fragile springs or glass tubes and feature corrosion-resistant transducers to ensure rugged, reliable operation.
- **Displays results in your units—**Vacuum gauges and controllers provide results in millibar, Torr, or hectoPascal.

DVR 2pro vacuum gauge

Analog and digital display for easy monitoring of most lab applications. A transducer of corrosion-resistant ceramic for durability measures absolute pressures from atmosphere to 1 mbar/Torr/hPa with user-selectable units. Easily accessible battery power with adjustable sleep timer for long battery life.



DVR 2pro

VACUU-SELECT® complete

Innovative touch screen display provides smart-phone like convenience to vacuum control. Includes routines for nearly all laboratory applications. Custom modify standard routine procedures, or use the drag-and-drop menu to assemble your own application. A revolution in vacuum technology!



VACUU-SELECT complete benchtop stand

VACUU-SELECT + VACUU-VIEW Extended Pirani control packages for “High Vac” applications

These packages enable convenient two point vacuum control in the fine vacuum range down to 10^{-3} mbar. They consist of a VACUU-SELECT vacuum controller, a VACUU-VIEW extended external combination capacitive-Pirani vacuum sensor, a VV-B 15C high performance chemistry in-line solenoid valve, and all necessary small flange components. Control is achieved by use of an in-line solenoid valve, minimizing noise and oil-mist generation.



VACUU-SELECT display (for Pirani control packages)

VACUU-VIEW and VACUU-VIEW extended gauges

Vacuum gauges with corrosion-resistant transducers designed especially for the rigors of laboratory use. Both gauges are mercury-free, feature KF 16 small flange vacuum connections, with screw-in hose barbs to allow fitting of 6/10 mm ID vacuum hose.



VACUU-SELECT + VACUU-VIEW extended, Pirani control package



VACUU-VIEW extended and VACUU-VIEW gauges

VACUUBRAND® Transducer Technology

Vacuum gauges and controller feature corrosion-resistant transducers designed especially for the rigors of laboratory use. All VACUUBRAND transducers are mercury-free. VACUU-BUS® connections allow easy interfacing with VACUUBRAND accessories, and universal power supplies are included (except DVR 2pro).

The VACUU-VIEW® gauge features a capacitive transducer made of alumina ceramic, and is suitable for absolute pressure readings in the rough vacuum range (atmosphere to 0.1 mbar/hPa/Torr). The VACUU-VIEW extended features a dual technology gauge head — a capacitive transducer for absolute pressure readings in the rough vacuum range, paired with a Pirani transducer for measurements in the fine vacuum range. Both transducers have alumina ceramic wetted surfaces for corrosion and shock resistance.



Mercury-free, digital/analog vacuum instruments



Product comparison				Measuring principle		
Name	Battery-powered	Chemical resistant	Lower measuring limit in mbar	Diaphragm (Capactive)	Heat conduction (Pirani)	Measurement gas type independent
VACUU-VIEW	-	✓	0.1	✓	-	✓
VACUU-VIEW Extended	-	✓	0.001	✓	✓	Yes (>5 mbar)
DVR 2pro	✓	✓	1	✓	-	✓
VACUU-SELECT complete	-	✓	0.1	✓	-	✓

Non-Chemistry Diaphragm Vacuum Pumps

VACUUBRAND® Aluminum-FKM (e.g., Viton®) vacuum pumps are intended specifically for non-corrosive, non-evaporative applications. They are excellent for laboratory and process-plant applications including gas transfer, backing turbo pumps, and vacuum filtration. All wetted parts of these pumps are made of aluminum, FKM, and polyethylene. Aluminum-FKM pumps should not be used with organic solvents, corrosives, or other vapors inconsistent with the materials of construction.

- **Eliminates oil changes**—These pumps utilize diaphragm vacuum technology for totally dry operation. There is no oil to change or monitor.
- **Reduces maintenance**—Diaphragms typically withstand over 15,000 hours of use before replacement – that’s years in most applications, minimizing downtime and service costs. When it is finally time for service, their unique design eliminates tedious, trial-and-error stroke length recalibration.
- **Improves productivity**—These pumps feature specially engineered pump heads for high flow rates at working vacuum. Higher flow rates mean reduced process times and higher throughput.
- **Ensures reliable use**—All VACUUBRAND pumps and systems must pass rigorous product testing before leaving the factory. It’s your assurance of a reliable pump.
- **Quiet operation**—Aluminum-FKM pumps operate very quietly, at about the same volume as a conversation.
- **FKM double diaphragm**—FKM double planar diaphragms provide high performance and increased reliability.
- **Broad product range**—Pumps with vacuum as deep as 0.3 mbar and flow rates as high as 10.8 cfm (307 lpm).



ME 8 NT vacuum pump
70 mbar, 4.8 cfm

ME 8 NT:

A popular choice for plate washers, cell harvesters, and other applications that require high flowrates with relatively shallow vacuum.



ME 1 vacuum pump
100 mbar, 0.5 cfm

ME 1:

Features PTFE diaphragm and valves for enhanced corrosion resistance (not for use with acidic vapors). An excellent choice for filtration (see page 71).

Vacuum Pump Ordering Information

Chemistry design pumps

Model	Controller(s)	Solvent Recovery	Ultimate Vacuum		Free Air Capacity at 60 Hz		Cat. No.	2024 List Price
			mbar	Torr	cfm	lpm		
Oil-Free Chemistry design diaphragm vacuum pumps								
ME 1C*	No	No	100	75	0.5	14	20721103	\$1,290.00
ME 2C NT	No	No	70	52	1.4	40	20730103	2,630.00
ME 4C NT	No	No	70	52	2.6	72	20731203	3,880.00
ME 4C NT +2AK	No	Yes**	70	52	2.6	72	22614080***	5,140.00
ME 8C NT	No	No	70	52	4.6	130	20734203	6,570.00
ME 16C NT	No	No	70	53	9.6	272	20741303	11,000.00
MZ 1C*	No	No	12	9	0.5	15	20724103	2,550.00
MZ 2C NT	No	No	7	5	1.4	38	20732303	3,020.00
MZ 2C NT +2AK	No	Yes**	7	5	1.4	38	20732503	5,160.00
MZ 2C NT +AK+EK	No	Yes	7	5	1.4	38	20732603	5,300.00
MD 1C	No	No	2	1.5	0.88	25	20696603	3,970.00
MD 1C +AK+EK	No	Yes	2	1.5	0.88	25	20696623	7,290.00
MD 4C NT	No	No	1.5	1.1	2.2	63	20736403	4,900.00
MD 4C NT +AK+EK	No	Yes	1.5	1.1	2.2	63	20736703	7,370.00
MD 12C NT	No	No	2	1.5	7.1	200	20743303	11,000.00
MV 10C NT	No	No	0.9	0.68	5.6	158	20744303	11,000.00
Accessories for oil-free diaphragm vacuum pumps								
VACU-LAN® Mini-Network							22614455	1,890.00
ME 1C vacuum regulation valve with manometer (suitable for use with the MZ 1C)							20696843	\$500.00
Power cord, L-shaped 120 V, US							20637655	55.00
Oil-free Chemistry design single application vacuum system								
PC 101 NT	1 Manual	Yes	7	5	1.4	38	20733003	5,030.00
PC 510 select	1 Electronic	Yes	7	5	1.4	38	20733153	9,750.00
PC 201 NT	1 Manual	Yes	1.5	1.1	2.2	63	20737003	9,370.00
PC 610 select	1 Electronic	Yes	1.5	1.1	2.2	63	20737153	15,150.00
Oil-free Chemistry design dual application vacuum systems								
MZ 2C NT Synchro™	2 Manual	Yes	7	5	1.4	38	20732803	6,680.00
	1 Electronic +1							
PC 511 select	Manual	Yes	7	5	1.4	38	20733253	10,610.00
PC 520 select	2 Electronic	Yes	7	5	1.4	38	20733353	14,520.00
MD 4C NT Synchro	2 Manual	Yes	1.5	1.1	2.2	63	20736803	8,080.00
	1 Electronic +1							
PC 611 select	Manual	Yes	1.5	1.1	2.2	63	20737253	15,840.00
PC 620 select	2 Electronic	Yes	1.5	1.1	2.2	63	20737353	19,360.00
Oil-free Chemistry design VARIO adaptive single application vacuum systems								
ME 16C NT VARIO® select	Adaptive	No	70	53	11.4	322	25741753	13,950.00
MZ 2C VARIO select	Adaptive	No	7	5	1.65	47	20732453	8,080.00
MD 4C VARIO select	Adaptive	No	1.5	1.1	2.7	77	20736553	10,090.00
MV 10C NT VARIO select	Adaptive	No	0.6	0.45	7.5	213	25744753	13,950.00
MD 12C NT VARIO select	Adaptive	No	1.5	1.1	8.4	238	25743753	13,950.00
PC 3001 VARIO select	Adaptive	Yes	2	1.5	1.18	33	20700203	9,730.00
PC 3002 VARIO select	Adaptive	Yes	7	5	1.65	47	20733553	8,920.00
PC 3003 VARIO select	Adaptive	Yes	0.6	0.45	1.65	47	20738453	12,680.00
PC 3004 VARIO select	Adaptive	Yes	1.5	1.1	2.7	77	20737553	11,090.00
PC 3010 NT VARIO select	Adaptive	Yes	0.6	0.45	7.5	213	25744853	15,000.00
PC 3012 NT VARIO select	Adaptive	Yes	1.5	1.1	8.4	238	25743853	15,000.00
PC 3016 NT VARIO select	Adaptive	Yes	70	53	11.4	322	25741853	15,000.00

* Can be fitted with vacuum regulation valve 20696843. **Outlet catchpot for solvent collection only. *** US power cord (#20637655) not included.
Note: All pumps work at 120V, 60 Hz. Contact BRANDTECH Scientific for other options.



Vacuum Pump Ordering Information

Aluminum-FKM diaphragm vacuum pumps for non-corrosive applications

Model	Ultimate Vacuum		Free Air Capacity at 60 Hz		Cat. No.*	2024 List Price
	mbar	Torr	cfm	lpm		
ME 1	100	75	0.5	14	20721003	\$990.00
ME 2 NT	70	52	1.3	37	20730003	1,840.00
ME 4 NT	70	52	2.6	73	20731003	2,850.00
ME 8 NT	70	52	4.8	135	20734003	5,100.00
ME 16 NT	70	53	9.6	273	20741003	7,850.00
MZ 2 NT	7	5.2	1.4	40	20732003	2,850.00
MD 1	1.5	1.1	0.88	23	20696083	3,380.00
MD 4 NT	1	0.75	2.5	72	20736005**	4,500.00
MD 12 NT	2	1.5	7.1	202	20743003	7,850.00
MV 2 NT	0.5	0.4	1.4	40	20738003	6,060.00
MV 10 NT	0.5	0.38	6.1	173	20744003	7,850.00

Accessory

Vacuum regulation valve with manometer for ME 1, ME 1C, MZ 1C	20696842	245.00
Vacuum regulation valve with manometer for ME 2 NT	20696840	460.00
Power cord, 120 V, 60 Hz	20612065	38.80

*All pumps work at 120V, 60 Hz. Contact BRANDTECH Scientific for other options. **requires purchase of power cord for ME 1, ME 1C, MZ 1C.

VACUU-PURE® Dry Screw Vacuum Pumps

Model	Ultimate Vacuum		Free Air Capacity at 60 Hz		Cat. No.	2024 List Price
	mbar	torr	cfm	lpm		
VACUU-PURE 10	5×10^{-3}	3.8×10^{-3}	5.9	167	20750003	\$10,920.00
VACUU-PURE 10C	5×10^{-3}	3.8×10^{-3}	5.3	150	20751003	12,920.00

Vacuum gauges & controllers

Model	Cat. No.	2024 List Price
DVR 2pro Vacuum Gauge, battery operated (9 V, alkaline)	20682906	\$1,260.00
VACUU-VIEW, 100-230 V, 50-60 Hz	20683220	1,660.00
VACUU-VIEW extended, 100-230 V, 50-60 Hz	20683210	1,910.00
VACUU-SELECT complete vacuum controller, frame rod version 100-230 V, 50-60 Hz (with integrated chemistry solenoid valve and check valve)	20700080	3,480.00
VACUU-SELECT complete vacuum controller, benchtop version, 100-230 V, 50-60 Hz (with integrated chemistry solenoid valve and check valve)	20700070	3,450.00
VACUU-SELECT + VACUU-VIEW extended KF 16 (Pirani control package), all inclusive	20700100	5,910.00
VACUU-SELECT + VACUU-VIEW extended KF 25 (Pirani control package), all inclusive, fine vacuum control for pumps with KF 25 small flange inlets (VACUU-PURE 10, VACUU-PURE 10C)	20700110	6,000.00

Rotary vane pumps

Model	Ultimate Vacuum		Free Air Capacity at 60 Hz		Cat. No.	2024 List Price
	mbar	Torr	cfm	lpm		
RZ 2.5 100-120 V/200-230 V, 50-60 Hz, US plug	2×10^{-3}	1.5×10^{-3}	1.65	47	20798126	\$3,230.00
RZ 6 100-120 V/200-230 V, 50-60 Hz, US plug	2×10^{-3}	1.5×10^{-3}	4.0	113	20698136	4,430.00

Chemistry-HYBRID vacuum pumps

RC 6, 100-120 V, 50-60 Hz, US plug	2×10^{-3}	1.5×10^{-3}	4.1	115	20798563	9,540.00
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Model	Cat. No.	2024 List Price
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Accessories for your VACUUBRAND rotary vane pump and RC 6

KF 16 to 10 mm (3/8") hose barb, aluminum	20662511	\$60.00
KF 25 to 19 mm (3/4") hose nipple, aluminum	20662532	84.00
Inlet catchpot for RZ 2.5	20698000	570.00
Inlet catchpot for RC / RZ 6	20698006	840.00
Oil mist filter for RZ 2.5 / 6	20698003	795.00
Pump Oil B, 1 liter bottle	20687010	75.00
Pump Oil B, 5 liter can	20687011	265.00

Other flanges, clamping rings, and centering rings available, contact BRANDTECH Scientific.



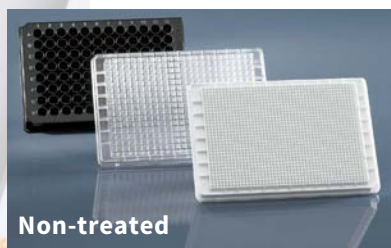
BRANDplates® Microplates

Modern research methods require high-quality disposables. BRANDplates microplates from BRAND® can be used in all important fields of life science.

BRAND has applied its decades of experience in premium-quality molding of lab plastic consumables from pipette tips to volumetric plasticware to cuvettes, to the challenges of microplate design. Plates are designed to minimize cross-contamination, ensure excellent recovery, and offer many options in color, well-count, surface-treatment, and well-shape.

For this comprehensive line, nine different surfaces have been developed under state-of-the-art production conditions.

The product line covers a multitude of standard applications (e.g., homogenous assays, screenings) as well as applications in the fields of immunology and cell culture technique.



Non-treated surfaces

pureGrade™
pureGrade™ S

Immunology surfaces

immunoGrade™
hydroGrade™
lipoGrade™

Cell culture surfaces

cellGrade™
cellGrade™ plus
cellGrade™ premium
inertGrade™

A comprehensive, premium-quality line of plates for cell culture and immunoassay

BRANDplates® Microplates

Surfaces

BRANDplates microplates are offered with 9 surface options. The surface modifications are generated via a physical-chemical process that creates stable surfaces for storage at room temperature. To enable easy identification of the surface type and well location, 96-well standard format plates have

a color-coded embossing. All BRANDplates microplates are manufactured according to ANSI-/SLAS-Standards 1 to 4, 2004 and are free from endotoxins, DNase, DNA, and RNase. Sterilized plates are guaranteed to an SAL of 10⁻⁶.

Non-treated surfaces

pureGrade™	non-treated, “medium binding,” non-sterile
pureGrade™ S	non-treated, “medium binding,” sterile

Immunoassay surfaces

immunoGrade™	ideal for immobilization of IgG, “high binding,” non-sterile
hydroGrade™	hydrophilic, ideal for immobilization of hydrophilic molecules, non-sterile
lipoGrade™	hydrophobic, ideal for immobilization of hydrophobic molecules, non-sterile

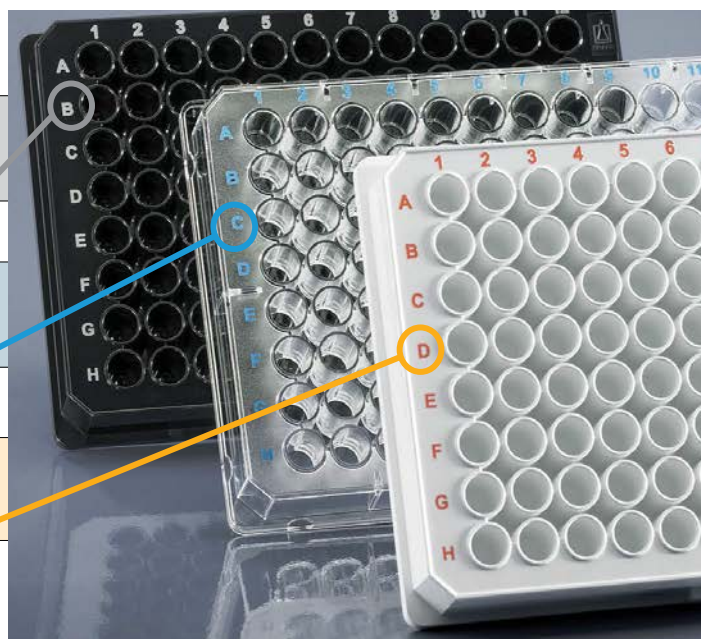
Cell culture surfaces

cellGrade™	standard tissue culture surface for the cultivation of adherent cell lines, sterile
cellGrade™ plus	surface for the cultivation of fastidious adherent cells making serum-reduced cultivation possible, sterile
cellGrade™ premium	surface treatment with similar properties to poly-D-lysine, serum-reduced or serum-free cultivation is possible, sterile
inertGrade™	surface that inhibits adhesion of cells, e.g., and reduces protein adsorption for cultivation of suspension and stem cells, sterile

Color codes—96-well plates

To enable easy identification of the surface type and facilitate legibility of the alphanumeric coding, BRANDplates microplates in the 96-well standard format have a color-coded embossing. All microplates have alphanumeric coding.

Gray Coded	Non-treated microplates for the most diversified applications
Blue Coded	Microplates for immunoassays such as ELISA, RIA, FIA, etc.
Orange Coded	Microplates for cell culture applications



Well-count, colors, and well-shape

BRANDplates microplates are available in a variety of different colors, well-number, and well shapes. Different combinations of these characteristics create the broad product range of BRANDplates microplates.

Well number

BRANDplates microplates are offered in 96-, 384-, and 1536- well formats. BRANDplates microplates with 96-well standard format are manufactured with a “chimney well” design. Each individual well is separated from each other to reduce cross contamination risk. In addition, lids with condensation rings are available for substantial reduction in evaporative losses. In the 384- and 1536-well microplates, rounded wells allow optimal uniform meniscus formation.

Colors and plate types

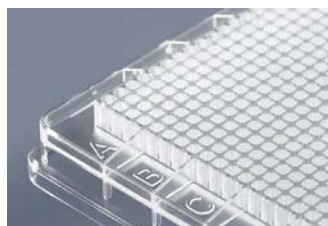
The application to be performed in the plate generally determines the color of the plates used. A basic rule is—transparent for colorimetry; white for luminescence; and black for fluorescence. Plates are available as standard solid color plates or colored with transparent bottoms depending on the optical requirements of the application.



96-well white microplate



384-well black microplate



1536-well clear microplate



Transparent bottom microplates

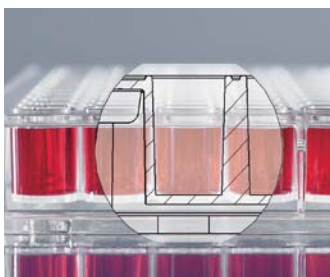
Well shape

96-well BRANDplates microplates are offered with four distinct bottom shapes. 384-well and 1536-well microplates are only available with flat-bottom (F-bottom).

- **Round (U-bottom)**—Round bottom plates have no edges and are suitable for stirring and washing of samples. This bottom shape is used for agglutination and other assays requiring these tasks.
- **Flat (F-bottom)**—Flat bottom plates are designed for precise optical measurements. Useful for many applications, including cell culture of adherent cell types.
- **Conical (V-bottom)**—Conical bottom plates are maximized for sample recovery after centrifugation, precipitation assays, and storage applications.
- **Curved (C-bottom)**—The curved bottom is a flat bottom with curved edges. By combining the advantages of round and flat bottom plates, better sample mixing is obtained with precise optical measurements for immunological assays.



Round bottom (U)



Flat bottom (F)



Conical bottom (V)



Curved bottom (C)

BRANDplates® Microplates

Samples and plate selection

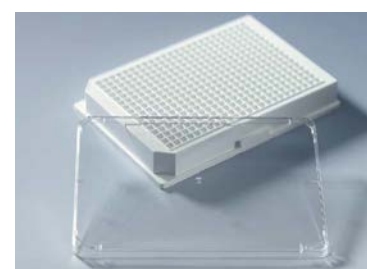
Given the broad range of available plates, view the Microplates at a Glance Chart on page 83 to select the optimal plate for your application. Samples are available without cost or obligation.

Accessories

BRAND offers many accessories for use with microplate products such as lids, sealing films, and more. Lids with and without condensation rings are optimally matched to the corresponding BRANDplates microplate to protect samples. For enhanced protection against contamination and evaporation, self-adhesive sealing films are available in a variety of materials and can be easily applied with a sealing paddle.

Condensation Rings	Height	Sterile	Pack of	Cat. No.	2024 List Price
Lids for 96-well standard plates					
Yes	8 mm	No	Pack of 100 (5 lids per bag)	782150	\$210.00
No	8 mm	No	Pack of 100 (5 lids per bag)	782151	210.00
For BRANDplates microplates Cat. No. ranges: 781600-08, 781660-68, 781720-24, 781780-82, 781840-42, 781900-02, 781960-68, 782024, 782082					
Lids for 96-well plates with transparent bottom and all 384-well plates					
No	4.5 mm	No	Pack of 50 lids (10 lids per bag)	782152	140.00
For BRANDplates microplates Cat. No. ranges: 781610-27, 781670-87, 781731-42, 781910-11, 781970-87, 782030-31, 782090-91					
Lids for all 1536-well plates					
No	5.5 mm	No	Pack of 50 lids (10 lids per bag)	782153	140.00
For BRANDplates microplates Cat. No. ranges: 781640-42					

Application	Description	Material	Pack of	Cat. No.	2024 List Price
Self-adhesive Sealing Films					
Real-Time PCR and crystallization	Single film, transparent, non-tacky	Polyolefin	100 sheets	781391ES	\$340.00
PCR and ELISA	Single film	Polyester	100 sheets	781390	175.00
PCR Sealing Film Strips, 1x8 Rows/Strip	8 strips/sheet	Polyester	400 sheets	781383	60.00
ELISA	Single film	Polyester	100 sheets	701390ES	103.00
ELISA	Mini-Strips (x4)	Polyester	50 4-strips	701391ES	82.00
ELISA	Single film with assorted color tabs	Polyester	5 packs of 10 sheets	701392ES	82.00
Cell and Tissue Culture	Single film, gas-permeable	Rayon	100 sheets	701364	172.00
Cell and Tissue Culture	Single film, gas-permeable, sterile	Rayon	50 sheets	701365	130.00
Pierceable and Resealable for Automation	Single film	Vinyl	100 sheets	701396ES	180.00
Cold Storage	Single film	Aluminum	100 sheets	781381	280.00
Cold Storage and Automation, Universal Fit	Single film	Aluminum	100 sheets	701395ES	158.00
Aluminum Foil Strips, 1 x Rows/Strip	6 strips/sheet	Aluminum	300 sheets	781382	73.00
DMSO Sample Storage	Single film, DMSO-resistant	Polypropylene	100 sheets	701367	405.00
Adhesive-free Zones for Automation	Single film	PE/PP	50 sheets	701370	208.00
Fluorescence Measurements	Single film	Black Vinyl	50 sheets	701371	120.00
Luminescence Measurements	Single film	White Vinyl	50 sheets	701372	96.00
Sealing Paddles for Sealing Films			Pack of 2	701381	23.80



BRANDplates microplates at a glance

96-well Microplates

Type		Non-treated		Immunological surfaces			Cell culture surfaces			
Standard		pureGrade™	pureGrade™ S	immunoGrade™	hydroGrade™	lipoGrade™	cellGrade™	cellGrade™ plus	cellGrade™ premium	inertGrade™
Color	Bottom / Well volume									
transparent	U / 330 µL	781600	781660	781720	781780	781840	781960	—	—	781900
transparent	V / 360 µL	781601	781661	781721	—	—	781961	—	—	—
transparent	F / 350 µL	781602	781662	781722	781782	781842	781962	782024	782082	781902
transparent	C / 350 µL	781603	781663	—	—	—	—	—	—	—
white	U / 330 µL	781604	—	781724	—	—	—	—	—	—
white	F / 350 µL	781605	781665	—	—	—	781965	—	—	—
black	U / 330 µL	781607	—	—	—	—	—	—	—	—
black	F / 350 µL	781608	781668	—	—	—	781968	—	—	—
With transparent bottom		pureGrade	pureGrade S	immunoGrade	hydroGrade	lipoGrade	cellGrade	cellGrade plus	cellGrade premium	inertGrade
white	F / 330 µL	781610	781670	—	—	—	781970	782030	782090	781910
black	F / 330 µL	781611	781671	781731	—	—	781971	782031	782091	781911
Strip plates		pureGrade	pureGrade S	immunoGrade	hydroGrade	lipoGrade	cellGrade	cellGrade plus	cellGrade premium	inertGrade
transparent, without grid	F / 360 µL	782300	—	782305	—	—	—	—	—	—
transparent, with grid	F / 350 µL	782301	—	782306	—	—	—	—	—	—

384-well HTS Microplates

Type		Non-treated		Immunological surfaces			Cell culture surfaces			
Standard		pureGrade	pureGrade S	immunoGrade	hydroGrade	lipoGrade	cellGrade	cellGrade plus	cellGrade premium	inertGrade
Color	Bottom / Well volume									
transparent	F / 100 µL	781620	781680	781740	—	—	781980	—	—	—
white	F / 100 µL	781621	781681	781741	—	—	781981	—	—	—
black	F / 100 µL	781622	781682	781742	—	—	781982	—	—	—
With transparent bottom		pureGrade	pureGrade S	immunoGrade	hydroGrade	lipoGrade	cellGrade	cellGrade plus	cellGrade premium	inertGrade
white	F / 120 µL	781626	781686	—	—	—	781986	—	—	—
black	F / 120 µL	781627	781687	—	—	—	781987	—	—	—

1536-well UHTS Microplates

Type		Non-treated		Immunological surfaces			Cell culture surfaces			
Standard		pureGrade	pureGrade S	immunoGrade	hydroGrade	lipoGrade	cellGrade	cellGrade plus	cellGrade premium	inertGrade
Color	Bottom / Well volume									
transparent	F / 10 µL	781640	—	—	—	—	—	—	—	—
white	F / 10 µL	781641	—	—	—	—	—	—	—	—
black	F / 10 µL	781642	—	—	—	—	—	—	—	—

Non-treated BRANDplates® for General Applications

pureGrade™

Non-treated surface, “medium binding,” non-sterile

- Standard plate for most applications
- PS, non-sterile
- Particularly applicable for homogeneous assays, screening, and storage
- Strip plates available (see page 85)

pureGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781600	\$170.00
transparent	V-bottom	360 µL	781601	170.00
transparent	F-bottom	350 µL	781602	170.00
transparent	C-bottom	350 µL	781603	170.00
white	U-bottom	330 µL	781604	295.00
white	F-bottom	350 µL	781605	295.00
black	U-bottom	330 µL	781607	295.00
black	F-bottom	350 µL	781608	295.00

Pack of 100 plates (20 stacks of 5 plates; 1 lid per stack)

96-well transparent bottom microplates

white	F-bottom	330 µL	781610	845.00
black	F-bottom	330 µL	781611	845.00

Pack of 100 plates (4 bags of 25 plates)

384-well standard microplates

transparent	F-bottom	100 µL	781620	155.00
white	F-bottom	100 µL	781621	255.00
black	F-bottom	100 µL	781622	255.00

Pack of 50 plates (5 bags of 10 plates)

384-well transparent bottom microplates

white	F-bottom	120 µL	781626	730.00
black	F-bottom	120 µL	781627	730.00

Pack of 50 plates (2 bags of 25 plates)

1536-well standard microplates

transparent	F-bottom	10 µL	781640	1,250.00
white	F-bottom	10 µL	781641	1,250.00
black	F-bottom	10 µL	781642	1,250.00

Pack of 50 plates (5 bags of 10 plates)

pureGrade™ S

Non-treated surface, “medium binding,” sterile

- Sterilized via β-radiation
- PS, sterile
- Especially suited for bacteriological assays, screening, and storage

pureGrade S

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781660	\$185.00
transparent	V-bottom	360 µL	781661	185.00
transparent	F-bottom	350 µL	781662	185.00
transparent	C-bottom	350 µL	781663	185.00
white	F-bottom	350 µL	781665	280.00
black	F-bottom	350 µL	781668	280.00

Pack of 50 plates (individually wrapped, with lid)

96-well transparent bottom microplates

white	F-bottom	330 µL	781670	755.00
black	F-bottom	330 µL	781671	755.00

Pack of 50 plates (individually wrapped, with lid)

384-well standard microplates

transparent	F-bottom	100 µL	781680	255.00
white	F-bottom	100 µL	781681	310.00
black	F-bottom	100 µL	781682	310.00

Pack of 50 plates (individually wrapped, with lid)

384-well transparent bottom microplates

white	F-bottom	120 µL	781686	995.00
black	F-bottom	120 µL	781687	995.00

Pack of 50 plates (individually wrapped, with lid)



BRANDplates® strip plates offer high flexibility for immunoassay development. Available in two configurations of well strips in a frame with a grid, or in a frame without a grid, strip plates allow the end user to use only as many wells as necessary. In addition, two surface treatments are available for increased specificity in high binding or medium binding applications.

Selection tips:

Select a frame style (12 x F8):

- a. Frames without a grid** allow for individual strips to be removed from the frame and reinserted. With this style frame, the strips are not divisible.
- b. Frames with a grid** allow for individual strips to be removed from the plate and reinserted. Each strip can be divided into 8 individual vessels and inserted individually into the frame plate.

Select a surface treatment:

- c. pureGrade** plates are non-treated, medium binding plates. These are designed for the widest variety of applications and for binding of protein as well as nucleic acids and more.
- d. immunoGrade** plates are non-sterile, high binding plates. These are optimized for the immobilization of IgG and the standard ELISA assay. This surface treatment will allow for binding of a wide range of molecules, particularly with protein populations with mixed hydrophilic and hydrophobic regions.



pureGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
Strip plates 12 x F8				
transparent, without grid, strips of 8 wells, not divisible				
	F-bottom	360 µL	782300	\$1,020.00
transparent, with grid, strips of 8 wells, divisible				
	F-bottom	350 µL	782301	1,090.00

Pack of 100 plates (4 bags of 25 plates)

immunoGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
Strip Plates 12 x F8				
transparent, without grid, strips of 8 wells, not divisible				
	F-bottom	360 µL	782305	\$1,020.00
transparent, with grid, strips of 8 wells, divisible				
	F-bottom	350 µL	782306	1,070.00

Pack of 100 plates (4 bags of 25 plates)

BRANDplates® Microplates for Immunoassays

Suitable for ELISA, RIA, FIA, and Other Immune Testing

immunoGrade™

Optimized for the immobilization of IgG

- Optimized for immobilization of IgG, offering highest binding capacity for molecules with mixed hydrophilic and hydrophobic regions
- Surface of choice for the majority of standard ELISAs
- Suitable for solid phase immunoassays
- “High-binding”
- PS, non-sterile
- Strip plates available (see page 85)

immunoGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781720	\$280.00
transparent	V-bottom	360 µL	781721	280.00
transparent	F-bottom	350 µL	781722	280.00
white	U-bottom	330 µL	781724	430.00

Pack of 100 plates (20 stacks of 5 plates; 1 lid per stack)

96-well transparent bottom microplates

black	F-bottom	330 µL	781731	905.00
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Pack of 100 plates (20 stacks of 5 plates; 1 lid per stack)

384-well standard microplates

transparent	F-bottom	100 µL	781740	280.00
white	F-bottom	100 µL	781741	280.00
black	F-bottom	100 µL	781742	280.00

Pack of 50 plates (10 stacks of 5 plates; 1 lid per stack)

hydroGrade™

For the immobilization of hydrophilic molecules

- Strongly hydrophilic, with high affinity to hydrophilic molecules, such as glycoproteins and peptides, antibodies with predominantly hydrophilic regions, and nucleic acids
- Alternative to immunoGrade surface when performing solid phase assays
- Alternative for homogeneous assays with hydrophobic molecules that remain in solution
- PS, non-sterile
- For solid phase with hydrophilic molecules and liquid phase with hydrophobic molecules

hydroGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781780	\$310.00
transparent	F-bottom	350 µL	781782	310.00

Pack of 100 plates (20 stacks of 5 plates; 1 lid per stack)



lipoGrade™

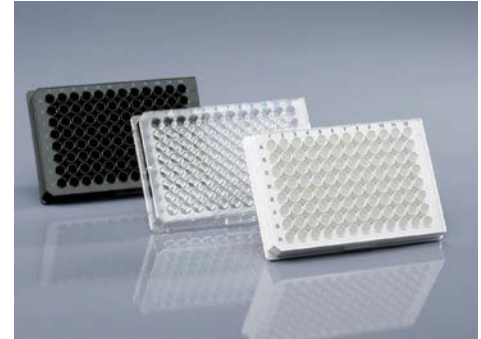
For the immobilization of hydrophobic molecules

- Strongly hydrophobic (lipophilic), for immobilization of biomolecules with predominantly hydrophobic regions
- Alternative to immunoGrade™ surface for immobilization of molecules such as lipoproteins or peptides
- Specially suited for liquid phase assays when the reaction component should stay in solution—majority of hydrophilic biomolecules are not immobilized on this surface
- PS, non-sterile
- For solid phase with hydrophobic molecules and liquid phase with hydrophilic molecules

lipoGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781840	\$185.00
transparent	F-bottom	350 µL	781842	185.00

Pack of 100 plates (20 stacks of 5 plates; 1 lid per stack)



96-well standard-volume microplates



96-well transparent bottom microplates



384-well standard-volume microplates

BRANDplates® Microplates for Cell Culture

cellGrade™

For the cultivation of adherent cell lines

- Standard-volume, sterile plates for cultivation of adherent cell lines
- Surface with freely accessible chemical groups, such as carboxyl and hydroxyl groups
- Surface hydrophilic compared with non-treated PS
- Serum components easily bound onto the freely accessible chemical groups, allowing indirect adhesion of cells
- PS, sterile

cellGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well standard microplates				
transparent	U-bottom	330 µL	781960	\$210.00
transparent	V-bottom	360 µL	781961	210.00
transparent	F-bottom	350 µL	781962	210.00
white	F-bottom	350 µL	781965	210.00
black	F-bottom	350 µL	781968	210.00

Pack of 50 plates (individually wrapped, with lid)

96-well transparent bottom microplates

white	F-bottom	330 µL	781970	610.00
black	F-bottom	330 µL	781971	610.00

Pack of 50 plates (individually wrapped, with lid)

384-well standard microplates

transparent	F-bottom	100 µL	781980	260.00
white	F-bottom	100 µL	781981	260.00
black	F-bottom	100 µL	781982	260.00

Pack of 50 plates (individually wrapped, with lid)

384-well transparent bottom microplates

white	F-bottom	120 µL	781986	845.00
black	F-bottom	120 µL	781987	845.00

Pack of 50 plates (individually wrapped, with lid)

cellGrade™ plus

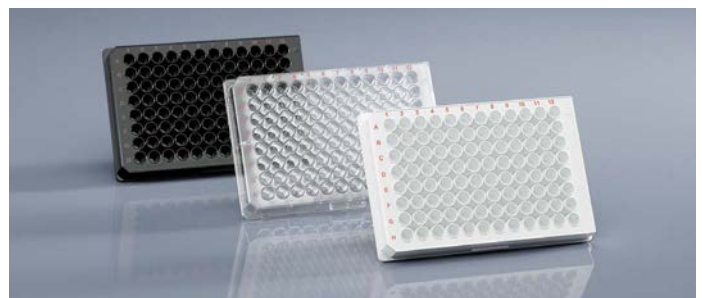
For reduced-serum media cultivation of cells

- For cultivation of fastidious cell lines
- In addition to carboxyl and hydroxyl chemical groups, free amino groups present on the surface
- Surface has a protein-like composition—cells can directly attach and spread out
- Cells adhere faster leading to better rate of yield
- Sensitive cell lines can be cultivated

cellGrade plus

Color	Bottom	Well volume	Cat. No.	2024 List Price
96-well transparent bottom microplates				
white	F-bottom	330 µL	782030	610.00
black	F-bottom	330 µL	782031	610.00

Pack of 50 plates (individually wrapped, with lid)



96-well standard volume microplates

cellGrade premium

Poly-D-Lysine-equivalent surface

- Poly-D-Lysine-equivalent surface, with analogous results regarding growth performance and cell morphology
- Optimal adhesion of cells to the surface reduces cell damage when washing frequently
- Cultivation of cell lines with the highest environmental demands
- Surface suited for serum-free and serum-reduced cultivation of cells
- Good shelf life at room temperature
- Alternative to biologically coated surfaces
- PS, sterile

cellGrade premium

Color	Bottom	Well volume	Cat. No.	2024 List Price
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96-well standard microplates

transparent	F-bottom	350 µL	782082	\$485.00
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Pack of 50 plates (individually wrapped, with lid)

96-well transparent bottom microplates

white	F-bottom	330 µL	782090	\$995.00
black	F-bottom	330 µL	782091	\$995.00

Pack of 50 plates (individually wrapped, with lid)

inertGrade

For cultivation of suspension cell lines

- Especially suited for cell cultures when adhesion is not desired
- Optimized surface characteristics reduce cell adhesion and protein absorption, minimizing enzyme and cellular activation
- Inhibits early differentiation of stem cells
- Sterilized with ethylene oxide
- PS, sterile

inertGrade

Color	Bottom	Well volume	Cat. No.	2024 List Price
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96-well standard microplates

transparent	U-bottom	330 µL	781900	\$640.00
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transparent	F-bottom	350 µL	781902	\$640.00
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Pack of 40 plates (individually wrapped, with lid)

96-well transparent bottom microplates

white	F-bottom	330 µL	781910	\$1,270.00
black	F-bottom	330 µL	781911	\$1,270.00

Pack of 40 plates (individually wrapped, with lid)



384-well standard-volume microplates



384-well transparent bottom microplates



1536-well standard-volume microplates

BRAND[®] Insert 2in1



Overview

- Suitable for 2D and 3D cell cultures
- Surface: cellGrade™ plus
- PC or PET membrane
- Pore sizes: 0.4, 1.0, 3.0, and 8.0 μm
- Can be used with all common 6-, 12- or 24-well multiwell plates

Flexible

- Keep using the multiwell plates or dishes you already use in your cell culture lab – and work with the advantage of a combined hanging and standing insert when using the BRAND Insert 2in1.
- When used as a hanging insert, the insert fits nearly all multiwell plates. For bigger wells and culture dishes, simply use the same insert as a standing insert.

Functional

- The cellGrade plus surface of the membranes ensures excellent cell attachment and growth. The highly transparent membranes give you clear visibility of your cell cultures, and the high pore density contributes to good permeability.
- Example applications: skin model production, 3D epithelium cultures, chemotaxis analyses, transmigration assays, transport and polarity studies, and more.

Three point mounting

Hook and two of the feet ensure precise positioning parallel to the well bottom

Membranes

USP class VI tested with cellGrade plus functional surfaces

Feet

For standing use ensure a precise 1 mm gap between membrane and bottom of the dish or well

Insert cylinder

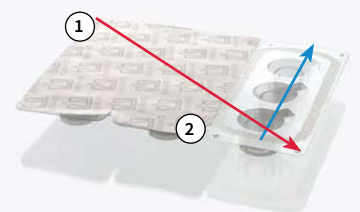
Fits standard multiwell plates

Removable hook

For standing use, the hook can be easily removed

Easy-to-use packaging:

- 1 Simply open the entire blister by pulling the sealing paper in one diagonal move (red arrow).

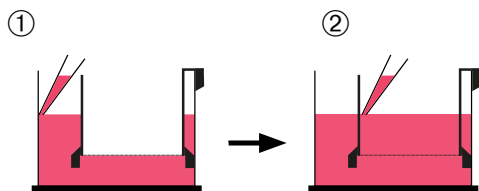


- 2 A perforation in the sealing paper also allows to open only one line of inserts and leave the others securely sealed (blue arrow).



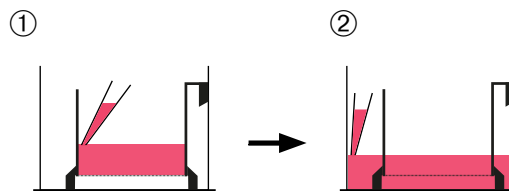
Hanging

To use the Insert 2in1 as a hanging insert, first add the medium to the multiwell plates and hang the insert inside the wells (make sure the medium comes into contact with the membrane). Then fill the insert with medium.



Standing

To use the Insert 2in1 as a standing insert, place the insert into the multiwell plate or culture dish. Add the medium to the insert first, and then into the well or culture dish.



BRAND Insert 2in1 working volume and culture area

Well	Working volume	Culture area
24-well	150 - 400 µl	0.6 cm ²
12-well	300 - 1000 µl	1.38 cm ²
6-well	800 - 3000 µl	4.83 cm ²

BRAND Insert 2in1 membrane properties

Membrane	Pore size	Pore density	Optic
PC membrane	0.4 µm	1 x 10 ⁸ cm ²	translucent
	8.0 µm	1 x 10 ⁵ cm ²	translucent
PET membrane	0.4 µm	2 x 10 ⁶ cm ²	transparent
	1.0 µm	1.6 x 10 ⁶ /cm ²	transparent
	3.0 µm	1.6 x 10 ⁶ /cm ²	transparent
	8.0 µm	1 x 10 ⁵ cm ²	translucent

Highest quality standards:

- Manufactured in a Class 8 cleanroom, in accordance with ISO 14644-1
- Insert made of medical grade polystyrene
- Sterile according to ISO 11137, Sterility Assurance Level SAL 10⁻⁶
- Non-cytotoxic according to ISO 10993-5
- Free of pyrogens and endotoxins, according to LAL test, detection limit 0.01 EU/mL

Insert 2in1 PS, cellGrade™ plus surface, sterile

Well	Pore size µm	Diameter mm	Pack of	PC membrane		PET membrane	
				Cat. No.	2024 List Price	Cat. No.	2024 List Price
24-well	0.4	8.8	48, single blister	782700	\$395.00	782710	\$395.00
	0.4	8.8	48, multi-pack blister	782701	360.00	782711	360.00
	1.0	8.8	48, single blister	—	—	782712	395.00
	1.0	8.8	48, multi-pack blister	—	—	782713	360.00
	3.0	8.8	48, single blister	—	—	782714	395.00
	3.0	8.8	48, multi-pack blister	—	—	782715	360.00
	8.0	8.8	48, single blister	782706	395.00	782716	395.00
	8.0	8.8	48, multi-pack blister	782707	360.00	782717	360.00
12-well	0.4	13.3	48, single blister	782720	435.00	782730	435.00
	0.4	13.3	36, multi-pack blister	782721	305.00	782731	305.00
	1.0	13.3	48, single blister	—	—	782732	435.00
	1.0	13.3	36, multi-pack blister	—	—	782733	360.00
	3.0	13.3	48, single blister	—	—	782734	435.00
	3.0	13.3	36, multi-pack blister	—	—	782735	360.00
	8.0	13.3	48, single blister	782726	435.00	782736	435.00
	8.0	13.3	36, multi-pack blister	782727	305.00	782737	305.00
6-well	0.4	24.8	24, single blister	782740	290.00	782750	290.00
	0.4	24.8	24, multi-pack blister	782741	270.00	782751	270.00
	1.0	24.8	24, single blister	—	—	782752	290.00
	1.0	24.8	24, multi-pack blister	—	—	782753	270.00
	3.0	24.8	24, single blister	—	—	782754	290.00
	3.0	24.8	24, multi-pack blister	—	—	782755	270.00
	8.0	24.8	24, single blister	782746	290.00	782756	290.00
	8.0	24.8	24, multi-pack blister	782747	270.00	782757	270.00



BRANDplates® Insert System

For Manual and Automated Cell and Tissue Culture Work

BRANDplates Insert System

The BRAND® Insert System, co-developed with the Fraunhofer Gesellschaft, Stuttgart, Germany, includes a choice of two specialized cell culture plates and two types of cell culture inserts for applications such as co-culture, migration studies, chemotaxis assays, and 3D tissue culture preparation (e.g., production of full-skin or epidermis models). Insert strips and plates are available individually or packed as a system. Key features to consider when selecting which components to utilize are plate selection and well size, insert type, and membrane pore size and material.

BRANDplates Insert System

Plate selection

24-well standard plate

- Plate includes 24 individually fillable wells that can be fitted with strips of 4 inserts and/or individual inserts.
- Used for basic applications such as co-culture, secretion studies, and migration studies.

6-well specialized plate

- Plate has 4 wells connected as one large, elongated well. This well is fitted with a strip of 4 inserts so that all 4 of the inserts in the strip can be supplied with medium at the same time.
- Used for *in vitro* preparation of tissue (3D tissue culture).
- cellGrade™ plus (sterile, hydrophilic with different chemical groups, such as carboxyl and hydroxyl groups, that are freely accessible) and pureGrade S surface (untreated, sterile)
- Manufactured according to the requirements in ANSI/SLAS Standards 1 and 4
- All plates have guide ridges for perfect insert fit and specially designed feeding ports for easy media changes, suitable for robotics/automation



24-well standard plate



6-well specialized plate

Description	Surface	Cat. No.	2024 List Price
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BRANDplates Insert System microplates

24-well standard plate

transparent	pureGrade S	782880	\$160.00
transparent	cellGrade plus	782890	160.00

Packs of 10 plates (individually wrapped with lid)

6-well specialized plate

transparent	pureGrade S	782881	185.00
transparent	cellGrade plus	782891	195.00

Packs of 10 plates (individually wrapped with lid)

Insert selection

Smooth-walled Inserts

- Smooth-walled for standard applications such as secretion studies, co-culture, migration studies, chemotaxis assays, etc.

Inserts with Inlet Opening System

- Inlet Opening System with special inlet channels, for automated *in vitro* preparation of human tissues. The Inlet Opening System enables rapid, consistent changing of media, from submersion culture to air-lift culture. The special inlet channels enable adjustment of the medium level without damage to the tissue model.
- Membrane material of PC or PET material for different optical requirements and cell visibility
- cellGrade plus surface
- Multiple membrane pore sizes available for different applications: 0.4 µm, 1.0 µm, 3.0 µm, 8.0 µm



Pore Size (µm)	PC membrane Cat. No.	2024 List Price	PET membrane Cat. No.	2024 List Price
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BRANDplates Smooth-walled insert strips

PS, cellGrade plus surface, sterile. 12 strips of 4 divisible inserts, Qty. 48

0.4	782800	\$325.00	782810	\$325.00
1	782820	325.00	—	—
3	782840	325.00	—	—
8	782860	325.00	782870	325.00

Strips with Inlet Opening System

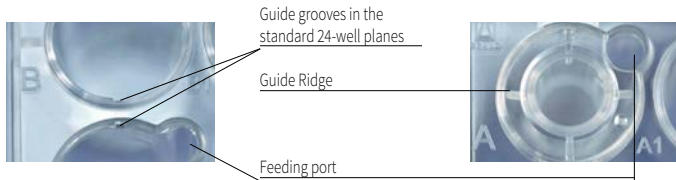
PS, cellGrade plus surface, sterile. 12 strips of 4 divisible inserts, Qty. 48

Pore Size (µm)	PC membrane Cat. No.	2024 List Price	PET membrane Cat. No.	2024 List Price
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0.4	782801	\$495.00	782811	\$495.00
1	782821	\$495.00	—	—
3	782841	\$495.00	—	—
8	782861	\$495.00	782871	495.00

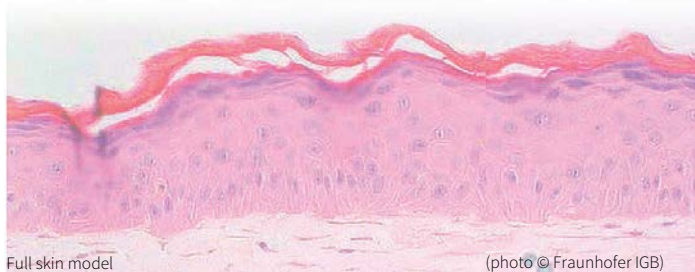
General applications

Inserts and plates should be selected with care. Plates are available in non-treated, sterile configurations (pureGrade™ S) or with enhanced tissue culture treatment (cellGrade™ plus). Insert pore size and material selection should be based on application. The most common applications and recommended pore sizes or materials are listed in the tables below. To ensure your product selections will work for your applications, request a free sample at www.brandtech.com.



Specialized 6-well system for 3D tissue culture applications

For advanced applications, such as 3D tissue reconstruction, use 6 well plates and insert strips of a defined material, pore size, and with or without the Inlet Opening System. For defined protocols on epidermis or full skin model reconstruction, please visit www.brandtech.com



Pore size	Application range
0.4 µm	Co-culture, transport studies, secretion studies, cell polarity studies, etc.
1.0 µm	Co-culture, transport studies, secretion studies, etc.
3.0 µm	Migration studies, chemotaxis studies, metastasis experiments, etc.
8.0 µm	Migration studies, chemotaxis studies, metastasis experiments, etc. See also the construction of full-thickness skin models by the Fraunhofer IGB (www.tissue-factory.com)

Properties	PC	PET
Optical properties	translucent	transparent
Cell visibility under Light Microscopy	-	+



Polypropylene & Deep-Well Plates

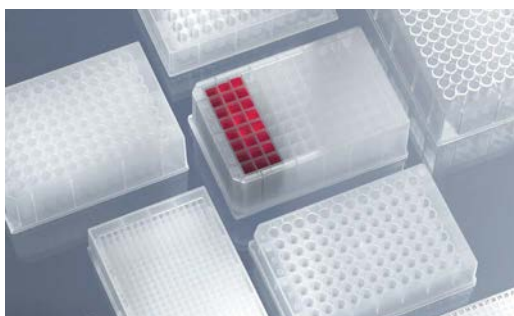
Deep-well plates

BRAND® Deep-well plates are excellent for sample storage, high throughput screening (HTS) assays requiring a motherplate, cell and tissue culture, and more. Choose polypropylene for chemical resistance to phenols, chloroform, and DMSO, or polystyrene for clarity or surface properties. Plates are compatible with most robotic samplers and automated liquid handling systems.

- Polypropylene plates are autoclavable at 121 °C for 20 minutes, and withstand temperatures as low as -80 °C
- Round bottom wells for optimal sample mixing
- Wells are alphanumerically coded, with a corner cutaway for easy orientation and well identification
- Conical (V-bottom) wells for pelleting and maximum sample recovery
- Compatible with multichannel pipettes and automated liquid handling systems from all leading manufacturers
- Plates come in 96-well and 384-well varieties—stackable for easy storage



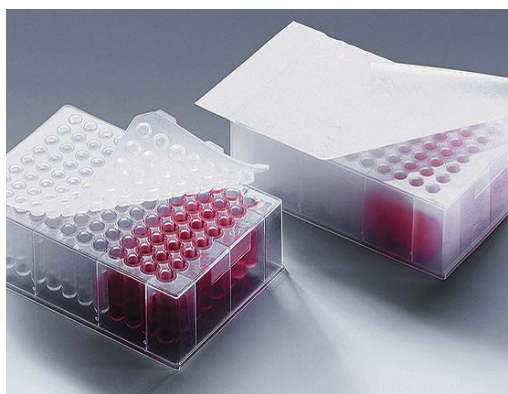
BRAND 1.2 mL Low Profile plate reduces space requirements by approximately 30%



Description	Well Volume	Well Shape	Well Bottom	Qty./ Pack	Cat. No.	2024 List Price
Deep-well plates						
96-well, polypropylene	0.3 mL	round	U-bottom	100	701330	\$300.00
96-well, polypropylene	0.5 mL	round	U-bottom	48	701346	455.00
96-well, polypropylene	1.1 mL	round	U-bottom	24	701350	175.00
96-well, polystyrene	1.1 mL	round	U-bottom	32	701352	220.00
96-well, polypropylene, Low Profile	1.2 mL	round	U-bottom	50	701340	355.00
96-well, polypropylene	2.2 mL	square	U-bottom	24	701354	255.00
96-well, polypropylene	2.2 mL	square	V-bottom	50	DW2200	565.00
96-well, polypropylene, sterile	2.2 mL	square	V-bottom	50	DW2250	715.00
384-well, polypropylene	0.3 mL	square	V-bottom	48	701355	745.00

Description	Autoclavable	Qty./ Pack	Cat. No.	2024 List Price
Mat covers				
Mat for 0.5 mL 96-well plates, PP	Yes, 121 °C for 15 min.	50	701358	\$480.00
Mat for 1.1 mL 96-well plates, mod. PE	Yes, 121 °C for 15 min.	24	701360	140.00
Mat for 1.2 mL 96-well plates, TPE	Yes, 121 °C for 15 min.	50	701368	380.00
Mat for 2.2 mL 96-well plates, EVA	No	24	701362	113.00
Pierceable Mat for 2.2 mL 96-well plates, Silicone	Yes, 121 °C for 15 min.	50	M2200	550.00
Sterile Pierceable Mat for 2.2 mL 96-well plates, Silicone	Yes, 121 °C for 15 min.	50	M2250	600.00
Mat for 0.3 mL 384-well plates, Silicone	No	50	701357	725.00

Sealing films available, see page 82



Deep-well plate mat covers

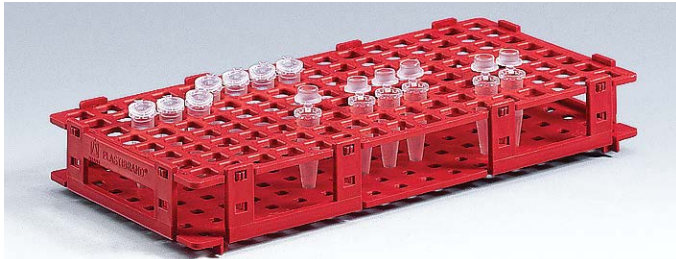
Mat covers provide an effective plug seal for each well (maximum well volume is reduced).



BRAND® Microcentrifuge Tubes

BRAND microcentrifuge tubes fit most common rotors and may be spun at 10,000 x g for 0.5 mL, 20,000 x g for 1.5 mL, 30,000 x g for tubes with lid closure. Manufactured from virgin polypropylene, these highly translucent tubes are free from flash, air bubbles, and streaks.

- Uniform wall thickness for consistent, repeatable results
- Tight, leak-free seal is easy to open, even when wearing gloves
- Sterile RNase-, DNase, DNA-free microcentrifuge tubes available for critical applications
- Colored tubes simplify sample identification
- Mini coolers hold twelve microtubes from 0.5 mL to 2.0 mL in size and, when pre-frozen, maintain the rated temperature for approximately one hour (45 minutes for -70 °C model)



128-tube Rack



20-tube Rack

Tube Vol mL	Color	OD x H, mm	Qty./ Pack	Cat. No.	2024 List price
Non-sterile microcentrifuge tubes with lids					
0.5 w/lid closure	clear	10 x 30	500	780536	\$68.00
0.5	clear	8 x 32	1000	780507	89.00
1.5	clear	11 x 41	500	780420	38.60
1.5 w/lid closure	clear	11 x 39	1000	780540	107.00
1.5	yellow	11 x 41	500	780421	38.60
1.5	blue	11 x 41	500	780422	38.60
1.5	green	11 x 41	500	780423	38.60
1.5	orange	11 x 41	500	780424	38.60
1.5	amber	11 x 41	500	780425	38.60
2.0	clear	11 x 41	500	780550	71.00
2.0 w/lid closure	clear	12.8 x 40	500	780546	68.00
RNase-, DNase, DNA-free microcentrifuge tubes					
1.5	clear	11 x 41	250	MTS15	91.00
Accessories					
128-tube rack			5	4341052	135.00
84-tube rack			5	4341002	135.00
20-tube rack for 1.5 mL tubes and smaller*			1	780605	36.60
0.5 mL adapters for 20-tube rack			20	780608	48.00
Centrifuge tube mini cooler, 0 °C			1	114930	235.00
Centrifuge tube mini cooler, -20 °C			1	114935	235.00
Centrifuge tube mini cooler, -70 °C			1	114940	235.00

*adapter required for 0.5 mL tubes



Centrifuge Tube Mini Cooler, -20 °C



0.5 mL Microcentrifuge tubes



1.5 mL Microcentrifuge tubes



2.0 mL Microcentrifuge tubes



1.5 mL Microcentrifuge tubes with lid closure



Lid closure for 1.5 mL Microcentrifuge tubes

BRAND® PCR Tubes, Strips & Plates

BRAND PCR tubes, strips, and plates are manufactured from high quality virgin resins for excellent, reproducible results in most PCR applications. This collection of individual tubes, tube strips, cap strips and multiwell plates are manufactured without lubricants or chemical additives that can contaminate reagents and samples.

- PCR tubes, strip tubes, and plates compatible with most thermal cyclers
- Standard (0.2 mL) and low-profile (0.15 mL) products available
- All PCR products are RNase-, DNase-, and DNA-free
- Thin, uniform walls for precise thermal transfer
- White PCR products with smooth surfaces to optimize reflection of fluorescent signal for quantitative Real Time PCR (qPCR)

Description	Qty./Pack	Cat. No.	2024 List Price
PCR tubes			
0.2 mL tubes with domed cap, Clear	1000	781300	\$140.00
0.2 mL tubes with flat cap, Clear	1000	781305	77.00
0.2 mL tubes with flat cap, Rose	1000	781301	77.00
0.2 mL tubes with flat cap, Yellow	1000	781302	77.00
0.2 mL tubes with flat cap, Green	1000	781303	77.00
0.2 mL tubes with flat cap, Blue	1000	781304	77.00
0.5 mL tubes with flat cap, Clear	1000	781310	88.00
0.5 mL tubes with flat cap, Rose	1000	781311	88.00
0.5 mL tubes with flat cap, Yellow	1000	781312	88.00
0.5 mL tubes with flat cap, Green	1000	781313	88.00
0.5 mL tubes with flat cap, Blue	1000	781314	88.00
PCR 8-strip tubes			
8 x 0.2 mL tube strip with individual attached flat caps, Clear (qPCR)	120	781332	140.00
8 x 0.15 mL low profile tube strip with individual attached flat caps, Clear (qPCR)	120	781333	140.00
8 x 0.2 mL tube strips with individual attached domed caps, Clear	120	P1300	130.00
8 x 0.2 mL Rigid PCR tube strips with individual attached flat caps, Clear (qPCR)	120	P1200	130.00
8 x 0.15 mL Rigid low profile PCR tube strips with individual attached flat caps, Clear (qPCR)	120	P1100	130.00
8 x 0.2 mL tube strip with attached domed strip cap	125	781330	285.00
8 x 0.2 mL tube strip with 8-strip flat caps, Clear (qPCR)	250	781326	335.00
8 x 0.2 mL tube strip with 8-strip domed caps, Clear	250	781327	275.00
8 x 0.2 mL tube strip, Clear (qPCR)	125	781320	95.00
8 x 0.2 mL tube strip, Rose	125	781321	95.00
8 x 0.2 mL tube strip, Yellow	125	781322	95.00
8 x 0.2 mL tube strip, Green	125	781323	95.00
8 x 0.2 mL tube strip, Blue	125	781324	95.00
PCR 8-strip caps			
8-strip flat caps, Clear (qPCR)	125	781334	58.00
8-strip domed caps, Clear	125	781340	38.20
8-strip domed caps, Rose	125	781341	46.20
8-strip domed caps, Yellow	125	781342	46.20
8-strip domed caps, Green	125	781343	46.20
8-strip domed caps, Blue	125	781344	46.20
8-strip flat caps, Clear (qPCR) plates*	300	781413	180.00
8-strip domed caps, Clear (qPCR) plates*	300	781414	180.00
PCR 12-strip tubes and caps			
12 x 0.2 mL tube strip, Clear	125	781280	305.00
12-strip domed caps, Clear	125	781290	76.00

*For use with 781377 & 781378



PCR 12-strip tubes & caps

PCR accessories

PCR caps and films are available in a variety of materials to reduce evaporative losses. All sealing films are DNA-, RNase-, and

DNase-free. A unique cap tool allows for easy and ergonomic sealing of PCR plates with strip caps.



Sealing film



PCR Mini Cooler



Cap Tool



Sealing paddles

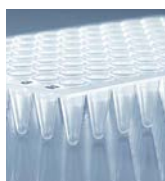
Description	Qty./Pack	Cat. No.	2024 List Price
Accessories			
Cap Tool	1	781419	\$75.00
PCR Box/Rack	5	781362	108.00
PCR Mini Cooler	2	781260	185.00
PCR sealing films			
PCR Sealing Film Strips, 8 x 8 row strips per sheet, PE	400	781383	60.00
PP Film for PCR, single sheet	100	781390	175.00
Polyolefin film for Real Time PCR (qPCR), single sheet	100	781391ES	340.00
Al Sealing Film Strips, 6 x 8 row strips per sheet	300	781382	73.00
Sealing Paddle	2	701381	23.80

Sealing films available (see page 82)



PCR plates in clear and white are available in 24-, 48-, 96- standard (0.2 mL) and low profile (0.15 mL) and 384-well configurations for most thermal cyclers. Plates have rigid decks and blue alphanumeric coding for easy handling and sample identification. For thermal cycler compatibility or product samples, visit www.brandtech.com.

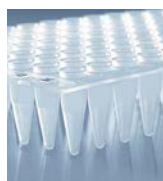
Non-skirted



Low profile (0.15mL)



Standard profile (0.2mL)



Standard profile (0.2mL), elevated rim

Semi-skirted



Low profile (0.15mL)



Low profile (0.15mL), raised skirt



Standard profile (0.2mL), elevated rim



Standard profile (0.2mL)

Skirted



96-well, skirted

Description	Qty./Pack	Cat. No.	2024 List Price
Clear PCR Plates			
24-well plate, non-skirted, 0.2 mL	40	781411	\$128.00
48-well plate, non-skirted, 0.2 mL	20	781415	128.00
96-well plate, non-skirted, elevated rim, 0.2 mL	50	781350	260.00
96-well plate, non-skirted, low-profile, 0.15 mL	50	781366	260.00
96-well plate, non-skirted, standard profile, 0.2 mL	50	781368	260.00
96-well plate, semi-skirted, elevated rim, 0.2 mL	50	781400	320.00
96-well plate, semi-skirted, low-profile, 0.15 mL	50	781371	260.00
96-well plate, semi-skirted, low-profile, raised skirt, 0.15 mL	50	781373	260.00
96-well plate, semi-skirted, standard profile, 0.2 mL	50	781375	260.00
96-well plate, skirted, low-profile, 0.15 mL	50	781377	465.00
384-well plate, skirted	50	781345	395.00
White PCR Plastics (all suitable for qPCR)			
8 x 0.2 mL tube strip	125	781325	210.00
8 x 0.2 mL tube strip with individual attached flat caps	120	781316	140.00
8 x 0.15 mL low-profile tube strip with individual attached flat caps	120	781317	140.00
24-well plate, non-skirted, 0.2 mL	40	781412	143.00
48-well plate, non-skirted, 0.2 mL	20	781416	143.00
96-well plate, non-skirted, 0.2 mL	50	781354	325.00
96-well plate, non-skirted, low-profile, 0.15 mL	50	781367	290.00
96-well plate, non-skirted, standard profile, 0.2 mL	50	781369	290.00
96-well plate, semi-skirted, standard profile, 0.2 mL	50	781376	290.00
96-well plate, semi-skirted, standard profile, 0.2 mL	50	781357	440.00
96-well plate, semi-skirted, low-profile, 0.15 mL	50	781372	290.00
96-well plate, semi-skirted, low-profile, raised skirt, 0.15 mL	50	781374	290.00
96-well plate, skirted, low-profile, 0.15 mL	50	781378	480.00
96-well plate, low-profile, for Roche LightCycler®, 0.15 mL	50	781364	425.00
96-well plate, low-profile, for Roche LightCycler, with fifty sheets of qPCR sealing film, 0.15 mL	50	781365	560.00
384-well plate, full skirt, for Roche LightCycler	50	781358	750.00

NEW! Rigid Frame 96- and 384-well PCR Plates

For medium and high sample throughput, 96- and 384-well plates from BRAND are the efficient solution for PCR and qPCR. Our Rigid Frame PCR plates have a strong polycarbonate frame to ensure safe handling in semiautomated and automated pipetting systems and optimal evaporation protection.

Description	Vol (µl)	Frame color	Well color	qty/pk	Cat. No.	2024 List Price
Rigid Frame PCR Plates - BIO-CERT® PCR QUALITY						
96-well, semi skirted, standard profile	200	clear	tansparent	50 plates/pk	781547	\$250.00
96-well, semi skirted, standard profile	200	blue	tansparent	50 plates/pk	781548	250.00
96-well, full skirted, low profile	150	frosted	tansparent	50 plates/pk	781541	250.00
96-well, full skirted, low profile	150	gold	tansparent	50 plates/pk	781542	250.00
96-well, full skirted, low profile	150	red	tansparent	50 plates/pk	781543	250.00
96-well, full skirted, low profile	150	green	tansparent	50 plates/pk	781544	250.00
96-well, full skirted, low profile	150	blue	tansparent	50 plates/pk	781545	250.00
96-well, full skirted, low profile	150	white	white	50 plates/pk	781546	250.00
96-well, semi skirted, low profile	150	Transparent	White	50 plates/pk	781549	250.00
348-well, full skirted, low profile	30	frosted	Transparent	50 plates/pk	781538	312.60
348-well, full skirted, low profile	30	frosted	White	50 plates/pk	781539	312.60



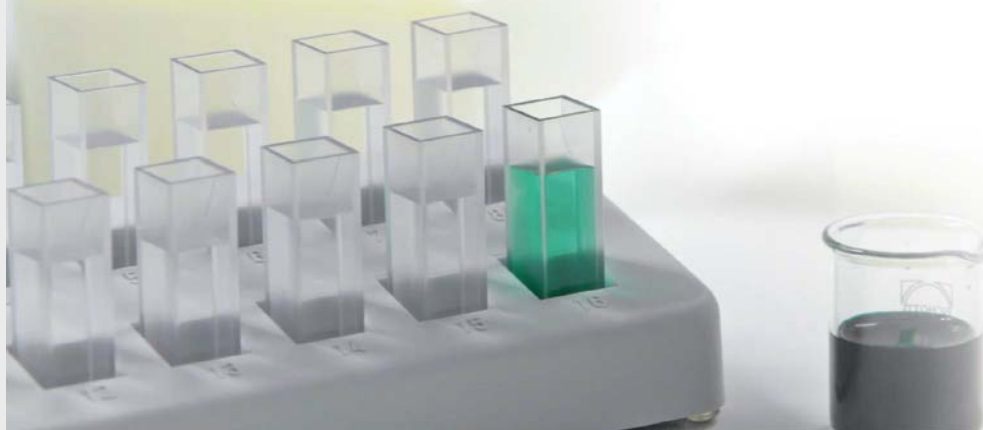
BRAND[®] Plastic Cuvettes

Why BRAND Disposable Cuvettes?

BRAND is world-renowned as the producer of premium disposable cuvettes. Over thirty years of experience manufacturing disposable cuvettes ensures that every BRAND cuvette is manufactured to the most exacting standards for reproducible results.

- **Virgin resins**—BRAND cuvettes are manufactured from the highest quality virgin resins for superior optical quality. Choose economical polystyrene for determinations above 340 nm. Choose polymethyl methacrylate (PMMA or “acrylic”) when performing assays above 300 nm. For assays with wavelengths as short as 230 nm, or that require enhanced chemical compatibility, choose BRAND UV-Cuvettes, made of a proprietary resin.
- **Mold-cavity matching**—All plastic cuvettes are manufactured in multi-cavity molds, producing multiple cuvettes with each molding operation. Even with BRAND’s experience and attention to manufacturing detail, nothing can prevent slight differences among the cavities that can lead to variation in extinction coefficients. Rather than randomly aggregate cuvettes from all cavities, BRAND’s automated production process sorts the cuvettes by mold cavity; each package only contains cuvettes from the same mold cavity. This ensures the lowest possible cuvette-to-cuvette variance, and more accurate measurements. Robotic sorting also eliminates the risk of human error and potential contamination.
- **Protective packaging**—BRAND cuvettes are encased in dust-free, low-scratching expanded polystyrene packaging. This ensures that premium cuvettes arrive in the laboratory in the same pristine condition they were in at the factory, with optical quality windows and free of contaminants. For applications in which the highest purity is required, BRAND ultra-micro UV-Cuvettes are available individually wrapped and free of DNA, DNase and RNase. Individual packaging offers the convenience of disposability and a degree of sample protection that is unmatched by any reusable cuvette.
- **Fluorimetry cuvettes**—BRAND brings three decades of experience molding high-quality spectrophotometry cuvettes to new four-sided clear cuvettes for fluorimetry. Available in standard polystyrene or a proprietary polymer with ultra-low auto-fluorescence for the highest precision measurements.

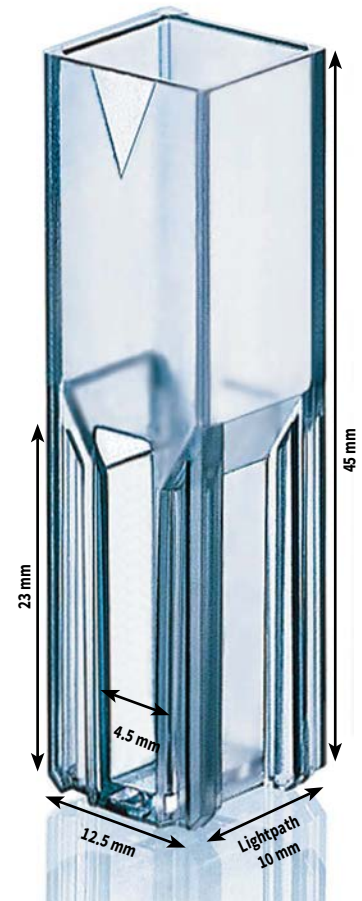
The BRAND logo,
your assurance of
a quality cuvette



Technical Data

BRAND® plastic spectrophotometry cuvettes are an excellent choice for most spectrophotometry applications in the visible and UV ranges. Cuvettes manufactured from PS and PMMA, provide accurate, reliable results even at wavelengths as low as 300 nm. For enhanced chemical compatibility, or measurements to 230 nm, choose BRAND UV-Cuvettes. These disposable cuvettes are available in macro and semi-micro sizes to accommodate most sample volumes. BRAND plastic cuvettes are compatible with most spectrophotometers and photometers using a standard 10 mm path length.

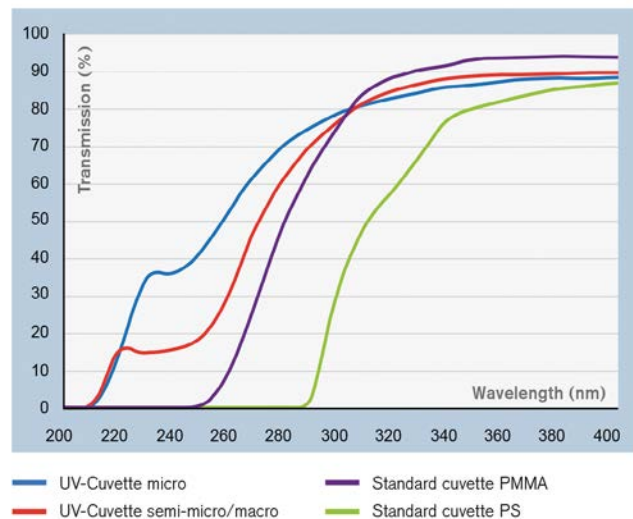
- **Easy to use**—BRAND plastic disposable cuvettes include an arrow mark to indicate direction of transmission and reduce variation.
- **Volumes for most needs**—PS and PMMA cuvettes are available in both macro and semi-micro sizes to adapt to the needs of most laboratory applications. Semi-micro cuvettes require only 1.5 mL of sample volume to provide reliable, accurate results.
- **Perform consistently**—Cuvettes are manufactured from high-quality materials, and are grouped by manufacturing mold cavity to ensure the lowest variation in extinction coefficient.
- **Manufactured by BRAND**—One of the world’s largest producers of cuvettes, BRAND’s nearly thirty years of quality cuvette manufacturing experience is your assurance of reliability.



BRAND semi-micro disposable cuvette

Description	Pack of	Cat. No.	2024 List Price
BRAND polystyrene (PS) cuvettes (specifications on p. 101)			
Macro	500	759070D	\$102.00
Macro	100	759071D	24.40
Semi-micro	500	759075D	112.00
Semi-micro	100	759076D	25.60
BRAND methacrylate (PMMA) cuvettes (specifications on p. 101)			
Macro	500	759080D	148.00
Macro	100	759081D	33.80
Semi-micro	500	759085D	128.00
Semi-micro	100	759086D	28.20
Polypropylene cuvette rack, 16 numbered positions	1	759500	33.00

Transmission curves of different cuvettes

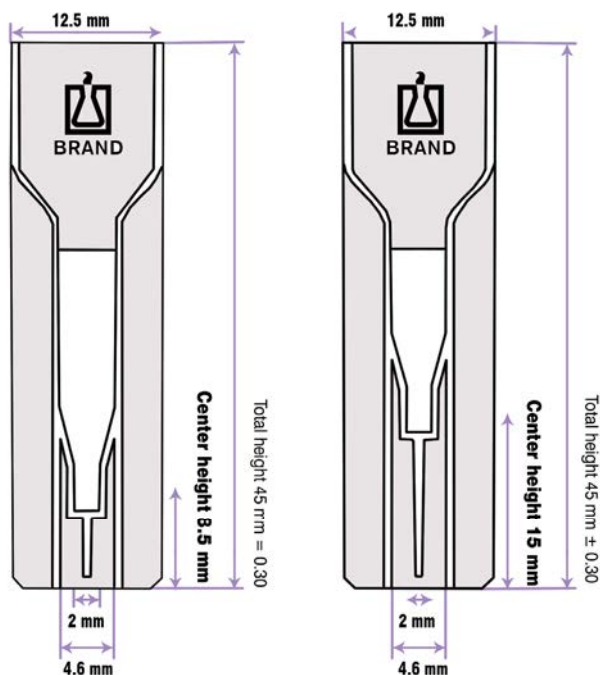


To achieve reproducible results: Before the actual measurement, always determine the blank value for the cuvette, and determine the linear range of measurement by means of a calibration curve.

BRAND® UV-Cuvettes

UV-transparent, disposable cuvettes from BRAND replace expensive, fragile quartz cuvettes and are excellent for DNA, RNA, and protein analyses between 230-900 nm. See transmission curves on page 99. Made from a proprietary polycyclical olefin, they are resistant to many aggressive solvents and eliminate the tedious maintenance, cleaning, and contamination risk of quartz cuvettes. Additionally, they fit most commercial spectrophotometers and photometers without requiring the use of special adapters.

- **Eliminate the hassles of quartz cuvettes**—No more washing, cross-contamination, breakage, and expense associated with fragile quartz cuvettes.
- **Allow smaller sample sizes**—In addition to macro (2.5 mL) and semi-micro (1.5 mL) sizes, BRAND UV-Cuvettes are also available in micro sizes that require only 70 μ L of sample volume.
- **Micro cuvettes are available individually wrapped**—Independently-certified DNA-, DNase-, RNase-free for an extra degree of sample protection.
- **Resist most chemicals**—UV-Cuvettes may be used with most polar organic solvents, as well as a broad range of acids and bases. They have much greater chemical resistance than PS or PMMA cuvettes and are compatible with chemicals such as acetone, butanol, DMF, and concentrated hydrochloric acid.
- **Perform consistently**—UV-Cuvettes are manufactured from scratch-resistant materials, and are grouped by manufacturing mold cavity number to ensure the lowest variation in extinction coefficient.
- **Manufactured by BRAND**—One of the world's largest cuvette manufacturers. Nearly thirty years of experience producing quality cuvettes is your assurance of reliability.



Two window heights to fit most spectrophotometers

To reduce the sample size required by BRAND's micro sized UV-Cuvettes, the floor of the sample chamber is elevated to just below the light path. As there is not a single standard for light beam height, BRAND offers ultra-micro cuvettes with two different z-dimensions to help sample conservation.

Not sure of the beam height of your instrument?

Check our website for help with cuvette selection
www.brandtech.com/beam_heights.



Polypropylene cuvette rack with 16 numbered positions. Autoclavable to 121 °C



Specifications – BRAND Cuvette

Filling volume	Micro	Semi-micro	Macro
Minimum	70 µL	1.5 mL	2.5 mL
Maximum	550 µL (15 mm window) 850 µL (8.5 mm window)	3.0 mL	4.5 mL
Window dimensions	2 x 3.5 mm (minimum)	4.5 x 23 mm	10 x 35 mm
Light path	10 mm	10 mm	10 mm
Range of application UV	230-900 nm	230-900 nm	230-900 nm
Range of application PMMA	—	300-900 nm	300-900 nm
Range of application PS	—	340-900 nm	340-900 nm

www.brandtech.com/cuvette_comp.asp for additional cuvette compatibility information.



BRAND micro UV-Cuvettes. 15 mm (left) and 8.5 mm (right) window heights

UV-transparent, chemical-resistant, and disposable...save time and money



Round polyethylene caps provide plug-seal for reliable sample storage. Available in 4 colors!

Description	Qty./Pack	Cat. No.	2024 List Price
BRAND UV-Cuvette (specifications above)			
Macro	100	759170	\$107.00
Semi-micro	500	759165	464.00
Semi-micro	100	759150	108.00
BRAND UV-Cuvette micro (15 mm window height)	500	759230	495.00
BRAND UV-Cuvette micro (15 mm window height)	100	759220	107.00
Individually-wrapped BRAND UV-Cuvette ultra-micro (15 mm window height)	100	759235	158.00
BRAND UV-Cuvette micro (8.5 mm window height)	500	759210	495.00
BRAND UV-Cuvette micro (8.5 mm window height)	100	759200	107.00
Individually-wrapped BRAND UV-Cuvette ultra-micro (8.5 mm window height)	100	759215	158.00
Cuvette caps and accessories			
Cuvette caps, round, for micro cuvettes, Blue	100	759240	35.80
Cuvette caps, round, for micro cuvettes, Yellow	100	759241	35.80
Cuvette caps, round, for micro cuvettes, Green	100	759242	35.80
Cuvette caps, round, for micro cuvettes, Orange	100	759243	35.80
Polypropylene cuvette rack, 16 numbered positions	1	759500	34.80

Examples of chemical resistance of UV-Cuvettes

Substance	UV-Cuvette
Acetic acid 100%	+
Acetone	+
Ammonia	+
Benzaldehyde	+
Butanol	+
Chloroform	-
Dioxane	+
DMF	+
Ethyl acetate	+
Hexane	-
Hydrochloric acid 36%	+
Hydrofluoric acid 10%	+
Isopropanol	+
Nitric acid 65%	+
Sodium hydroxide	+

BRAND® Fluorimetry Cuvettes

When results count, choose BRAND disposable cuvettes with four optically clear sides for fluorescence applications. Available in high quality polystyrene for measurements from 340 nm to 800 nm, as well as a proprietary polymer for precise measurements in both the visible and UV-range (230-800 nm), allowing for shorter excitation wavelengths than have been traditionally possible with disposable cuvettes. This UV-transparent plastic also has virtually no autofluorescence for high signal-to-noise ratios. Cuvettes have a standard 10 mm light path for use in all standard fluorimeters.

BRAND fluorescence cuvettes, like all BRAND cuvettes, are made of the highest quality raw materials, precision molded for the best optical clarity, with parallel walls of uniform thickness to optimize transmission and minimize refraction. They are mold-cavity sorted ensuring cuvette-to-cuvette consistency for highly reproducible results. With an industry standard 10 mm light path, BRAND 4-sided clear cuvettes fit most common fluorimeters.

Cuvettes are packaged in trays containing 100 cuvettes. Trays are made of low-dust, non-scratching, expanded polystyrene.

- **Mold-cavity sorted**—Each tray contains cuvettes from a single mold cavity to minimize variability between cuvettes.
- **Manufactured by BRAND**—One of the leading manufacturers of premium quality disposable cuvettes for nearly thirty years, BRAND is your assurance of reliability.

Technical Data

Specifications – BRAND Fluorimetry Cuvettes

Minimum filling volume	2.5 mL
Maximum filling volume	4.5 mL
Window dimensions	10 x 35 mm
Light path	10 mm
Exterior dimensions	12.5 x 12.5 x 45 mm

Description	Cat. No.	2024 List Price
BRAND polystyrene (PS) Fluorimetry Cuvettes		
Pack of 100	759030	\$26.00
Pack of 500	759035	107.00
BRAND UV-transparent Fluorimetry Cuvettes		
Pack of 100	759125	112.00
Pack of 500	759128	525.00



About fluorescence measurement

Fluorescence occurs when energy is supplied to a sample by electromagnetic radiation, usually UV-light (photons). The energy “excites” the molecules thereby “kicking” an electron of an atom from a lower energy state into an excited higher energy state. The lifetime of the excited state is very short (1-100 ns). When the electron falls back to a lower energy state it releases the energy in the form of light (i.e., fluorescence). Some of the fluorescent light passes through a monochromator and then reaches a detector. The fluorescent light is emitted in all directions, however the detector is usually placed at 90° to the excitation light beam to minimize interference. Hence the need for four-sided clear cuvettes for fluorescence applications.



Stainless Steel Support Jacks

Bochem® stainless steel support jacks are rugged supports that are excellent for a wide variety of critical laboratory applications. Constructed entirely from stainless steel with POM rollers and a PF31 phenolic knob, these support jacks are exceptionally stable and well-suited for corrosive environments such as fume hoods, water baths, marine and industrial labs, and more.

- **Supports a wide variety of items**—Stainless steel support jacks are available in a range of sizes and load capacities up to 60 kg, static load.
- **Robust lift mechanism**—Provides stability and torsional rigidity for safe operation.
- **Helps reduce contamination**—Support jacks feature smooth surfaces that are easy to clean and sanitize. All mechanical support jacks are fully autoclavable at 121 °C for sterile applications.
- **Reaches new heights**—Maxi-Lift stainless steel support jacks have a maximum height that is approximately 30% higher than traditional support jacks for special applications.
- **Options to meet your needs**—Support jacks manufactured with anodized aluminum and powder-coated aluminum decks (on stainless steel lift mechanisms) for less critical applications.
- **Two-year warranty on all support jacks**



Maxi-Lift Stainless
Steel Support Jacks

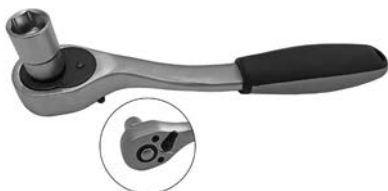
Rugged laboratory supports for
critical environments

Stainless Steel Support Jacks

Ratcheting handle

A ratcheting handle is provided with the (30 x 30 cm and 40 x 40 cm) models.

Simply slides onto the handwheel to greatly reduce the effort required for raising and lowering the deck.



Remote control

The wireless remote for Electronic Lift 240 simplifies control, even when the lift is in a fume hood.



Description Plate, L x W, cm	Minimum Height, cm	Maximum Height, cm	Maximum Static Load, kg	Catalog No.	2024 List Price
Stainless steel support jacks					
10 x 10	5.5	12.0	10	B11115	\$320.00
16 x 13	6.0	27.5	30	B11120	355.00
20 x 20	6.0	27.5	30	B11130	435.00
24 x 24	6.0	27.5	30	B11140	450.00
30 x 30	9.0	47.0	60	B11180	2,160.00
40 x 40	9.0	47.0	60	B11190	2,430.00
Maxi-lift stainless steel support jacks					
16 x 13	7.5	40.0	30	B11122	425.00
20 x 20	7.5	40.0	30	B11132	515.00
Electronic Lift 240					
24 x 24	12	30.0	25*	B11220	5,390.00
Anodized aluminum deck support jacks					
10 x 10	5.5	12.0	10	B11016	250.00
16 x 13	6.0	27.5	30	B11021	275.00
20 x 20	6.0	27.5	30	B11031	330.00
24 x 24	6.0	27.5	30	B11041	370.00
30 x 30	9.0	47.0	60	B11081	1,580.00
40 x 40	9.0	47.0	60	B11091	1,860.00
Powder-coated aluminum deck support jacks					
10 x 10	5.5	12.0	10	B11015	227.00
16 x 13	6.0	27.5	30	B11020	255.00
20 x 20	6.0	27.5	30	B11030	310.00
24 x 24	6.0	27.5	30	B11040	335.00
30 x 30	9.0	47.0	60	B11080	1,390.00
40 x 40	9.0	47.0	60	B11090	1,710.00
Accessories					
Ratcheting handle (for 30x30 cm or 40x40 cm support jacks)				B11089	87.00

*Dynamic load

Also available

- a. LIFT 240 Electronic adjustable support jack, with remote control, stainless steel construction and PTFE bellows to protect electronic components.
- b. Support jacks with epoxy powder-coated aluminum and anodized aluminum decks, with stainless steel lift mechanisms.



a.



b.

Test Tube Racks

Stainless steel test tube racks

Racks are constructed entirely of rugged, corrosion-resistant 304 stainless steel. Highly polished surfaces reduce porosity and reinforce corrosion-resistant properties.



Test tube racks

Test tube racks

Maximum Tube Diameter, mm	Maximum # of Tubes	Format	Length mm	Width mm	Height mm	Cat. No.	2024 List Price
17	12	2 x 6	145	52	90	B8210	\$73.00
17	24	2 x 12	278	52	90	B8212	80.00
17	48	4 x 12	287	97	90	B8214	140.00
20	12	2 x 6	164	60	90	B8220	110.00
20	24	2 x 12	310	60	90	B8222	125.00



Test tube racks, Z-style

Test tube racks, Z-style

Maximum Tube Diameter, mm	Maximum # of tubes	Format	Length mm	Width mm	Height mm	Cat. No.	2024 List Price
13	50	10 x 5	50	165	85	B8290	\$64.00
17	50	10 x 5	50	220	110	B8291	64.00
13	25	5 x 5	50	85	85	B8292	47.60
17	25	5 x 5	50	110	110	B8293	47.60

Polypropylene test tube racks

Sturdy polypropylene racks with alphanumeric positions for easy sample identification. Racks are stackable, non-conductive, and will not float in water baths. Suitable for use in temperatures from -20 °C to 90 °C . Supplied in three pieces for easy and permanent assembly, in packs of five racks.



Test tube racks, PP

Test tube racks, PP

Maximum Tube Diameter, mm	Format	Length mm	Width mm	Height mm	White Cat. No.	Blue Cat. No.	Red Cat. No.	2024 List Price
13	6 x 14	265	126	75	4340000	4340001	—	\$100.00
16	5 x 11	265	126	75	4340060	4340061	4340062	100.00
18	5 x 11	265	126	75	4340010	4340011	4340012	100.00
20	4 x 10	265	126	75	4340020	4340021	4340022	100.00
25	4 x 8	265	126	88	4340030	4340031	4340032	100.00
30	3 x 7	265	126	88	4340040	4340041	4340042	100.00

Sample Cups for Clinical Analyzers

BRAND® sample cups are made from virgin polystyrene and are designed to fit many common analyzers. Caps and lids are made of polyethylene for a snug fit. Cups and caps meet CE-IVD Directive 98/79 (except 722060).



[a] Sample Cups for Technicon® Analyzers



[b] Push-on Caps to fit cup #115015 and 115016



[c] Sample cups for Coulter Counter® with lids



[d] Sample cups with snap caps

Sample cups

Description	Capacity mL	Upper diameter mm	Lower diameter mm	Height mm	Qty./Pack	Cat. No.	2024 List Price
Sample Cups for Technicon Analyzers [a]	1.5	15	12.2	22.7	12000	115015	\$805.00
	2	14.8	12.8	24.9	10000	115016	865.00
	4	17	13.3	38	6000	115017	610.00
Push-on caps to fit cup #115015 and 115016 [b]					1000	115020	81.00
Sample Cups for Coulter Counter® with Lids [c]	20	32	n/a	56	1000	722055	265.00
Sample Cups with snap caps [d]	12	22	22	38	1000	722060	415.00

Mortar and pestle

Description	Cat. No.	2024 List Price
Pestle, 125 mm	110702	\$47.00
Mortar, with base/spout, 125 mm x 80 mm	110703	42.60



Mucasol® Universal Detergent

Liquid, alkaline high-performance concentrate for immersion and ultrasonic baths. Universal cleaner for laboratory equipment and instruments made of glass, porcelain, plastic, rubber, and metal. Items are cleaned in ~10-30 minutes, without mechanical help. Mucasol replaces chromosulfuric acid, is free from chlorine and caustic alkalis, is non-toxic, non-aggressive, and biodegradable. Prolonged exposure of zinc and non-anodized aluminium surfaces should be avoided.

Ingredients

- > 30% phosphates
- < 5% anionic surfactants, amphoteric surfactants, complexing agents, corrosion inhibitors, auxiliary agents

Concentration for use

- Ultrasonic bath: 0.2 - 2% (1.4 - 14 mL/L)
- Immersion bath: 0.7 - 3% (5 - 22 mL/L)

Chemical and physical specifications

- Light green, clear liquid
- Density—approximately 1.4 g/mL
- pH value (0.7%)—approximately 11.5
- pH value (3%)—approximately 11.7

Mucasol

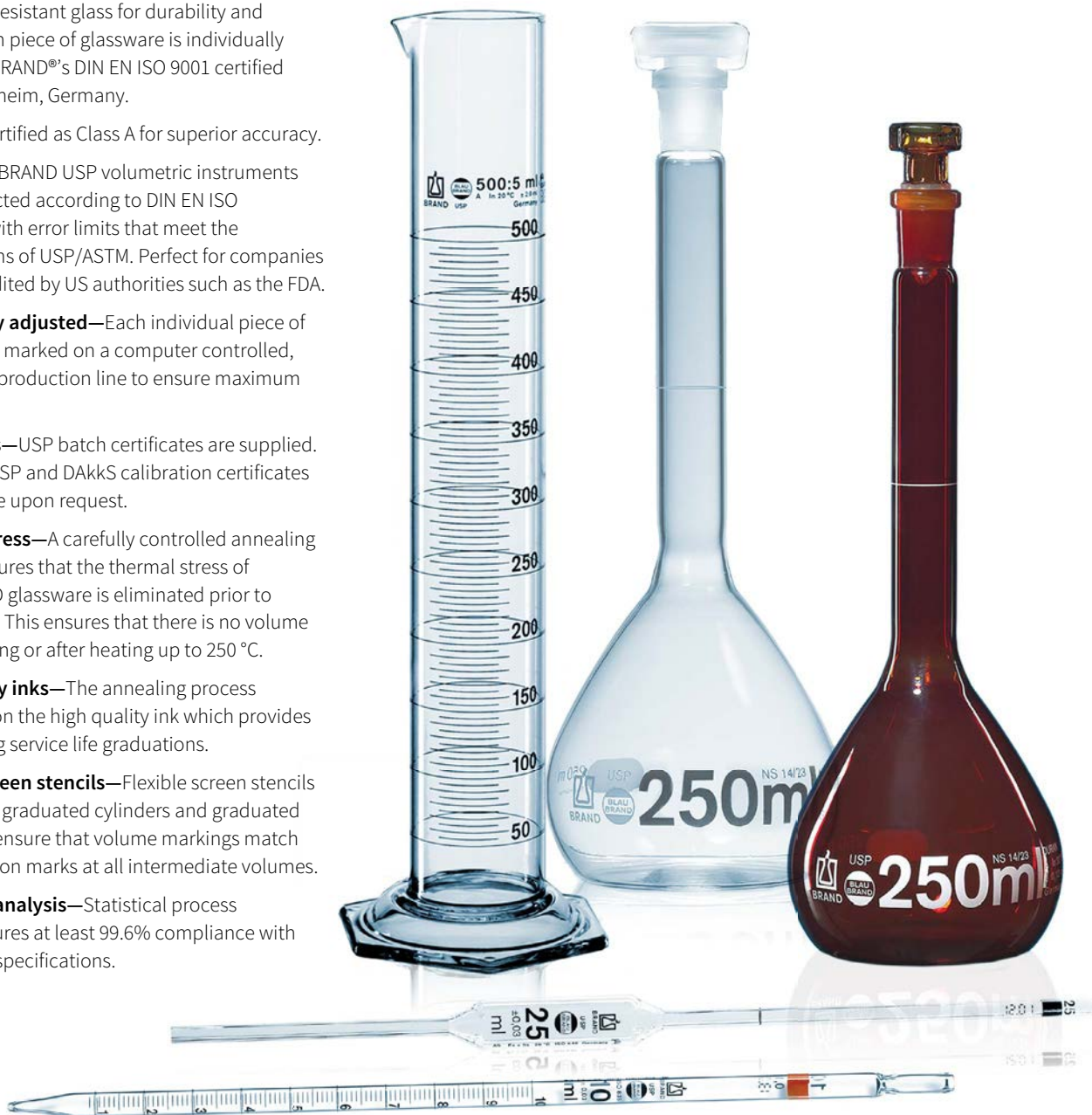
Description	Cat. No.	2024 List Price
Mucasol Universal Detergent, 2L bottle, each	44003B	\$240.00



Class A, USP, Certified Volumetric Glassware

BLAUBRAND® volumetric glassware is made of chemically resistant glass for durability and precision. Each piece of glassware is individually calibrated at BRAND®'s DIN EN ISO 9001 certified facility in Wertheim, Germany.

- **Class A**—Certified as Class A for superior accuracy.
- **USP**—BLAUBRAND USP volumetric instruments are constructed according to DIN EN ISO standards with error limits that meet the specifications of USP/ASTM. Perfect for companies who are audited by US authorities such as the FDA.
- **Individually adjusted**—Each individual piece of glassware is marked on a computer controlled, automated production line to ensure maximum precision.
- **Certificates**—USP batch certificates are supplied. Individual USP and DAkkS calibration certificates are available upon request.
- **Thermal stress**—A carefully controlled annealing process ensures that the thermal stress of BLAUBRAND glassware is eliminated prior to adjustment. This ensures that there is no volume change during or after heating up to 250 °C.
- **High quality inks**—The annealing process also bakes on the high quality ink which provides durable long service life graduations.
- **Flexible screen stencils**—Flexible screen stencils are used for graduated cylinders and graduated pipettes to ensure that volume markings match the calibration marks at all intermediate volumes.
- **Statistical analysis**—Statistical process control ensures at least 99.6% compliance with predefined specifications.



BLAUBRAND® Class A, USP, Certified Volumetric Glassware

BLAUBRAND Bulb Pipette, 1 mark, Class AS, USP, Certified

- AR-GLAS®
- DIN EN ISO 648
- Calibrated to deliver (TD, Ex)
- Includes one USP batch certificate

Volume (mL)	Error limit (+/-mL)	Qty./Pack	Cat. No.	2024 List Price
0.5	0.005	12	30601	\$139.80
1	0.006	12	30602	129.00
2	0.006	12	30603	145.20
3	0.01	6	30605	89.20
4	0.01	6	30606	118.20
5	0.01	6	30607	90.20
6	0.01	6	30608	123.60
7	0.01	6	30609	123.60
8	0.02	6	30610	123.60
9	0.02	6	30611	123.60
10	0.02	6	30612	91.40
15	0.03	6	30613	107.60
20	0.03	6	30614	118.20
25	0.03	6	30615	123.60
30	0.03	6	30616	139.80
40	0.05	6	30617	166.60
50	0.05	6	30618	155.80
100	0.08	6	30619	215.00

BLAUBRAND Graduated Pipette, Class AS, USP, Certified

- AR-GLAS
- DIN EN ISO 835
- Calibrated to deliver (TD, Ex) Suitable for cotton plug
- Includes one USP batch certificate

Volume (mL)	Subdivision (mL)	Error limit (+/-mL)	Qty./Pack	Cat. No.	2024 List Price
1	0.01	0.007	12	27506	\$104.20
2	0.02	0.01	12	27509	104.20
5	0.05	0.02	12	27511	129.00
10	0.1	0.03	12	27513	134.40



BLAUBRAND® Class A, USP, Certified Volumetric Glassware



BLAUBRAND Volumetric Flask, Class A, USP, Certified, Glass Stopper

- Boro 3.3 DIN EN ISO 1042
- Includes one USP batch certificate
- Calibrated to contain (TC, In)

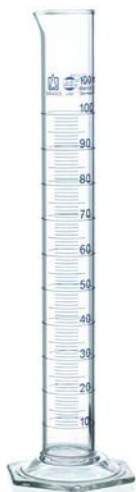
Volume (mL)	Error limit (+/-mL)	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
5	0.02	10/19	2	36968	\$63.40
10	0.02	10/19	2	36973	63.40
20	0.02	10/19	2	36975	63.40
25	0.03	10/19	2	36977	63.40
50	0.05	12/21	2	36978	67.80
100	0.08	14/23	2	36979	74.20
200	0.1	14/23	2	36980	98.00
250	0.12	14/23	2	36981	102.20
500	0.2	19/26	2	36982	123.60
1000	0.3	24/29	1	36983	96.80
2000	0.5	29/32	1	36984	129.00



BLAUBRAND Amber Volumetric Flask, Class A, USP, Certified, Glass Stopper

- Boro 3.3, DIN EN ISO 1042
- Includes one USP batch certificate
- Calibrated to contain (TC, In)

Volume (mL)	Error limit (+/-mL)	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
5	0.02	10/19	2	37461	134.40
10	0.02	10/19	2	37462	134.40
20	0.02	10/19	2	37463	134.40
25	0.03	10/19	2	37464	134.40
50	0.05	12/21	2	37465	139.80
100	0.08	14/23	2	37467	139.80
200	0.1	14/23	2	37468	177.40
250	0.12	14/23	2	37469	193.60
500	0.2	19/26	2	37470	236.60
1000	0.3	24/29	1	37471	172.00



BLAUBRAND Graduated Cylinder, Tall Form, Class A, USP, Certified

- Boro 3.3, DIN EN ISO 4788
- Includes one USP batch certificate
- Calibrated to contain (TC, In)
- With spout and hexagonal base

Volume (mL)	Subdivision (mL)	Error limit (+/-mL)	Height (mm)	Qty./Pack	Cat. No.	2024 List Price
5	0.1	0.05	115	2	32805	\$43.80
10	0.2	0.1	140	2	32808	43.80
25	0.5	0.17	170	2	32820	45.20
50	1	0.25	200	2	32828	51.40
100	1	0.5	260	2	32838	53.80
250	2	1	335	2	32848	103.20
500	5	2.0	365	2	32854	177.40
1000	10	3.0	465	1	32862	129.00
2000	20	6.0	505	1	32864	231.20

PFA Trace Analysis Labware

VITLAB® trace analysis labware is manufactured from PFA (a perfluoroalkoxy copolymer), which is highly resistant to heat and chemical contamination and has surface properties that greatly simplify cleaning. Use this labware for excellent results in ICP-MS, production and storage of trace analysis standards, isotope separations, sample digestions, and more.

With the increasing need in trace analysis labs for ultra-low concentration determinations in the ng/g (ppb) and pg/g (ppt) range, the use of PFA labware has become more and more important. Other materials, when not specially treated, may be subject to interaction between the vessel and the sample, standards, or reagents it contains. This may cause incorrect results with modern trace analysis instrumentation.

All VITLAB PFA trace analysis labware features visible, accurate, and permanent graduations for precise measuring. PFA labware is suitable for sterilization using heat, gas, and chemical methods for handling sensitive biological solutions.

Excellent temperatures stability—VITLAB PFA trace analysis labware maintains its stability in temperatures from -200 °C to 250 °C.

Performing trace analysis?

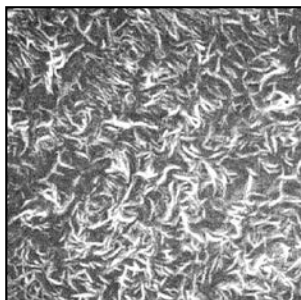
See the BRAND® Dispensette® S Trace Analysis bottle-top dispenser for Trace Analysis on page 37.

VITLAB PFA Labware—pure, cleanable, rugged

Scanning electron microscopy illustrates the advantages of PFA in trace analysis. (Magnification: 8000X)

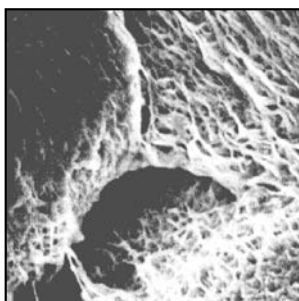
HDPE – Bottle

Scanning electron microscopy of this bottle wall shows the roughness of HDPE. The increased surface area of HDPE can lead to carryover of reagent molecules.



PTFE – Beaker

Similar to HDPE, electron micrographs of this PTFE beaker reveal a typically rough surface that can interact with reagent molecules and complicate cleaning.



PFA – Evaporating dish

Even at 8000x magnification, the surfaces of this PFA evaporating dish are very smooth. It is this smoothness, combined with PFA's hydrophobic, anti-adhesive and inert properties, that simplify cleaning.



Properties

No leachable metals—PFA is manufactured without metals such as calcium, aluminum, iron, magnesium, nickel, copper, manganese or zinc. These metals can leach into samples from other containers, and contaminate samples.

Simplified cleaning—Conventional labware for trace analysis requires time-consuming and expensive cleaning. The hydrophobic and anti-adhesive properties of the exceptionally smooth-surfaced PFA labware simplify the cleaning process, making it ideal for trace analysis.

Superior chemical resistance—PFA is inert with most reagents, including the nitric and hydrochloric acid routinely used in cleaning trace analysis labware. This stability significantly reduces the risk of cross-contamination.

Excellent long-term stability—PFA containers often extend the stability of low (ppb) concentration standards. Such stability reduces the time and cost of renewing trace analysis standard solutions.

Highly translucent—Translucency is important for making accurate measurements using volumetric labware.

Please see page 126 for description of various plastics.



Volumetric Flasks with screw caps, PFA

- Individually calibrated ring-markings
- Durable markings easy to read—limit cleaning temperature to 60 °C to preserve ring mark
- High-transparency simplifies meniscus verification
- PFA screw caps help protect against outside contamination and leakage
- Meets Class A tolerances per DIN EN ISO 1042
- Autoclavable at 121 °C without affecting tolerances

Volume mL	Tolerance mL	Height* mm	Thread GL	Qty./Pack	Cat. No.	2024 List Price
10	0.04	90	18	2	107097	\$600.00
25	0.04	115	18	2	107197	605.00
50	0.06	150	18	2	107297	620.00
100	0.10	180	18	2	107397	765.00
250	0.15	235	25	2	107497	960.00
500	0.25	270	25	2	107597	1,102.00

*Height without screw cap



Wide Mouth Reagent Bottles with screw caps, PFA

- Leach-resistant bottles for long-term storage of solvents and standards
- PFA screw caps with molded sealing ring for a positive seal
- Autoclavable at 121 °C

Volume mL	Height mm	Diameter mm	Thread	Qty./Pack	Cat. No.	2024 List Price
250	150	61	S40	1	109497	\$257.60
500	179	76	S40	1	109597	355.40
1000	217	96	S40	1	109697	490.00
2000	245	130	S40	1	109797	1,010.00



Narrow Mouth Reagent Bottles with screw caps, PFA

- Leach-resistant bottles for long-term storage of solvents and standards
- PFA screw caps with molded sealing ring for a positive seal
- Autoclavable at 121 °C

Volume mL	Height mm	Diameter mm	Thread	Qty./Pack	Cat. No.	2024 List Price
50	86	37	S28	1	109297	\$149.40
100	120	45	S28	1	109397	211.20
250	160	61	S28	1	108297	247.20
500	190	76	S28	1	108397	335.00
1000	240	96	S28	1	108497	465.00

PFA Trace Analysis Labware

Round Bottom Flasks, PFA

- For rotary evaporators and distillation of high-purity chemicals
- With 29/32 ground socket
- Translucent surfaces simplify solvent monitoring
- Autoclavable at 121 °C
- Maximum temperature under vacuum is 50 °C

Volume mL	Height mm	Neck mm	Diameter	Qty./Pack	Cat. No.	2024 List Price
100	117	29/32	65	1	107797	\$201.00
250	147	29/32	88	1	107897	237.00
500	177	29/32	107	1	107997	325.00



Sample Containers with screw cap, PFA

- For sample collection, transport and storage
- Supplied with a PFA screw cap
- Autoclavable at 121 °C

Volume mL	Height mm	Diameter mm	Thread GL	Qty./Pack	Cat. No.	2024 List Price
30	54	38	40	1	130297	\$96.00
60	90	38	40	1	130397	119.00
90	62	54	56	1	130497	134.00
180	112	54	56	1	130597	160.00



Low-form Griffin Beakers, PFA

- Molded graduations easy to read and resistant to wear from repeated use
- Autoclavable at 121 °C
- Nesting design conserves bench and storage space.

Volume mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
25	5	50	32	1	110205	\$44.20
50	10	59	39	1	110305	56.60
100	20	72	50	1	110405	79.40
250	50	96	67	1	110605	134.00
500	100	122	88	1	110905	200.20
1000	100	141	109	1	111005	356.00



Volumetric Labware and Containers

Class A Graduated Cylinders, PMP, certified

- Glass-clear tall-form cylinders calibrated “to contain”; Class A per DIN 12681 and ISO 6706
- Imprinted lot and year; supplied certificate includes mean test value and lot
- Red-screened graduations for legibility
- Temperatures of 60 °C must not be exceeded during cleaning to preserve marks and inscriptions
- Autoclaving at 121 °C will not cause permanent exceeding of tolerance limits

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10	0.10	0.20	145	15	2	64614	\$29.60
25	0.25	0.50	170	22	2	64714	31.00
50	0.50	1.00	200	27	2	64814	32.40
100	0.50	1.00	250	33	2	64914	43.80
250	1.00	2.00	315	44	2	65014	69.00
500	2.50	5.00	360	58	2	65114	111.40
1000	5.00	10.00	440	69	1	65214	80.40
2000	10.00	20.00	535	97	1	65414	128.80

Class A Graduated Cylinders, PMP, certified

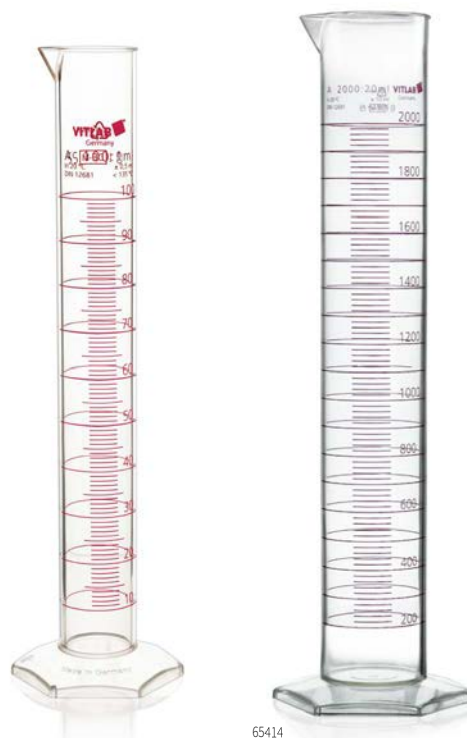
- Glass-clear tall-form cylinders calibrated “to contain”; Class A per DIN 12681 and ISO 6706
- Molded graduations with ring marks at major increments
- Imprinted lot and year; supplied certificate includes mean test value and lot
- Autoclaving at 121 °C will not cause permanent exceeding of tolerance limits

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10	0.10	0.20	145	15	2	64604	\$23.00
25	0.25	0.50	170	22	2	64704	23.00
50	0.50	1.00	200	27	2	64804	24.60
100	0.50	1.00	250	33	2	64904	33.60
250	1.00	2.00	315	44	2	65004	51.60
500	2.50	5.00	360	58	2	65104	107.00
1000	5.00	10.00	440	69	1	65204	78.40
2000	10.00	20.00	482	97	1	65304	128.80

Class B Graduated Cylinders, PP

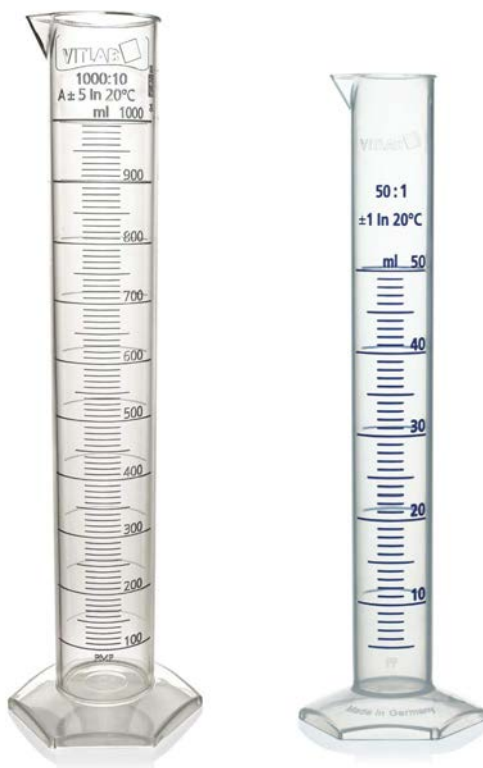
- Highly translucent tall-form cylinders calibrated “to contain”; Class B per DIN 12681 and ISO 6706
- Molded graduations with blue screened overprint for legibility
- Hexagonal base resists rolling
- Temperatures of 60 °C must not be exceeded during cleaning to preserve marks and inscriptions

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10	0.20	0.20	145	15	12	646081	\$74.20
25	0.50	0.50	170	22	12	647081	87.60
50	1.00	1.00	200	27	12	648081	108.20
100	1.00	1.00	250	33	12	649081	129.00
250	2.00	2.00	315	44	6	650081	98.00
500	5.00	5.00	360	58	6	651081	134.00
1000	10.00	10.00	440	69	6	652081	185.40
2000	20.00	20.00	482	97	3	653081	165.00



64914

65414



65204

648081



651941



65091



644941



643941

Class B Graduated Cylinders, PP



- Highly translucent tall-form cylinders calibrated “to contain”; Class B per DIN 12681 and ISO 6706
- Molded graduations, with ring marks at major increments
- Hexagonal base resists rolling

Volume mL	Tolerance +/-mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10	0.20	0.20	145	15	12	646941	\$57.80
25	0.50	0.50	170	22	12	647941	73.20
50	1.00	1.00	200	27	12	648941	81.40
100	1.00	1.00	250	33	12	649941	101.00
250	2.00	2.00	315	44	6	650941	69.00
500	5.00	5.00	360	58	6	651941	92.00
1000	10.00	10.00	440	69	6	652941	128.80
2000	20.00	20.00	482	97	3	653941	123.60

Class B Graduated Cylinders, SAN



- Glass-clear tall-form cylinders calibrated “to contain”; Class B per DIN 12681 and ISO 6706
- Molded graduations, with ring marks at major increments
- Hexagonal base resists rolling

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
50	1.00	1.00	199	28	12	64891	\$102.00
100	1.00	1.00	260	34	12	64991	139.00
250	2.00	2.00	315	47	6	65091	101.00
500	5.00	5.00	350	61	6	65191	139.00
1000	10.00	10.00	415	76	6	65291	180.40

Short-form Graduated Cylinders, SAN



- Short-form design increases stability to help prevent spills
- Clear with molded graduations for easy measurement
- Circular base

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
50	1.00	1.00	142	27	12	64191	\$113.60
100	2.00	2.00	163	37	12	64291	128.80
250	5.00	5.00	192	51	6	64391	95.00
500	10.00	10.00	218	67	6	64491	134.00
1000	20.00	20.00	285	78	6	64591	165.00

Short-form Graduated Cylinders, PP



- Short-form design increases stability to reduce spills
- Highly transparent with molded graduations for easy measurement
- Circular base

Volume, mL	Tolerance +/-mL	Grad mm	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
25	0.50	0.50	122	22	12	640941	\$63.00
50	1.00	1.00	142	27	12	641941	86.60
100	2.00	2.00	163	37	12	642941	100.00
250	5.00	5.00	192	51	6	643941	73.20
500	10.00	10.00	218	67	6	644941	103.00
1000	20.00	20.00	285	78	6	645941	139.00

Class A UV-protect Volumetric Flasks with PP NS stopper

- PMP, certified
- Superior light protection to amber glass at most wavelengths*
- Meets Class A tolerances per DIN EN ISO 1042**
- Supplied with imprinted lot number, batch certificate

Volume mL	Tolerance +/-mL	Height*** mm	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
10	0.04	90	10/19	2	670950	\$72.20
25	0.04	115	10/19	2	671950	100.00
50	0.06	150	12/21	2	672950	113.60
100	0.10	180	14/23	2	673950	119.00
250	0.15	235	19/26	2	674950	144.20
500	0.25	270	19/26	2	675950	195.80
1000	0.40	310	24/29	1	676950	129.00



675950

Class A Volumetric Flasks, PMP, with NS stopper, PP certified

- Meets Class A tolerances per DIN EN ISO 1042**
- Supplied with imprinted lot number, batch certificate

Volume mL	Tolerance +/-mL	Height*** mm	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
10	0.04	90	10/19	2	67704	\$42.40
25	0.04	115	10/19	2	67104	42.40
50	0.06	150	12/21	2	67204	55.60
100	0.10	180	14/23	2	67304	61.00
250	0.15	235	19/26	2	67404	77.20
500	0.25	270	19/26	2	67504	79.60
1000	0.40	310	24/29	1	67604	47.40

Class B Volumetric Flasks, PMP, with NS stopper, PP

- Individually adjusted ring-marked flasks are Class B per DIN EN ISO 1042**

Volume mL	Tolerance +/-mL	Height*** mm	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
10	0.08	90	10/19	2	67795	\$35.20
25	0.08	115	10/19	2	67195	35.80
50	0.12	150	12/21	2	67295	44.40
100	0.20	180	14/23	2	67395	50.20
250	0.30	235	19/26	2	67495	64.80
500	0.50	270	19/26	2	67595	68.00
1000	0.80	310	24/29	1	67695	39.60



67504

67395

* More information at www.brandtech.com.

**Autoclaving at 121 °C will not cause permanent exceeding of tolerance limits; To preserve markings, cleaning at no higher than 60 °C is recommended.

***Height without stopper



674941



673895



676891



Class B Volumetric Flasks, PP, with NS stopper, PP

- Individually adjusted ring-marked flasks are Class B per DIN EN ISO 1042**

Volume mL	Tolerance +/-mL	Height* mm	Stopper NS	Qty./Pack	Cat. No.	2024 List Price
10	0.08	90	10/19	2	677941	\$31.80
25	0.08	115	10/19	2	671941	31.80
50	0.12	150	12/21	2	672941	35.60
100	0.20	180	14/23	2	673941	37.40
250	0.30	235	19/26	2	674941	39.40
500	0.50	270	19/26	2	675941	45.80
1000	0.80	310	24/29	1	676941	29.20

Class B Volumetric Flasks, PMP, with screw caps, PP

- Individually adjusted ring-marked flasks are Class B per DIN EN ISO 1042**
- Autoclaving at 121 °C will not cause permanent exceeding of tolerance limits

Volume mL	Tolerance +/-mL	Height* mm	Thread GL	Qty./Pack	Cat. No.	2024 List Price
10	0.08	90	18	2	677895	\$35.20
25	0.08	115	18	2	671895	35.20
50	0.12	150	18	2	672895	44.80
100	0.20	180	18	2	673895	50.40
250	0.30	235	25	2	674895	57.60
500	0.50	270	25	2	675895	68.60
1000	0.80	310	32	1	676895	39.60

Class B Volumetric Flasks, PP, with screw caps, PP

- Individually adjusted ring-marked flasks are Class B per DIN EN ISO 1042**

Volume mL	Tolerance +/-mL	Height* mm	Thread GL	Qty./Pack	Cat. No.	2024 List Price
10	0.08	90	18	2	677891	\$32.40
25	0.08	115	18	2	671891	32.80
50	0.12	150	18	2	672891	37.80
100	0.20	180	18	2	673891	40.00
250	0.30	235	25	2	674891	52.80
500	0.50	270	25	2	675891	58.80
1000	0.80	310	32	1	676891	33.80

Erlenmeyer Flasks, PP, with screw caps, PP

- Wide neck flasks made from highly translucent polypropylene. NS stoppers (not included).
- Flask neck also accommodates



Volume mL	Increment mL	Thread GL	Qty./Pack	Cat. No.	2024 List Price
75	10	45	6	566941	\$66.00
125	20	45	6	567941	74.60
250	50	45	6	568941	103.00
500	100	45	6	569941	123.60
1000	200	45	4	570941	113.40

* Height without stopper/screw cap.

** To preserve markings, cleaning at no higher than 60 °C is recommended.

Please see page 126 for description of various plastics.

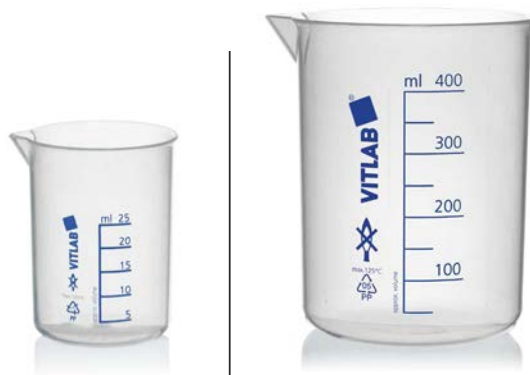


Griffin Beakers, PP

- Molded graduations with blue screened overprint for legibility
- Meets the requirements of ISO 7056
- Autoclavable at 121 °C according to DIN EN 285



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10**	2	36	30	12	605081*	\$30.20
25	5	50	38	12	606081*	30.20
50	10	60	47	12	607081*	31.40
100	10	70	55	12	608081	37.80
150**	20	80	66	12	609081	51.40
250	25	95	77	6	610081	27.60
400**	50	112	87	6	611081	36.40
500	50	118	94	6	618081	39.80
600**	50	127	100	6	612081	40.20
1000	100	147	120	6	614081	55.60
2000	200	187	149	6	615081	113.00
3000	250	212	170	4	616081	134.00
5000	500	247	203	4	617081	170.00



Griffin Beakers, PP

- Molded graduations for durability
- Meets the requirements of ISO 7056
- Autoclavable at 121 °C according to DIN EN 285



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
25	5	50	38	12	606941	\$29.80
50	10	60	47	12	607941	31.00
100	10	70	55	12	608941	36.40
150**	20	80	66	12	609941	50.00
250	25	95	77	6	610941	25.60
400**	50	112	87	6	611941	35.20
500	50	118	94	6	618941	37.80
600**	50	127	100	6	612941	39.00
1000	100	147	120	6	614941	54.60
2000	200	187	149	6	615941	108.20
3000	250	212	170	4	616941	134.00
5000	500	247	203	4	617941	170.00



VITLAB® Volumetric Labware and Containers



Griffin Beakers, PMP

- Easily readable, printed red scale*
- Meets the requirements of ISO 7056

Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
10**	2	36	30	12	60503	\$39.80
25	5	50	38	12	60603	39.80
50	10	60	47	12	60703	50.20
100	10	70	55	12	60803	62.00
150**	20	80	66	12	60903	81.40
250	25	95	77	6	61003	42.80
400**	50	112	87	6	61103	62.00
500	50	118	94	6	61803	66.00
600**	50	127	100	6	61203	71.20
1000	100	147	120	6	61403	103.00
2000	200	187	149	6	61503	181.00
3000	250	212	170	4	61603	195.60
5000	500	247	203	4	61703	262.80

* Printed scale, not raised

** Variant in addition to ISO 7056.



Griffin Beakers, PMP

- Molded graduations for durability
- Autoclavable at 121 °C according to DIN EN 285
- Meets the requirements of ISO 7056

Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
25	5	50	38	12	60695	\$38.60
50	10	60	47	12	60795	49.20
100	10	70	55	12	60895	61.00
150*	20	80	66	12	60995	80.40
250	25	95	77	6	61095	41.20
400*	50	112	87	6	61195	61.00
500	50	118	94	6	61895	65.00
600*	50	127	100	6	61295	70.20
1000	100	147	120	6	61495	102.00
2000	200	187	149	6	61595	180.20
3000	250	212	170	4	61695	195.80
5000	500	247	203	4	61795	257.60

* Variant in addition to ISO 7056

Please see page 126 for description of various plastics.

Graduated Pitchers, PP

- Translucent with molded graduations according to DIN EN 285
- Autoclavable at 121 °C



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
50	2	70	40	24	446941	\$61.00
100	2	80	50	24	447941	81.40
250	5	120	74	12	440941	70.20
500	10	140	92	12	441941	74.20
1000	10	181	117	6	442941	55.80
2000	20	213	152	6	443941	83.40
3000	50	242	172	6	444941	113.40
5000	50	270	204	6	445941	232.00



Graduated Pitchers, PP

- Translucent with blue screened molded graduations*



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
50	2	70	40	24	446081	\$81.40
100	2	80	50	24	447081	92.00
250	5	120	74	12	440081	80.40
500	10	140	92	12	441081	90.00
1000	10	181	117	6	442081	61.00
2000	20	213	152	6	443081	108.20
3000	50	242	172	6	444081	144.20
5000	50	270	204	6	445081	232.00



Graduated Pitchers, SAN

- A safer, more durable alternative to glass pitchers
- Transparent with molded graduations



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
250	5	120	70	12	44091	\$76.20
500	10	133	91	12	44191	101.00
1000	10	170	116	6	44291	73.20
2000	20	215	150	6	44391	134.00
3000	50	242	170	6	44491	170.00



Nesting Graduated Pitchers, PP

- Nesting design conserves bench space and simplifies storage
- Graduations printed on both sides with screening for easy, accurate measurements*



Volume mL	Grad mL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
250	5	115	75	12	480941	\$70.20
500**	10	140	97	12	481941	74.20
1000**	10	167	125	12	482941	118.60
2000	20	212	148	12	483941	221.60
3000	50	242	170	12	484941	300.00

*To preserve markings, cleaning at no higher than 60 °C is recommended.

**Colors available – inquire



Now even more translucent color!



Please see page 126 for description of various plastics.

VITLAB® General Laboratory Products



VITgrip™ Laboratory Bottles

Excellent handling

VITgrip lab bottles have a slim waist which greatly enhances handling. The ergonomic and light weight design allows single-handed use of the VITgrip lab bottle. Molded volume graduations are exceptionally accurate and provide texture for a sure grip, especially when working with gloves. The lack of dirt-catching edges and the use of hydrophobic polypropylene, allow easy and thorough cleaning of VITgrip lab bottles. With double-sided graduations, the volume inside the bottle is easy to read, even during use.

Leakproof* and break resistant

Glass laboratory bottles pose a safety risk due to the hazards of broken glass, and content spillage in the event of breakage. VITgrip plastic (PP) lab bottles are safer because they are more resistant to breaking and are leakproof*. The bottle thread and the associated screw cap are a precisely matched pair. Together, they form a reliable sealing system without the need of a cap liner that can wear, corrode, or cause contamination. Bottles and caps are subject to a detailed quality inspection prior to delivery.

Safe storage

VITgrip lab bottles are supplied with tamper-evident caps, with a ring that tears off upon the first opening. It reliably signals if the bottle is still sealed before opening—ideal for ensuring secure storage of reference samples or safe transfer of samples between sampling site and lab. After the ring is torn off, the closure can be used as a regular screw cap. All VITgrip lab bottles have a GL 45 thread and an evenly formed neck area that allows controlled, smooth pouring of liquid.

Robust and versatile

VITgrip lab bottles and screw caps are made in Germany and are manufactured from polypropylene with exceptional chemical resistance against most acids, bases, and alcoholic solutions. VITgrip lab bottles and the supplied tamper-evident closures are suitable for contact with foodstuffs (according to regulation EU No. 10/2011).

* IMPORTANT NOTE—The term leakproof applies under the following test conditions:
The VITgrip lab bottle is half filled with distilled water and is closed with the supplied VITLAB screw closure - after the ring of the tamper-evident closure clicks into place - with a torque of 5 Nm. Subsequently, the bottle is turned upside down and remains, standing on the screw cap, for 15 minutes, without the water inside escaping. The test is carried out at room temperature (approx. 20 °C) and atmospheric pressure.
PLEASE NOTE—The transferability of results under test conditions to specific applications is dependent on multiple factors that are beyond our control. Therefore, we do not assume any liability for the transferability; each case has to be carefully checked by the user.



Volume mL	Graduation mL	Height** mm	Bottom-ø mm	Qty./Pack	Cat. No.	2024 List Price
125	12.5	103	54	6	110194	\$73.20
250	25	149	64	6	110294	83.40
500	25	192	77	6	110394	103.00
1000	50	234	97	6	110494	149.40
2000	100	278	126	1	110594	56.60
VITgrip starter set (1 each) 250, 500, 1000 mL				3	111194	47.40
Replacement tamper-evident closure, PP, GL 45				6	83330	21.40

** Height without screw cap



VITsafe™ Safety Wash Bottles, LDPE, spray tube PP

- Durable safety imprint
- Material name in German, English, French, and Spanish
- Chemical formula, CAS No. hazard pictogram, signal word, risk phrases (H phrases), safety phrases (P phrases), as well as NFPA code

Reagent	Cap Color	Volume mL	Diameter mm	Height* mm	Qty./Pack	Cat. No.	2024 List Price
Distilled Water	Blue	500	76	166	12	1352819	\$257.60
Ethanol	Orange	500	76	166	12	1352869	257.60
Acetone	Red	500	76	166	12	1452829	257.60
Heptane	Red	500	76	166	6	1352899	134.00
Hexane	Red	500	76	166	6	1352909	134.00
Xylene	Red	500	76	166	6	1352959	134.00

*Height without spray tube



Dropping Bottles, LDPE, with dropper screw cap, HDPE



Volume mL	Thread GL	Diameter mm	Height mm	Qty./Pack	Cat. No.	2024 List Price
50	18	37	129	24	94587	\$87.60
100	18	43	155	24	94687	99.00
250	25	58	183	12	94987	73.20
500	25	74	228	12	95087	96.00
1000	32	92	269	12	95187	129.00

Reagent Bottles, PP, with NS stoppers, PP

- Good chemical resistance, ideal for long-term storage of liquids
- Autoclavable at 121 °C according to DIN EN 285

Volume mL	Stopper* NS	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
100	14/23	106	52	20	100394	\$93.00
1000	29/32	213	108	10	100694	124.00

*Stopper type A: With square knob and red core.



Reagent Bottles, PP, with screw caps, PP



- Screw caps help protect against outside contamination and leakage
- Autoclavable to 121 °C according to DIN EN 285, except for 100989 and 100889

Volume mL	Thread GL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
100	18	100	52	20	100389	\$82.40
250	25	132	70	20	100489	108.20
500	25	165	87	10	100589	79.40
1000	32	202	108	10	100689	103.00
2000	32	245	131	6	100789	124.00
5000	45	315	178	1	100889*	37.80
10000	63	394	222	1	100989*	95.00

*Bottle 100889 includes 1 handle; bottle 100989 includes 2 handles.



VITLAB® General Laboratory Products

Wide Mouth Reagent Bottles, PP, with screw caps, PP

- Screw caps help protect against outside contamination and leakage
- Wider mouth for easier filling
- Autoclavable at 121 °C according to DIN EN 285



Volume mL	Thread GL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
100	32	96	55	20	101589	\$108.20
250	45	132	73	20	101689	139.20
500	45	172	87	10	101789	90.00
1000	63	204	108	10	101889	165.00
2000	63	243	131	6	101989	124.00

**Bottles, LDPE, with screw caps, PP**

- Screw caps help protect against outside contamination and leakage



Volume mL	Thread GL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
50	18	85	37	24	94589	\$83.40
100	18	144	43	24	94689	89.60
250	25	135	65	12	94989	63.00
500	25	180	74	12	95089	90.00

**Wide Mouth Bottles LDPE, with screw caps, PP**

- Screw caps help protect against outside contamination and leakage
- Wider mouth for easier filling



Volume mL	Thread GL	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
250	45	146	58	12	93789	\$72.00
500	45	166	76	12	93989	99.00
1000	63	226	91	12	94189	139.00

**Square Bottles, HDPE, with screw caps, LDPE**

- Screw caps help protect against outside contamination and leakage
- Space-saving smaller footprint with square-shaped bottle

Volume mL	Thread GL	Height mm	Size mm	Qty./Pack	Cat. No.	2024 List Price
100	25	76	43 x 43	24	91789	\$100.00
250	28	80	80 x 80	24	91989	134.00
500	32	106	90 x 90	12	92089	90.00
1000	32	187	80 x 80	12	92189	124.00

**Wide Mouth Square Bottles, HDPE, with screw caps, LDPE**

- Screw caps help protect against outside contamination and leakage
- Space-saving smaller footprint with square-shaped bottle

Volume mL	Thread GL	Height mm	Size mm	Qty./Pack	Cat. No.	2024 List Price
100	32	78	46 x 46	24	92489	\$134.00
250	50	83	80 x 80	24	92689	149.00
500	65	120	90 x 90	12	92789	113.00
1000	65	168	90 x 90	12	92889	139.00



VITLAB® General Laboratory Products



Length mm	Qty./Pack	Cat. No.	2024 List Price
Forceps, PMP with pointed ends			
115	10	67895	\$34.80
145	10	67995	41.20



Forceps, POM with rounded ends			
115	5	68099	16.20
145	5	68199	19.40
180	5	68299	36.80
250	5	68399	58.80



Volume mL	Length mm	Qty./Pack	Cat. No.	2024 List Price
Measuring Scoops, PP, volume marked on handle				
2	60	12	39194	\$8.20
5	82	12	39294	10.20
10	100	12	39394	13.40
25	135	12	39494	14.20
50	160	12	39594	27.20
100*	200	12	39694	35.20
250	260	6	39794	44.40
500	315	6	39894	63.00
1000	385	6	39994	77.20

*Colors available - inquire



Volume mL	Length mm	Qty./Pack	Cat. No.	2024 List Price
Measuring Scoops, HDPE				
15	115	12	40093	\$15.00
25	135	12	40193	21.80
65	185	12	40293	28.20
110	215	12	40393	40.20
150	250	12	40493	47.40
350	310	6	40593	45.80
750	350	6	40693	76.20
1250	400	6	40793	108.00

Please see page 126 for description of various plastics.

VITLAB® General Laboratory Products

Funnels, PP

- Handle with loop for hanging



Diameter mm	Approx vol. mL	Length mm	Stem Diameter mm	Qty./pack	Cat. No.	2024 List Price
30	5	45	1.5	24	40894	\$27.20
30	6	47	4	24	41094	27.20
40	14	65	4	24	41194	32.40
50	32	85	7	24	41294	40.20
75	88	108	7	12	41394	25.60
100	222	155	8	12	41494	48.60
120	342	180	11	12	41594	62.00
150	817	220	15	12	41694	81.40



Funnels

Large Funnels, PP or HDPE*

- Integrated handle (except V41994)



Diameter mm	Approx vol. mL	Length mm	Stem Diameter mm	Qty./pack	Cat. No.	2024 List Price
200 (PP)	1300	200	22	6	41794	\$93.00
250 (PP)	3200	260	30	6	41894	165.00
350 (PP)	12500	440	35	1	41994	56.60
400 (HDPE)*	12500	365	42	1	42294	144.20
430 (HDPE)*	17500	420	37	1	42393	195.80

*HDPE Large Funnels V42294 and V42393 are not food-safe products.



Large funnels

Powder Funnels, PP



Diameter mm	Approx vol. mL	Length mm	Stem Diameter mm	Qty./pack	Cat. No.	2024 List Price
65		70	15	10	70794	\$34.80
80		75	21	10	70894	50.00
100		92	24	10	70994	53.60
120		105	27	10	71094	65.00
150		138	28	5	71194	41.80



Powder funnels

Sample Vials, PP, with snap caps, LDPE



Volume mL	Height mm	Diameter mm	Qty./pack	Cat. No.	2024 List Price
5	25	20	25	68594	\$63.00
18	57	22	25	68894	80.40
50	97	30	10	69194	41.20
160	110	50	10	69294	48.40



Sample Vials, with snap caps

Sample Vials, PP, with screw caps, PP



Volume mL	Height mm	Diameter mm	Thread GL	Qty./pack	Cat. No.	2024 List Price
60	90	38	40	10	130394	\$144.20
180	112	54	56	10	130594	211.20



Sample Vials with screw caps

Please see page 126 for description of various plastics.

VITLAB® General Laboratory Products



Buckets, PP, with handles, pouring lips, and graduations.

- With handle and lip for ease of pouring
- Markings at 1L graduations

Volume L	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
12	330	310	1	96694	\$63.80
15	370	310	1	96794	72.20

Buckets, HDPE, with handles

- With carrying handle
- Markings at 1L graduations

Volume L	Height mm	Diameter mm	Qty./Pack	Cat. No.	2024 List Price
5	240	250	1	96093	\$30.20
10	300	290	1	96393	36.20
Lid for 5L bucket (LDPE)	—	—	1	96293	8.20
Lid for 10L bucket (LDPE)	—	—	1	96593	9.80



Imhoff Sedimentation Cones, SAN

- Transparent
- Graduated to 1000 mL
- Screw closure allows drainage

Volume L	Qty./Pack	Cat. No.	2024 List Price
1000 mL Cone	1	388000	\$44.00
Rack, PMMA, (for 2 cones) 150x300x290 mm	1	388050	375.00

VITLAB custom imprinting

VITLAB has specialized capabilities in high-precision printing on plastic products with superior chemical and break resistance. Many VITLAB products can be imprinted with logos or custom graduations for OEM or promotional use in relatively small quantities. Custom imprinted VITLAB products are ideal for handling granulates, powders or liquids commonly used in agriculture, laboratories, and in the food, beverage and chemical industries. From multi-color logos to specialized measuring scales, VITLAB can imprint plastic labware to meet your individual requirements and specifications. Custom imprinted labware by VITLAB is of the highest quality, and offers a unique and functional means of presenting your company brand. Beakers, pitchers and scoops can also be made in colored plastic.

Contact BRANDTECH® Scientific for more information.



Plastics Reference

	Suitable for Microwaves	Suitable for Autoclaving	Transparency	Max. Operating Temp (°C)	Brittleness Temp (°C)	Density (g/cm ³)
ETFE	Yes	Yes	Translucent	150	-100	1.70
FEP	Yes	Yes	Translucent	205	-100	2.15
HDPE	Yes	No	Translucent	105	-50	0.95
LDPE	Yes	No	Translucent	80	-50	0.92
PC	Yes	Yes*	Transparent	125	-130	1.20
PFA	Yes	Yes	Translucent	260	-200	2.17
PMMA	No	No	Transparent	65-95	-50	1.18
PMP	Yes	Yes	Transparent	150	0	0.83
POM	No	Yes*	Opaque	130	-40	1.42
PP	Yes	Yes	Translucent	125	0	0.90
PS	No	No	Transparent	70	-20	1.05
PTFE	Yes	Yes	Opaque	260	-200	2.17
SAN	No	No	Transparent	70	-40	1.03

* Frequent autoclaving may reduce mechanical stability. "Autoclaving" refers to steam sterilization at 121°C (250°F) at 15 PSIG for 20 minutes

+ Excellent chemical resistance	o Good to limited resistance	- Poor chemical resistance
Continuous exposure to the substance does not cause damage within 30 days. The plastic may remain resistant for years.	Continuous exposure to the substance causes minor damage, some of which is reversible, within 7-30 days (e.g., swelling, softening, decrease of mechanical strength, discoloration).	Not suitable for continuous exposure to the substance. Immediate damage may occur (loss of mechanical strength, deformation, discoloration, cracking, dissolution).

Chemical resistance of plastics to classes of substances at 20 °C

	SAN	PC	POM	PMP	LDPE	HDPE	PP	ETFE	PFA	FEP	PTFE	PMMA	PS
Alcohols, aliphatic	+	+	+	+	+	+	+	+	+	+	+	-	+
Ethers	-	-	+	-	o	o	o	+	+	+	+	-	-
Aldehydes	-	o	o	o	o	+	+	+	+	+	+	o	-
Esters	-	-	-	o	o	o	o	+	+	+	+	o	-
Hydrocarbons, aliphatic	-	o	+	o	o	+	+	+	+	+	+	+	-
Hydrocarbons, aromatic	-	-	+	-	o	+	o	+	+	+	+	-	-
Hydrocarbons, halogenated	-	-	+	-	o	o	o	+	+	+	+	-	-
Ketones	-	-	+	o	o	o	o	o	+	+	+	-	-
Alkalis	+	-	+	+	+	+	+	+	+	+	+	+	+
Acids, strong or concentrated	-	-	-	+	+	+	+	+	+	+	+	-	o
Acids, weak or diluted	o	o	-	+	+	+	+	+	+	+	+	-	o
Oxidizing acids, oxidizing agents	-	-	-	-	-	-	-	+	+	+	+	-	-

Abbreviations of the described plastics to DIN 7728

SAN	Styrene-acrylonitrile copolymer	PMP	Polymethylpentene
PMMA	Polymethyl methacrylate	ETFE	Ethylenetetrafluoro ethylene copolymer
PC	Polycarbonate	FEP	Perfluoroethylene-propylene copolymer
POM	Polyoxymethylene	PFA	Perfluoroalkoxy copolymer
LDPE	Low-density Polyethylene	PS	Polystyrene
HDPE	High-density Polyethylene	PTFE	Polytetrafluoroethylene
PP	Polypropylene		

The recommendations listed here are based on technical literature and information provided by the manufacturers of raw materials. They were prepared carefully and are intended to inform and advise. However, they cannot replace suitability testing performed by the user under actual working conditions.








Food-safe products according to EC Directive No. 10/2011

Quality levels for Life Science-Consumables

Life Science-Consumables from BRAND meet the highest quality standards and offer quality levels dedicated to the application. All products with the quality level CERTIFIED LIFE SCIENCE QUALITY or the BIO-CERT® quality labels are made of high-quality, virgin raw materials and are continuously tested for quality and function.

In addition to the general BIO-CERT® CERTIFIED QUALITY label, special quality levels for PCR, cell culture and liquid handling are available. This means you can quickly and easily find the optimal BIO-CERT® products for your application.

Find the right quality level for your application

	BIO-CERT®				
					
	CERTIFIED LIFE SCIENCE QUALITY	BIO-CERT® CERTIFIED QUALITY	BIO-CERT® CELL CULTURE QUALITY	BIO-CERT® PCR QUALITY	BIO-CERT® LIQUID HANDLING QUALITY
Virgin raw materials	✓	✓	✓	✓	✓
Manufactured under controlled room conditions	✓	✓	✓	✓	✓
Intensive in-process controls	✓	✓	✓	✓	✓
Visual inspections	✓	✓	✓	✓	✓
Batch management	✓	✓	✓	✓	✓
Final product inspection	✓	✓	✓	✓	✓
Proven functionality	✓	✓	✓	✓	✓
Free of human DNA		✓	✓	✓	✓
Free of RNase		✓	✓	✓	✓
Free of DNase		✓	✓	✓	✓
Free of Pyrogens		✓	✓	✓	✓
Non cytotoxic			✓		
Free of PCR-Inhibitors				✓	✓
Free of ATP					✓

Trademarks

Trademark	Owner	Trademark	Owner
accu-jet®	BRAND® GMBH + CO KG	Repeater®	Eppendorf AG
AutoRep™	Mettler-Toledo Rainin, LLC	sartorius®	SARTORIUS AG
BIO-CERT®	BRAND® GMBH + CO KG	seripettor®	BRAND® GMBH + CO KG
BIOHIT®	Sartorius Biohit Liquid Handling Oy	Synchro™	VACUUBRAND GMBH + CO KG
BOCHEM®	Bochem Instrumente GmbH	TipStack™	BRAND® GMBH + CO KG
BRAND®	BRAND® GMBH + CO KG	Titrette®	BRAND® GMBH + CO KG
BRANDplates®	BRAND® GMBH + CO KG	Transferpette®	BRAND® GMBH + CO KG
BRANDTECH®	BRANDTECH® Scientific, Inc.	Transferpettor™	BRAND® GMBH + CO KG
cellGrade™	BRAND® GMBH + CO KG	Tween®	ICI Americas, Inc.
Combitips advanced®	Eppendorf AG	VACUUBRAND®	VACUUBRAND GMBH + CO KG
Daigger®	A. Daigger and Company, Inc.	VACUU-BUS®	VACUUBRAND GMBH + CO KG
Dispensette®	BRAND® GMBH + CO KG	VACUU-CONTROL™	VACUUBRAND GMBH + CO KG
DistriTips®	Gilson, Inc.	VACUU-LAN®	VACUUBRAND GMBH + CO KG
Easy Calibration™	BRAND® GMBH + CO KG	VACUU-SELECT®	VACUUBRAND GMBH + CO KG
Encode™	Rainin Instruments, LLC	VARIO®	VACUUBRAND GMBH + CO KG
Eppendorf®	Eppendorf AG	VITLAB®	VITLAB GmbH
Finnpipette®	Thermo Fisher Scientific, Inc.	VITON®	DuPont Performance Elastomers, LLC
Fisherbrand®	Thermo Fisher Scientific, Inc.	VWR®	VWR International, LLC
Gilson®	Gilson, Inc.	Windows®	Microsoft Corporation
HandyStep®	BRAND® GMBH + CO KG	Windows® NT	Microsoft Corporation
Hastelloy® International	Haynes		
hydroGrade™	BRAND® GMBH + CO KG		
immunoGrade™	BRAND® GMBH + CO KG		
LightCycler®	Roche Diagnostics GmbH		
lipoGrade™	BRAND® GMBH + CO KG		
LTS™	Rainin Instruments, LLC		
macro™	BRAND® GmbH + CO KG		
Microsoft®	Microsoft Corporation		
Mucosal®	Schülke & Mayr GmbH		
nano-cap™	BRAND® GMBH + CO KG		
PD-Tip™	BRAND® GMBH + CO KG		
Peltronic™	VACUUBRAND GMBH + CO KG		
PLT™	BRAND® GMBH + CO KG		
pureGrade™	BRAND® GMBH + CO KG		
QuikSip™	BRAND® GMBH + CO KG		
Rainin®	Rainin Instrument, LLC		
RC 6 Chemistry-HYBRID™	VACUUBRAND GMBH + CO KG		

Other product names, corporate names or titles used within this catalog may be trademarks or registered trademarks of other companies, and are mentioned only in an explanatory manner and for identification purposes to the benefit of their respective owners, and without intent to infringe.

ISO 9001

The ISO 9001 and 9002 certifications earned by BRAND®, BOCHEM®, VACUUBRAND® and VITLAB®, are your guarantee that the high performance standards designed into our products are consistently met in production and quality control. This certification ensures our customers and business partners that they are receiving products designed and manufactured to the highest international quality standards.

ISO 14001

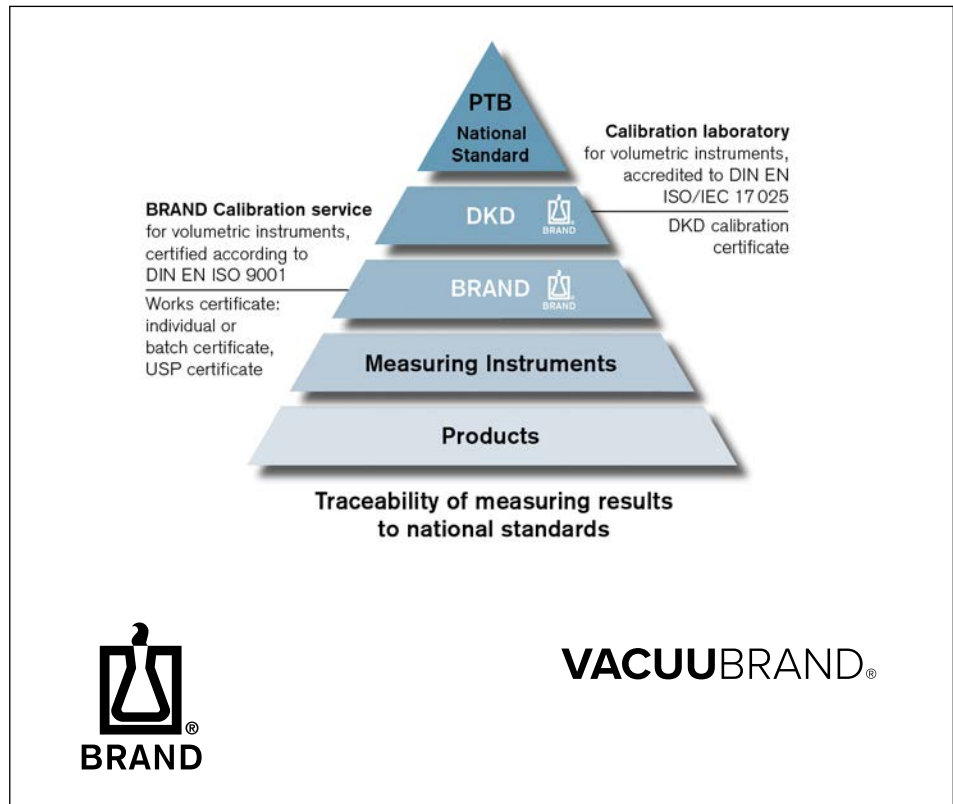
Active protection of the environment is an integral part of our partners' manufacturing philosophies. BRAND, and VITLAB participate in the voluntary European Community environmental management program, and have been certified according to the internationally recognized ISO 14001 standard for the environmental sensitivity of their corporate operations.

DAkKS Calibration Laboratories

This accreditation documents instrument traceability to national and international standards. VACUUBRAND was accredited in 1997 as a calibration laboratory for vacuum gauges in the pressure range of 1300 mbar to 10⁻³ mbar. In 1998, a calibration laboratory at BRAND was officially accredited for volumetric instruments such as piston-operated pipettes and burettes, and for volumetric instruments made of glass and plastics. Both companies are thus certified to calibrate the instruments that you depend on to control your operations. This technical achievement by both companies is your assurance that your instruments are the most reliable you can buy.

DAkKS is the successor to the DKD (Deutscher Kalibrierdienst) for German calibration laboratories. It is a member of the European Cooperation for Accreditation (EA). A multilateral agreement assures obligatory recognition of the DAkKS-Calibration

Certificate in a variety of countries. DAkKS, as part of the European Cooperation for Accreditation (EA), has signed the international convention for reciprocal recognition, the "Mutual Recognition Agreement (MRA) of the International Laboratory Accreditation Corporation (ILAC). Under this convention, the subscribing bodies agree to reciprocal recognition and to promote acceptance of calibration certificates and test reports from the laboratories accredited by the signatories. The complete text of this convention, as well as a wealth of other information on this topic, can be read at www.ilac.org.



Terms and Conditions of Sale of BRANDTECH® Scientific, Inc. (“Agreement”)

These terms and conditions (these “Terms”) set forth the business terms on which BRANDTECH® Scientific, Inc., a Delaware corporation (“Seller”), agrees to sell Products (as defined herein) to the Buyer (as defined herein). These Terms may only be changed by written agreement signed by both parties. The issuance of a purchase order by Buyer for any of Seller’s products or services constitutes Buyer’s acceptance of these Terms.

Definitions: The term “Product(s)” shall refer to the materials, supplies, items and equipment covered by the related order. The term “Contract” shall refer to, collectively, an accepted order and these Terms. Other defined terms have the meanings given to them herein. The term “Buyer(s)” shall refer to the person, institute, company, organization, or corporation making the order in exchange for Product(s).

1. Acceptance by BRANDTECH® Scientific, Inc.

All orders are subject to credit approval and acceptance by the Seller in Essex, CT. These Terms constitute the sole terms and conditions which govern the sale of the Product(s) covered hereby. This Contract is the sole and complete agreement between Buyer and Seller and supersedes all prior discussions, agreements, or understandings whether stated orally or in writing. No deviating or additional terms shall be binding unless expressly agreed to in writing signed by an authorized representative of Seller. These Terms prevail over any of Buyer’s general terms and conditions of purchase regardless of whether or when Buyer has submitted its purchase order or such terms. Fulfillment of Buyer’s order does not constitute acceptance of any of Buyer’s terms and conditions and does not serve to modify or amend these Terms. Seller may, in its sole discretion and at any time for any reason, change these Terms or any policies or guidelines. The most current terms and conditions are available at www.brandtech.com which may contain additional and supplementary terms and conditions, and are hereby incorporated by reference. Buyer is responsible for reviewing these terms and conditions, the online terms, and any applicable changes.

2. Shipping Terms

Delivery shall be made Ex Works Essex, CT. Payment terms shall be net 30 days for Buyers with credit approved and established prior to order and if written on face of invoice. All other shipments must be prepaid or paid by credit card. All payments shall be made in U.S. dollars. Products will only be shipped to valid addresses within the United States of America and Canada. Buyer is responsible for any federal, state, local, sales, VAT, GST, or other taxes whether or not those taxes are set forth on the applicable invoice from Seller. Seller may, in its sole discretion, without liability or penalty, make partial shipments of Products to Buyer. Each shipment will constitute a separate sale, and Buyer shall pay for the units shipped whether such shipment is in whole or partial fulfillment of Buyer’s purchase order.

3. Title and Risk of Loss

Title and risk of loss passes to Buyer upon delivery of the Products. As collateral security for the payment of the purchase price of the Products, Buyer hereby grants to Seller a lien on and security interest in and to all of the right, title and interest of Buyer in, to and under the Products, wherever located, and whether now existing or hereafter arising or acquired from time to time, and in all accessions thereto and replacements or modifications thereof, as well as all proceeds (including insurance proceeds) of the foregoing. The security interest granted under this provision constitutes a purchase money security interest under the Connecticut Uniform Commercial Code.

4. Payment Terms

Buyer shall pay all invoiced amounts due to Seller within 30 days of Seller’s invoice. Buyer shall make all payments hereunder by ACH, Wire Transfer, check, or credit card and in U.S. dollars. Past due accounts will be subject to payment of a finance charge on all late payments. Buyer shall pay interest on all late payments at the lesser of the rate of 11/2% per month (18% per annum) or the highest rate permissible under Connecticut law. In the event Buyer’s account is past due, the total amount outstanding shall be payable immediately, and Seller shall have no obligation to deliver any Products or deliveries in process. In such event Seller may demand that all outstanding orders be paid in advance of shipment. Buyer shall not withhold payment of any amounts due and payable by reason of any set-off of any claim or dispute with Seller, whether relating to Seller’s breach, bankruptcy or otherwise.

5. Prepaid shipping charges

Buyer is responsible for all shipping, duties, customs, and brokerage fees. At the request of Buyer, Seller may prepay freight charges and include such charges on the invoice. Such prepaid charges, if paid, are an accommodation to the Buyer only, and do not modify the Ex Works Essex, CT delivery term.

6. Shipping dates

Shipping dates listed on purchase orders are estimates only, and Seller shall not be liable for non-shipment or delay due to acts of God, strikes, accidents or any other causes beyond control of Seller, whether or not similar in class or kind to those mentioned. Seller shall not be liable for delays, loss or damage in transit.

7. Inspection and claims

Claims for damage in shipment must be filed in accordance with the delivering carrier’s procedures. Claims for shortages, shipping errors or any claim that the Products do not conform to the terms of the Contract must be submitted to the Seller in writing within five (5) days of receipt. If Buyer fails to give such notice, the Products shall be deemed in conformance with the Contract terms and accepted by Buyer, and Buyer shall pay for the Products in accordance with the Contract. Buyer waives any right to reject or revoke acceptance after such five (5) day period. All claims must be accompanied by a copy of the packing slip. [If Buyer timely notifies Seller of any nonconforming Products, Seller shall, in its sole discretion, (i) replace such nonconforming Products with conforming Products, or (ii) credit or refund the price for such nonconforming Products. Buyer acknowledges and agrees that the remedies set forth in this Paragraph 7 are Buyer’s exclusive remedies for the delivery of nonconforming Products.

8. Returns

Buyer has no right to return Product(s) purchased hereunder to Seller, and Seller has no obligation to accept any such returns, without Seller’s express prior written authorization, which may be withheld in Seller’s sole discretion. In the event

Buyer desires to return a Product or Products, Buyer must obtain Seller’s written authorization within thirty (30) days of shipment. Unless indicated otherwise by Seller, any written authorization given to Buyer will expire within thirty (30) days of issuance. With the exception of those returns specified in Paragraph 13, returns will be accepted only if Product is in new, unused, resalable condition in the original packaging. All Product returns must be accompanied by a completed Health and Safety Declaration regarding potential contamination with hazardous materials due to Buyer’s use of the Product. In the event of a return, Seller shall be entitled to handling charges of 25% of the purchase price of the Product(s) or such greater amount as expended by Seller in connection with such returns.

9. Cancellations and Modifications

In the event of cancellation of a purchase order by Buyer, Seller shall be entitled to cancellation charges of 25% of the cancelled order or such greater amount as expended by Seller in connection with such cancellations. Product appearance, catalog numbers, prices, specifications, and technical information are subject to change without notice.

10. Deferred orders

Requests by Buyer for changes in a shipping schedule on an order in process are subject in all cases to approval and acceptance by Seller in writing, and will be further subject to revisions in price and/or charges for work already in progress.

11. Typographical or printing errors

Any typographical, printing, stenographic, clerical, or other errors are subject to correction by the Seller.

12. Prices

All prices are subject to change without notice. In the event the price of a Product increases from a previously defined price, Seller will so notify Buyer prior to shipment, and Buyer shall have ten (10) days to cancel that part of the purchase order as applies to such Product if the increased price is unacceptable. All prices are exclusive of all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any governmental authority on any amounts payable by Buyer. Buyer shall be responsible for all such charges, costs and taxes; provided, that Buyer shall not be responsible for any taxes imposed on, or with respect to, Seller’s income, revenues, gross receipts, personnel or real or personal property or other assets.

13. Limited Warranty

Seller warrants to Buyer to the warranty period indicated, by product, at www.brandtech.com that its Products are free from defects in materials and workmanship as set forth in applicable operating instructions at the date of shipment to the original Buyer and will conform to the Contract specifications or such other specifications which constitute technical improvements to the Products.* The exclusive remedy of the Buyer in the event of a breach of the foregoing warranty is replacement or repair (at Seller’s option) of any defective Product. No Products shall be returned to Seller for repair or replacement pursuant to this warranty without prior written approval and accompanied by a completed health and safety declaration (as specified in Paragraph 8). All cleaning, decontamination, and shipping costs shall be the sole responsibility of the Buyer together with any damage to the Products that might occur in transit to or from Seller. Under no circumstances does Seller’s responsibility or warranty extend to Products other than those manufactured or distributed by Seller; nor does Seller’s liability extend to any Products, articles or parts which are furnished by Buyer or obtained from other manufacturers or suppliers at Buyer’s request and/ or in accordance with Buyer’s specifications. In the event that Seller is unwilling or unable to repair or replace any defective or nonconforming Product due to change in technical standards, technical modifications, unavailability of material or parts, or any other reason, Buyer shall be entitled to a return of the purchase price paid for such Product as its sole and exclusive remedy. Seller assumes no responsibility for the effective performance of any specific scientific application relying on Products supplied under this Contract beyond published Product specifications at the time of sale. Seller assumes no responsibility for conformance with local building codes as they may apply in the installation of Products supplied by the Seller. Seller assumes no responsibility whatsoever for the accuracy of designs, specifications or materials furnished or specified by Buyer.

TO THE EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH ABOVE IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND THAT SELLER MAKES NO OTHER WARRANTIES WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, WARRANTY OF TITLE, OR WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY, WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. THE BUYER ACKNOWLEDGES THAT IT IS NOT RELYING ON THE SELLER’S SKILL OR JUDGEMENT TO SELECT OR FURNISH GOODS SUITABLE FOR ANY PARTICULAR PURPOSE AND THAT THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE SET FORTH HEREIN. TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SELLER BE LIABLE FOR BUYER’S LOSS OF PROFIT OR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES OF ANY KIND. THE REMEDIES SET FORTH IN THIS SECTION 13 SHALL BE THE BUYER’S SOLE AND EXCLUSIVE REMEDY AND SELLER’S ENTIRE LIABILITY FOR ANY BREACH OF LIMITED WARRANTY SET FORTH IN THIS SECTION 13.

*All wearing and glass parts, e.g., pistons, seals, diaphragms, valves, are excluded from this Warranty.

14. Indemnity for nuclear uses

Buyer or lessee agrees to indemnify, defend and hold Seller harmless from any and all liability or damage arising out of the use of the equipment sold or leased hereunder in, on or with any nuclear installation, activity, use, or purpose.

15. Indemnity for Products manufactured according to Buyer’s requirements

In the event Seller provides Products in accordance with drawings, models or samples provided by the Buyer, Buyer shall indemnify, defend, and hold harmless the Seller from any liability, cost, or expense suffered by Seller as a result of the violation of any

law or regulation or the infringement of any industrial property right or other right of third parties (except as may have been caused by modification by Seller).

16. Not for Use in Aircraft

The Products are not intended for use in aircraft of any kind, including airplanes, helicopters, drones, etc., and Buyer shall indemnify, defend, and hold harmless Seller from any liability, cost or expense suffered by Seller as a result of the use of the Products in this manner.

17. Notification of Product hazards and recall of Products

Buyer will inform Seller immediately in writing about any events which indicate any hazards connected with the Product. Upon written notice of the Seller about hazards in connection with the Products or unfitness for use of the Products and recall of Products, the Buyer will immediately cease using the Products and will return the Products to the Seller upon Seller's request. To the extent permitted by law, in the event Seller does not repair Product for any reason, the Buyer, as its sole remedy shall be entitled to compensation equivalent to the current value of the used Product, but in no event more than the purchase price.

18. Limitation of Liability

In no event shall Seller be liable to Buyer or any third party for any loss of use, revenue or profit or loss of data or diminution in value, or for any consequential, indirect, incidental, special, exemplary, or punitive damages, whether arising out of breach of contract, tort (including negligence) or otherwise, regardless of whether such damages were foreseeable and whether or not Seller has been advised of the possibility of such damages, and notwithstanding the failure of any agreed or other remedy of its essential purpose.

In no event shall Seller's aggregate liability arising out of or related to this Contract, whether arising out of or related to breach of contract, tort (including negligence) or otherwise, exceed the total of the amounts paid to Seller for the Products sold hereunder to 100% of the purchase price of the product.

19. Compliance with Laws

Buyer shall comply with all applicable laws, regulations, and other legal requirements regarding the export, import, sale, distribution, marketing, and service of the Products and related technology, including without limitation, tax and foreign exchange legislation or regulations. Buyer shall maintain in effect all the licenses, permissions, authorizations, consents and permits that it needs to carry out its obligations under the Contract and these terms and conditions.

20. Applicable Law and Submission to Jurisdiction

The validity, performance and construction of this Contract shall be governed by the laws of the state of Connecticut. The parties agree to submit to the personal and exclusive jurisdiction of the courts located in Connecticut for the resolution of all legal disputes arising under the terms of this Contract.

21. Waiver

No waiver by Seller of any of the provisions of this Contract is effective unless explicitly set forth in writing and signed by Seller. The failure of Seller to insist upon the performance of any provision of this Contract, or failure to exercise or delay in exercising any right or privilege granted to Seller under this Contract, shall not be construed as waiving any such provision, and the same shall continue in force. No single or partial exercise of any right, remedy, power or privilege hereunder precludes any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

22. Intellectual Property Rights

As used herein, "Intellectual Property Rights" means all industrial and other intellectual property rights comprising or relating to: (i) patents; (ii) trademarks; (iii) internet domain names, whether or not trademarks, registered by any authorized private registrar or any governmental authority, web addresses, web pages, website and URLs; (iv) works of authorship, expressions, designs and design registrations, whether or not copyrightable, including copyrights and copyrightable works, software and firmware, application programming interfaces, architecture, files, records, schematics, data, data files, and databases and other specifications and documentation; (v) trade secrets, and (vi) all industrial and other intellectual property rights, and all rights, interests and protections that are associated with, equivalent or similar to, or required for the exercise of, any of the foregoing, however arising, in each case whether registered or unregistered and including all registrations and applications for, and renewals or extensions of, such rights or forms of protection pursuant to applicable law.

Buyer acknowledges and agrees that: (i) any and all Seller's Intellectual Property Rights are the sole and exclusive property of Seller or its licensors; (ii) Buyer shall not acquire any ownership interest in any of Seller's Intellectual Property Rights under the Contract or these terms and conditions; (iii) any goodwill derived from the use by Buyer of Seller's Intellectual Property Rights inures to the benefit of Seller or its licensors, as the case may be; (iv) if Buyer acquires any Intellectual Property Rights, rights in or relating to any Products (including any rights in any trademarks, derivative works or patent improvements relating thereto) by operation of law, or otherwise, such rights are deemed and are hereby irrevocably assigned to Seller or its licensors, as the case may be, without further action by either of the parties; and (v) Buyer shall use Seller's Intellectual Property Rights solely for the purposes of using the Products under this Contract and only in accordance with this Contract and the instructions of Seller.

Buyer shall not (i) take any action that might interfere with any of Seller's rights in or to Seller's Intellectual Property Rights, including Seller's ownership or exercise thereof; (ii) challenge any right, title or interest of Seller in or to Seller's Intellectual Property Rights; (iii) make any claim or take any action adverse to Seller's ownership of Seller's Intellectual Property Rights; (iv) register or apply for registrations, anywhere in the world, for Seller's trademarks or any other trademark that is similar to Seller's trademarks or that incorporates Seller's trademarks; (v) use any mark, anywhere that is confusingly similar to Seller's trademarks; (vi) engage in any action that tends to disparage, dilute the value of, or reflect negatively on the Products or any Seller's trademarks; (vii) misappropriate any of Seller's trademarks for use as a domain name without prior written consent from Seller; (viii) or alter, obscure, or remove any Seller's trademarks, or trademark or copyright notices or any other proprietary rights notices placed on Products, marketing materials or other materials that Seller may provide.

23. Termination

In addition to any remedies that may be provided under these Terms, Seller may terminate the Contract and these Terms with immediate effect upon written notice to Buyer, if Buyer: (i) fails to pay any amount when due under this Contract and such failure continues for 10 days after Buyer's receipt of written notice of nonpayment; (ii) has not otherwise performed or complied with any of these Terms, in whole or in part; or (iii) becomes insolvent, files a petition for bankruptcy or commences or has commenced against it proceedings relating to bankruptcy, receivership, reorganization or assignment for the benefit of creditors.

24. Confidential Information

All non-public, confidential or proprietary information of Seller, including but not limited to specifications, samples, patterns, designs, plans, drawings, documents, data, business operations, customer lists, pricing, discounts or rebates, disclosed by Seller to Buyer, whether disclosed orally or disclosed or accessed in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential" in connection with the Contract is confidential, solely for the use of performing the parties' obligations hereunder and may not be disclosed or copied unless authorized in advance by Seller in writing. Upon Seller's request, Buyer shall promptly return all documents and other materials received from Seller. Seller shall be entitled to injunctive relief for any violation of this Section. This Section does not apply to information that is: (a) in the public domain; (b) known to Buyer at the time of disclosure; or (c) rightfully obtained by Buyer on a non-confidential basis from a third party. The confidentiality obligations set forth in this section shall survive termination of the Contract.

25. Assignment

Buyer shall not assign any of its rights or delegate any of its obligations under the Contract without the prior written consent of Seller. Any purported assignment or delegation in violation of this Section is null and void. No assignment or delegation relieves Buyer of any of its obligations under the Contract.

26. Relationship of the Parties

The relationship between the parties is that of independent contractors. Nothing contained in this Contract shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment or fiduciary relationship between the parties, and neither party shall have authority to contract for or bind the other party in any manner whatsoever.

27. No Third-Party Beneficiaries

The Contract is for the sole benefit of the parties hereto and their respective successors and permitted assigns and nothing herein, express or implied, is intended to or shall confer upon any other person or entity any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of these Terms.

28. Notices

All notices, request, consents, claims, demands, waivers and other communications hereunder (each, a "Notice") shall be in writing and addressed to the parties at the addresses set forth on the face of the invoice or to such other address that may be designated by the receiving party in writing. All Notices shall be delivered by personal delivery, nationally recognized overnight courier (with all fees pre-paid), facsimile (with confirmation of transmission) or certified or registered mail (in each case, return receipt requested, postage prepaid). Except as otherwise provided under these terms and conditions, a Notice is effective only (a) upon receipt of the receiving party, and (b) if the party giving the Notice has complied with the requirements of this Section.

29. Severability

If any term or provision of these terms and conditions is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of these terms and conditions or invalidate or render unenforceable such term or provision in any other jurisdiction.

Last revised: October 30, 2018

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bottle top dispensers



Titrette®
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repeating pipettes



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single & multichannel pipettes



Pipetting Robots
liquid handling stations (LHS)



Pipette Tips
bulk, filter, racked & BIO-CERT® sterile



PD-Tip™ II Precision Dispenser Tip
repeating pipette tips



Transferpetteor™
positive displacement pipette



accu-jet® S & macro™
motorized & manual pipette controller



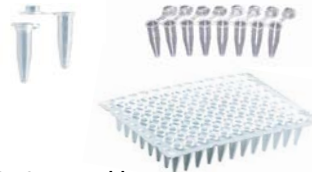
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