

## VWR® DISPOSABLE PLASTICS

Quality products

Superior performance

Wide range of choices









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\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



## CENTRIFUGATION

VWR Ultra High Performance 15 and 50ml Centrifuge Tubes



We designed our Ultra High Performance centrifuge tubes to successfully meet your needs every time you use them. We test every lot of these tubes at a much higher g-force than we rate them to ensure that you can spin them safely. Our quality control team tests the seals with chloroform. So these don't just look like centrifuge tubes, they really are.





## CENTRIFUGATION

### VWR Ultra High Performance 15 and 50ml Centrifuge Tubes



**Now 50 ml spins to 20,000 rcf, 15 ml to 17,000 rcf**

Ultra High Performance Centrifuge tubes from VWR offer you a standard of performance not available from other brands of centrifuge tubes. These tubes are made from a unique medical grade resin that is far more durable than commodity-grade resins used in most other brands of tubes. This high quality resin makes it possible for you to spin these tubes at g-forces up to 233% greater than other tubes. So you can use these tubes to do those extractions you did in polycarbonate tubes before.

Ultra High Performance tubes also feature large solid white writing areas and crisp solvent-resistant black graduations that won't rub-off unlike some other popular tube brands.

You can order these tubes with either a flat cap or a plug style cap. The flat style caps can be easily labeled and the 50ml caps include an integral elastomeric seal that eliminates leaking. The plug style caps are perfect for use with horizontal shakers or extended storage.

Ultra High Performance tubes are not only better when you use them, the process used to make them is better, helping reduce their environmental footprint.

- Each of these tubes is molded in a high energy efficiency electric molding machine that consumes up to 40% less energy.
- These tubes are printed using a high speed rotary process and solvent-resistant inks that allow us to eliminate V.O.C. pollutants.
- Ultra High Performance tubes are made using unique "waste free" machines that produce no plastic waste.

VWR Ultra High Performance tubes are available in packaging styles for all your needs, including our Patented fiber racks, Reusable plastic racks, Sterile bags, and Bulk bags. All sterile products use medical grade packaging and are radiation sterilized following a validated ISO 11137 method. Lab tested and certified Non-Cytotoxic.



## CENTRIFUGATION

### VWR Ultra High Performance 15 and 50ml Centrifuge Tubes



**1.** Easy grip cap design is simple to use even when wearing gloves

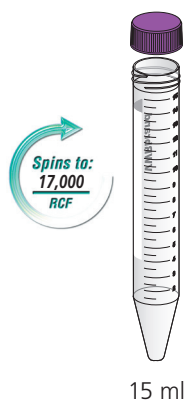
**2.** Low profile cap design allows tubes to be stored in racks without crowding

**3.** Extra large labeling area

**4.** Clear black graduations and volumes

Tubes from major brands offer fewer features than VWR





15 ml tubes  
25 per rack, 2 racks/pkg.

15 ml Tube Dimensions:  
Overall length: 118 mm  
Inside diameter: 15 mm  
Outside diameter: 17 mm

### 15 ml SuperClear Centrifuge Tubes with Flat Caps and Printed Graduations

### 15 ml SuperClear Centrifuge Tubes with Plug Style Caps and Printed Graduations

Note: Plastic racks are now available as an option, on the Flat Cap tubes only.

Cat. No.	Description	Qty/Cs	Sterile	Price
21008-214	50/Bag, 10 Bags/Case	500		\$206.91
21008-216	50/Bag, 10 Bags/Case	500	✓	234.07
21008-089	25/Rack, 2 Racks/Pkg, 10 Pkg/Case	500		240.93
21008-103	25/Rack, 2 Racks/Pkg, 10 Pkg/Case	500	✓	258.20
89401-574	Plastic Rack version of above, 25/Rack	500	✓	257.55
21008-105	Bulk, Tubes and Caps in Separate Bags	500		211.49

Cat. No.	Description	Qty/Cs	Sterile	Price
93000-020	50/Bag, 10 Bags/Case	500		\$205.13
93000-022	50/Bag, 10 Bags/Case	500	✓	217.66
93000-024	25/Rack, 2 Racks/Pkg, 10 Pkg/Case	500		223.99
93000-026	25/Rack, 2 Racks/Pkg, 10 Pkg/Case	500	✓	243.55
93000-028	Bulk, Tubes and Caps in Separate Bags	500		201.16

Patented racks fold flat for recycling.



50 ml tubes  
25 per rack

50 ml Tube Dimensions:  
Overall length: 115 mm  
Inside diameter: 25 mm  
Outside diameter: 29 mm

### 50 ml SuperClear Centrifuge Tubes with Flat Caps and Printed Graduations

### 50 ml SuperClear Centrifuge Tubes with Plug Style Caps and Printed Graduations

Cat. No.	Description	Qty/Cs	Sterile	Price
21008-240	50/Bag, 10 Bags/Case	500		\$224.68
21008-242	50/Bag, 10 Bags/Case	500	✓	309.49
21008-169	25/Rack, 20 Racks/Case	500		293.26
21008-178	25/Rack, 20 Racks/Case	500	✓	318.10
89401-572	Plastic Rack version of above, 25/Rack	500	✓	287.85
21008-177	Bulk, Tubes and Caps in Separate Bags	500		220.72

Cat. No.	Description	Qty/Cs	Sterile	Price
93000-030	50/Bag, 10 Bags/Case	500		\$214.26
93000-032	50/Bag, 10 Bags/Case	500	✓	225.62
93000-034	25/Rack, 20 Racks/Case	500		271.64
93000-036	25/Rack, 20 Racks/Case	500	✓	279.94
93000-038	Bulk, Tubes and Caps in Separate Bags	500		201.16



Comparison photo of 50 ml tube cones shows thicker cones of Ultra High Performance tubes (far right, Purple) withstand breakage better than popular brands. Actual test with market samples. Tubes filled with 45 ml distilled water. Spun unsupported for 15 minutes @ 20,000 RCF.

Item	Material	Autoclavable*	Max RCF**	Temp Range***
15 ml Printed Tube	Polypropylene	✓	17,000	-80° to 122° C
50 ml Printed Tube	Polypropylene	✓	20,000	-80° to 122° C

\* 15 and 50 ml caps are not autoclavable separately from tubes.

\*\* RCF is Relative Centrifugal Force as measured in G's for specific gravity of 1.0. Always use appropriate cushion or adapters and biohazard containment precautions. Organic solvents and other strong chemicals may reduce maximum RCF. Printed graduations are accurate to ±2%.

\*\*\* Maximum storage temperatures. Use of Foam or other type of insulating racks that cause uneven cooling may cause breakage. Use of organic solvents, multiple spin cycles, vortexing, or other procedures may reduce maximum freezing temperature. Tubes should be allowed to come to room temperature before any procedures.



## CENTRIFUGATION

### 15 and 50ml Sterile Centrifuge Tubes



## VWR High Performance Centrifuge Tubes

### 15 ml High Performance Centrifuge Tubes with Flat Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
89039-664	50/Bag, 10 Bags/Case	500	✓	\$191.73
89039-666	25/Rack, 2 Racks/Pkg, 10 Pkg/Cs	500	✓	210.90
89401-566	Bulk, Tubes and Caps in Separate Bags	500		190.89

### 15 ml High Performance Centrifuge Tubes with Plug Style Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
89039-668	50/Bag, 10 Bags/Case	500	✓	\$194.42
89039-670	25/Rack, 2 Racks/Pkg, 10 Pkg/Cs	500	✓	213.86
89401-568	Bulk, Tubes and Caps in Separate Bags	500		180.79



### 50 ml High Performance Centrifuge Tubes with Flat Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
89039-656	50/Bag, 10 Bags/Case	500	✓	\$215.87
89039-658	25/Rack, 20 Racks/Case	500	✓	251.83
89401-562	Bulk, Tubes and Caps in Separate Bags	500		189.88

### 50 ml High Performance Centrifuge Tubes with Plug Style Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
89039-660	50/Bag, 10 Bags/Case	500	✓	\$204.11
89039-662	25/Rack, 20 Racks/Case	500	✓	249.58
89401-564	Bulk, Tubes and Caps in Separate Bags	500		180.79



VWR High Performance Centrifuge tubes are designed for your everyday centrifugation and storage needs. These tubes include large white solvent-resistant labeling areas and black easy to read graduations. They are available with either a flat cap that is easy to label or a plug style cap for horizontal applications. All package versions are sterilized with a validated and approved ISO 11137 method.

Racked tubes are packaged in a reusable, autoclavable, and freezable (-80° C) polypropylene rack that inter-locks to allow you to create a workstation.

Racks also available separately, see page 92.

**Certified to IATA 95kPa Standard**

## 50 ml Freestanding Centrifuge Tubes

VWR High Performance Freestanding 50 ml Centrifuge Tubes are available for use in those applications where a rack is not available. They include a large white solvent resistant writing area and black graduations. Available with either a flat cap or a plug style cap.

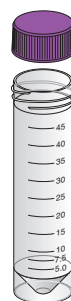


### Freestanding 50 ml High Performance Centrifuge Tubes with Flat Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
82018-048	50/Bag, 10 Bags/Case	500		\$300.04
82018-050	50/Bag, 10 Bags/Case	500	✓	313.09
82018-052	Bulk, Tubes and Caps in Separate Bags	500		224.12

### Freestanding 50 ml High Performance Centrifuge Tubes with Plug Style Caps

Cat. No.	Description	Qty/Cs	Sterile	Price
89079-492	50/Bag, 10 Bags/Case	500		\$273.76
89079-494	50/Bag, 10 Bags/Case	500	✓	302.32
89079-490	Bulk, Tubes and Caps in Separate Bags	500		180.93



Freestanding 50 ml





## CENTRIFUGATION

### VWR Large Tubes for Standard Centrifuges



VWR large centrifuge tubes are perfect for clarifying large volume solutions or concentrating live cells in tissue culture.

Made from pure pre-tested medical grade resins to ensure the integrity of your work. Each lot is tested and certified free of RNase/DNase, Endotoxins, and is non-pyrogenic. Resins are pre-tested, and are free of Oleamide, DiHEMA, and Phthalates.

These tubes come in unique balanced packages of 2 tubes. So you don't have to worry about resealing bags or re-sterilizing these tubes. They also include our exclusive caps with their integral elastomeric sealing ring that eliminates leaking.

Sterile tubes have been sterilized with a validated medical grade process using gamma radiation. Available in 175 ml and 225 ml volumes that fit standard cushions and rotors of floor model and benchtop centrifuges. Outside dimensions of 175 ml tube are 61x117mm. Outside dimensions for 225 ml tube are 61x137mm. Spins to 8,000 x R.C.F.

#### 175 ml



#### 225 ml



#### 175 ml Centrifuge Tubes

with attached caps,  
61mm wide x 118mm high

Cat. No.	Description	Qty/Cs	Sterile	Price
89218-280	2/Pack, 24 Packs/Case	48		\$121.15
89218-282	2/Pack, 24 Packs/Case	48	✓	154.33

#### 225 ml Centrifuge Tubes

with attached caps,  
61mm wide x 137mm high

Cat. No.	Description	Qty/Cs	Sterile	Price
89218-284	2/Pack, 24 Packs/Case	48		\$121.15
89218-286	2/Pack, 24 Packs/Case	48	✓	154.33



Tubes made from medical grade polypropylene, caps made from medical grade high density polyethylene with elastomeric molded-in sealing ring.

- For standard centrifuge rotors
- Non-pyrogenic, RNase/DNase-free
- Pure medical grade resins
- Spins to 8,000 RCF
- Sterile and Non-sterile available



Caps include elastomeric seal



Tubes fit standard storage racks



### VWR Metal Free\* Centrifuge Tubes

Our Metal Free tubes are made with ultra clean resins for the tube and cap and processed to ensure that common trace metals are kept below an ICP-MS detection level of one part per billion. These tubes are perfect for storage of samples and for applications requiring the assurance of low background metals. Available in sterile racks or bags. Metals included in testing are Calcium, Magnesium, Zinc, Iron, Manganese, Copper, Aluminum, Silicon, Nickel, Vanadium, Sodium, Phosphorus, Cobalt, Chromium, Potassium, Lithium, and Lead, Selenium, Cadmium, Mercury, and Arsenic. Autoclavable (122° C) and freezable (-80° C).

#### VWR Metal Free\* 15 ml Centrifuge Tubes with Flat Caps

Cat. No.	Description	Qty/Cs	Sterile	Price/Cs
89049-170	50/Bag, 10 Bags/Case	500	✓	\$223.88
89049-172	25/Rack, 2 Racks/Pkg, 10 Pkg/Cs	500	✓	254.07

#### VWR Metal Free\* 50 ml Centrifuge Tubes with Flat Caps

Cat. No.	Description	Qty/Cs	Sterile	Price/Cs
89049-174	50/Bag, 10 Bags/Case	500	✓	\$240.44
89049-176	25/Rack, 20 Racks/Case	500	✓	293.78



\* Certified to less than 1PPB for major metals

### VWR Polystyrene Centrifuge Tubes.

Polystyrene tubes are made of crystal clear resin and include bold etched graduations. They can be used for some culture applications that require a glass clear material. Not autoclavable or freezable.

#### VWR 15 ml Polystyrene Centrifuge Tubes with External Molded Graduations

Cat. No.	Description	Qty/Cs	Sterile	Price/Cs
21008-212	50/Bag, 10 Bags/Case	500		\$253.06
21008-202	50/Bag, 10 Bags/Case	500	✓	259.42
21008-195	125/Bag, 4 Bags/Case	500		237.10
21008-197	125/Bag, 4 Bags/Case	500	✓	267.10
21008-189	Bulk, Tubes & Caps in Separate Bags	1000		409.35





## CENTRIFUGATION

### VWR Centrifuge Tubes for Special Applications



### VWR Amber 15 ml and 50 ml Centrifuge Tubes for light sensitive samples.

These tubes are designed to block 100% of U.V. light. They can be used instead of foil to shield samples sensitive to light radiation. They have been lab tested and certified to block U.V. light, but will still pass visible light so you can see your sample volume. Autoclavable (122° C) and Freezable (-80° C).

#### VWR Amber 15 ml Centrifuge Tubes with Plug Style Caps

Cat. No.	Description	Qty/Cs	Sterile	Price/Pk	Price/Cs
89079-541	50/Bag, 10 Bags/Case	500	✓	\$34.22	\$262.19
89079-543	25/Rack, 2 Racks/Pkg, 10 Pkg/Cs	500	✓	38.85	297.72
89079-538	Bulk, Tubes & Caps in Separate Bags	500			208.80



#### VWR Amber 50 ml Centrifuge Tubes with Plug Style Caps

Catalog #	Description	Qty/Cs	Sterile	Price/Pk	Price/Cs
89079-535	50/Bag, 10 Bags/Case	500	✓	\$36.62	\$280.58
89079-537	25/Rack, 20 Racks/Case	500	✓	23.29	332.03
89079-532	Bulk, Tubes & Caps in Separate Bags	500			242.77














Microcentrifuge tubes are used in the lab every day. You use dozens of them. You never think about them, you shouldn't have to.

We know that you expect a lot from one of the most necessary items in your lab. What you put into them is your time, your ideas, and your passion. We spin test thousands of tubes every day. We use resins that are clearer and cleaner, we run a series of nuclease tests on every production lot of tubes after they are packaged not just after they are molded. We test thoroughly as part of our regular quality control process because we understand how important your work is.



Use this chart to help choose the right tube for your application. Look for letters **A** next to the products on the following pages for references to this chart.

										
STYLE:		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>
Process	Cat. No.	20170-038	20170-293	20170-355	20170-575	20170-315	20170-650	20170-577	20170-170	20170-333
DNA extraction		◆						◆		
DNA quantification		◆	◆	◆						
PCR* thermo cycling			◆	◆						
PCR* prep		◆	◆	◆	◆					
Vortexing		◆	◆				◆	◆	◆	
Boiling			◆	◆			◆	◆		◆
Freezing to -90° C		◆	◆	◆	◆	◆	◆			
Centrifuging to <15,000 x g		◆	◆	◆	◆	◆	◆			
Centrifuging >15,000 <20,000 x g		◆	◆					◆		◆
Centrifuging >20,000 <45,000 x g		◆								
Sequential centrifuging to 40,000 x g		◆								
Viscous protein mixing <15,000 x g		◆						◆		
Viscous protein mixing >15,000 <40,000 x g		◆								
Refrigerated centrifugation to 0° C		◆	◆	◆	◆	◆	◆			
Multiple reagent addition		◆	◆							
Medical lab processing						◆			◆	◆
Single use procedure				◆						
Phenol/Chloroform extraction		◆						◆		

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



CENTRIFUGATION
Microcentrifuge Tubes

Bottom designed with no sharp points to tear gloves
Beveled opening for pouring supernatant
Smooth rounded cap closure won't catch your gloves
Ultra smooth surface polish improves fluid removal
Flat cap can be easily labeled
Slim design fits high capacity rotors
Every lot is free from nuclease
Unique 90° hinge orients cap for easy fit.
Cap designed to be easy to open and close.

SuperSpin™ features:
Easy Open SuperSpin™ tubes were developed by selecting all the best features of existing microcentrifuge tubes and adding to them the features end users have been asking for. This resulted in tubes with tremendous value. As you can see from the tests below SuperSpin™ tubes surpass the performance of all major brands of tubes. These are not only tubes that can be spun fast, these are tubes that are pure. Every lot of SuperSpin™ tubes is tested and guaranteed free of RNase and DNase. And since SuperSpin™ tubes are made with our pre-tested medical grade resin we know you can use these tubes for DNA extraction without worrying about contaminating your sample.
Easy Open SuperSpin™ tubes feature an extra thick and durable wall that can withstand centrifugation to 40,000 x G\*\*. The ultra clear polypropylene resin gives you a clear view of the pellet as well as correct color rendition. Designed with ergonomic caps and smooth surfaces that make this tube easy to open and can help reduce the potential for repetitive strain injury. The cap also includes a special 90° hinge that makes it easier to close while one-handed pipetting. Available in 1.5 ml sizes that fit all standard and high capacity rotors. Tubes have flat piercable caps and a side writing surface. Autoclavable and freezable. In resealable bags. Graduated.

\*\* Maximum G-force can be affected by organic solvents, multiple spin cycles, or low temperature storage. See chart on page 11 .

Microcentrifuge Tube Centrifugation Results

This study was designed to compare the ability of popular brands of microcentrifuge tubes to withstand centrifuging.
For this study 12 tubes from every brand were filled with distilled water and placed into a high speed centrifuge. These tubes were sequentially spun at the speeds shown in the chart. The results are shown at right. Samples were from purchased market samples.

KEY:
No change
Minor bulging or bending
Crazing or minor cracking
Major bulge or deformation
Break

Table with 7 columns: Test, Reaction, Brand F, Brand E, Brand A, Brand S, VWR SuperSpin™. Rows show centrifugation results at 30,000, 35,000, 40,000, 42,500, 45,000, and 50,000 G for 10 minutes at 18°C.



Easy Open SuperSpin™ tubes feature an extra thick and durable wall that can withstand centrifugation to 40,000 x G\*\*. The ultra clear polypropylene resin gives you a clear view of the pellet as well as correct color rendition. Designed with ergonomic caps and smooth surfaces that make this tube easy- open and reduce the potential for repetitive strain injury. The cap also includes a special 90° hinge that makes it easier to close while one-handed pipetting. Available in 1.5 ml sizes that fit all standard and high capacity rotors. Tubes have flat pierceable caps and a side writing surface. Autoclavable and freezable. In resealable bags. Graduated.

The ability to extract DNA from samples and then amplify that DNA with reliable results is an important part of lab work. SuperSpin™ tubes were designed with this in mind. They can be trusted to spin at high rates. They can be opened and closed easily many times to add or remove reagents. The interior surfaces are ultra-smooth with low retention. They are clear enough to be used in a spectrophotometer and have no extractables at the wavelength ranges you use to detect DNA. The chart below details the performance of SuperSpin™ tubes in light transmission compared to popular brands. SuperSpin™ tubes are more than twice as effective at transmitting light than most brands of microcentrifuge tubes.

### 1.5 ml SuperSpin™

#### Polypropylene

#### Microcentrifuge Tubes

with flat caps, writing surface and graduations. Resealable bags.

Rainbow package includes: 100 red, blue, green, yellow, orange in separate 100 tube bags

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-038	Natural	500	\$45.27	\$349.46
20170-030	Red	500	39.25	302.28
20170-032	Orange	500	39.25	302.28
20170-034	Yellow	500	45.27	347.99
20170-024	Green	500	45.27	347.99
20170-026	Blue	500	45.27	347.99
20170-028	Purple	500	39.25	302.28
20170-036	Amber (for light sensitive samples)	500	45.27	347.99
20170-022	Rainbow	500	45.27	347.99



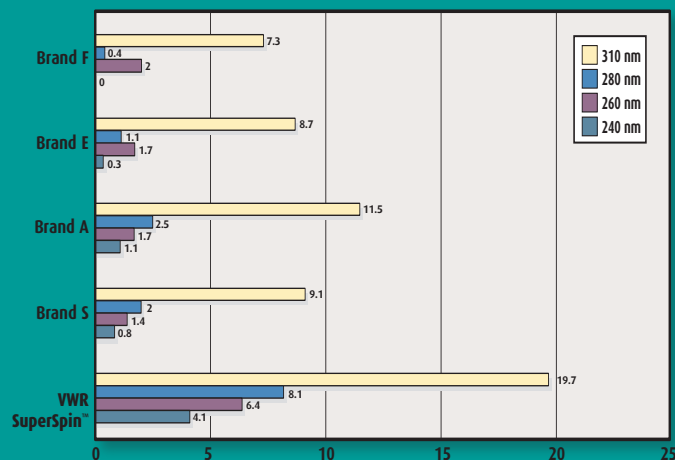
- Ultra high centrifuging to 40,000 x G\*\*
- Optically clear resin
- Resin will not interfere with DNA or PCR\*
- For Phenol/Chloroform vortexing
- Reduced Thumb Force

\*\* Maximum G-force can be affected by organic solvents, multiple spin cycles, or low temperature storage. See chart on page 11.

### PCR\*/DNA Range Light Transmission

The chart shows the results of a study comparing the light transmission ability of some popular brands of microcentrifuge tubes in the PCR\*/DNA range.

In this study one tube from every brand was placed into a spectrophotometer. The percent transmission of light at the wavelengths shown was compared to an empty chamber. The results are shown below. Samples were from purchased market samples.



### Extractables of Microcentrifuge Tubes

Procedure: 8 tubes of each brand were filled with 1 ml of TE buffer. The tubes were then placed in an incubator at 57° C for 24 hours. After this incubation, the TE from 4 of the 8 tubes from each brand was pooled and light absorbance was measured against reference TE in a Perkin-Elmer Lambda 3B Spectrophotometer.

240 nm	260 nm	280 nm	310 nm
-0.011	-0.014	-0.014	-0.014
-0.012	-0.018	-0.018	-0.018
-0.012	-0.016	-0.016	-0.016

#### Brand E

240 nm	260 nm	280 nm	310 nm
0.001	0.001	-0.005	-0.008
-0.002	-0.003	-0.011	-0.015
-0.001	-0.001	-0.008	-0.012

#### SuperSpin™

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



## CENTRIFUGATION

### Boilproof<sup>†</sup> SuperClear™ Microcentrifuge Tubes



Boilproof<sup>†</sup> SuperClear™ tubes feature an ultra clear polypropylene resin that gives you a clear view of the pellet as well as correct color rendition. Designed to be sustainable, these tubes use 50% less plastic than most other tubes and include ergonomic caps with smooth surfaces that can help reduce the potential for repetitive strain injury. The cap also includes a special 90° hinge that makes the cap easier to close while one handed pipetting. And these tubes are designed to stay closed during boiling to protect your sample.

Available in 0.65 ml and 1.7 ml sizes that fit all standard and high capacity rotors. 0.65 ml tubes can also be used in many PCR\* Thermocyclers. Tubes have flat pierceable caps, a side writing surface and graduations. Autoclavable and freezable.

- Optically clear resin
- Resin will not interfere with DNA or PCR\*
- Significantly less waste

<sup>†</sup> When boiled in water bath.



Maximum G-force and acceptable use can be affected by organic solvents, multiple spin cycles, low temperature storage, or vortexing. Always run a trial before using centrifuge tubes in your procedure. Make sure appropriate cushions, adapters and biohazard containment is in place before proceeding.



#### 0.65 ml Boilproof<sup>†</sup> SuperClear™ Polypropylene Microcentrifuge Tubes

with flat caps, writing surface and graduations. Resealable bags.

#### 1.7 ml Boilproof<sup>†</sup> SuperClear™ Polypropylene Microcentrifuge Tubes

with flat caps, writing surface and graduations. Resealable bags. Not for vortexing.

#### 1.7 ml SuperClear™ Polypropylene Microcentrifuge Tubes

without caps. Resealable bags. Not for vortexing.

\*\* Rainbow package includes: 100 red, blue, green, yellow, orange in separate 100 tube bags

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pk
20170-293	Natural	1000	\$107.84	\$828.24
20170-299	Red	1000	108.24	809.92
20170-297	Orange	1000	108.24	809.92
20170-295	Yellow	1000	108.24	809.92
20170-305	Green	1000	108.24	809.92
20170-303	Blue	1000	108.24	809.92
20170-301	Purple	1000	108.24	809.92
20170-306	Rainbow**	1000	124.02	930.16

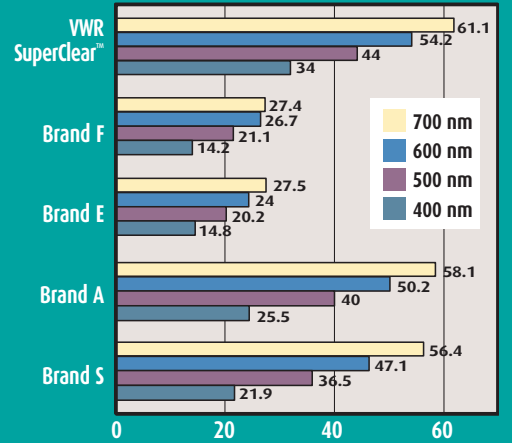
Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pk
20170-355	Natural	500	\$59.59	\$457.54
20170-361	Red	500	54.08	416.50
20170-359	Orange	500	54.08	416.50
20170-357	Yellow	500	54.08	416.50
20170-367	Green	500	54.08	416.50
20170-365	Blue	500	54.08	416.50
20170-363	Purple	500	54.08	416.50
20170-369	Rainbow**	500	59.58	457.59

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pk
20170-575	Natural	500	\$46.96	\$360.00
20170-597	Red	500	46.52	358.54
20170-596	Orange	500	46.80	358.54
20170-595	Yellow	500	46.80	358.54
20170-601	Green	500	46.80	358.54
20170-600	Blue	500	46.80	358.54
20170-599	Purple	500	46.80	358.54
20170-602	Rainbow**	500	46.80	360.11

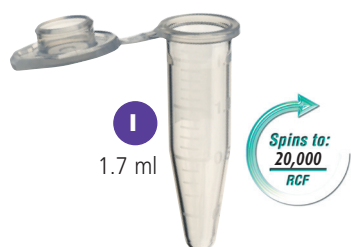
## Visible Range Light Transmission

The chart shows the results of a study comparing the visible light transmission ability of some popular brands of microcentrifuge tubes.

In this study one tube from every brand was placed into a spectrophotometer. The percent transmission of light at the wavelengths shown was compared to an empty chamber. The results are shown at right. Samples were from purchased market samples.



\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



### 1.7 ml SuperClear™ Polypropylene Microcentrifuge Tubes

with Extra Large Top and Graduations. Spins to 20,000 RCF. Autoclavable.

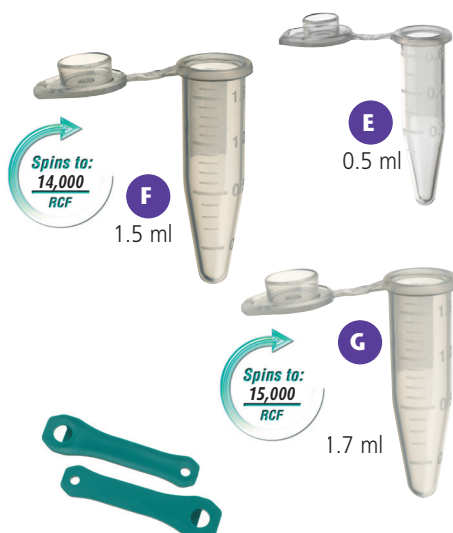
Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-333	Natural	500	\$36.80	\$283.39
20170-339	Red	500	37.65	290.61
20170-337	Orange	500	37.65	290.61
20170-335	Yellow	500	37.65	290.61
20170-347	Green	500	37.65	290.61
20170-345	Blue	500	37.65	290.61
20170-343	Purple	500	37.65	290.61
20170-349	Assorted	500	40.40	311.37



### 2.0 ml SuperClear™ Polypropylene Microcentrifuge Tubes

with Graduations. Tubes have frosted side labeling surface and thin membrane cap that can be pierced easily by a syringe. Resealable bag. Spins to 20,000 RCF. Autoclavable.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-170	Natural	500	\$52.73	\$407.62
20170-090	Red	500	52.64	396.49
20170-088	Orange	500	52.64	396.49
20170-086	Yellow	500	52.64	396.49
20170-096	Green	500	52.64	396.49
20170-094	Blue	500	52.64	396.49
20170-092	Purple	500	52.64	396.49
20170-084	Amber (for light sensitive samples)	500	52.64	396.49
20170-098	Assorted	500	57.87	433.38



### 0.5 ml SuperSlik™ Polypropylene Microcentrifuge Tubes

with Low Protein Binding surface. Include flat caps and writing surface. In resealable bags.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-315	Natural	500	\$64.09	\$493.00

### 1.5 ml SuperSlik™ Polypropylene Microcentrifuge Tubes

with Low Protein Binding surface. Include flat caps and writing surface. In resealable bags.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-650	Natural	250	\$38.55	\$297.01

### 1.7 ml SuperClear™ Polypropylene Microcentrifuge Tubes

In sterile packaging. 50 tubes per sterile bag. Spin to 15,000 RCF.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-577	Natural, Sterile	500	\$59.51	\$590.79

**Cap Opener for 0.5, 0.65, 1.5, 1.7 and 2.0 mL Snap Top Microcentrifuge Tubes** Autoclavable. Polypropylene.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-020	Opener, Teal	5	\$21.62	\$153.97



## CENTRIFUGATION

### VWR Screw Cap Microcentrifuge Tubes with Elastomeric Caps



#### VWR SuperClear™ Screw Cap Microcentrifuge Tubes with Elastomeric Caps

VWR™ Screw Cap Microcentrifuge Tubes are ideal for any sample processing application. Excellent for frozen storage or when working with hazardous or valuable materials. Caps include a molded in place elastomeric seal to insure a leakproof seal. Sterile tubes are gamma irradiated and are packed 50 in a bag and 10 bags in a pack. Tubes and caps are autoclavable. Tubes can be centrifuged to 20,000 RCF.

#### Tubes with Caps in Separate Resealable Bags

500 tubes, 500 caps in separate bags per pack

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89401-602	0.5 ml	500		\$83.83	\$885.77
89401-606	0.5 ml Freestanding	500		83.83	885.77
89401-594	1.5 ml*	500		83.83	885.77
89401-610	1.5 ml Freestanding	500		83.83	885.77
89401-614	2.0 ml*	500		83.83	885.77
89401-598	2.0 ml Freestanding*	500		83.83	885.77

#### Sterile Tubes with Attached Caps

50 tubes and caps per bag, 10 bags per pack

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89401-604	0.5 ml	500	✓	\$138.37	\$1138.27
89401-608	0.5 ml Freestanding	500	✓	138.37	1138.27
89401-596	1.5 ml*	500	✓	138.37	1138.27
89401-612	1.5 ml Freestanding	500	✓	138.37	1138.27
89401-616	2.0 ml*	500	✓	138.37	1138.27
89401-600	2.0 ml Freestanding*	500	✓	138.37	1138.27

#### Elastomeric Caps

100 per bag, 500 per case

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89401-576	Natural	500		\$61.61	\$595.90
89401-584	Red	500		61.61	595.90
89401-582	Orange	500		61.61	595.90
89401-580	Yellow	500		61.61	595.90
89401-590	Green	500		61.61	595.90
89401-588	Blue	500		61.61	595.90
89401-586	Violet	500		61.61	595.90
89401-578	White	500		61.61	595.90
89401-592	Assorted	500		67.67	615.09

\* Include etched graduations and writing surfaces.





### VWR SuperClear™ Screw Cap Microcentrifuge Tubes with Silicone O-Ring Caps

VWR™ Screw Cap Microcentrifuge Tubes are ideal for any sample processing application. O-rings are made from silicone to insure a leakproof seal and caps accept color coding inserts. Polypropylene loop caps are available to keep caps tethered to tubes. Sterile tubes are gamma irradiated and are packed 50 in a bag and 10 bags in a pack. Tubes and O-ring caps are autoclavable. Tubes can centrifuge to 20,000 RCF.



Loop Style Caps



Freezer Storage Box, see page 94. Cat. No. 89004-568



#### Tubes with Purple Caps in Separate Resealable Bags

500 tubes, 500 caps in separate bags per pack

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-280	0.5 ml	500		\$182.51	\$1405.41
89004-284	0.5 ml Freestanding	500		182.51	1405.41
89004-288	1.5 ml*	500		182.51	1405.41
89004-292	1.5 ml Freestanding	500		187.95	1447.26
89004-296	2.0 ml*	500		187.95	1447.26
89004-300	2.0 ml Freestanding*	500		187.95	1447.26

#### Sterile Tubes with Attached Purple Caps

50 tubes and caps per bag, 10 bags per pack

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-282	0.5 ml	500	✓	\$246.25	\$1902.41
89004-286	0.5 ml Freestanding	500	✓	253.59	1959.23
89004-290	1.5 ml*	500	✓	246.25	1902.41
89004-294	1.5 ml Freestanding	500	✓	246.25	1902.41
89004-298	2.0 ml*	500	✓	246.25	1902.41
89004-302	2.0 ml Freestanding*	500	✓	246.25	1902.41

#### Tubes with Natural Color Loop Style Caps

500 tubes, 500 caps in separate bags per pack

Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-312	0.5 ml	500		\$207.67	\$1596.45
89004-316	0.5 ml Freestanding	500		207.67	1596.45
89004-304	1.5 ml*	500		207.67	1596.45
89004-320	1.5 ml Freestanding	500		197.62	1522.08
89004-324	2.0 ml*	500		207.67	1596.45
89004-308	2.0 ml Freestanding*	500		207.67	1596.45

#### Sterile Tubes with Natural Color Loop Style Caps

50 tubes and caps per bag, 10 bags per pack

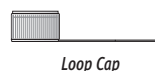
Cat. No.	Description	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-314	0.5 ml	500	✓	\$264.81	\$2042.51
89004-318	0.5 ml Freestanding	500	✓	264.81	2042.51
89004-306	1.5 ml*	500	✓	264.81	2042.51
89004-322	1.5 ml Freestanding	500	✓	264.81	2042.51
89004-326	2.0 ml*	500	✓	264.81	2042.51
89004-310	2.0 ml Freestanding*	500	✓	264.81	2042.51

#### Cap Color Code Inserts

100 per bag, 500 per case



O-Ring Cap



Loop Cap



Cat. No.	Description	Qty/Pk	Sterile	Price/Pk
89004-328	Natural	500		\$33.70
89004-336	Red	500		33.70
89004-334	Orange	500		33.70
89004-332	Yellow	500		33.70
89004-342	Green	500		33.70
89004-340	Blue	500		33.70
89004-338	Violet	500		33.70
89004-330	White	500		33.70
89004-344	Assorted	500		33.70

\* Include etched graduations and writing surfaces.



## CULTURE

### VWR Culture Tubes

#### Non-Pyrogenic



12x75 mm Round Bottom and Conical tubes with dual position or plug style caps.



- Ultra clear polypropylene resin
- Colored tubes available
- Medical grade packaging
- Thicker walls do not crush

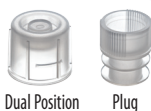


12 x 75mm, Conical



12 x 75mm, Round

Cap Options:



Dual Position Plug



13 x 100mm, Round

Cap Option:

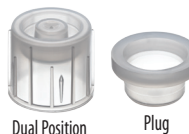


Plug



17 x 100mm, Round

Cap Options:



Dual Position Plug

Cat. No.	Package	Qty/Pack	Sterile	Price/Pk	Price/Cs
<b>12x75 mm Conical Tubes, 4 ml Capacity, without Caps</b>					
60818-096	Polystyrene, Clear, 1000/Bag	1000		–	\$104.69
60818-099	Polypropylene, Natural, 1000/Bag	1000		–	100.31
89002-374	Polystyrene, Clear, 25/Bag	25	✓	\$12.76	169.88
60818-102	Polypropylene, Natural, 25/Bag	25	✓	–	175.76

<b>12x75 mm Round Bottom Tubes, 5 ml Capacity, without Caps</b>					
60818-270	Polystyrene, Clear, 125/Bag	1000		–	\$110.64
60818-281	Polypropylene, Natural, 125/Bag	1000		–	112.76
60818-292	Polystyrene, Clear, 125/Bag	1000	✓	–	124.71
60818-306	Polypropylene, Natural, 125/Bag	1000	✓	–	130.44
60818-361	Polystyrene, Clear, 3000/Bag	3000		–	195.91
60818-383	Polypropylene, Natural, 3000/Bag	3000		–	176.73
60818-408	Polystyrene, Clear, 1000/Bag	1000		–	61.99
60818-430	Polypropylene, Natural, 1000/Bag	1000		–	64.38
60818-432	Polypropylene, Yellow, 1000/Bag	1000		–	74.49
60818-433	Polypropylene, Orange, 1000/Bag	1000		–	74.49
60818-434	Polypropylene, Red, 1000/Bag	1000		–	74.49
60818-436	Polypropylene, Purple, 1000/Bag	1000		–	74.49
60818-437	Polypropylene, Blue, 1000/Bag	1000		–	70.88
60818-438	Polypropylene, Green, 1000/Bag	1000		–	74.49

<b>12x75 mm Round Bottom Tubes, 5 ml Capacity, attached Dual-Position Caps, Sterile</b>					
60818-496	Polystyrene, Clear, 125/Bag	1000	✓	–	\$244.29
60818-500	Polypropylene, Natural, 125/Bag	1000	✓	–	233.58
60818-565	Polystyrene, Clear, 25/Bag	500	✓	–	138.89
60818-576	Polypropylene, Natural, 25/Bag	500	✓	–	138.21

<b>12x75 mm Round Bottom Tubes, 5 ml Capacity, attached Plug-Type Caps, Sterile</b>					
60818-475	Polystyrene, Clear, 25/Bag	500	✓	–	\$183.32
60818-486	Polypropylene, Natural, 25/Bag	500	✓	–	184.00

<b>Dual-Position Caps for 12x75 mm Tubes</b>					
60818-463	Polystyrene, Clear, 1000/Bag	1000		\$93.86	\$216.73



These precision-molded, conical and round-bottom tubes are perfect for a multitude of general laboratory uses. Made of extra clear virgin polypropylene in natural and colors or clear virgin polystyrene. Tube caps are made of low density polyethylene for a secure seal and are available in a fluted plug style or dual position design that permits sample aspiration.

Polypropylene tubes are autoclavable (122° C) and freezable (-80° C). Polystyrene tubes are not autoclavable but have a nominal temperature range between -40° C and 90° C. Polyethylene caps are not autoclavable, but are available pre-sterilized with many tube configurations.

Polypropylene tubes can be centrifuged to 3000 RCF and polystyrene tubes will withstand 1500 RCF. (RCF, Relative Centrifugal Force, is not equivalent to RPM).

VWR culture tubes are available in package configurations to suit your needs.



VWR tubes heavy walls protect your sample



Other brands of culture tubes have thin walls that crush easily



13x100 mm Round Bottom tubes with dual position and plug-type caps.



Polypropylene tubes available in colors.



17x100 mm Round Bottom tubes with dual position caps.



Colored plug-type caps for 13x100 and 17x100 mm tubes

Cat. No.	Package	Qty/Pack	Sterile	Price/Pk	Price/Cs
<b>13x100 mm Round Bottom Tubes 8 ml Capacity, without Caps</b>					
60818-849	Polystyrene, Clear, 1000/Bag	1000		–	\$117.63
60818-860	Polypropylene, Natural, 1000/Bag	1000		–	112.11
60818-907	Polystyrene, Clear, 125/Bag	1000		–	160.59
60818-918	Polypropylene, Natural, 125/Bag	1000		–	141.21
60818-929	Polystyrene, Clear, 125/Bag	1000	✓	–	176.03
60818-930	Polypropylene, Natural, 125/Bag	1000	✓	–	167.11
<b>17x100 mm Round Bottom Tubes, 14 ml Capacity, without Caps</b>					
60818-615	Polystyrene, Clear, 1000/Bag	1000		–	\$122.81
60818-618	Polypropylene, Natural, 1000/Bag	1000		–	120.65
60818-614	Polystyrene, Clear, 125/Bag	1000		–	153.00
60818-626	Polypropylene, Natural, 125/Bag	1000		–	158.82
60818-623	Polystyrene, Clear, 125/Bag, Natural	1000	✓	–	192.31
60818-645	Polypropylene, Natural, 125/Bag	1000	✓	–	196.83
<b>17x100 mm Round Bottom Tubes, 14 ml Capacity, with Polyethylene Dual-Position Caps</b>					
60818-661	Polystyrene, Clear, 1000/Bag	1000		–	\$202.42
60818-664	Polypropylene, Natural, 1000/Bag	1000		–	188.16
60818-667	Polystyrene, Clear, 125/Bag	1000	✓	–	302.22
60818-689	Polypropylene, Natural, 125/Bag	1000	✓	–	318.34
60818-703	Polystyrene, Clear, 25/Bag	500	✓	–	178.89
60818-725	Polypropylene, Natural, 25/Bag	500	✓	–	194.82
<b>Plug-Type Caps for 13x100 mm and 12x75 mm Tubes, Polyethylene</b>					
60819-003	Natural, 1000/Bag	1000		\$84.24	\$194.12
60819-014	White, 1000/Bag	1000		83.52	190.62
60819-025	Yellow, 1000/Bag	1000		83.52	190.62
60819-036	Red, 1000/Bag	1000		84.77	190.62
60819-047	Blue, 1000/Bag	1000		87.25	196.21
82010-000	Purple, 1000/Bag	1000		84.77	190.62
60819-080	Green, 1000/Bag	1000		84.77	190.62
60819-069	Assorted, 500/Bag	3000		–	173.68
<b>Dual-Position Caps for 17x100 mm tubes</b>					
60819-091	Polyethylene, Natural, 1000/Bag	1000		–	\$104.40
<b>Plug-Type Caps for 17x100 mm Tubes</b>					
21008-022	Polyethylene, Natural, 1000/Bag	1000		–	\$81.67



## LIQUID HANDLING

### VWR Aerosol Filter Tips



Aerosol filter tips are commonly used when performing PCR\*. They save a lot of cross contamination worries and are written into many protocols. When you are choosing these kinds of pipet tips you may have some questions:

- Will they fit my pipettors?
- Do they stop aerosol?
- Are they free of Nucleases (RNase/DNase)?
- Are they non-pyrogenic?
- Are they free of Adenosine Tri-phosphate (ATP)?

We have the same questions since we amplify and run gels ourselves. That's why we make aerosol tips to fit all the major brands of pipets in the world. We validate our tips and filters using PCR\* and radiation to guarantee that they stop contamination. We also test hundreds of tip samples a week for Nuclease, ATP, and Human DNA contaminants after they are assembled and packed, not just after they are molded.

We go one step further, and use filters that are free of contamination and assemble our tips using robots. We think this is the only way to ensure that the aerosol filter tips you receive from us are contamination-free when you buy them. And the only way you can have peace of mind.

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.

## VWR SIGNATURE AEROSOL FILTER TIPS

- For PCR\*, DNA manipulation, P<sup>32</sup>
- Autoclavable
- Sample can be completely recovered without cutting into tip
- Prevents pipettor contamination from aerosols or fluids
- Tips for the pipettors you use
- Lot certified purity



### Non-Pyrogenic

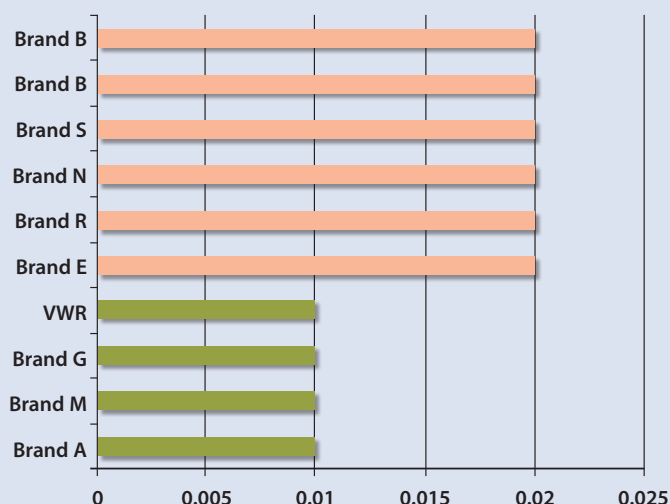


## Proven Performance in Stopping Pipette Contaminants

The data shown at right summarizes the results of an aggressive independent study that looked at the ability of aerosol filter tips to prevent contamination from pipetting radionucleotides. VWR Aerosol Tips were twice as effective at blocking aerosol leakage past the filter as some popular brands.

VWR Signature Aerosol Filter Tips provide you with complete protection from sample carry over. These tips incorporate a robotically inserted patented filter that is made from high molecular weight polyethylene. The filters allow the pipette to draw by venting through a tortuous sponge-like pathway. The pores in this pathway have an average size of 10 µm, so even radionucleotides are captured before reaching the pipettor barrel. And these tips are even clearer with our special ultra clear resin.

### Radiation Leakage Past Filter



\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.





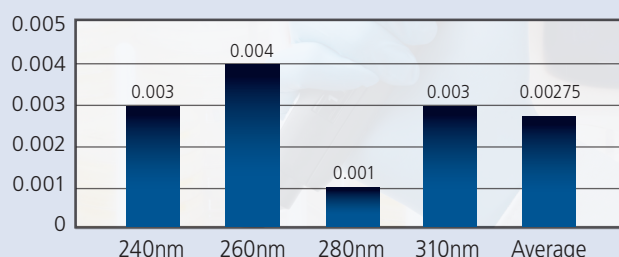
### Features you get only from VWR Signature Aerosol Tips

- 1 Each style of these VWR Signature tips is designed from the beginning to fit precisely the range of pipettors listed in the fit charts. We carefully inspect the fit with actual pipettors, not just with measuring gauges. This means you will not have to worry about leaking tips and you don't have to use extra force to mount VWR Signature tips.
- 2 The quality of the resins used to make VWR Signature tips is unsurpassed by any other pipet tips available anywhere. We only use medical grade resins from consistent sources that have been pre-tested to ensure they do not introduce contaminants into your samples. So you won't have to be concerned there could be substances like Dihemda and Oleamide added to your work.
- 3 Each rack is labeled with the effective volume range of the tip, the lot number, and product number. So it's easy to keep your work organized and ensure your supplies are traceable.
- 4 Every lot of tips is tested and is certified to be free of RNase/DNase contamination, Human DNA, ATP, and unlike tips from other suppliers VWR Signature tips are tested and certified non-pyrogenic. This non-pyrogenic certification also includes the filter, so your sample can even contact the filter and you do not need to worry that your sample is contaminated.
- 5 You can choose from over 25 styles of tips to fit all major brands of pipettors in the world. So you will always have a Signature tip option for nearly any use.
- 6 VWR Signature tips feature a unique 10 micron pore size filter. The pores on this filter are 50% smaller than those in most other aerosol tip brands. A smaller pore guarantees that your pipettor barrel will be kept clean of DNA, radionucleotides, and other contaminants. And this filter works to block fluids without any contaminants in the filter so you never have to worry that your work will be spoiled if a sample contacts the filter.
- 7 VWR Signature tips with their dense filter are autoclavable to 121° C for 20 minutes. So if you don't use the entire box of tips you can sterilize them again and the filters will not warp like other aerosol tip brands.
- 8 VWR Signature pipet tips are packaged in racks designed to be refilled easily with our Next Generation refills. This lets you extend your investment and helps to save resources.



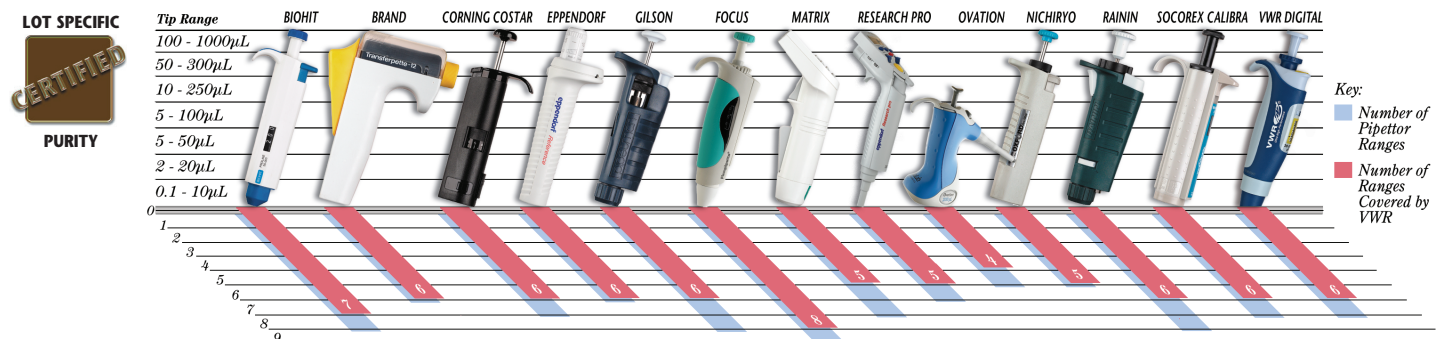
**VWR tips are made to eliminate contamination from the filter. The results of the study below show the extremely pure VWR filters are as clean as the tips, so your sample can even touch the filter safely.**

#### VWR Aerosol Filters Won't Contaminate Your Sample



Two sets of thirty samples from our filtered pipet tip were analyzed for this test. The tips were cut to eject the filter from the tip into sterile glass beakers. 10 ml of TE buffer was added to each set of thirty filter samples. The beakers were sealed with parafilm and placed in a 65° C incubator for one hour. After incubation, the extraction fluid was analyzed using a UV/VIS spectrophotometer at 240, 260, 280, and 310 nms. The results were recorded.

## VWR Aerosol Filter Tips Fit the Pipettors You Really Use



VWR offers a complete family of tips for the pipettors you typically use. This chart shows there is a VWR tip for pipettors in all popular ranges.

## VWR Aerosol Filter Tips Guarantee PCR\* Reliable Purity

Use VWR tips in your lab work with confidence. All VWR tips are manufactured robotically to eliminate contamination. Every lot of tips produced is tested on the pipettes they are intended for, ensuring they fit and perform correctly. The resin used for tips is pretested before use to determine its extractables profile. Resins that have high levels of residue in the 240 to 310 nm range are excluded from use. Aerosol filters are tested for endotoxin contaminants using a Chromogenic Assay U.S.P. testing method. All batches of product are tested for presence of nuclease (RNase and DNase) using an electrophoresis gel method after final packaging. A reaction test is run to certify there is no human DNA on these tips.



**Type AF1**

10 µl  
2 µl

**Type AF1**

2. 0.1-10 µl Extended Length with Tubegard™ Ring

**Type AF1**

3. 0.1-10 µl

**Type AF2**

4. 0.5-10 µl with Bevel Point™ and Graduations at 2, 10 µl

**Type AF15**

5. 0.1-10 µl with UltraFine™ Point

**Non-Pyrogenic**

*Tips are actual size. Refer to pgs. 34-46 to see which tips fit your pipettors.*

- Every lot lab tested for purity
- ATP Free
- Oleamide and DiHemda Free

**1. 0.1-10 µl with UltraFine™ Point and Graduations at 2, 10 µl**

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53509-140	96 Rack	1152		\$186.41	\$1416.22
53509-138	96 Rack	1152	✓	147.32	1114.83
53510-029	Loose	1000		96.73	733.43
53510-023	Individually Wrapped	200	✓	123.90	949.84
89201-512	Next Generation Refill	960	✓	108.70	537.68

Ht: 1.237" • Max fill: 10.7 µl

**3. 0.1-10 µl Extra Long with UltraFine™ Point and Graduations at 2, 10 µl**

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89368-972	96 Rack	960	✓	\$105.04	\$1049.39

Ht: 1.875" • Max fill: 11.0 µl

**2. 0.1-10 µl Extended Length with Tubegard™ Ring**

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
46620-330	96 Rack	960		\$156.85	\$1185.98
46620-328	96 Rack	960	✓	160.37	1214.30
46620-332	Loose	1000		162.80	1236.21
89201-522	Next Generation Refill	960	✓	107.75	533.02

Ht: 1.500" • Max fill: 20.0 µl

**4. 0.5-10 µl with Bevel Point™ and Graduations at 2, 10 µl**

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-088	96 Rack	1152		\$177.18	\$1357.77
53510-024	96 Rack	1152	✓	134.12	1024.79
53510-031	Loose	1000		146.06	1117.05
53510-022	Individually Wrapped	200	✓	122.11	936.13

Ht: 1.765" • Max fill: 10.5 µl

**5. 0.1-10 µl with UltraFine™ Point**

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
82018-044	96 Rack	960	✓	\$228.72	\$1751.38
82018-046	Loose	1000		131.06	1007.59

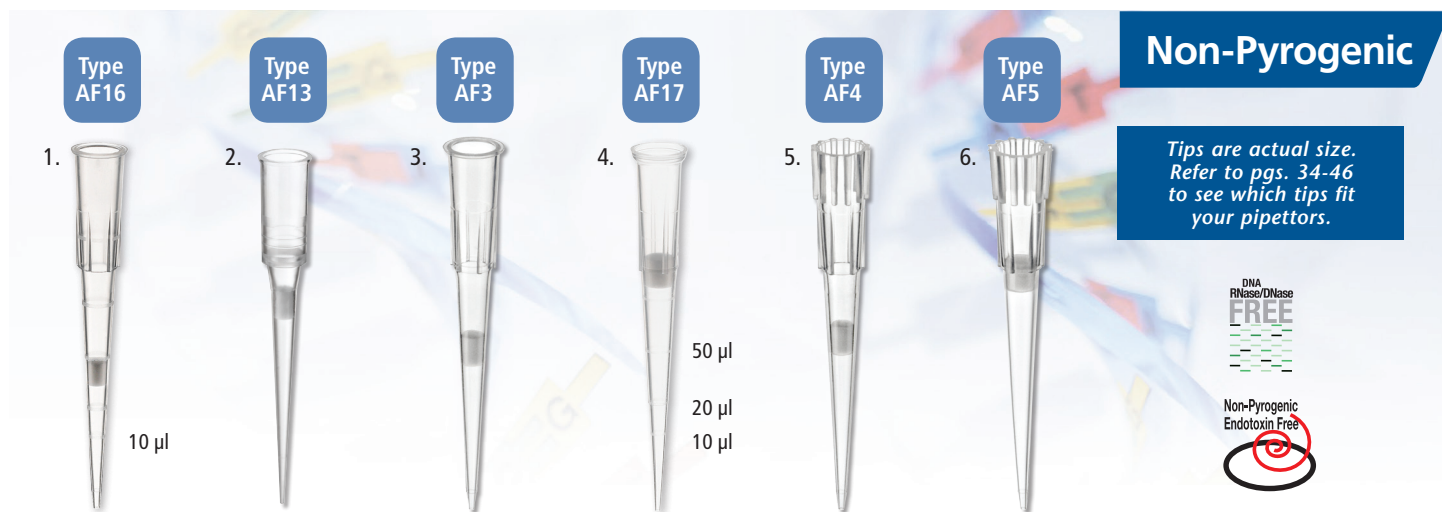
Ht: 1.500" • Max fill: 20.0 µl

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



## LIQUID HANDLING

### VWR Signature Aerosol Filter Tips



1. 0.5-10 µl with Graduations at 10 µl

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-372	96 Rack	960	✓	\$150.07	\$1147.49
Ht: 1.955" • Max fill: 12 µl					

2. 1-20 µl Aerosol Tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
83009-688	96 Rack	960	✓	\$179.20	\$1376.92
89201-526	Next Generation Refill	960	✓	108.70	537.68
Ht: 1.900"					

3. 1-40 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-079	96 Rack	960		\$147.57	\$1117.35
53510-014	96 Rack	960	✓	158.60	1204.10
53510-012	192 Rack	960	✓	165.06	1264.76
53510-016	Loose	1000		92.40	700.33
89201-514	Next Generation Refill	960	✓	108.70	537.68
Ht: 1.955" • Max fill: 40.6 µl					

4. 1-50 µl with Graduations at 10, 20, 50 µl and UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-378	96 Rack	960	✓	\$154.56	\$1181.91
Ht: 1.955" • Max fill: 102 µl					

5. 1-50 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-074	96 Rack	960		\$201.01	\$1518.49
53510-072	96 Rack	960	✓	151.60	1148.07
53510-092	Loose	1000		163.65	1234.37
53510-096	Individually Wrapped	200	✓	122.11	936.13
Ht: 1.955" • Max fill: 53.5 µl					

6. 1-100 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-076	96 Rack	960		\$201.01	\$1518.49
53510-070	96 Rack	960	✓	151.60	1148.07
53510-094	Loose	1000		163.65	1234.37
53510-098	Individually Wrapped	200	✓	122.11	936.13
Ht: 1.955" • Max fill: 101.2 µl					



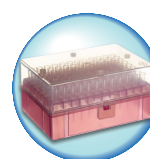
### Packaging Options



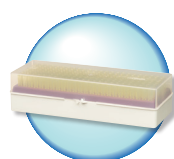
Individually Wrapped



Loose



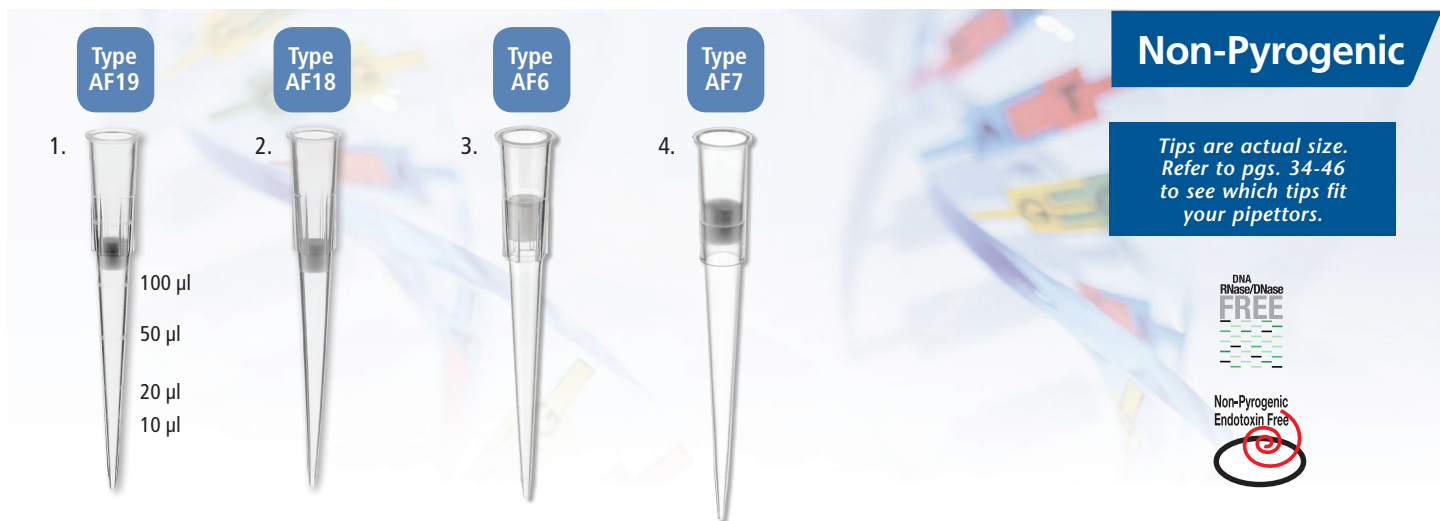
96 Rack



192 Rack



Next Generation Refill



### 1. 1-100 µl with Graduations at 10, 20, 50, 100 µl

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89004-374	96 Rack	960	✓	\$106.16	\$814.47
89201-524	Next Generation Refill	576		108.70	537.68

Ht: 1.955" • Max fill: 105 µl

### 2. 1-100 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89000-008	96 Rack	960	✓	\$162.79	\$1251.57

Ht: 1.955" • Max fill: 105 µl

### 3. 1-160 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-080	96 Rack	960		\$143.25	\$1084.64
53510-035	96 Rack	960	✓	144.18	1094.59
53510-090	Loose	1000		117.60	892.17
53510-052	Individually Wrapped	200	✓	122.11	936.13

Ht: 1.955" • Max fill: 165.3 µl

### 4. 1-200 µl with UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-104	96 Rack	960		\$174.71	\$1328.69
53510-106	96 Rack	960	✓	149.83	1135.15
53510-102	Loose	1000		153.30	1166.52
89201-518	Next Generation Refill	960	✓	108.70	537.68

Ht: 2.050" • Max fill: 207.3 µl



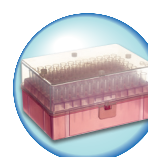
## Packaging Options



Individually Wrapped



Loose



96 Rack



Next Generation Refill




## LIQUID HANDLING

### VWR Signature Aerosol Filter Tips


Type AF21

1.




Type AF7

2.




Type AF7

3.




Type AF11

4.




Type AF8

5.




Type AF12

6.




## Non-Pyrogenic


Tips are actual size. Refer to pgs. 34-46 to see which tips fit your pipettors.




DNA  
RNase/DNase  
FREE




Medical Grade Resin and Biotinylated




Non-Pyrogenic  
Endotoxin Free




CFR 21  
USFDA  
COMPLIANT




Certified  
Low Trace  
Metals



Protease  
FREE



122°C  
15PSI



ATP  
FREE

#### 1. 1-100 µl with UltraFine™ Point and Extended Length

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
89004-380	96 Rack	576	✓	\$118.51	\$724.91

Ht: 3.300" • Max fill: 180.0 µl

#### 2. 1-200 µl Wide Orifice for Whole Cells with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
46620-644	96 Rack	960		\$178.89	\$1357.77
46620-642	96 Rack	960	✓	191.75	1450.51
46620-648	Loose	1000		147.64	1117.05
46620-646	Individually Wrapped	200	✓	123.38	936.13

Ht: 1.955" • Max fill: 208.0 µl • Orifice: 1.450 mm

#### 3. 1-200ul Extended Length with UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
82003-192	96 Rack	576	✓	\$140.67	\$1046.11

Ht: 3.300" • Max fill: 248.0 µl

#### 4. 1-200 µl Aerosol Tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
82003-196	96 Rack	960	✓	\$189.43	\$1451.19
89201-528	Next Generation Refill	960	✓	107.75	533.02

Ht: 2.020" • Max fill: 217.0 µl

#### 5. 1-300 µl with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53510-084	96 Rack	960		\$177.18	\$1343.08
53510-037	96 Rack	960	✓	168.89	1288.66
53510-044	Loose	1000		138.60	1060.11
53510-056	Individually Wrapped	200	✓	122.11	936.13
89201-516	Next Generation Refill	960	✓	108.70	537.68

Ht: 2.050" • Max fill: 305.0 µl

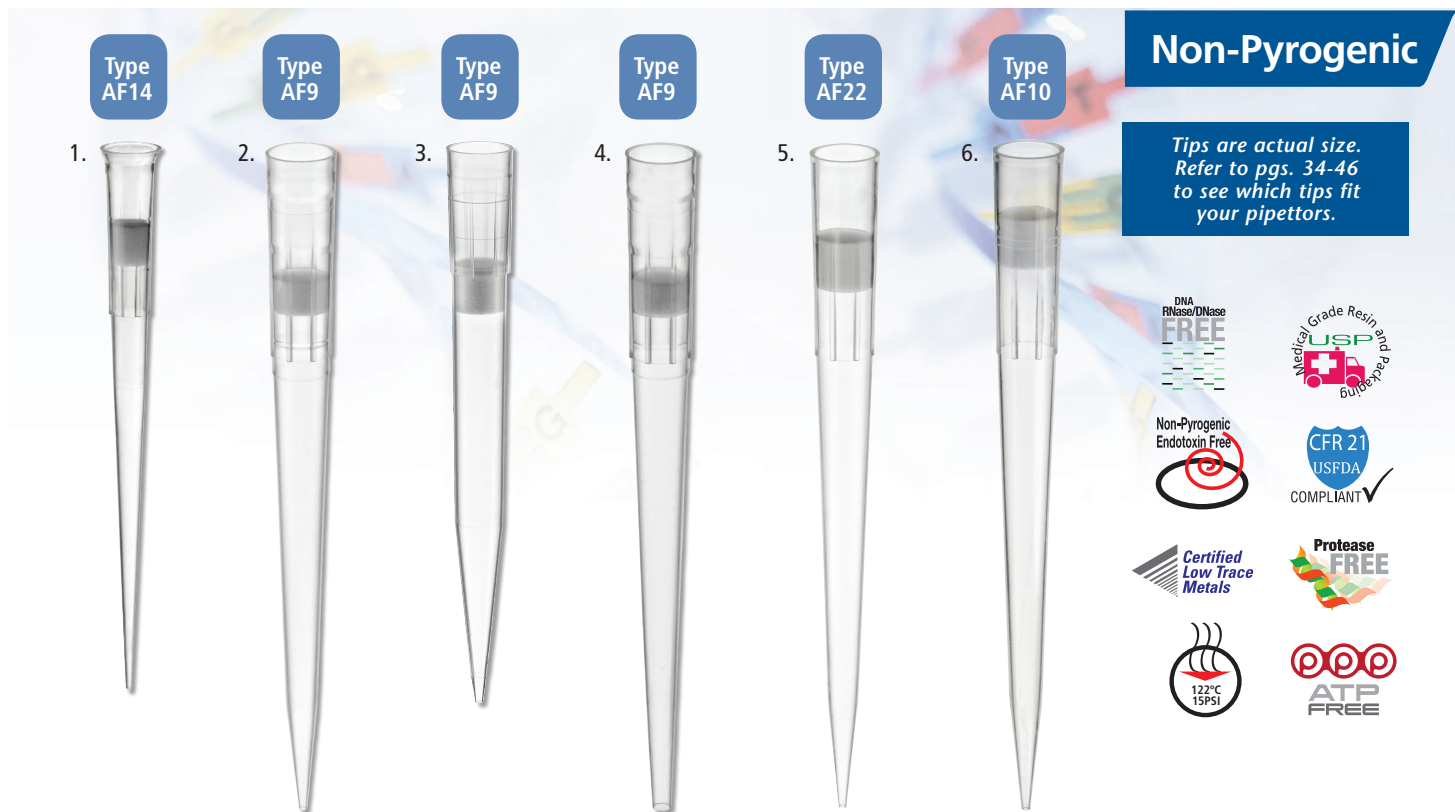
#### 6. 100-1000 µl Aerosol tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
82003-198	96 Rack	576	✓	\$139.74	\$852.75
89201-530	Next Generation Refill	768	✓	109.02	322.60

Ht: 3.500" • Max fill: 1016.0 µl

### Packaging Options





### 1. 1-300 µl with UltraFine™ Point and Extended Length

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
83007-358	96 Rack	576	✓	\$89.81	\$549.11
89007-360	Loose	1000		106.64	817.02†

Ht: 2.875" • Max fill: 324.0 µl

† Cs./10 Pks.

### 2. 100-1000 µl with UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
16466-006	96 Rack	576		\$128.96	\$783.02
16466-008	96 Rack	576	✓	120.38	715.18
16466-004	Loose	1000		177.42	1346.69†
16466-002	Individually Wrapped	200	✓	134.85	1033.83†
89201-520	Next Generation Refill	768	✓	109.02	322.60

Ht: 3.500" • Max fill: 1050.0 µl

† Cs./10 Pks.

### 3. 100-1000 µl with Flextop and UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
89003-420	96 Rack	576	✓	\$136.67	\$839.50

Ht: 2.990" • Max fill: 1010.1 µl

### 4. 100-1000 µl with Flextop, Wide Orifice for pipetting whole cells

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
89049-168	96 Rack	576	✓	\$104.37	\$726.10

Ht: 3.500" • Max fill: 1005.0 µl

### 5. 100-1200 µl for Biohit® pipettors

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
37001-278	96 Rack	576	✓	\$108.81	\$666.29

Ht: 3.500" • Max fill: 1250.0 µl

### 6. 100-1250 µl for Matrix® Impact pipettors

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pks
46620-324	96 Rack	576		\$98.17	\$585.01
46620-326	96 Rack	576	✓	112.06	665.03
46620-322	Loose	1000		113.23	842.83†
46620-320	Individually Wrapped	200	✓	135.18	1031.40†

Ht: 3.500" • Max fill: 1260.0 µl

† Cs./10 Pks.

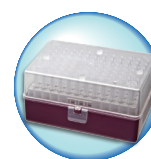
## Packaging Options



Individually Wrapped



Loose



96 Rack



Next Generation Refill



## LIQUID HANDLING

### VWR Low Retention Aerosol Filter Tips



- For PCR\*, DNA manipulation, P<sup>32</sup>
- Autoclavable
- Sample can be completely recovered without cutting into tip
- Prevents pipettor contamination from aerosols or fluids
- Up to 10 times less fluid retention than standard tips
- Tips for the pipettors you use

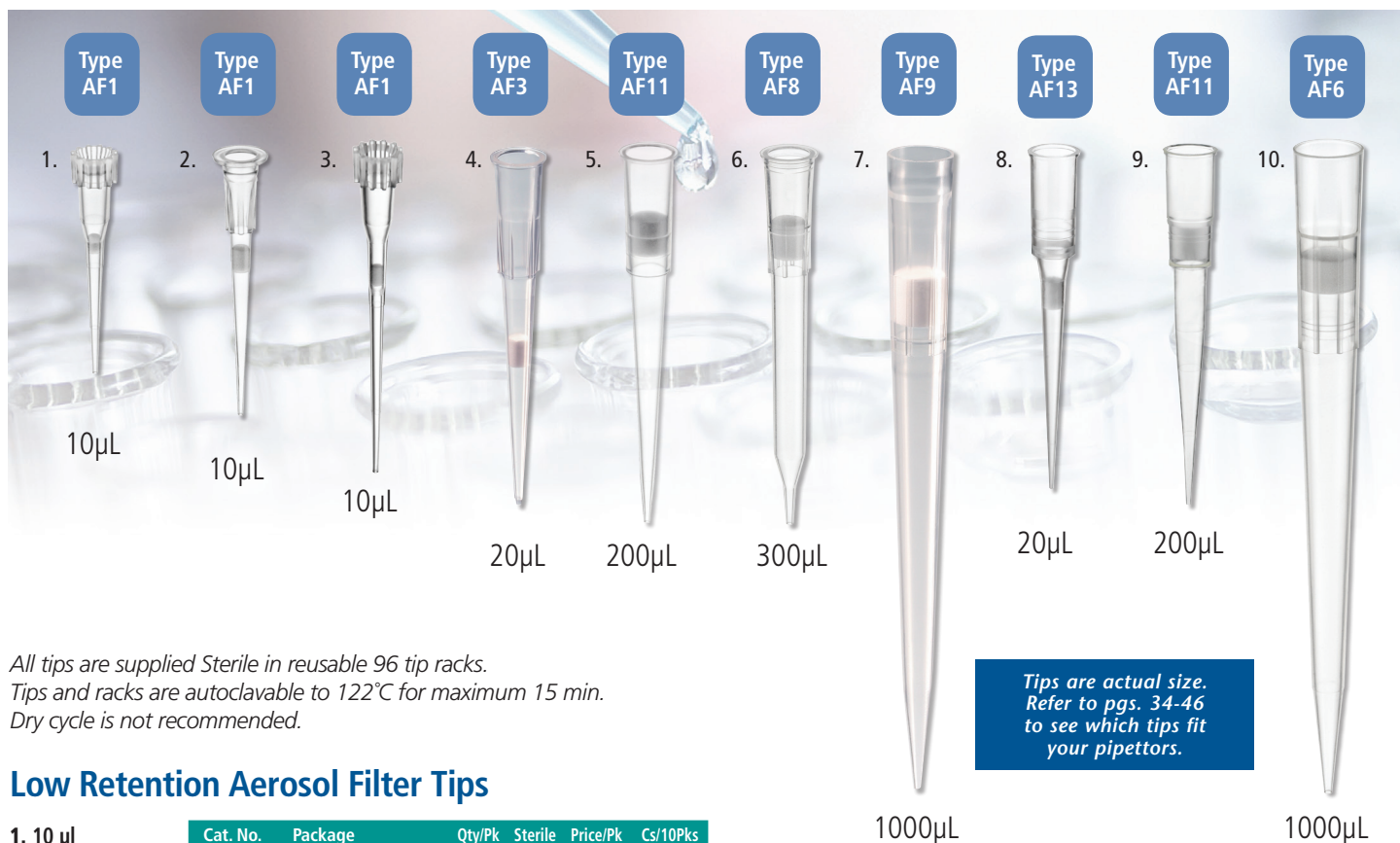


### Proven aerosol blocking and unsurpassed low retention fluid performance.

Signature™ Low Retention Aerosol Filter Pipet tips from VWR offer you a high value option to protect your pipettors in all liquid handling applications. These tips include an endotoxin free 10 micron patented porous hydrophobic filter that is proven to block aerosol contamination\*\*. We also use our exclusive formulation of resin that is far more hydrophobic than standard resins to help ensure you get every last bit of sample from your tips. And unlike other low retention tips these are RoHS compliant so you don't have to worry about additives migrating into your sample.

Use these tips in your lab work with confidence. All VWR Signature™ tips are manufactured robotically to eliminate contamination. Every lot of tips produced is tested on the pipettors they are intended for, ensuring they fit and perform correctly. The resin used for tips is pre-tested before use to determine its extractables profile. Resins that have high levels of residue in the 240 to 310 nm range are excluded from use. We also certify these tips are free of Dihemda and Oleamide. And as all Signature tips these are free of Bisphenol A. Aerosol filters are tested for endotoxin contaminants using a Chromogenic Assay U.S.P. testing method. All lots of product are tested for presence of nuclease (RNase and DNase) using an electrophoresis gel method after final packaging. A reaction test is run to certify there is no human DNA on these tips.

Supplied in sturdy reusable polypropylene racks that have been sterilized using a validated ISO sterilization process so unlike "presterile" product from others these tips can be used for diagnostic and medical applications. Manufactured under an independently audited and registered ISO 9001:2008 quality system.

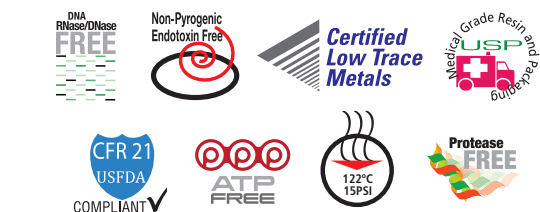


All tips are supplied Sterile in reusable 96 tip racks.  
Tips and racks are autoclavable to 122°C for maximum 15 min.  
Dry cycle is not recommended.

## Low Retention Aerosol Filter Tips

1. 10 µl	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-520	96 Rack	1152	✓	\$134.75	\$1314.24
	89495-360	Next Generation Refill	960	✓	119.00	579.00 *
2. 10 µl Extended with TubeGuard™	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-522	96 Rack	960	✓	\$111.98	\$1104.72
	89495-362	Next Generation Refill	960	✓	119.00	579.00 *
3. 10 µl Extra Long	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89368-974	96 Rack	960	✓	\$111.10	\$1107.97
4. 20 µl	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-524	96 Rack	960	✓	\$111.98	\$1104.72
	89495-364	Next Generation Refill	960	✓	119.00	579.00 *
5. 200 µl	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-526	96 Rack	960	✓	\$111.98	\$1104.72
	89495-368	Next Generation Refill	960	✓	119.00	579.00 *
6. 300 µl	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-528	96 Rack	960	✓	\$111.98	\$1104.72
	89495-370	Next Generation Refill	960	✓	119.00	579.00 *
7. 1000 µl	Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
	89174-530	96 Rack	576	✓	\$95.81	\$747.49
	89495-372	Next Generation Refill	768	✓	115.00	339.00 **

\* case of 5 packs    \*\* case of 3 packs    \*\*\* case of 8 packs



### 8. 1-20 µl Aerosol Tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89495-374	96 Rack	960	✓	\$97.00	\$965.00
89495-376	Next Generation Refill	960	✓	119.00	579.00 *

Ht: 1.900"

### 9. 1-200 µl Aerosol Tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89495-378	96 Rack	960	✓	\$97.00	\$965.00
89495-380	Next Generation Refill	960	✓	119.00	579.00 *

Ht: 2.020" • Max fill: 217.0 µl

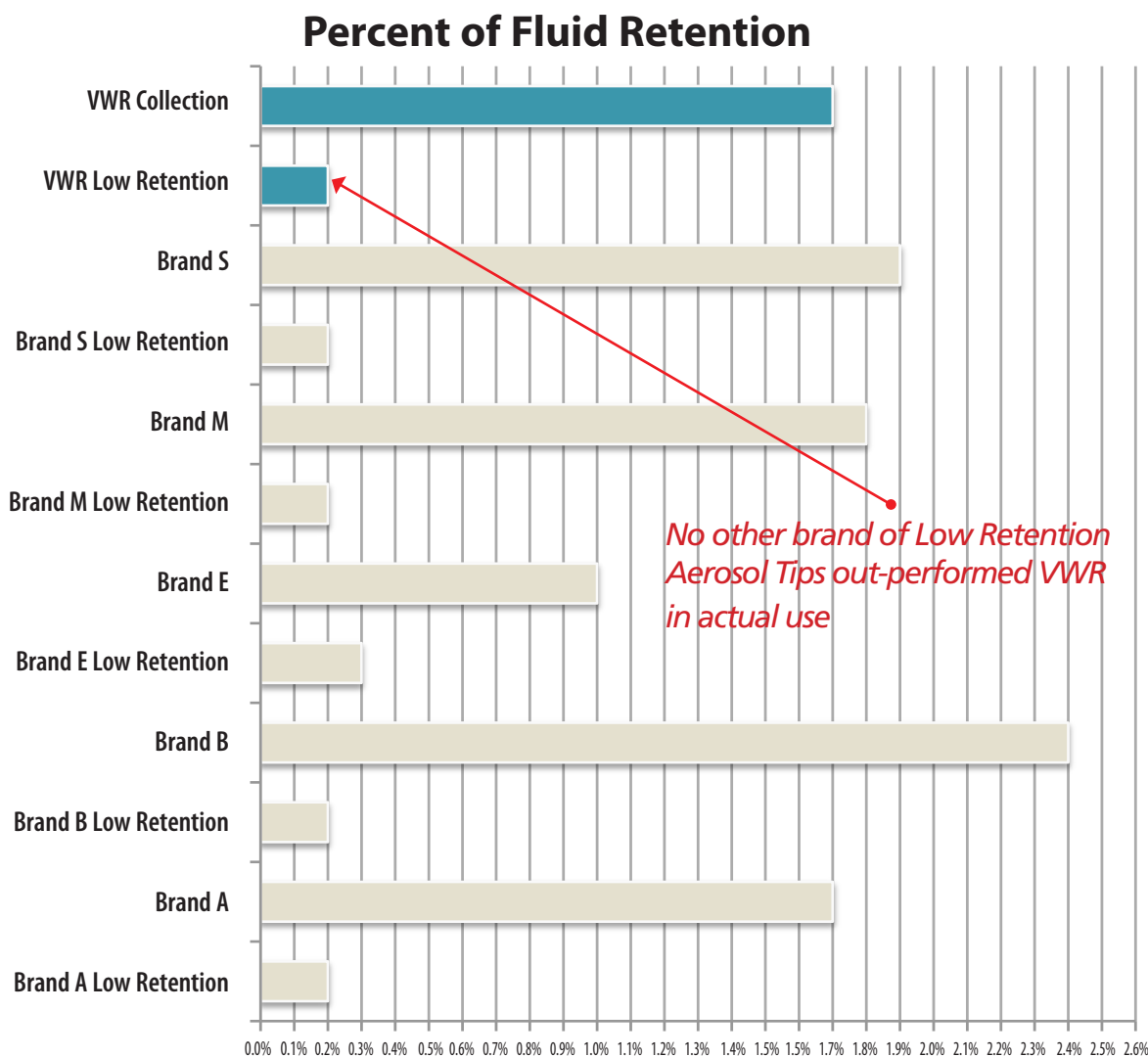
### 10. 100-1000 µl Aerosol tip for Rainin LTS®

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pk
89495-382	96 Rack	576	✓	\$69.00	\$549.00 ***
89495-384	Next Generation Refill	768	✓	115.00	339.00 **

Ht: 3.500" • Max fill: 1016.0 µl



## Unsurpassed Low Retention performance

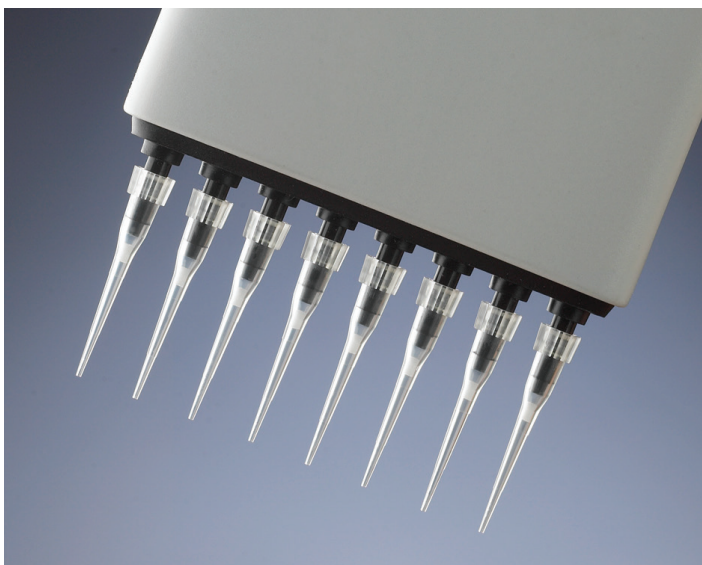


## Comparison study of Low Retention pipet tip performance

The chart above summarizes data from a study to determine the amount of liquid retention for commercially available pipet tips that are marketed with low fluid retention properties compared with standard polypropylene pipet tips. The retention assay was performed with green dye, depending on the appropriate volume for the tip. Undiluted dye was drawn into the tip, then expelled at a constant rate into a waste reservoir. Deionized water from a tared microcentrifuge tube was then drawn into the tip, and this water plus any retained dye was expelled back into the tared microcentrifuge tube. One observation and two measurements were taken to calculate the amount of dye that had been retained

in the tip. First, the extent of dye retention was observed. All low retention tips showing extremely low amounts of retention and standard tips were observed to have extensive coating of the tip interior when the dye was first expelled. The first measurement of dye expelled with a water rinse of the tip was a spectrophotometer assay in which the extent of green color (spectrophotometer set to wavelength 525 nm) was measured via changes in the absorbance value of water vs. water plus dye. The second measurement took the mass of the tared centrifuge before and after water plus dye was expelled into the tube.†

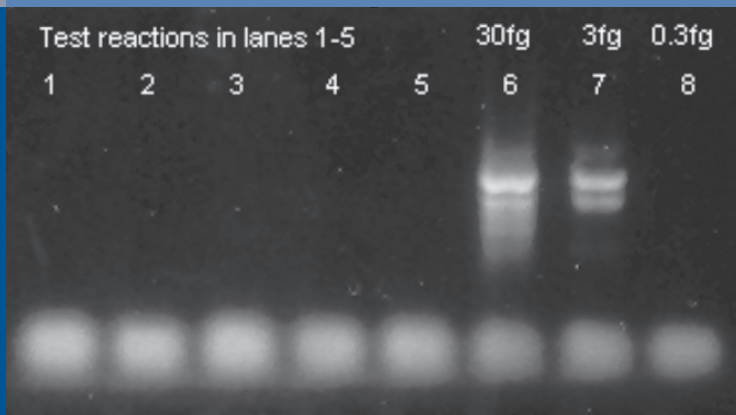
† These results are from purchased market samples, the same product you would receive. Full study results are on file. Trademarks listed are the property of the suppliers or manufacturers noted.



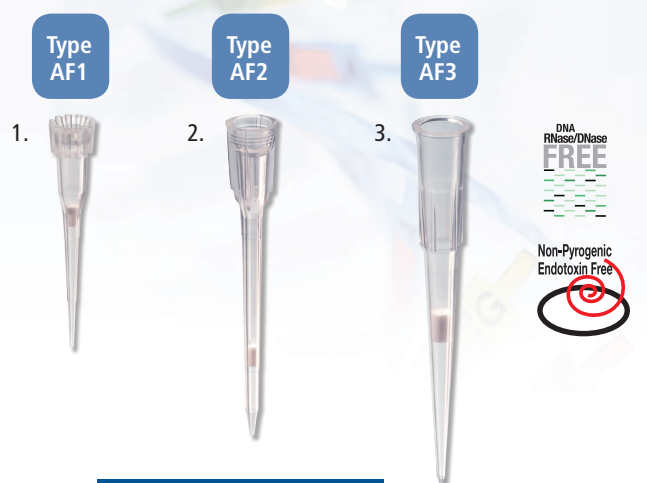
## VWR Aerosol Filter Tips for PCR\*

VWR Aerosol Filter Pipet tips for PCR\* offer you a high value option to protect your pipettors in PCR\* applications. These tips include an endotoxin free 20µm micro porous hydrophobic filter that is proven to block aerosol contamination. Every lot is tested and certified free of RNase and DNase (Nuclease) and is non-pyrogenic. Supplied in sturdy reusable polypropylene racks that have been sterilized using a validated AAMI/ISO 11137 sterilization dose with the more reliable gamma irradiation method. Manufactured under an independently audited and registered quality system.

This photo shows the results of the actual test to determine if aerosol carryover can be stopped using ZAP tips. In the photograph lanes 1-5 are the results from each of the 5 test pipet tips. Lanes 6-8 contain product from the initial reaction at a concentration of 30fg/µL in lane 6, 3fg/µL in lane 7, and 0.3fg/µL in lane 8. Lanes 6 and 7 show strong signal present from Alu fragment amplification, while lanes 1-5 and lane 8 have no product from the Alu fragments. Thus, the filters successfully blocked carryover of DNA fragments and this very sensitive PCR\* could not detect any DNA contamination.



## Non-Pyrogenic



*Tips are actual size.  
Refer to pgs. 34-46  
to see which tips fit  
your pipettors.*

### 1. 10 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89003-044	96 Rack	1152	✓	\$157.58	\$1181.13

Ht: 1.237" • Max fill: 10.7 µl

### 2. 10 µl Ultra Micro Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89003-046	96 Rack	960	✓	\$115.09	\$882.34

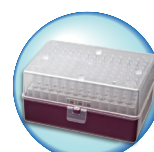
Ht: 1.765" • Max fill: 10.5 µl

### 3. 40 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89003-048	96 Rack	960	✓	\$115.23	\$883.07

Ht: 1.955" • Max fill: 40.6 µl

## Packaging Options



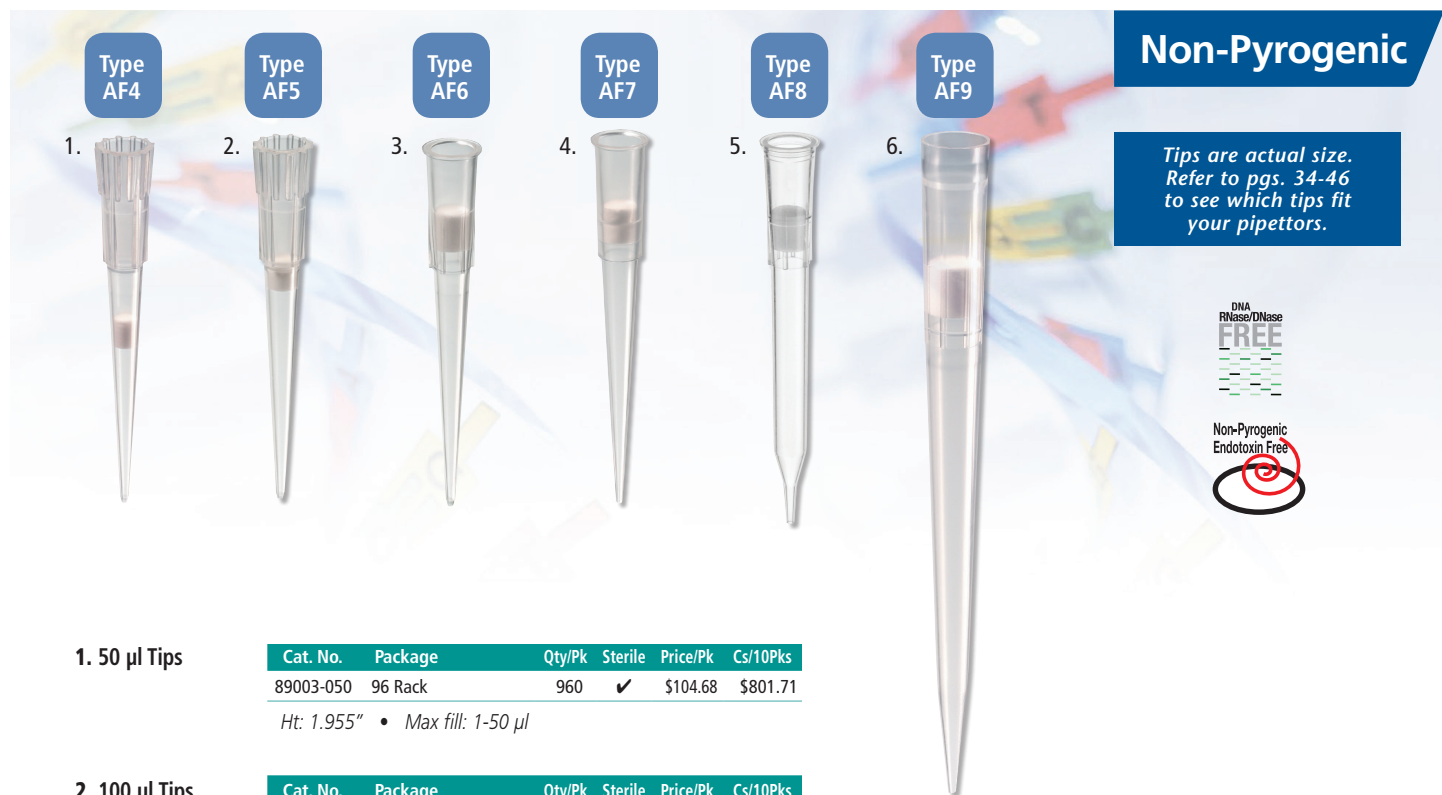
96 Rack

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.



## LIQUID HANDLING

### VWR Aerosol Filter Tips for PCR\*



#### 1. 50 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-050	96 Rack	960	✓	\$104.68	\$801.71

Ht: 1.955" • Max fill: 1-50 µl

#### 2. 100 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-052	96 Rack	960	✓	\$115.23	\$883.07

Ht: 1.955" • Max fill: 102.0 µl

#### 3. 150 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-054	96 Rack	960	✓	\$104.68	\$801.71

Ht: 1.955" • Max fill: 1-150 µl

#### 4. 200 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-056	96 Rack	960	✓	\$115.23	\$883.07

Ht: 2.050" • Max fill: 1-205 µl

#### 5. 250 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-058	96 Rack	960	✓	\$104.68	\$801.71

Ht: 2.050" • Max fill: 1-250 µl

#### 6. 1000 µl Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89003-060	96 Rack	576	✓	\$76.32	\$469.31

Ht: 3.500" • Max fill: 1050.0 µl

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.

#### Packaging Options



96 Rack



The Next generation Aerosol Filter Pipet Tip Refill system from VWR brings the ease and value of Next Generation refills to aerosol filter tips. Next Generation refill tips are lab certified Rnase/Dnase- and Endotoxin-free and use a validated sterile process and include an expiration date on every pack. Made to help you meet your sustainability goals the package is made exclusively from recyclable and renewable materials.



- Refills VWR tip racks
- Certified RNase/DNase-Free
- Non pyrogenic
- Pure filters are contamination free
- Sterile
- Sustainable packaging

### SIMPLE TO USE



LIFT...



PLACE.




## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - VWR

#### POPULAR PIPETTOR BRANDS





VWR

Calibra	Digital	UHP and EHP		Electronic	
Channels	Channels	Channels		Channels	
1	8, 12	1	8, 12	1	8, 12

Page/Tip Type

VWR Aerosol Tips

23,29,31	AF1		0.5-10	0.2-2, 0.5-10	0.5-10	0.5-10	0.5-10
23	AF15					2-20	2-20
23,31	AF2	0.2-2, 1-10					
24,29,31	AF3		2-20	2-20			
24,32	AF4			5-50	5-50		
25	AF19			10-100			
25	AF18			10-100			
24	AF17			10-100			
25	AF20			10-100			
24,32	AF5	10-100	10-100	10-100			
25,26,32	AF7	20-200	20-200	20-200	20-200	10-200	10-200
27	AF14			50-250	50-300		
26,29,32	AF8		20-200, 50-300				
27,29,32	AF9	100-1000	100-1000	100-1000			





## BRANDTECH (Brand®)

### Transferpette®

### Electronic

### Transferpette S®

#### Channels

#### Channels

#### Channels

1

8,12

1

8,12

1

8,12

### Page/Tip Type

### VWR Aerosol Tips

23,29,31	<b>AF1</b>	0.1-10	0.5-10			0.1-1, 0.5-10	0.5-10
23,31	<b>AF2</b>	0.5-10	2-20	0.5-10	0.5-10	2-20	
24,29,31	<b>AF3</b>	2-20	2-20, 2.5-25				
24,32	<b>AF4</b>	5-50	5-50				
25	<b>AF19</b>	10-100	10-100		5-100	10-100	10-100
25	<b>AF18</b>	10-100	10-100		5-100	10-100	10-100
24	<b>AF17</b>	10-100	10-100		5-100	10-100	10-100
25	<b>AF20</b>	10-100	10-100		5-100	10-100	10-100
24,32	<b>AF5</b>			10-100			
26	<b>AF21</b>	10-100	10-100		5-100	10-100	10-100
25,26,32	<b>AF7</b>	20-200	20-200	20-200	10-200	20-200	20-200
27	<b>AF14</b>	25-250	30-300	20-200, 30-300	15-300		30-300
26,29,32	<b>AF8</b>	25-250					
27,29,32	<b>AF9</b>	100-1000		100-1000		100-1000	

## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - BIOHIT®

#### POPULAR PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**



## SARTORIUS® BIOHIT®

eLine®, Picus®

ePet®

mLine®

Channels

Channels

Channels

1

8,12

1

8,12

1

8,12

Page/Tip Type

VWR Aerosol Tips

23,29,31	<b>AF1</b>	0.2-10	0.2-10	0.2-10	0.2-10	0.1-3, 0.5-10	
23	<b>AF15</b>	0.2-10	0.2-10			0.1-3, 0.5-10	
23,31	<b>AF2</b>			0.2-10			
24,29,31	<b>AF3</b>					2-20	
24,32	<b>AF4</b>					2-20	
25	<b>AF19</b>						5-100
25	<b>AF18</b>			5-100	5-100		5-100
24	<b>AF17</b>			5-100	5-100		5-100
25	<b>AF20</b>			5-100	5-100		5-100
24,32	<b>AF5</b>					10-100	
25,32	<b>AF6</b>	5-120	5-120				
25,26,32	<b>AF7</b>					20-200	
27	<b>AF14</b>	10-300	10-300		25-250	20-200	30-300
26,29,32	<b>AF8</b>	10-300	10-300		25-250	20-200	
27,29,32	<b>AF9</b>	50-1000		50-1200*	50-1200*	100-1000	
27	<b>AF22</b>		50-1200	50-1200*	50-1200*		



<b>SARTORIUS® BIOHIT®</b>						
		<b>Proline® Electric</b>		<b>Proline®</b>		<b>Proline Plus®</b>
		<i>Channels</i>		<i>Channels</i>		<i>Channels</i>
		<b>1</b>	<b>8,12</b>	<b>1</b>	<b>4, 8,12</b>	<b>1</b>
<b>Page/Tip Type</b>		<b>VWR Aerosol Tips</b>				
23,29,31	<b>AF1</b>	0.2-10	0.2-10	0.5-10	0.5-10	0.1-3, 0.5-10
23	<b>AF15</b>					0.5-10
23,31	<b>AF2</b>					20-200
24,29,31	<b>AF3</b>					2-20
24,32	<b>AF4</b>			5-50	5-50	
25	<b>AF19</b>	5-100	5-100	10-100		10-100
25	<b>AF18</b>	5-100	5-100	10-100		10-100
24	<b>AF17</b>	5-100	5-100	10-100		10-100
25	<b>AF20</b>	5-100	5-100	10-100		10-100
26	<b>AF21</b>					10-100
25,26,32	<b>AF7</b>	5-100		50-200		20-200
27	<b>AF14</b>	10-250	25-250	50-200	50-250, 50-300	
26,29,32	<b>AF8</b>			10-250		
27,29,32	<b>AF9</b>	50-1000		200-1000		100-1000
27	<b>AF22</b>	50-1200	50-1200			



## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - EPPENDORF®

#### POPULAR PIPETTOR BRANDS



## E P P E N D O R F®


Electronic	Reference®	Research Pro®	Research®, Research Plus®, Xplorer®
Channels	Channels	Channels	Channels
1	1	1, 8, 12	1, 8, 12

Page/Tip Type

### VWR Aerosol Tips

23,29,31	<b>AF1</b>	0.2-10	0.1-2.5	0.5-10	0.5-10	0.1-2.5, 0.5-10	0.5-10
23	<b>AF15</b>					0.5-10	
23,31	<b>AF2</b>		0.5-10, 2-20	0.5-10	0.5-10		
24,29,31	<b>AF3</b>		2-20			2-20	
24,32	<b>AF4</b>	5-100					
25	<b>AF19</b>	5-100	10-100	5-100	5-100	10-100	10-100
25	<b>AF18</b>	5-100	10-100	5-100	5-100	10-100	10-100
24	<b>AF17</b>	5-100	10-100	5-100	5-100	10-100	10-100
25	<b>AF20</b>	5-100	10-100	5-100	5-100	10-100	10-100
24,32	<b>AF5</b>	5-100	10-100	5-100	5-100	10-100	10-100
26	<b>AF21</b>			5-100	5-100	10-100	10-100
25,26,32	<b>AF7</b>	5-100	50-200			20-200	
27	<b>AF14</b>		50-200	20-300	20-300	20-200, 30-300	30-300
26,29,32	<b>AF8</b>		50-200			20-200	
27,29,32	<b>AF9</b>		100-1000	50-1000		100-1000	





GILSON®

Pipetman® Classic,G,L

Pipetman Ultra®

Neo®

Concept®

Pipetman M®

Channels

Channels

Channels

Channels

Channels

1

1

8, 12

1

1

8,12

1

8

Page/Tip Type

VWR Aerosol Tips

23,29,31	AF1	0.2-2, 1-10	0.2-2, 1-10		0.2-2, 1-10	0.5-10	1-10	0.5-10	
24,29,31	AF3	2-20	2-20	1-20	2-20			2-20	1-20
25	AF19	20-100	20-100		20-100	5-100	10-100		
25	AF18	20-100	20-100		20-100	5-100	10-100		
24	AF17	20-100	20-100		20-100	5-100	10-100		
25	AF20	20-100	20-100		20-100	5-100	10-100		
24,32	AF5	20-100							
25,26,32	AF7	50-200	20-200		20-200	5-100	10-100		20-200
27	AF14	50-200	20-200	20-300		20-300	30-300		
26,29,32	AF8	50-200	20-200						
27,29,32	AF9	200-1000	200-1000		100-1000			100-1000	

## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - METTLER TOLEDO®

#### POPULAR PIPETTOR BRANDS



## METTLER TOLEDO® (Rainin® Brand)

EDP3 Plus®	EDP1®	Pipet Lite SL®	Classic®	E-Man Hybrid®	EDP3® with LTS	EDP1® with LTS	Lite & Plus w/LTS®	E4XLS®
Channels	Channels	Channels	Channels	Channels	Channels	Channels	Channels	Channels
1	1	1	1	1	1, 8, 12, 16, 24	1, 8, 12, 16, 24	1, 8, 12	8, 12


Page/Tip Type

### VWR Aerosol Tips

23,29,31	<b>AF1</b>	0.5-10	0.5-10	0.1-2, 0.5-10	0.1-2, 0.5-10							
24,29,31	<b>AF3</b>	2-20	2-20	2-20	2-20							
24	<b>AF13</b>	0.1-2, 0.5-10, 2-20	0.1-2, 0.5-10, 2-20	0.1-2, 0.5-10, 2-20		0.1-2, 0.5-10, 2-20	0.5-10, 2-20	0.5-10	0.5-10, 2-20	1-10, 2-20	0.1-2, 0.5-10, 2-20	0.5-10
25	<b>AF19</b>			10-100	10-100							
25	<b>AF18</b>			10-100	10-100							
24	<b>AF17</b>			10-100	10-100							
25	<b>AF20</b>			10-100	10-100							
24,32	<b>AF5</b>	10-100	10-100									
25,26,32	<b>AF7</b>	20-200	20-200	20-200	20-200							
26,29	<b>AF11</b>	10-100, 20-200	10-100, 20-200	10-100, 20-200		10-100, 20-200	5-50, 20-200	5-50, 20-200	10-100, 20-200	5-50, 20-200	10-100, 20-200	5-50, 20-200
26	<b>AF12</b>	100-1000	100-1000	100-1000		100-1000	100-1000	100-1000	100-1000		100-1000	100-1000
27	<b>AF14</b>	20-300	20-300	20-300	20-200							
26,29,32	<b>AF8</b>	20-200		20-200								
27,29,32	<b>AF9</b>	100-1000	100-1000	100-1000								








THERMO®/ Finn timer®						
Digital, F1®, F2®			Focus®		Novus®	
Channels			Channels		Channels	
1		8, 12	1	8,12	1	
Page/Tip Type			VWR Aerosol Tips			
23,29,31	AF1	0.2-2**, 0.2-10*, 0.5-5**, 0.5-10*, 1-10**	0.5-10*, 1-10**	0.3-3, 0.5-5, 1-10	1-10	1-10
23	AF15	0.5-10				
24,29,31	AF3	2-20		3-30		
24,32	AF4	5-50* Digital only	5-50		5-50	5-50
25	AF19			1-10		
25	AF18	10-100*	10-100*	10-100		
24	AF17	10-100*	10-100*	10-100		
25	AF20	10-100*	10-100*	10-100		
24,32	AF5	10-100*	10-100*	10-100		
26	AF21	10-100*	10-100*	10-100		
27	AF14		30-300*	30-300		
27,29,32	AF9	100-1000, 200-1000		100-1000		100-1000
27	AF10	100-1000				
24	AF16	0.5-10*, 1-10**				

\*For Digital only; \*\* For F1 only

		THERMO®/ Matrix®	
		Impact®/2	Shorty®
		Channels	Channels
		1	1
Page/Tip Type		VWR Aerosol	
23	AF15	0.5-12.5, 30*	0.5-12.5, 30*
25,32	AF6	2-125	2-125
25,26,32	AF7	2-125	2-125
27	AF14	5-250	5-250
26,29,32	AF8	5-250	5-250
27,29,32	AF9	15-1250	15-1250
25,26,32	AF7	5-250	5-250
27	AF10	15-1250	15-1250

\* Not for 16 channel Equalizer

## LIQUID HANDLING


### Aerosol Filter Tips Compatibility Chart - CAPP®, CORNING®, HAMILTON®, KENDALL®

#### OTHER PIPETTOR BRANDS


µl volume  
ranges shown  
**µl**

			
<b>CAPP®</b>			
<b>Aero®</b>			
<b>Channels</b>			
<b>1</b>		<b>8,12</b>	
<b>Page/Tip Type</b>		<b>VWR Aerosol</b>	


23,29,31	<b>AF1</b>	0.5-10	0.5-10
24,32	<b>AF4</b>	5-50	5-50
25	<b>AF19</b>	10-100	
25	<b>AF18</b>	10-100	
24	<b>AF17</b>	10-100	
25	<b>AF20</b>	10-100	
26	<b>AF21</b>	10-100	
25,26,32	<b>AF7</b>	20-200	20-200
27	<b>AF14</b>		30-300
27,29,32	<b>AF9</b>	100-1000	

			
<b>CORNING®</b>			
<b>8/12-Pette®</b>		<b>Octapette®</b>	<b>Lambda®</b>
<b>Channels</b>		<b>Channels</b>	<b>Channels</b>
<b>8, 12</b>		<b>8</b>	<b>1</b>
<b>Page/Tip Type</b>		<b>VWR Aerosol Tips</b>	

23,29,31	<b>AF1</b>			0.1-2.5, 0.5-10
24,29,31	<b>AF3</b>			2-20
24,32	<b>AF4</b>			2-20
24,32	<b>AF5</b>			10-100
25,26,32	<b>AF7</b>	20-200	25, 50, 100, 200	20-200
27	<b>AF14</b>	20-200		
26,29,32	<b>AF8</b>	20-200		20-200
27,29,32	<b>AF9</b>			100-1000


			
<b>KENDALL®</b>			
<b>Oxford Benchmate®</b>			
<b>Channels</b>			
<b>1</b>			
<b>Page/Tip Type</b>		<b>VWR Aerosol</b>	


23,29,31	<b>AF1</b>	0.5-10	
25,26,32	<b>AF7</b>	10-200, 20-200, 40-200	
26,29,32	<b>AF8</b>	10-200	
27,29,32	<b>AF9</b>	200-1000	

			
<b>HAMILTON®</b>			
<b>Softgrip®</b>		<b>Softouch® Electronic</b>	
<b>Channels</b>		<b>Channels</b>	
<b>1</b>		<b>1</b>	<b>8,12</b>
<b>Page/Tip Type</b>		<b>VWR Aerosol Tips</b>	

23,29,31	<b>AF1</b>	0.2-2, 1-10		0.2-10	0.2-10
24,29,31	<b>AF3</b>	2.5-25			
24,32	<b>AF4</b>		5-50		
25	<b>AF19</b>	10-100		5-100	
25	<b>AF18</b>	10-100		5-100	
24	<b>AF17</b>	10-100		5-100	
25	<b>AF20</b>	10-100		5-100	
24,32	<b>AF5</b>	10-100		5-100	
27	<b>AF14</b>		30-300		25-250
27,29,32	<b>AF9</b>	100-1000			
25,26,32	<b>AF7</b>	10-100			
27	<b>AF22</b>				50-1200



LABNET®						
		Labpette Discovery®		Biopette® E Electronic		Discovery Pro®
		Channels		Channels		Channels
		1	8, 12	1	8, 12	1, 8, 12
Page/Tip Type		VWR Aerosol Tips				
23,29,31	<b>AF1</b>	0.2-2, 0.5-10	0.5-10, 1-10	0.5-10	0.5-10	0.2-2, 0.5-10
23	<b>AF15</b>			2-20	2-20	
23,31	<b>AF2</b>	0.2-2, 1-10				
24,29,31	<b>AF3</b>	2-20	2-20			2-20
24,32	<b>AF4</b>	5-50	5-50			
25	<b>AF19</b>	10-100				
25	<b>AF18</b>	10-100				
24	<b>AF17</b>	10-100				
25	<b>AF20</b>					
24,32	<b>AF5</b>	10-100	10-100			
25,26,32	<b>AF7</b>	20-200	20-200	10-200	10-200	20-200
27	<b>AF14</b>	50-250	50-300			
26,29,32	<b>AF8</b>		20-200, 50-300			
27,29,32	<b>AF9</b>	100-1000	100-1000			100-1000

POULTEN®		
		Volac® Ultra Variable
		Channels
		1
Page/Tip Type		VWR Aerosol
23,31	<b>AF2</b>	1-10
24,32	<b>AF4</b>	5-50
25	<b>AF19</b>	10-100
25	<b>AF18</b>	10-100
24	<b>AF17</b>	10-100
25	<b>AF20</b>	10-100
25,26,32	<b>AF7</b>	20-200
27,29,32	<b>AF9</b>	100-1000




## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - NICHIRYO®

#### OTHER PIPETTOR BRANDS



		<b>NICHIRYO®</b>		
		<b>EX®, EX Plus®</b>	<b>Le®</b>	<b>Nichipet® 7000</b>
		<i>Channels</i>	<i>Channels</i>	<i>Channels</i>
		<b>1</b>	<b>1</b>	<b>8, 12</b>
<b>Page/Tip Type</b>		<b>VWR Aerosol Tips</b>		
23,29,31	<b>AF1</b>	0.2-2, 0.5-10	0.5-10	0.5-10
24,32	<b>AF4</b>			5-50
25	<b>AF19</b>	10-100	10-100	
25	<b>AF18</b>	10-100	10-100	
24	<b>AF17</b>	10-100	10-100	
25	<b>AF20</b>	10-100	10-100	
25,26,32	<b>AF7</b>	20-200	20-200	40-200
27	<b>AF14</b>	20-200	20-200	40-200, 50-300
26,29,32	<b>AF8</b>	20-200	20-200	
27,29,32	<b>AF9</b>	100-1000	100-1000	



## Acura® 825

# Calibra® 822

## Calibra® 825

Electro<sup>®</sup> 925

## 5 Electro<sup>®</sup> 955

## Channels

## Channels

## Channels

### Channels

## Channels

1

8, 12

**1**

1

8, 12

**Page/Tip Type**

## VWR Aerosol Tips

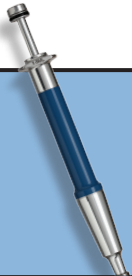
23,29,31	<b>AF1</b>	0.1-2, 0.5-10				0.5-10	0.5-10
23	<b>AF15</b>	1-10					
23,31	<b>AF2</b>		0.5-10	0.2-2, 1-10	1-10		
24,29,31	<b>AF3</b>	2-20					
24,32	<b>AF4</b>	5-50	5-50			2.5-50	2.5-50
25	<b>AF19</b>	10-100		10-100	10-100		
25	<b>AF18</b>	10-100		10-100	10-100		
24	<b>AF17</b>	10-100		10-100	10-100		
25	<b>AF20</b>	10-100		10-100	10-100		
25,26,32	<b>AF7</b>	20-200	20-200	20-200	20-200	10-200	
27	<b>AF14</b>		40-350				
27,29,32	<b>AF9</b>	100-1000		100-1000			

## LIQUID HANDLING

### Aerosol Filter Tips Compatibility Chart - VISTALAB®, ACCUMAX®, DRAGONLAB®

#### OTHER PIPETTOR BRANDS


µl volume  
ranges shown  
**µl**



<b>VISTALAB®</b>			
MLA®	Ovation®	Ovation® Electronic	
Channels	Channels	Channels	
1	1	1	8, 12
<b>Page/Tip Type</b> <b>VWR Aerosol Tips</b>			


23,29,31	<b>AF1</b>		1-10		
23	<b>AF15</b>			0.5-20	0.5-20
24,32	<b>AF4</b>	10-50			
25	<b>AF19</b>		10-100		
25	<b>AF18</b>		10-100		
24	<b>AF17</b>		10-100		
25	<b>AF20</b>		10-100		
24,32	<b>AF5</b>	10-50	10-100		
25,26,32	<b>AF7</b>	50-200	20-200, 40-200		
27	<b>AF14</b>		20-200, 40-200		
26,29,32	<b>AF8</b>	50-200	20-200		
27,29,32	<b>AF9</b>		100-1000*		

\* requires Type A Nozzle Vistalab #9057-1016 100-1000µl, 201-1000µL



<b>ACCUMAX®</b>	
Smart®, Accumax Pro®, A, VA-FA	
Channels	
1, 8, 12	
<b>Page/Tip Type</b> <b>VWR Aerosol Tips</b>	

23,29,31	<b>AF1</b>	0.1-2.5, 0.5-10
24,29,31	<b>AF3</b>	2-20
25	<b>AF18</b>	5-50, 10-100
24	<b>AF17</b>	10-100
25	<b>AF20</b>	10-100
25,26,32	<b>AF7</b>	20-200, 50-200
27,29,32	<b>AF9</b>	100-1000



<b>DRAGONLAB®</b>	
TopPette®, MicroPette®, MicroPette® Plus	
Channels	
1, 8, 12	
<b>Page/Tip Type</b> <b>VWR Aerosol Tips</b>	

23,29,31	<b>AF1</b>	0.1-2.5, 0.5-10
24,29,31	<b>AF3</b>	2-20
25	<b>AF18</b>	5-50, 10-100
24	<b>AF17</b>	10-100
25	<b>AF20</b>	10-100
25,26,32	<b>AF7</b>	20-200, 50-200
27,29,32	<b>AF9</b>	100-1000





Our low retention pipet tips are made with a special resin that reduces the potential for sample retention inside the tip. They will help you reduce sample loss when performing protein research. We lot certify them to be free of protease as well as nuclease as part of our quality control process.



## LIQUID HANDLING

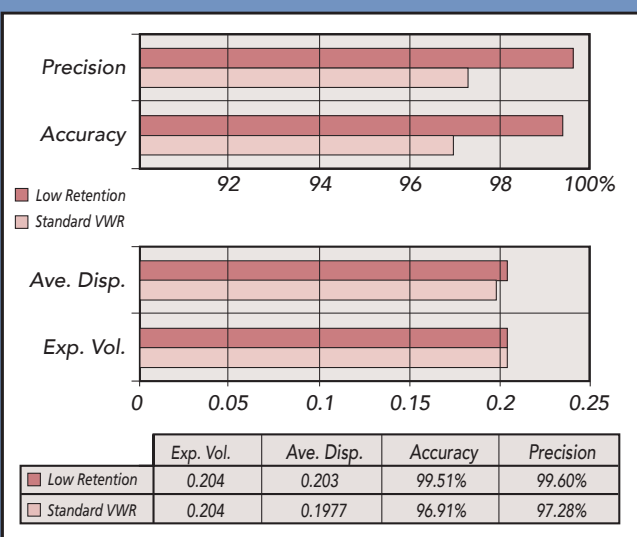
### VWR Protease Free Low Retention Pipet Tips with Low Protein Binding

#### for Proteomic Research

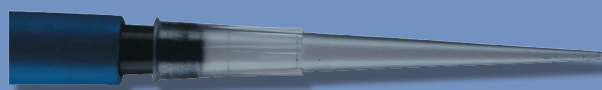
Low retention tips from VWR have a proprietary modified polypropylene surface that limits the adhesion of cells, rDNA, and other viscous materials. Their accuracy and precision is up to 10 times better with viscous samples than standard non-wettable polypropylene. VWR tips are compliant with international medical standards and are manufactured with an ISO 9001 registered quality system.

Tips were tested in our own laboratory and have been found to be ideal for viscous samples. Please note: low retention tips are best suited for pipetting sticky fluids or proteins.

- Certified Protease Free
- Up to 1000% less surface binding than standard polypropylene tips
- For viscous proteins
- Sterile available
- Laboratory tested and developed



This chart shows actual test results using VWR pipet tips and standard non-wettable polypropylene tips when used with a viscous dye suspension.



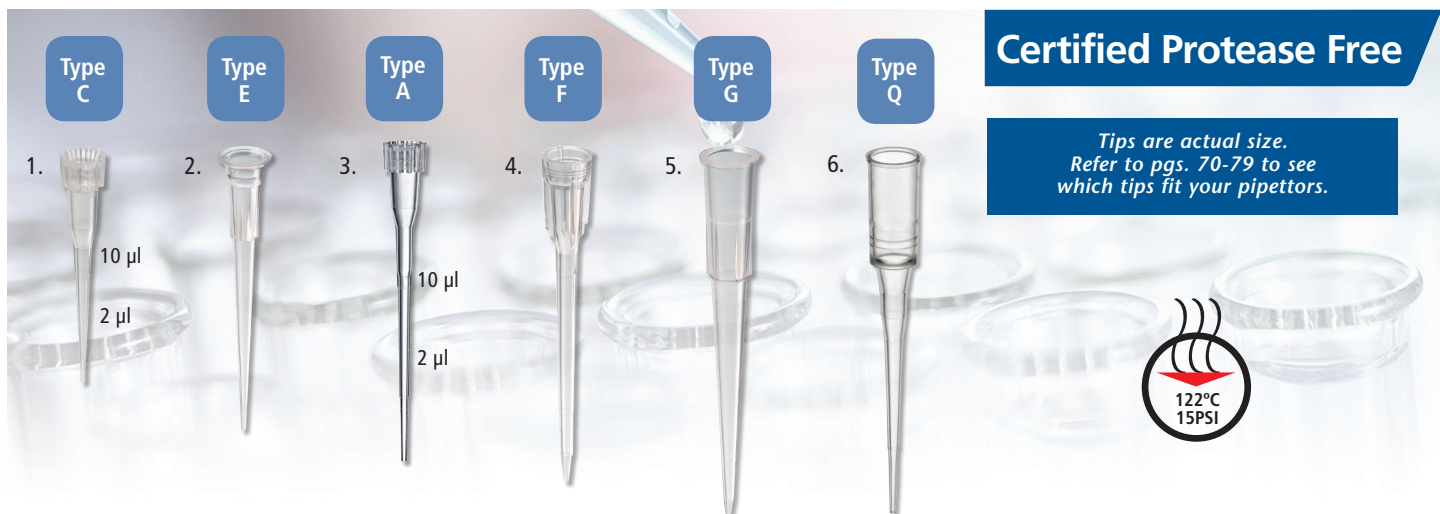
VWR low retention pipet tip with Low Binding



Standard non-wettable polypropylene tip

Actual test shows results of 200  $\mu$ l drawn and then dispensed from VWR low retention tip. and standard non-wettable tip.





### Low Retention Pipet Tips

#### 1. 10 µl Pipet Tips with UltraFine™ Point and Graduations at 2, 10 µl

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-158	96 Rack	1152		\$96.50	\$764.23
37001-160	96 Rack	1152	✓	126.48	1001.95
37001-162	Loose	1000		60.41	479.14
89187-848	Next Generation Refill	1248		71.20	708.62
89187-850	Next Generation Refill	1248	✓	78.72	783.36
89368-962	Next Generation Mini Refill	576		—	195.00

Ht: 1.235" • Max fill: 0.1-10 µl • Graduated at 2, 10 µl

#### 2. Extended 10 µl Pipet Tips with TubeGard™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-164	96 Rack	960		\$82.12	\$650.60
37001-166	96 Rack	960	✓	98.87	782.74
37001-170	Loose	1000		47.12	372.52

Ht: 1.500" • Max fill: 0.1-10 µl • Tube Gard Extended

#### 3. 10ul Extra Long Pipet Tips with UltraFine™ Point and Graduations at 2, 10ul

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89368-978	96 Rack	960		\$70.00	\$699.00
89368-980	96 Rack	960	✓	73.00	729.00
89368-976	Loose	1000		32.00	315.00

Ht: 1.700" • Max fill: 0.1-10 µl

#### 4. 10 µl Pipet Tips with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-172	96 Rack	960		\$88.66	\$701.56
37001-174	96 Rack	960	✓	106.65	843.31
37001-176	Loose	1000		60.41	479.14

Ht: 1.765" • Max fill: 0.5-10 µl • Graduated at 2, 10 µl, Eppendorf®

#### 5. 200 µl Pipet Tips with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53503-288	96 Rack	960		\$96.04	\$758.61
53503-290	96 Rack	960	✓	114.33	903.09
89079-476	Next Generation Refill	960		36.45	330.93
89368-960	Next Generation Mini Refill	480		—	165.00
53503-294	Loose	1000		53.26	435.32

Ht: 1.955" • Max fill: 1-200 µl

#### 6. 20uL Pipet Tips for Rainin® LTS

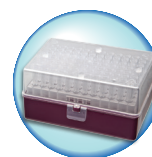
Ht: 1.900"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89495-396	96 Rack	960		\$79.00	\$789.00
89495-398	96 Rack	960	✓	85.00	845.00
89495-404	Loose	1000		34.50	339.00
89495-400	Next Generation Refill	960		31.50	309.00
89495-402	Next Generation Mini Refill	480		—	159.00

### Packaging Options



Loose



96 Rack



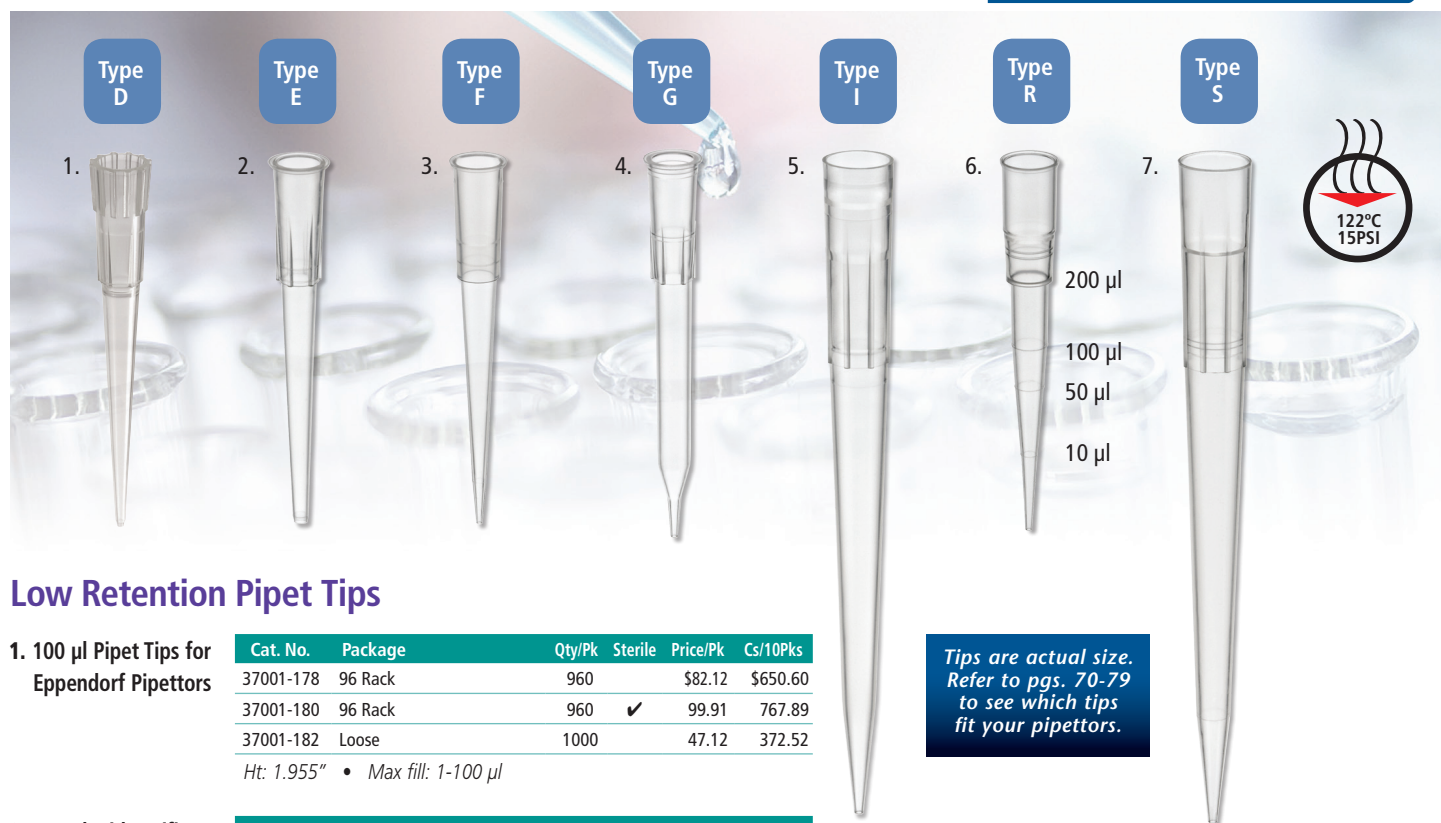
Next Generation Refills



## LIQUID HANDLING

### VWR Protease Free Low Retention Pipet Tips with Low Protein Binding

Certified Protease Free



### Low Retention Pipet Tips

#### 1. 100 µl Pipet Tips for Eppendorf Pipettors

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-178	96 Rack	960		\$82.12	\$650.60
37001-180	96 Rack	960	✓	99.91	767.89
37001-182	Loose	1000		47.12	372.52

Ht: 1.955" • Max fill: 1-100 µl

#### 2. 250 µl Wide Orifice Pipet Tips for Whole Cells

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-184	96 Rack	960		\$82.12	\$650.60
37001-186	96 Rack	960	✓	98.13	710.54
37001-188	Loose	1000		47.12	372.52

Ht: 1.955" • Max fill: 1-200 µl • Wide Orifice is 0.057"

#### 3. 250 µl UltraFine™ Point Pipet Tips

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-190	96 Rack	960		\$82.12	\$650.60
37001-192	96 Rack	960	✓	99.91	791.49
37001-194	Loose	1000		47.12	372.52
37001-484	Next Generation Refill	960		40.35	366.30
89368-964	Next Generation Mini Refill	480		—	195.00

Ht: 1.955" • Max fill: 1-250 µl, Fine

#### 4. 300 µl Pipet Tips with Bevel Point™

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-196	96 Rack	960		\$82.12	\$650.60
37001-198	96 Rack	960	✓	99.91	767.89
37001-542	Loose	1000		53.16	418.49

Ht: 2.050" • Max fill: 1-300 µl, Fine

#### 5. 100-1250 µl Pipet Tips with UltraFine™ Point

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-200	96 Rack	576		\$69.37	\$426.50
37001-202	96 Rack	576	✓	74.59	471.12
37001-204	Loose	1000		61.40	486.78
89079-486	Next Generation Refill	480		26.88	244.71
89079-488	Next Generation Refill	480	✓	30.80	279.59

Ht: 3.500" • Max fill: 100-1250 µl, Fine

*Tips are actual size. Refer to pgs. 70-79 to see which tips fit your pipettors.*

#### 6. 200 µl Pipet Tips for Rainin® LTS

Ht: 2.020"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89495-406	96 Rack	960		\$79.00	\$789.00
89495-408	96 Rack	960	✓	85.00	845.00
89495-414	Loose	1000		34.50	339.00
89495-410	Next Generation Refill	960		31.50	309.00
89495-412	Next Generation Mini Refill	480		—	159.00

#### 7. 1000 µl Pipet Tips for Rainin® LTS

Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89495-416	96 Rack	576		\$54.00	\$429.00 *
89495-418	96 Rack	576	✓	62.00	489.00 *
89495-422	Loose	1000		43.00	429.00
89495-420	Next Generation Refill	480		28.50	279.00

\*Cs/ 8 Pks

### Packaging Options



Loose

96 Rack

Next Generation Refills





## LIQUID HANDLING

### VWR Pipet Tips

#### More Value Than Expected

We focus on providing you with consistently high value products you can count on in your research. Our pipet tips are available in the broadest array of choices that you can find from any pipet tip manufacturer anywhere in the world. We offer loose bag, bulk bag, individually wrapped, 96 hinged rack, double wide 192 hinged rack, 100 hinged rack, 96 and 384 rack, Stack Rack, and Next Generation Refills in sterile and non-sterile packages for more than 76 tip styles.

#### Professional Grade Resins

All the pipet tips we make are made starting with high quality non-cytotoxic medical grade 100% virgin polypropylenes. Many of our resins are formulated exclusively for us to our specifications. We avoid the low quality commodity resins and recycled plastic like others use and pre-test all new resins in our research lab from molded samples. These samples are analyzed to see if extractables that interfere with PCR\* or DNA are present. Although common in polypropylene we exclude from use those resins with these contaminants since they can cause you unpredictable lab results.



#### The Art of Pipet Tips

Pipette tip design is an art. Most pipet tips are designed to fit only one pipet brand. All pipet tips from pipettor manufacturers are made this way. We design our tips to fit a multitude of pipettors, a much tougher challenge. With our tips a lab can use one supply of tips for virtually all the pipettors they have. And since our ISO 9001 registered design process guarantees we have thoroughly tested the tips we make, you can use our tips with confidence year after year.



#### Choose Your Tips, Then your Pipettor

Although most people decide on a pipet brand first and then the pipet tips you might do well to consider doing the opposite. Your investment in pipet tips over the life of the pipettor will far exceed the investment you have in the pipettor. Try a range of tips on several pipettors you are evaluating. Check for fit, ease of ejection, quality, packaging options, and overall value. Then purchase a pipettor that works with the tips you have decided to standardize with.

#### Wide Seals Are Always Better

Our pipet tips are designed with wide sealing areas instead of sealing rings. Sealing rings limit the seal area to tiny contact spots. A wider seal assures that tips will seal easily and consistently without leaking on old as well as new pipettors. And VWR tips won't put wear into your pipettor cones like tips with sealing rings so you don't have to replace pipettors so often.



\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.





### Quality Beyond Assurance

Through more than 50 years of experience we have developed an exclusive 26 step quality process to provide you with consistent measurable quality. Many people talk about quality. We prove our commitment to quality before registered independent auditors every 6 months. Our validated ISO 9001:2008 quality system is now registered throughout the world. Every style tip we make is tested lot by lot, every day, hour by hour using a valid documented sampling method. We check for fit, function, reproducibility, accuracy, liquid retention, contamination, clarity, ease of ejection, and blocked orifice. Our supplier is also the only major supplier of pipet tips in the world to operate from a U.S. Food and Drug Administration (U.S. FDA) registered medical device facility.



### Laboratory Developed and Tested

In 1996 we built and equipped our own research laboratory that we use to test and develop our products, resins, methods, and competing products. This investment in equipment and staff lets us duplicate the environment for our products and the protocols you use. In this way you can have full confidence that we have anticipated what you might encounter when using VWR products.

All our pipet tips in this catalog are made with high quality non-cytotoxic medical grade 100% virgin polypropylene. These resins are pre-tested from molded samples to determine if extractables that interfere with PCR\* or DNA are present. Although common in most polypropylenes, we exclude from use those resins that have high levels of extractables in the 240 to 320 nm range, as they would interfere with your ability to quantify DNA.

### Pre-Sterilized? Irradiated? Gamma Processed?

VWR sterile products have been certified sterile using a validated medical sterile process. Some others offer irradiated or “pre-sterilized”\*\* product without any sterile testing or label their product “for research only”. This means they have not done the work to qualify their product as really being sterile. We follow the ISO 11137 procedures for sterility. Our sterile products are labeled sterile and all bioburden studies have been completed and are on file. So what you get from us is what you expect and pay for; truly sterile product.

\*\* Check the packaging of the products you receive. If it says “pre-sterile”, or “pre-sterilized” then it is not a sterile product.

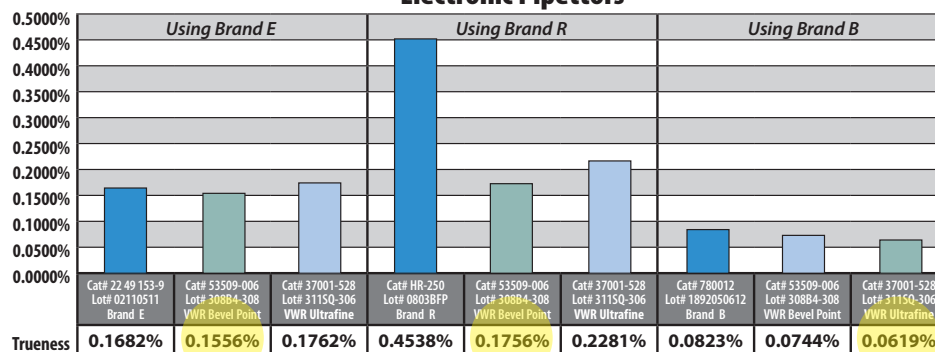


### VWR Pipet Tips Out Perform Branded Tips

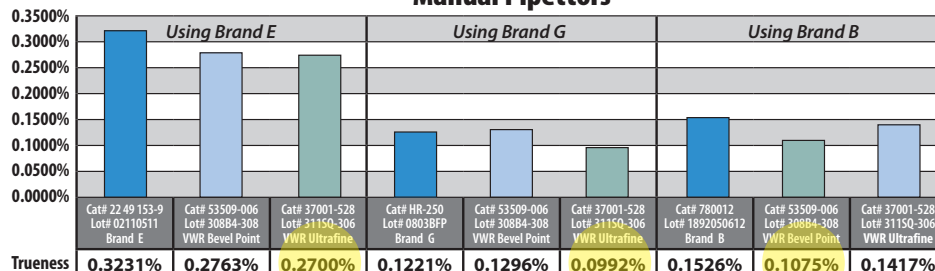
Most pipettor manufacturers state that their pipettors perform best when used with their own brand of pipet tips. In all the tests summarized at right, we used a well known pipettor and the VWR tips that fit that pipettor.

To make this an even more difficult test we did not calibrate the pipettor for VWR tips. Instead we left the pipettor set to the calibration we found it with. This method more readily matches the performance testing required for ISO 8655 certification.

#### Electronic Pipettors



#### Manual Pipettors



Best results are in green; lower % is better.

\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.

## LIQUID HANDLING

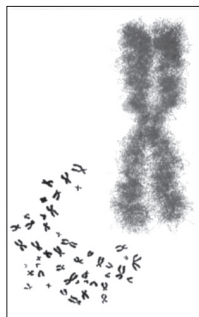
### VWR Pipet Tips

## Nuclease (Rnase and Dnase)

This is our proprietary assay to detect nucleases and is performed on every lot of product after final packaging. Certificates showing the results of the testing are kept on file for every lot of product. These, and all our lab test certificates are available at [www.vwr.com](http://www.vwr.com).

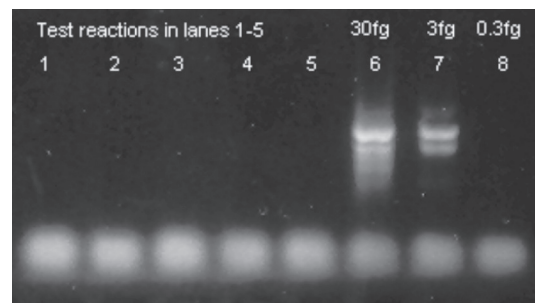
## Endotoxin

Using the kinetic turbidimetric limulus ameobocyte lysate assay we test every lot of pipet tips, centrifuge tubes, microtubes, and culture tubes for endotoxin contamination. All products must show endotoxin levels of less than 0.05EU/mL. This level of assurance is greater than that permitted for medical devices.



## DNA

Using a laboratory developed protocol, we test for the presence of Human DNA on those products noted in this catalog. These products are certified to be pure of Human DNA to a detection level of less than 1 picogram of DNA.

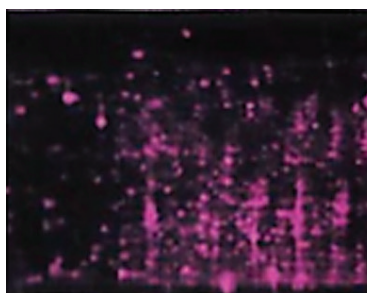


## ATP

Adenosine triphosphate (ATP) is the universal molecule of energy storage that is used and produced by all living things. ATP testing of manufacturing processes and products can identify potential bacterial, fungal and human sources of contamination, and ensures that all certified products are free of biological contamination. An extensive survey of pipet tip, microcentrifuge and centrifuge tube products is used to confirm that certified ATP-free products are clean and free of contamination.

## Protease

We developed the first industry assay for protease detection on labware in 2002. We now certify our pipet tips are free of detectable protease contamination. This makes these tips perfect for protein research.



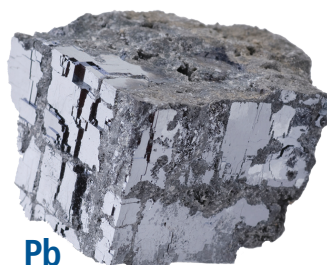
## Resin Validation

All resins are checked using spectroscopy before we accept them for use to determine if they contain extractables that may interfere with PCR or DNA analysis.



## Bioburden and Sterile Validation

Studies to detect microbial contamination on our products are done according to AAMI/ISO 11137-1994 guidelines and are performed every three months by an outside laboratory. This data is used to determine the radiation level needed for sterilization and allows us to guarantee a sterility assurance level (SAL) between  $10^{-5}$  and  $10^{-6}$  for all our sterile products.



Pb

## Trace Metals

The U.S.P (231) test for heavy metals is completed for all the resins we use and must show results less than 1 ppm as proscribed by this test protocol.

## PACKAGING/OPTIONS

VWR pipet tips include as standard many features available from other suppliers only as special upgrades. All the tips we make are made of high quality 100% pure virgin medical grade polypropylene so you won't find recycled plastics in our tips. We pre-test the resin to ensure no extractables are present. Every lot of pipet tips we make is lab tested and certified free of detectable RNase/DNase (Nuclease) contamination and is tested and certified non-pyrogenic. Resins are pre-tested for metal contamination. Certificates are on file by lot number for all test results.

The list at right notes the special features of tips shown on pages 62-68. Testing certification information is shown on page 53. Fit charts are shown on pages 70-79.

- S** Silicone entrained in the polypropylene formula prelubricates these tips for use with sticky DNA or other viscous materials. Allows you to set your equipment to screen out silicone.
- G** These tips have graduations on the outside of the tip to help you visually confirm the pipet draw during use.
- W** Extra wide opening allows you to pipet macrophages or sticky whole cells. Beveled end helps eliminate carry over from viscous solutions.
- U** Pipet tips with Ultrafine™ point feature a thin flexible section at the end that is non beveled and very flexible. This helps you dispense the last tiny amount of sample from the tip.
- A** These tips have been lot tested for the presence of Adenosine Tri phosphate (ATP) and found to be free of detectable levels.
- B** Pipet tips that feature beveled points are designed to retain less fluid and are a good choice for a multitude of procedures.
- D** These tips have been lot tested for the presence of Human DNA and found free of detectable levels.
- R** These tips have been lot tested for the presence of detectable Nuclease (RNase/DNase) and found to be free of detectable levels.
- E** These tips have been lot tested for the presence of endotoxins (pyrogens) and found to have levels below detectable limits.
- L** These tips have a unique design that allows them to mount and eject from most pipettors with forces that help eliminate the potential for repetitive strain injuries.

### Pipet Tips Packaging Options Key:

#### Individually Wrapped

Pipet tips, individually wrapped, are packaged in thermal sealed polyethylene bags. These tips have been radiation sterilized. This package is designed to provide the highest assurance that the tips you use are pure.

#### Loose Pack

Loose pack pipet tips are supplied in resealable polyethylene bags. These are not recommended if you plan to store the tips for long periods since warping can occur after long periods of storage in bags.

#### Bulk Pack

This package is an inexpensive option when your budget is tight. Tips are supplied in one large bag inside a corrugated container. We also recommend you do not store these tips for long periods if warping is a concern.

#### 96 Rack and 192 Rack

These racks offer workhorse reliability and versatility. They have heavy hook hinges that are extremely durable and an ergonomic snap latch that won't catch gloves. Smooth rounded edges and reinforced seal make these racks durable additions to your lab. Strong enough to be autoclaved many times. The separate rack insert includes a beveled top and extra sturdy surface for multi-channel pipetting. A vent in the rack sides allows steam autoclaving to be more efficient and assures your tips are sterile.



#### 96 and 192 Stack Racks

This package gives you the best of both worlds; low cost and a complete high quality rack. You assemble the rack yourself and insert the fully racked refills into the rack. Since you never touch the tips you don't have to be concerned about contamination from your hands or latex gloves. These stacks are very stable so you can pipet with a multi-channel pipet right from the stack.



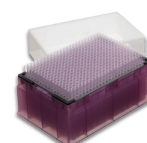
#### 96 and 192 Stack Rack Refills

A slimmed down version of the package at left. With this package you get only the refills you need. Neatly packed, ready for you to refill the racks you already have. Once again, since you get a full rack in the refill, you don't have to work to fit tips into holes or worry about contamination from your hands or gloves.



#### Next Generation Refills

Next Generation refills can be used to refill VWR and some other brands of pipet tip racks. Their low carbon footprint makes them an ideal solution to waste reduction goals for your lab. They refill racks without your having to touch the tips or racks so you don't need gloves.



#### 384 Rack

These racks are designed to withstand the heavy load that automated pipettes exert on the racks. They have a special closed well structure that keeps each tip in its own well.

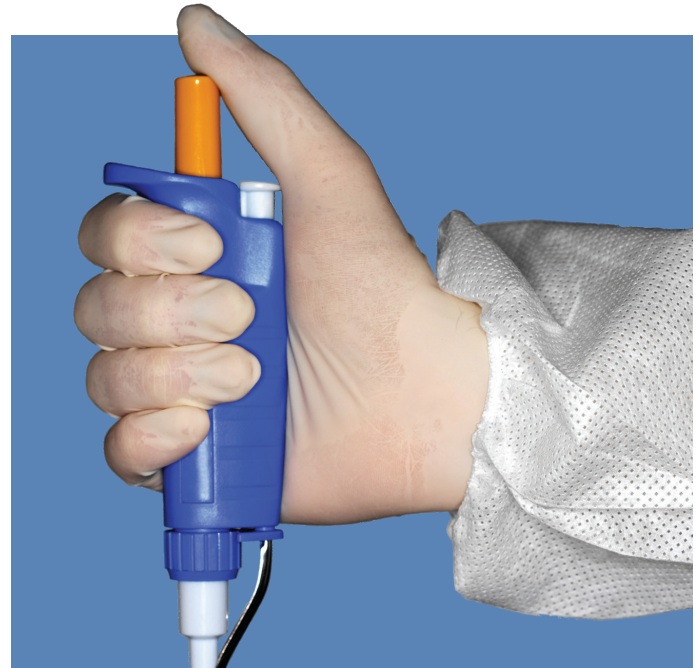


## LIQUID HANDLING

### VWR Low Force Pipet Tips for all popular pipettors

The repetitive work of mounting and ejecting pipet tips can place significant demands on your body and place you more at risk for some types of repetitive strain injuries. These VWR pipet tips are designed to fit onto most popular pipettors and eject with forces shown to help reduce the risk of injury. By using VWR Low Force tips you don't have to invest in special pipettors to gain all the advantages of low force pipetting.

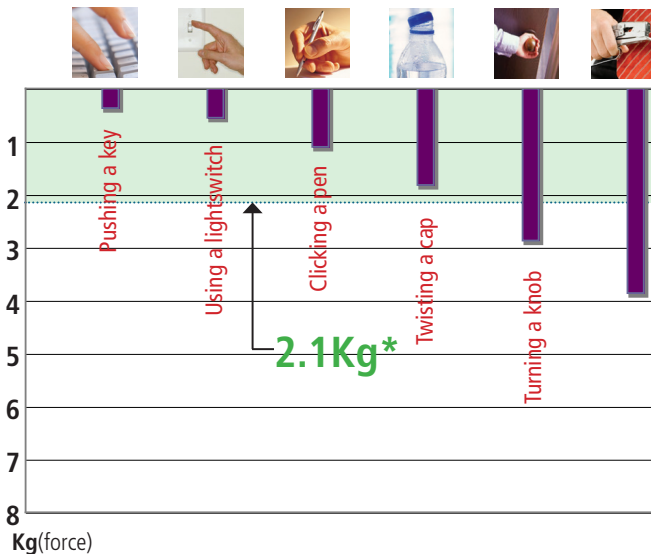
VWR pipet tips not only mount and eject with low force, they are made of clear pretested medical grade polypropylene and lot certified pure and free of human DNA, DNase, RNase, and they are non-pyrogenic. These tips are also available with autoclavable aerosol filters and in validated sterilized versions unlike the non-validated "pre-sterilized" product available from other suppliers. Moreover, every rack is labeled with the product number, production lot, recycling code, expiration date, and effective volume range of the tips inside.



### Other everyday tasks and the force required

In order to better understand how the forces in repetitive pipetting relate to those activities we do everyday, we measured those same forces involved in our everyday tasks.

At left is a chart of the results of this study. Compare the chart of forces at left to the chart on the next page to see how much work it takes for simple tasks. This is a good way of communicating to others the dynamic forces represented by repetitive pipetting. It also helps us to understand that ejecting pipet tips, using VWR tips, uses less force on most pipettors than twisting the cap on a water or soda bottle.



\*These values represent one recommendation of the maximum dynamic force that should be used repeatedly to eject pipet tips. This value for women is less than 2.1Kg and for men is 3.0Kg. Maximum recommended mounting forces of 4Kg are also shown.



Every lot of Low Force tips is tested for RNase/DNase (Nuclease), Human DNA, and are tested and certified non-pyrogenic. Metals testing is done on a resin by resin basis.



Every rack is labeled with critical information.



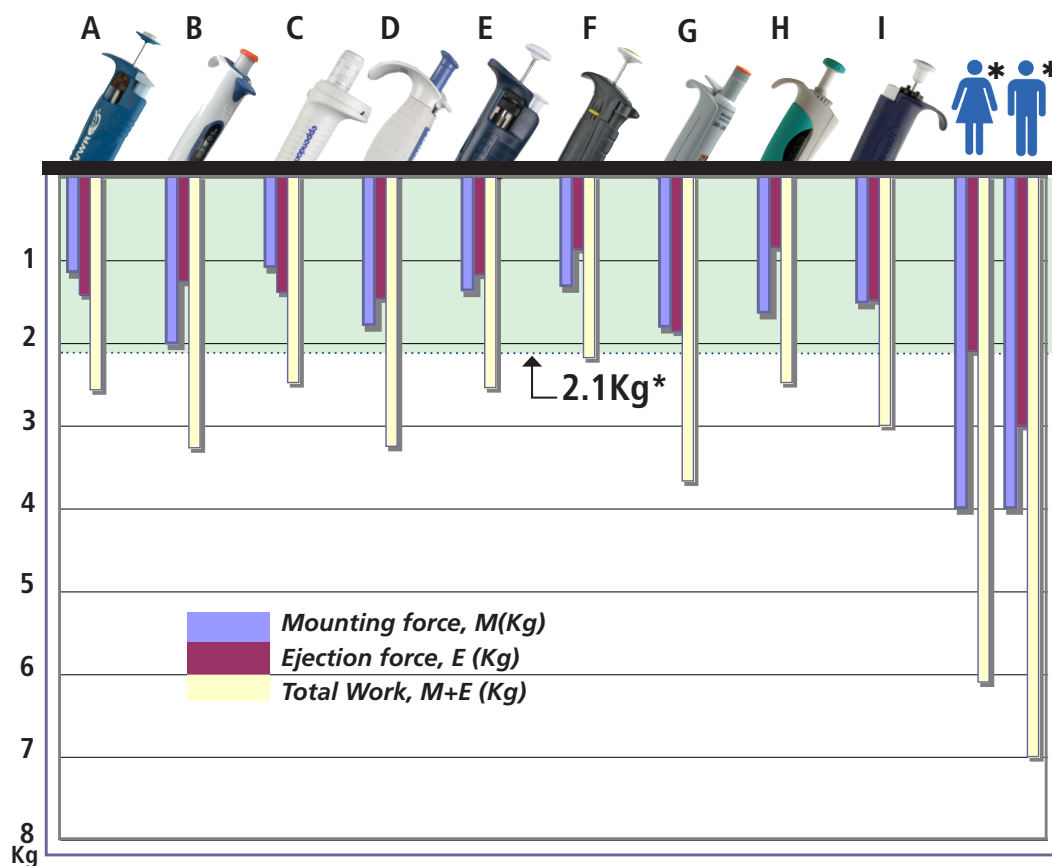
## VWR Low Force pipet tips are proven to exceed accepted standards\* for reduced mounting and ejection forces

The chart below summarizes actual data from a study of the dynamic forces required to mount and eject 200 µL VWR tips from the pipettor brands shown. Results were obtained using a calibrated force gauge and the manufacturers' directions for use of the pipettor and tip mounting. Noted at the right of the chart for reference is a well accepted force norm for mounting and ejecting pipet tips by women and men\*. Values shown are in Kilograms of force.\*\* This study shows that use of VWR tips in combination with major brands of pipettors reduced the mounting and ejection forces to levels lower than accepted standards for women and men on all major pipettors. Ejection and mounting is also shown combined since they represent a realistic picture of the work forces you might experience in actual everyday use.†

This actual use data shows that VWR tips effectively mount and eject at forces that are low enough to reduce the potential for repetitive strain injuries without the purchase of special pipettors.

### Pipettors Used In Study

- A. VWR®
- B. Biohit® mLine®
- C. Eppendorf®
- D. Hamilton® Softgrip®
- E. Gilson® Pipetman®
- F. Gilson® Ultra®
- G. Socorex® Acura®
- H. Thermo® Finnpiptette® Focus®
- I. Rainin® Lite Touch®200\*\*\* †



\* These values represent one recommendation of the maximum dynamic force that should be used repeatedly to eject pipet tips. This value for women is less than 2.1Kg and for men is 3.0Kg. Maximum recommended mounting forces of 4Kg are also shown.

\*\* A measure of force and can be converted to Newtons.

\*\*\* Results from Rainin® brand tips

† Many claims are made about how little force is required to eject tips from some special low force pipettors; some as low as 0.6Kg. However, these claims could not be confirmed in actual use with a calibrated force gauge.

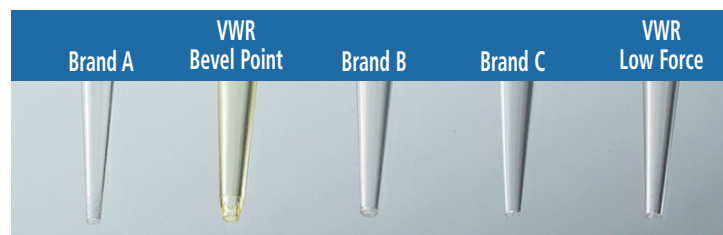
**Study results are on file, please contact your VWR representative to request a copy of the complete study.**

## LIQUID HANDLING

### VWR FlexTop™ Pipet Tips

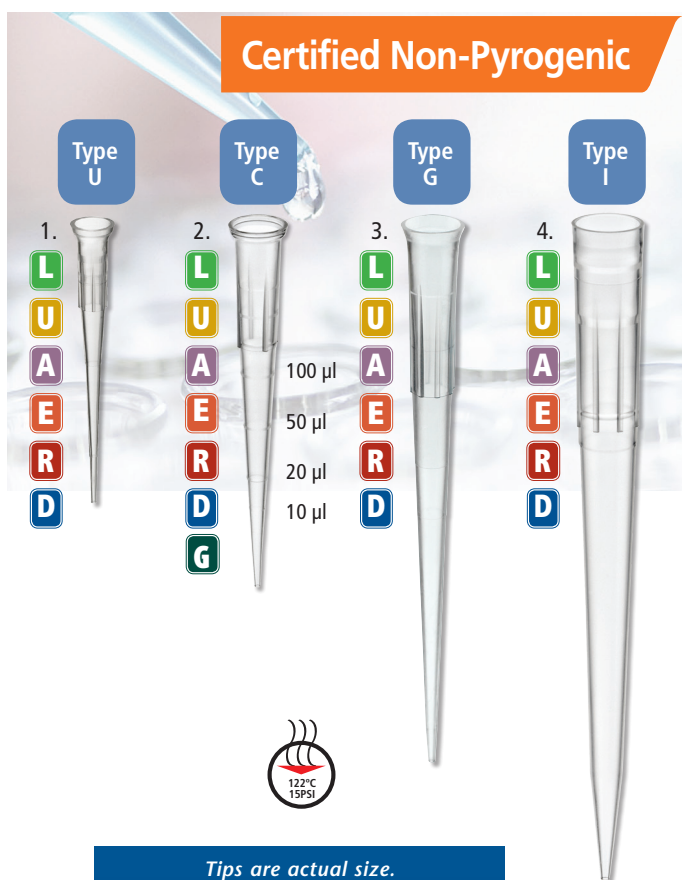


VWR  
Low Force  
tips have  
precise  
points.



### VWR Pipet Tips with Low Mounting and Ejection Force

These ultimate tips feature a uniquely thin and flexible top that conforms to the pipet barrel unlike any other tips. They also include a non-beveled point that is so precise you can easily expel the tiniest amount of sample. The mounting port is beveled to ensure that multichannel pipettors are easy to mount. In clear 100% polypropylene. Tips and racks are autoclavable.



Tips are actual size.  
Refer to pgs. 70-79 to see  
which tips fit your pipettors.



#### 1. 30 µl with FlexTop™ and UltraFine™ Point Ht: 1.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
82018-040	96 Rack	960		\$89.97	\$688.86
82018-042	96 Rack	960	✓	101.52	777.33
82018-036	Loose	1000		48.82	374.28

#### 2. 200 µl with FlexTop™ and UltraFine™ Point Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
37001-528	96 Rack	960		\$80.75	\$618.07
37001-530	96 Rack	960	✓	92.16	705.45
89079-444	Next Generation Refill	960		42.37	349.93
89079-446	Next Generation Refill	960	✓	46.55	384.51
89368-954	Next Generation Mini Refill	480		—	165.00
37001-532	Loose	1000		48.83	372.90

#### 3. 300 µl with FlexTop™ and UltraFine™ Point Ht: 2.800"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
83007-352	96 Rack	576		\$59.86	\$365.71 <sup>†</sup>
83007-354	96 Rack	576	✓	67.12	411.30 <sup>†</sup>
89079-440	Next Generation Refill	768		35.82	273.88
89079-442	Next Generation Refill	768	✓	39.39	300.34
83007-350	Loose	1000		50.82	390.28

<sup>†</sup> Cs/8 Pks

These tips have a very fine end point that fits into small micro tubes and deep well plates. Extra length gives you more head room above your sample so you don't have to worry about contaminating the pipet barrel. The thin flexible top seals onto more pipets but ejects easily. Fits most 1000 µl pipettors. Clear 100% polypropylene. Tips and racks are autoclavable.

#### 4. 100-1250 µl Extended Tips with FlexTop™ and UltraFine™ Point Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53508-918	96 Rack	576		\$68.10	\$418.00 <sup>†</sup>
53508-920	96 Rack	576	✓	74.93	462.51 <sup>†</sup>
53508-926	Individually Wrapped	200	✓	130.30	998.19
89079-470	Next Generation Refill	480		30.40	215.83
89079-472	Next Generation Refill	480	✓	33.03	252.52
53508-922	Loose	1000		60.97	467.94

<sup>†</sup> Cs/8 Pks

### Packaging Options



Individually  
Wrapped



Loose



96 Rack



Next Generation  
Refills





## The Next Generation from VWR®

### A revolutionary pipet tip refill system redefines Green

- Simple to use
- Tips to fit your pipettors
- Rnase/Dnase and Endotoxin-Free
- Anti-wobble tip mounting
- 17 pipet tip styles
- Reclosable package
- Tips made from pure resins
- Refills existing tip racks
- Compact easy-store package
- Packaging includes bioplastic components and renewable materials
- Available in Standard or Mini Pack



## USING THE NEXT GENERATION TO REFILL A PIPET TIP RACK IS SIMPLE AND EASY

The **Next Generation** Pipet Tip Refill system from VWR goes far beyond other reload systems to bring a complete refilling solution to your lab. With a simple lift, place, and snap, you can refill VWR and other brands\* of pipet tip racks with 17 different styles of tips. Next Generation refill tips are lab certified Rnase/Dnase-and Non-Pyrogenic. Sterile refills use a validated sterile process and include an expiration date on every pack. The VWR® Next Generation is a revolution in pipet tip refills.

Far beyond simple recycle coding, the patent pending Next Generation is a completely designed system with a Low Carbon footprint that includes the first ever use of bio-plastic (non-petroleum) resin in pipet tip refills. And Next Generation's small footprint extends to the package, with a reclosable box that helps you maximize storage space in crowded labs.



**1. Open the Next Generation and grasp transfer top. Lift straight up slowly.**



**2. Align transfer top over refillable rack and place onto rack.**



**3. Push down onto transfer top to release refill plate. Return transfer top to Next Generation refill stack.**



## LIQUID HANDLING

### VWR Next Generation Refill System

#### Exclusive features only from VWR Next Generation refills:

1. Transfer cover made of recycled PET.
2. Tips are Rnase/Dnase Free. Certified Lot by Lot.
3. Tip base made of non-petroleum resin.
4. Overall package weight reduced.

5. Transfer cover keeps tips clean and prevents tip wobble during refilling. You refill without ever having to touch the tips or racks and worry about contamination. Gloves are not necessary.

6. When opened, Next Generation refill is extremely stable.

7. Printed with soy inks to eliminate heavy metals.

8. Carton made of 100% recycled fibers.

9. Reclosable package with very small footprint takes up less space in the lab.



Next Generation Mini

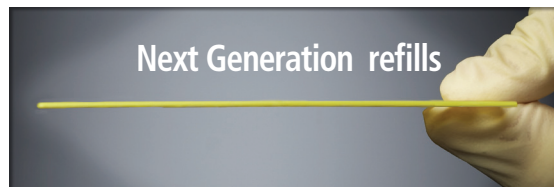
#### Quality

Every lot of Next Generation refills are tested for Nuclease (RNase, DNase) and Human DNA contamination. Sterile products are lot tested for Pyrogen (endotoxin) contamination. Metals testing is done on a resin by resin basis.

#### Thin refill inserts

Next Generation uses thin refill inserts made from 80% less material than competing refill systems. And the transfer top keeps your tips from wobbling during refilling. So you don't need to use gloves to refill.

#### Next Generation refills



#### Competing refills



#### Refills many rack brands\*

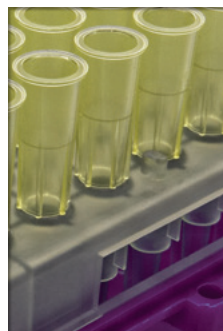
Refills many brands of pipet tip racks. Not only VWR racks.

\*The patented hold down feature available on Next Generation racks is not available in other racks. Not all racks will work with the Next Generation refill system, check your racks for compatibility.



#### Anti-wobble

Fits new pipet tip racks that include a special anti-wobble feature making tip mounting easy.



#### Bio-Plastic

Components made from non-petroleum bio-plastic resin.







## Next Generation refill packaging compared to popular refill systems for 960 tips



**0.45kg**



**39.8% packaging, 60.2% usable product**

*95% renewable materials. Bioplastic tip base from organic non-petroleum resin. Soy based vegetable inks.*

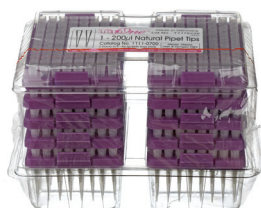


**0.84kg**



**68.1% packaging, 31.9% usable product**

*0.5% renewable materials, 99.5% non renewable petroleum based resin.*



**0.65kg**



**59.0% packaging, <sup>†</sup> 41.0% usable product**

*0.2% renewable materials, 99.8% non renewable petroleum based resin.*



**0.51kg**

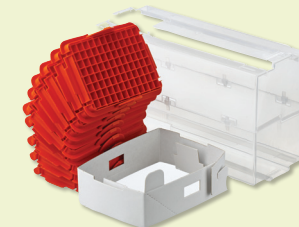


**47.3% packaging, <sup>†</sup> 52.7% usable product**

*0.5% renewable materials, 99.5% non renewable petroleum based resin.*



**0.73kg**

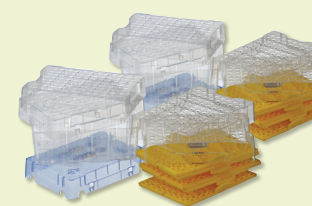


**63.4% packaging, <sup>†</sup> 36.6% usable product**

*0.5% renewable materials, 99.5% non renewable petroleum based resin.*



**0.56kg**



**52.0% packaging, <sup>†</sup> 48.0% usable product**

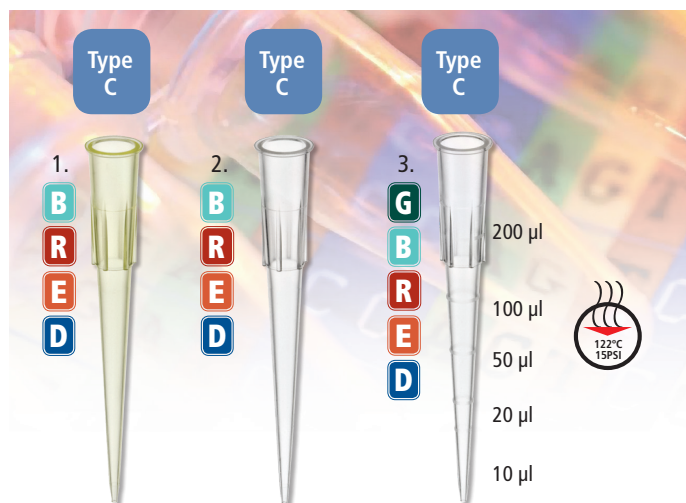
*100% non renewable petroleum based resin.*

<sup>†</sup>This product is supplied in an extra carton that was not added to packaging totals. 0.27 kg was used as a constant value for the pipet tip portion of these products. Trademarks are of respective suppliers shown. Results are from purchased market samples.



## LIQUID HANDLING

### VWR Pipet Tips



These tips fit all major pipettors and offer the most versatility of any tips. Bevel ends retain less fluid and are a good choice if you do many different procedures. Designed with wide sealing areas to fit even older pipettor barrels, these tips are available in every packaging option. Available in yellow or clear polypropylene. Tips and racks are autoclavable.

#### 1. 200 µl Bevel Point™ pipet tips, Yellow Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53508-783	96 Rack	960		\$58.01	\$443.97
53508-794	96 Rack	960	✓	75.30	576.81
53509-815	96 Stack Rack	960		57.71	441.91
53512-260	96 Stack Rack Refill	960		57.95	444.39
53509-200	192 Rack	960		97.67	746.17
53509-232	192 Rack	960	✓	110.04	840.74
53512-258	192 Stack Rack	960		58.09	887.37
53512-257	192 Stack Rack Refill	960		76.44	293.70
89079-458	Next Generation Refill	960		41.21	314.14
89079-460	Next Generation Refill	960	✓	42.37	349.93
89368-950	Next Generation Mini Refill	480		—	149.00
53508-810	Loose	1000		38.85	297.69
53508-812	Bulk	10000		—	279.86
53509-080	Individually Wrapped	200	✓	144.64	1107.16

#### 2. 200 µl Bevel Point™ pipet tips, Clear Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53509-220	192 Rack	960		\$99.30	\$737.36
53509-222	192 Rack	960	✓	108.73	830.46
89079-474	Next Generation Refill	960		41.21	314.14
53509-085	Individually Wrapped	200		140.70	1077.33
53503-566	Loose	1000		38.36	300.71

## VWR Tips for 200 µl Pipettors

These tips fit all major pipettors and have graduations on the outside of the tip to help visually confirm pipettor settings. Smooth beveled ends retain less fluid and are a good choice if you do many different procedures. Designed with wide sealing areas to fit even older pipettor barrels, these tips are available in every packaging option. Tips and racks are autoclavable.

#### 3. Clear Graduated 200 µl Bevel Point™ pipet tips Ht: 1.955"

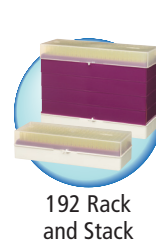
Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53509-006	96 Rack	960		\$70.34	\$538.78
53509-009	96 Rack	960	✓	81.53	624.75
53509-010	96 Stack Rack	960		62.68	480.09
53509-012	96 Stack Rack Refill	960		66.72	509.72
53509-230	192 Rack	960		97.71	746.48
53509-202	192 Rack	960	✓	110.04	840.74
53509-004	192 Stack Rack	960		66.66	1023.79
53509-005	192 Stack Rack Refill	960		64.42	246.76
89079-478	Next Generation Refill	960		39.99	331.52
89079-480	Next Generation Refill	960	✓	44.40	367.96
89368-952	Next Generation Mini Refill	480		—	165.00
53509-007	Loose	1000		61.98	474.46
21008-002	Bulk	10000		—	272.61
53509-075	Individually Wrapped	200	✓	140.44	1078.31

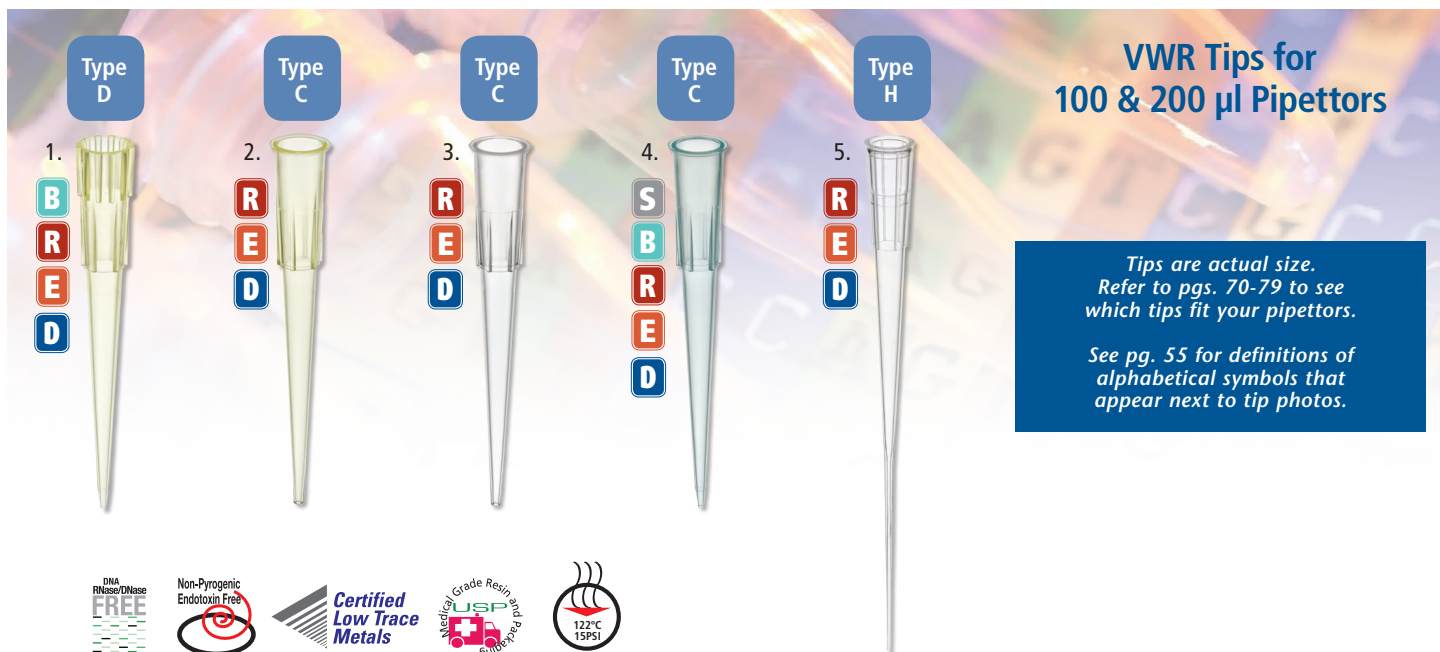
Tips are actual size.  
Refer to pgs. 70-79 to see  
which tips fit your pipettors.

See pg. 55 for definitions of  
alphabetical symbols that  
appear next to tip photos.



#### Packaging Options





Designed to fit Eppendorf®, Brinkmann® Instruments, and BrandTech® pipettors. Ribbed top ensures solid ejection from these pipettor models. Beveled end retains less fluid and is a good choice if you do many different procedures. Designed with wide sealing areas to fit even older pipettor barrels, these tips are available in every packaging option. Available in yellow polypropylene. Tips and racks are autoclavable.

### 1. 100 µl Bevel Point™ pipet tips for Eppendorf pipettors, Yellow

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-769	96 Rack	960		\$92.38	\$704.87
53503-781	96 Rack	960	✓	111.82	853.87
53509-210	192 Rack	960		96.54	737.36
53509-212	192 Rack	960	✓	117.62	888.87
53512-315	192 Stack Rack	960		116.10	885.61
53512-330	Loose	1000		84.38	651.24
89079-462	Next Generation Refill	960		42.37	349.93

These tips fit all major pipettors. Perfect when a traditional blunt cut end style is desirable. Designed with wide sealing areas to fit even older pipettor barrels, these tips are available in racks and bulk. Yellow or clear polypropylene. Tips and racks are autoclavable.

### 2. 200 µl Traditional Style non-beveled pipet tips, Yellow

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-602	96 Rack	960		\$89.09	\$684.06
53503-604	96 Rack	960	✓	116.42	893.20
53503-606	Loose	1000		80.02	614.45

### 3. 200 µl Traditional Style non-beveled pipet tips, Clear

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-592	96 Rack	960		\$92.43	\$697.55
53503-594	96 Rack	960	✓	115.94	887.49
53503-596	Loose	1000		80.02	610.70

Silicone in the polypropylene formulation prelubricates these tips for use with sticky DNA or other viscous materials. Allows you to set your equipment to screen out the presence of silicone. Designed with wide sealing areas to fit even older pipettor barrels. Green polypropylene. Tips and racks are autoclavable.

### 4. 200 µl Siliconized Bevel point™ pipet tips

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-792	96 Rack	960		\$106.24	\$812.52
53503-794	96 Rack	960	✓	122.93	942.95
53503-790	Loose	1000		54.20	415.77

These tips fit all major pipettors and include long thin capillary sections for use in nuclease acid sequencing. The thin capillary fits between gel plates to allow you to accurately fill in between the teeth of the gel comb. Available with a 14mm or 30mm capillary. Designed with wide sealing areas to fit even older pipettor barrels. In clear polypropylene. Tips and racks are autoclavable.

### 5. 200 µl Capillary Tips for gel-loading, 30 mm

Ht: 3.250"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
37001-150	96 Rack	576		\$108.70	\$664.02
37001-152	96 Rack	576	✓	118.63	724.73
53509-015	Loose	1000		160.77	1230.18

### Packaging Options



Loose



96 Rack



Next Generation  
Refills

## LIQUID HANDLING

### VWR Pipet Tips

### VWR Tips for 200 & 300 µl Pipettors

*Tips are actual size.  
Refer to pgs. 70-79 to see  
which tips fit your pipettors.*

*See pg. 55 for definitions of  
alphabetical symbols that  
appear next to tip photos.*

Extra-wide opening allows you to use these tips to pipet macrophages or sticky DNA materials. Bevel helps eliminate carry-over from viscous solutions. Designed with wide sealing areas to fit even older pipettor barrels, these tips are available in every packaging option. Available in clear polypropylene. Tips and racks are autoclavable.

#### 1. 200 µl Wide Orifice Bevel Point™ pipet tips

Ht: 1.955"  
Orifice: 0.057"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-612	96 Rack	960		\$89.92	\$688.26
53503-614	96 Rack	960	✓	106.22	810.94
89079-456	Next Generation Refill	960		42.37	349.93
53503-616	Loose	1000		68.52	526.68

These tips have a thinner wall that is very flexible and a fine non-beveled point. They help you wipe the very last bit of sample from your tip. Designed with wide sealing areas to fit most 200 to 250 µl pipettor barrels. Clear polypropylene. Tips and racks are autoclavable.

#### 2. 250 µl pipet tips with UltraFine™ Point

Ht: 2.050"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53503-252	96 Rack	960		\$108.93	\$827.56
53503-250	96 Rack	960	✓	126.42	965.38
89079-482	Next Generation Refill	960		42.37	349.93
53503-256	Loose	1000		75.02	572.52
53503-258	Individually Wrapped	200	✓	152.91	1173.56

#### 3. 300 µl pipet tips with Bevel Point™

Ht: 2.050"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53509-126	96 Rack	960		\$104.72	\$784.51
53509-128	96 Rack	960	✓	114.06	875.02
53509-118	192 Rack	960		95.32	731.25
53509-120	192 Rack	960	✓	110.04	840.74
53509-122	Loose	1000		51.05	392.25
53509-100	Individually Wrapped	200	✓	144.64	1107.16

These high-quality, extra-long tips feature a uniquely thin and flexible top that conforms to the pipettor barrel unlike any other tips, forming a tight seal with minimal ejection force. They include a non beveled point that is extremely precise so you can easily dispense the smallest sample. In clear 100% polypropylene. Tips and racks are autoclavable.

#### 4. 200 µl Extended tips with FlexTop™ and UltraFine™ Point

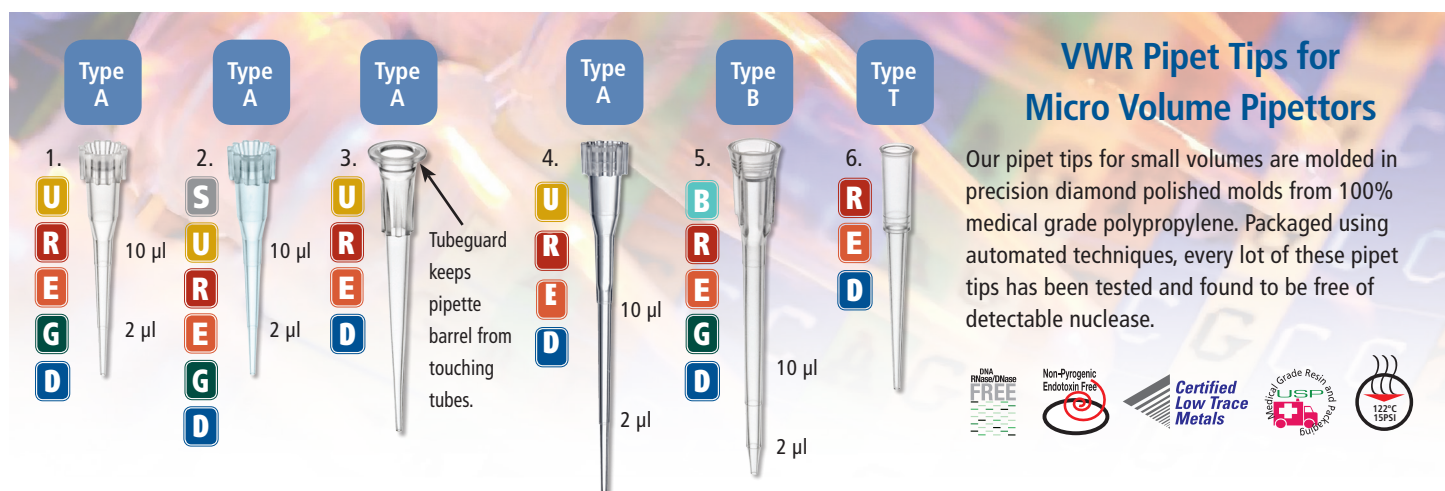
Ht: 3.300"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
37001-522	96 Rack	576		\$89.33	\$547.12
37001-524	96 Rack	576	✓	94.99	581.29
37001-526	Loose	1000		103.20	789.34

### Packaging Options







## VWR Pipet Tips for Micro Volume Pipettors

Our pipet tips for small volumes are molded in precision diamond polished molds from 100% medical grade polypropylene. Packaged using automated techniques, every lot of these pipet tips has been tested and found to be free of detectable nuclease.



These tips feature a fine thin capillary section at the end that is non-beveled and very flexible. This helps you dispense the last small amount of sample from your tip. Tip also has a chamfered top entry that makes it easier to mount these tips onto different brands of pipettors. Polypropylene. Graduated to show 2 µl and 10 µl. Tips and racks are autoclavable.

### 1. 10 µl pipet tips with UltraFine™ tip

Ht: 1.237"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53509-130	96 Rack	1152		\$122.51	\$931.96
53509-132	96 Rack	1152	✓	135.55	1037.60
89096-718	Next Generation Refill	1248		68.05	645.58
89096-720	Next Generation Refill	1248	✓	78.45	744.21
89368-946	Next Generation Mini Refill	576		—	165.00
53509-070	Loose	1000		47.96	367.49

Silicone in the polypropylene formulation prelubricates these tips for use with sticky DNA or other viscous materials. Allows you to set your equipment to screen out the presence of silicone. These tips have a thin capillary section at the end that is non-beveled and very flexible. This helps you dispense the very last bit of sample from your tip. Includes a chamfered top mounting area that makes it easier to mount these tips onto many different pipettor brands. Graduated to show 2 µl and 10 µl. Green polypropylene. Tips and racks are autoclavable.

### 2. 10 µl Siliconized pipet tips with UltraFine™ tip

Ht: 1.237"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53509-136	96 Rack	1152		\$122.16	\$932.86
53509-134	96 Rack	1152	✓	141.71	1082.13
53503-800	Loose	1000		54.20	415.77

These tips are longer than most 10 µl tips to allow you to reach down into 0.65 ml tubes. But unlike other extended tips, they are not so long that they introduce inaccuracy. The top mounting port features a solid ring that prevents the pipettor barrel from touching the sides of micro tubes. UltraFine™ point. In clear 100% polypropylene. Tips and racks are autoclavable. Fits most popular 10 µl pipettors.

### 3. 10 µl pipet tips with Extended Length and pipettor protection

Ht: 1.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
46620-316	96 Rack	960		\$89.46	\$686.18
46620-318	96 Rack	960	✓	125.89	961.35
89079-464	Next Generation Refill	1344		51.15	462.67
89079-466	Next Generation Refill	1344	✓	55.36	500.85
89368-948	Next Generation Mini Refill	480		—	165.00
46620-312	Loose	1000		44.70	334.88

These tips are longer than most 10µl tips to allow you to reach down into 0.65 ml tubes and multi-well plates. These tips feature a fine thin capillary section at the end that is non-beveled and very flexible. This helps you dispense the last small amount of sample from your tip. Tip also has a chamfered top entry that makes it easier to mount these tips onto different brands of pipettors. Polypropylene. Tips and racks are autoclavable. In clear 100% polypropylene. Tips and racks are autoclavable. Fits most popular 10µl pipettors.

### 4. 10 µl Extra Long pipet tips with UltraFine™ Point

Ht: 1.875"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
89368-968	96 Rack	960		\$65.00	\$640.00
89368-970	96 Rack	960	✓	67.00	669.00
89368-966	Loose	1000		29.00	285.00

These tips have a thin bevel section at the end that is very flexible. This helps you dispense the very last bit of sample from your tip. Clear polypropylene. Tips and racks are autoclavable. Graduated to show 2 µl and 10 µl.

### 5. 10 µl pipet tips with Bevel Point™

Ht: 1.765"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
53511-680	96 Rack	960		\$111.31	\$852.05
53511-681	96 Rack	960	✓	111.82	853.87
53511-682	Loose	1000		86.30	660.59

These tips are made to fit 16 channel pipettors for filling 384 well plates. Very small but very straight tips are supplied in special heavy racks. With UltraFine™ point. In clear 100% polypropylene. Tips and racks are autoclavable.

### 6. 1-50 µl pipet tips for 16 Channel Finnpiptette pipettors

Ht: 1.295"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
37001-490	384 Rack	3840		\$1008.34	\$3849.89
37001-492	384 Rack	3840	✓	1134.04	4329.78

## Packaging Options



## LIQUID HANDLING

### VWR Pipet Tips

#### VWR Pipet Tips for Most Larger Volume Pipettors

VWR pipet tips for larger volume pipettors are precision molded in diamond polished molds from 100% medical grade polypropylene. These tips have been packaged using automated techniques. Every production lot of these pipet tips has been tested and found to be free of detectable nuclease contamination.

These tips have a fine beveled dispensing end that fits into 0.65 µl micro tubes. Longer than most other 1000 µl tips. In blue polypropylene. Tips and racks are autoclavable.

#### 1. 100-1000 µl UltraFine™ pipet tips for most 1000 µl pipettors Ht: 2.990"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
83007-378	96 Rack	576		\$56.99	\$349.55
83007-380	96 Rack	576	✓	64.93	398.12
89003-422	Stack Rack Refill	480		42.31	324.04
83007-376	Loose	1000		42.90	327.67

These tips have a fine end point that fits into 0.65 ml micro tubes. Graduations allow a visual check of pipetting accuracy. Clear polypropylene. Tips and racks are autoclavable.

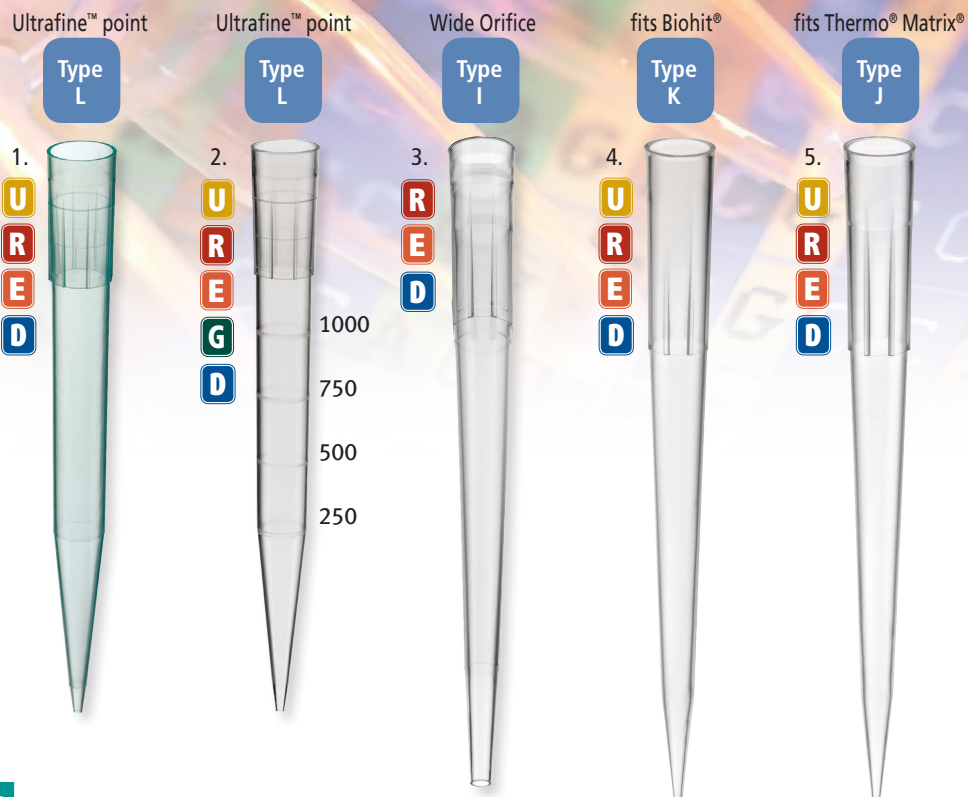
#### 2. Graduated 100-1000 µl UltraFine™ pipet tips for most 1000 µl pipettors Ht: 2.990"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
83007-384	96 Rack	576		\$56.99	\$349.55
83007-386	96 Rack	576	✓	64.93	398.12
89003-424	Stack Rack Refill	480		42.31	324.04
83007-382	Loose	1000		42.90	327.67

Extra-wide opening allows you to use these tips to pipette macrophages or sticky DNA materials. Designed with flexible tops to fit even older pipettor barrels. Available in clear polypropylene. Tips and racks are autoclavable.

#### 3. 100-1250 µl Wide Orifice tips for most 1000-1250 µl pipettors Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89049-164	96 Rack	576		\$62.81	\$437.00
89049-166	96 Rack	576	✓	68.04	473.61
89079-468	Next Generation Refill	480		30.62	234.20
89049-162	Loose	1000		41.68	345.61



These tips have a fine end point that fits into small micro tubes and deep well plates. Extra length gives you more head room above the sample so you don't have to worry about contaminating the pipettor barrel. Clear polypropylene. Tips and racks are autoclavable.

#### 4. 100-1200 µl pipet tips with UltraFine™ point for Biohit® pipettors Ht: 3.500" • Max Fill: 100-1200

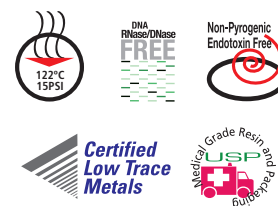
Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53508-912	96 Rack	576		\$92.15	\$562.93
53508-910	96 Rack	576	✓	101.77	621.66
53508-906	Loose	1000		104.68	799.37

These tips have a fine end point that fits into small micro tubes and deep well plates. Extra length gives you more head room above the sample so you don't have to worry about contaminating the pipettor barrel. Clear polypropylene. Tips and racks are autoclavable.

#### 5. 100-1250 µl pipet tips with UltraFine™ point for Matrix® Impact2® pipettors

Ht: 3.500" • Max Fill: 100-1250 • Extra length


Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
53503-272	96 Rack	576		\$92.15	\$562.93
53508-904	96 Rack	576	✓	98.81	603.57
53508-914	Loose	1000		104.68	799.37



#### Packaging Options




**Type Q**

1. 

**D**  
**U**  
**R**  
**E**  
**L**


**Type R**

2. 

**D**  
**U**  
**R**  
**E**  
**G**  
**L**


200 µl  
100 µl  
50 µl  
10 µl

**Type S**


3. 

**D**  
**U**  
**R**  
**E**  
**L**

**Type AF13**


4. 



**Type AF11**

5. 

200 µl  
100 µl  
50 µl  
10 µl

**Type AF12**

6. 

**VWR Pipet Tips for Rainin® LTS™ Pipettors**

These tips fit the Lite Touch® pipettors from Rainin®. Made of clear pretested polypropylene resin and lot certified pure and free of human DNA, DNase, RNase, endotoxin and heavy metals. These tips bring the higher quality and performance of VWR products to ergonomic pipetting.

*Aerosol filter tips for LTS style pipettors are also shown on pages 29, 30 and 32.*

*Low Retention tips for LTS style pipettors shown on pages 49 and 50.*

*Tips are actual size. Refer to pgs. 70-79 to see which tips fit your pipettors.*

*See pg. 55 for definitions of alphabetical symbols that appear next to tip photos.*

### 1. VWR 20 µl Tips for L-2, L-20, RL-2, RL-10, RL-20 pipettors

Ht: 1.900"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
83009-694	96 Rack	960		\$90.33	\$693.00
83009-696	96 Rack	960	✓	101.11	767.40
89495-424	192 Rack	960		69.00	660.00
89495-426	192 Rack	960	✓	79.00	739.00
89495-432	192 Stack Rack	960		45.00	439.00
89079-436	Next Generation Refill	1056		43.99	364.80
89079-438	Next Generation Refill	1056	✓	48.43	401.34
89368-956	Next Generation Mini Refill	480		—	195.00
83009-698	Loose	1000		64.54	493.41

### 2. VWR 250 µl Tips for L-100, RL-100, RL-200 pipettors

Ht: 2.020"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
37001-596	96 Rack	960		\$103.52	\$790.77
37001-598	96 Rack	960	✓	115.50	885.54
89495-428	192 Rack	960		69.00	669.00
89495-430	192 Rack	960	✓	79.00	739.00
89495-434	192 Stack Rack	960		45.00	439.00
89079-448	Next Generation Refill	960		39.99	331.52
89079-450	Next Generation Refill	960	✓	44.40	367.96
89368-958	Next Generation Mini Refill	480		—	195.00
37001-600	Loose	1000		66.65	507.86

### 3. VWR 1000 µl Tips for L-1000, RL-1000 pipettors

Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
37001-604	96 Rack	576		\$86.52	\$528.01
37001-606	96 Rack	576	✓	94.08	574.08
89079-452	Next Generation Refill	480		30.40	215.83
89079-454	Next Generation Refill	480	✓	33.03	252.52
37001-608	Loose	1000		102.63	783.30

† Cs/ 8 Pks

### 4. 1-20 µl Aerosol Tip for L-2, L-20, RL-2, RL-10, RL-20

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
83009-688	96 Rack	960	✓	\$179.20	\$1376.92
89201-526	Next Generation Refill	960	✓	108.70	537.68

Ht: 1.900"

† Cs/5 Pks

### 5. 1-200 µl Aerosol Tip for L-100, RL-100, RL-200

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pk
82003-196	96 Rack	960	✓	\$189.43	\$1451.19
89201-528	Next Generation Refill	960	✓	107.75	533.02

Ht: 2.020" • Max fill: 217.0 µl

† Cs/5 Pks

### 6. 100-1000 µl Aerosol Tip for L-1000, RL-1000

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/8Pk
82003-198	96 Rack	576	✓	\$139.74	\$852.75
89201-530	Next Generation Refill	960	✓	109.02	322.60

Ht: 3.500" • Max fill: 1016.0 µl

† Cs/3 Pks

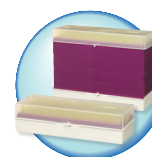
### Packaging Options



Loose



96 Rack



192 Rack  
192 Stack Rack



Next Generation  
Refills



## LIQUID HANDLING

### VWR Pipet Tips

#### VWR Macro Volume Pipet Tips

These tips are designed to fit macro volume pipettors. 100% polypropylene. Autoclavable.



These tips are designed to fit macro volume pipettors. 100% polypropylene. Autoclavable. In resealable bags and our exclusive composite racks.



VWR Macro tip racks feature fiber cartons with plastic platforms making them easy to recycle.

*Tips are actual size. Refer to pgs. 70-79 to see which tips fit your pipettors.*

*See pg. 55 for definitions of alphabetical symbols that appear next to tip photos.*

1. Clear polypropylene. Graduated. Tips are autoclavable.  
**1-5 ml Graduated Macro pipet tips for Biohit® and Eppendorf® Pipettors.** Ht: 4.844"
2. Clear polypropylene. Graduated. Tips are autoclavable.  
**1-5 ml Graduated Macro pipet tips for Macro Pipettors.** Ht: 4.844"
3. Designed to work with most popular large volume pipettors. Clear polypropylene. Tips are autoclavable.  
**1-5 ml pipet tips for Macro Pipettors.** Ht: 5.680"
4. Clear polypropylene. Tips are autoclavable.  
**5-10 ml pipet tips for Macro Volume Pipettors.** Ht: 6.130"

Type W  
1. R  
E  
G



Type O  
2. R  
E  
G



Type X  
3. R  
E  
D



Type Y  
4. R  
E  
D



Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
82018-840	Loose	250		\$43.80	\$336.15
89368-986	Rack	49		23.00	134.00 †
89368-988	Rack	49	✓	25.00	149.00 †

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
82018-842	Loose	250		\$42.21	\$322.46
89368-982	Rack	49		23.00	134.00 †
89368-984	Rack	49	✓	25.00	149.00 †

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89087-530	Loose	250		\$38.11	\$290.56
89368-990	Rack	49		20.00	119.00 †
89368-992	Rack	49	✓	23.00	134.00 †

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89087-532	Loose	250		\$78.08	\$275.54
89368-994	Rack	36		20.00	119.00 †
89368-996	Rack	36	✓	23.23	135.34 †

† Cs/6 Pks

#### Packaging Options



Loose



Composite Rack



## VWR Next Generation Pipet Tip Refills

Here is a quick and handy reference to all the Next Generation Refills and Filter Tip Refills listed on the previous pages.

Tips are not shown to scale. See pages 59, 62-67 for more complete information on individual tips.

### 1. 10 µl pipet tips with UltraFine™ tip

Ht: 1.237"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89096-718	Next Generation Refill	1248		\$68.05	\$645.58
89096-720	Next Generation Refill	1248	✓	78.45	744.21
89368-946	Next Generation Mini Refill	576		—	165.00
89201-512	Next Generation Filter Tip Refill	960	✓	108.70	537.68 <sup>†</sup>

<sup>†</sup> Cs/5 Pks

### 2. VWR 20 µl tips for L-2, L-20, RL-2, RL-10, RL-20 pipettors

Ht: 1.900"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-436	Next Generation Refill	1056		\$43.99	\$364.80
89079-438	Next Generation Refill	1056	✓	48.43	401.34
89368-956	Next Generation Mini Refill	480		—	195.00
89201-526	Next Generation Filter Tip Refill	960	✓	108.70	537.68 <sup>†</sup>

<sup>†</sup> Cs/5 Pks

### 3. 100 µl Bevel Point™ pipet tips for Eppendorf® pipettors, Yellow

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-462	Next Generation Refill	960		\$42.37	\$349.93

### 4. 100-1250 µl Wide Orifice tips for most 1000-1250 µl pipettors

Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-468	Next Generation Refill	480		\$30.62	\$234.20

### 5. 200 µl Bevel Point™ pipet tips, Yellow

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-458	Next Generation Refill	960		\$41.21	\$314.14
89079-460	Next Generation Refill	960	✓	42.37	349.93
89368-950	Next Generation Mini Refill	480		—	149.00

### 6. 200 µl Bevel Point™ pipet tips, Clear

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-474	Next Generation Refill	960		\$41.21	\$314.14

### 7. Clear Graduated 200 µl Bevel Point™ pipet tips

Ht: 1.955"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-478	Next Generation Refill	960		\$39.99	\$331.52
89079-480	Next Generation Refill	960	✓	44.40	367.96
89368-952	Next Generation Mini Refill	480		—	165.00

### 8. 200 µl Wide Orifice Bevel Point™ pipet tips

Ht: 1.955" • Orifice: 0.057"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-456	Next Generation Refill	960		\$42.37	\$349.93

### 9. 250 µl pipet tips with UltraFine™ Point

Ht: 2.050"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-482	Next Generation Refill	960		\$42.37	\$349.93

### 10. VWR 200 µl tips for L-100, RL-100, RL-200 pipettors

Ht: 2.020"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-448	Next Generation Refill	960		\$39.99	\$331.52
89079-450	Next Generation Refill	960	✓	44.40	367.96
89368-958	Next Generation Mini Refill	480		—	195.00
89201-528	Next Generation Filter Tip Refill	960	✓	107.75	533.02 <sup>†</sup>

<sup>†</sup> Cs/5 Pks

### 11. VWR 1000 µl tips for L-1000, RL-1000 pipettors

Ht: 3.500"

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Cs/10Pks
89079-452	Next Generation Refill	480		\$30.40	\$215.83
89079-454	Next Generation Refill	480	✓	33.03	252.52
89201-530	Next Generation Filter Tip Refill	768	✓	109.02	322.60 <sup>†</sup>

<sup>†</sup> Cs/3 Pks

## Packaging Options





## LIQUID HANDLING

### Pipet Tips Compatibility Chart - VWR®, BRANDTECH®

#### POPULAR PIPETTOR BRANDS



		V W R®					
		Calibra	Digital	Ultra High Performance and Ergonomic High Performance		Signature Electronic	
		Channels	Channels	Channels		Channels	
		1	8, 12	1	8, 12	1	8, 12
Page/Tip Type		Pipet Tips					
65	<b>A</b>		0.5-10	0.2-2, 0.5-10	0.5-10	0.5-10	0.5-10
65	<b>B</b>	0.2-2, 1-10					
58	<b>U</b>					2-20	2-20
58,62,63,66	<b>C</b>	10-100, 20-200	2-20, 10-100, 20-200	2-20, 5-50, 10-100, 20-200	5-50, 10-200, 20-200	10-200	10-200
64	<b>E</b>	10-100, 20-200	10-100, 20-200			10-200	10-200
64	<b>F</b>	10-100, 20-200	20-200				
58,64	<b>G</b>		50-300	50-250	50-300		
63	<b>H</b>	10-100, 20-200	2-20, 10-100, 20-200	10-100, 20-200	20-200	10-200	10-200
66	<b>L</b>			100-1000			
58,66	<b>I</b>	100-1000	100-1000	100-1000		100-1200	100-1200
68	<b>O</b>			1000-5000			
68	<b>Y</b>			1000-10000			


		B R A N D T E C H® (B r a n d®)					
		Transferpette®		Electronic		Transferpette S®	
		Channels		Channels		Channels	
		1	8,12	1	8,12	1	8,12
Page/Tip Type		Pipet Tips					
65	<b>A</b>	0.1-1, 0.1-10	0.5-10		0.5-10	0.1-1, 0.5-10	0.5-10
65	<b>B</b>	0.5-10, 2-20	2-20	0.5-10, 2-20		2-20	
58,62,63,66	<b>C</b>	2-20, 5-50, 10-100, 20-200	2-20, 2.5-25, 5-50, 10-100, 20-200	20-200	5-100, 10-200	10-100, 20-200	5-50, 10-100, 20-200
63	<b>D</b>			20-200	5-100, 10-200	10-100, 20-200	
64	<b>E</b>	20-200	20-200	20-200		20-200	20-200
64	<b>F</b>	20-200, 25-250					
58,64	<b>G</b>	20-200, 25-250	30-300		15-300		
63	<b>H</b>	5-50, 10-100, 20-200	5-50, 10-100, 20-200	20-200	5-100, 10-200	20-200	10-100, 20-200
66	<b>L</b>	100-1000		100-1000		100-1000	100-1000
58,66	<b>I</b>	100-1000				100-1000	100-1000






POPULAR PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**

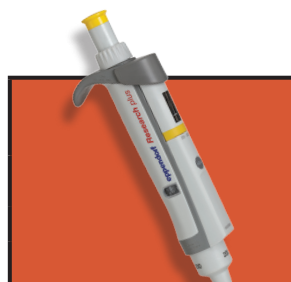
		<b>SARTORIUS® BIOHIT®</b>							
		<b>eLine®</b>		<b>Picus®</b>		<b>ePet®</b>		<b>mLine®</b>	
		<i>Channels</i>		<i>Channels</i>		<i>Channels</i>		<i>Channels</i>	
		<b>1</b>	<b>8,12</b>	<b>1</b>	<b>8,12</b>	<b>1</b>	<b>8,12</b>	<b>1</b>	<b>8,12</b>
<b>Page/Tip Type</b>		<b>Pipet Tips</b>							
65	<b>A</b>	0.2-10	0.2-10	0.2-10	0.2-10	0.2-10	0.2-10	0.1-3, 0.5-10	0.5-10
65	<b>U</b>	0.2-10	0.2-10	0.2-10	0.2-10			0.5-10	0.5-10
58,62,63,66	<b>C</b>	5-120	5-120	5-120	5-120	5-100	5-100	2-20, 10-100, 20-200	5-100
63	<b>D</b>							10-100, 20-200	
64	<b>E</b>	5-120	5-120	5-120	5-120		25-250	20-200	
58,64	<b>G</b>	10-300	5-120	10-300	5-120, 10-300		25-250	20-200	30-300
63	<b>H</b>	5-120	5-120	5-120	5-120	5-100		10-100, 20-200	5-100
66	<b>L</b>	50-1000		50-1000				100-1000	
58,66	<b>I</b>	50-1000		50-1000				100-1000	
66	<b>K</b>		50-1200		50-1200		50-1200		
68	<b>W</b>							500-5000	
68	<b>X</b>							500-5000	
68	<b>Y</b>							1000-10000	


		<b>SARTORIUS® BIOHIT®</b>					
		<b>Proline® Electronic</b>		<b>Proline®</b>		<b>Proline® Plus</b>	
		<i>Channels</i>		<i>Channels</i>		<i>Channels</i>	
		<b>1</b>	<b>8,12</b>	<b>1</b>	<b>4, 8,12</b>	<b>1</b>	<b>8, 12</b>
<b>Page/Tip Type</b>		<b>Pipet Tips</b>					
65	<b>A</b>	0.2-10	0.2-10	0.1-2.5, 0.5-10	0.5-10	0.1-3, 0.5-10	0.5-10
65	<b>U</b>					0.1-3, 0.5-10	0.5-10
58,62,63,66	<b>C</b>	5-100	5-100	2-20, 5-50, 10-100	5-50	2-20, 10-100, 20-200	10-100, 20-200
63	<b>D</b>			10-100, 20-200		10-100, 20-200	
64	<b>E</b>	5-100	5-100	20-200		20-200	
64	<b>F</b>			20-200			5-250
58,64	<b>G</b>	25-250	10-250	50-200, 50-250	50-250, 50-300	20-200, 20-300	50-250, 30-300
63	<b>H</b>	5-100		5-50, 50-200		2-20, 10-100	10-100
66	<b>L</b>	50-1000				100-1000	
58,66	<b>I</b>	50-1000		100-1000		100-1000	
66	<b>K</b>	50-1200					
68	<b>W</b>	100-5000		100-5000			
68	<b>X</b>					500-5000	
68	<b>Y</b>					1000-10000	

## LIQUID HANDLING

### Pipet Tips Compatibility Chart - EPPENDORF®, GILSON®


#### POPULAR PIPETTOR BRANDS



		E P P E N D O R F®					
		Electronic	Reference®	Research Pro®		Research®, Research Plus®, Xplorer®	
		Channels	Channels	Channels		Channels	
		1	1	1	8,12	1	8,12
Page/Tip Type		Pipet Tips					
65	<b>A</b>	0.5-10	0.1-2.5, 0.5-10	0.5-10	0.5-10	0.1-2.5*, 0.5-10	0.5-10
65	<b>B</b>	0.5-20	2-20	0.5-10	0.5-10		
58,62,63,66	<b>C</b>	5-100, 20-200	2-20, 10-100, 50-200	5-100	5-100	2-20, 10-100, 20-200	10-100
63	<b>D</b>	5-100, 20-200	2-20, 10-100, 50-200	5-100	5-100	2-20, 10-100, 20-200	10-100
64	<b>E</b>	5-100, 20-200	2-20, 10-100, 50-200	5-100	5-100	2-20, 10-100, 20-200	10-100
64	<b>F</b>	20-200				10-100, 20-200	
58,64	<b>G</b>	20-200	50-200	20-300	20-300		30-300
63	<b>H</b>	5-100, 20-200	2-20, 10-100, 5-200	5-100	5-100	2-20, 10-100, 20-200	10-100
66	<b>L</b>		100-1000	50-1000		100-1000	
58,66	<b>I</b>	50-1000	100-1000	50-1000, 50-1200		100-1000	
68	<b>W</b>			100-5000		500-5000	

\* For Research only




		G I L S O N®									
		Pipetman® Classic, G, L		Pipetman Ultra®		Neo®	Concept®		Pipetman® M		
		Channels		Channels		Channels	Channels		Channels		
		1	8	1	8, 12	1	1	8,12	1	8	
Page/Tip Type		Pipet Tips									
65	A	0.2-2, 1-10		0.2-2, 1-10		0.2-2, 1-10	0.5-10	1-10	0.5-10		
58	U	0.2-2, 1-10		0.2-2, 1-10		0.2-2, 1-10					
58,62,63,66	C	2-20, 10-200, 20-200, 50-200	1-20, 20-200	2-20, 20-100, 20-200	1-20	2-20, 20-100, 20-200	5-100	10-100	2-20	1-20, 20-200	
64	E	50-200		50-200							
58, 64	G	50-200		20-200	20-300		20-300	30-300			
63	H	10-100, 20-100, 5-200, 50-200		20-100, 20-200		20-200	5-100	10-100			
66	L	20-1000		20-1000		100-1000			100-1000		
58,66	I	20-1000		20-1000		100-1000			100-1000		
68	O	1000-5000									
68	X	1000-5000									
68	Y	1000-10000		1000-10000							



POPULAR PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**




**METTLER TOLEDO® (Rainin®)**

E-Man® Hybrid	EDP3® Plus	EDP3® with LTS		E4 XLS®		EDP1®
Channels	Channels	Channels		Channels		Channels
1	1	1	8, 12, 16, 24	8	12	1

Page/Tip Type

Pipet Tips

65	A		0.5-10					0.5-10
67	Q	0.1-2, 0.5-10, 2-20		0.5-10, 2-20	0.5-10	0.5-10, 2-20	0.5-10	
58,62,63,66	C		2-20, 10-100, 20-200					2-20, 10-100, 20-200
64	E		20-200					20-200
67	R	10-100, 20-200		5-50, 20-200	5-50, 20-200	5-50, 20-200	5-50, 20-200	
64	F		20-200					
58,64	G		20-200, 20-300					20-300
63	H		2-20, 10-100, 20-200					2-20, 10-100, 20-200
66	L		100-1000					100-1000
58,66	I		100-1000					100-1000
67	S	100-1000		100-1000	100-1000	100-1000	100-1000	

		<b>METTLER TOLEDO® (Rainin®)</b>				
		EDP1® with LTS		Pipet Lite SL®	Pipet Lite/LTS®	Pipet Plus/LTS®
		Channels		Channels	Channels	Channels
		1	8, 12, 16, 24	1	1, 8, 12	1, 8, 12
Page/Tip Type		Pipet Tips				
65	<b>A</b>			0.1-2, 0.5-10		
67	<b>Q</b>	0.5-10, 2-20	1-10, 2-20		0.1-2, 0.5-10, 2-20	0.1-2, 0.5-10, 2-20
58,62,63,66	<b>C</b>			2-20, 10-100, 20-200		
64	<b>E</b>			20-200		
67	<b>R</b>	10-100, 20-200	5-50, 20-200		10-100, 20-200	10-100, 20-200
64	<b>F</b>			20-200		
63	<b>H</b>			2-20, 10-100, 20-200		
66	<b>L</b>			100-1000		
58,66	<b>I</b>			100-1000		
68	<b>O</b>					
67	<b>S</b>	100-1000			100-1000	100-1000
68	<b>X</b>					
68	<b>Y</b>					




## LIQUID HANDLING

### Pipet Tips Compatibility Chart - THERMO®


#### POPULAR PIPETTOR BRANDS





T H E R M O® / Finnpi									
<div> <div>Page/Tip Type</div> </div>		Digital, F1®, F2®			Focus®		Novus®		
		Channels			Channels		Channels		
		1	8, 12	16	1	8,12	1	8,12	16
Pipet Tips									
65	A	0.2-2, 0.5-10	0.5-10*, 1-10**		0.3-3, 0.5-5, 1-10	1-10	1-10	1-10	
58,62,63,66	C	0.5-10, 2-20, 5-50, 10-100, 20-200	0.5-10*		1-10, 3-30, 5-50, 10-100	5-50	1-10, 5-50, 10-100	5-50	
64	E	2-20, 5-50, 10-100, 20-200	5-50						
58,64	G		50-300		30-300	30-300	30-300	30-300	
63	H	2-20, 5-50, 10-100, 20-200	5-50		1-10, 3-30, 5-50, 10-100		10-100	5-50	
66	L				100-1000		100-1000		
58,66	I	100-1000, 200-1000			100-1000		100-1000		
65	T			1-50					1-50

\* For Digital only; \*\* For F1 only

		<b>THERMO® / Matrix®</b>	
		<b>Impact® 2</b>	<b>Shorty®</b>
		<i>Channels</i>	<i>Channels</i>
		<b>1, 8</b>	<b>1</b>
<b>Page/Tip Type</b>		<b>Pipet Tips</b>	
58	<b>U</b>	12.5, 30**	12.5, 30**
58,62,63,66	<b>C</b>	2-125, 5-250	2-125, 5-250
64	<b>E</b>	5-250	5-250
64	<b>F</b>	5-250	5-250
58,64	<b>G</b>	5-250	5-250
63	<b>H</b>	2-125	2-125
66	<b>J</b>	15-1250	15-1250

\*\* Not for 16 Channel Equalizer.

POPULAR PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**

C A P P®			
Aero® Standard			
Channels			
1		8,12	
Page/Tip Type		Pipet Tips	
65	<b>A</b>	0.5-10	0.5-10
65	<b>B</b>	0.5-10	
58,62,63,66	<b>C</b>	2-20, 5-50, 10-100, 20-200	5-50, 20-200
64	<b>E</b>	20-200	20-200
58,64	<b>G</b>	50-300	30-300
63	<b>H</b>	20-200	20-200
66	<b>L</b>	100-1000	
58,66	<b>I</b>	100-1000	

C O R N I N G®				
8/12-Pette		Octapette®		Lambda®
Channels		Channels		Channels
8, 12		8		1
Page/Tip Type		Pipet Tips		
65	<b>A</b>			0.1-2.5, 0.5-10
58,62,63,66	<b>C</b>	20-200	25,50,100,200	2-20, 10-100, 20-200
64	<b>E</b>	20-200	25,50,100,200	2-20, 10-100, 20-200
64	<b>F</b>	20-200		10-100, 20-200
58,64	<b>G</b>	20-200		
63	<b>H</b>	20-200		2-20, 10-100, 20-200
58,66	<b>I</b>			100-1000

## LIQUID HANDLING

### Pipet Tips Compatibility Chart - HAMILTON®, KENDALL®, LABNET®

#### OTHER PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**

<b>HAMILTON®</b>					
		<b>Softgrip®</b>		<b>Softouch® Electronic</b>	
		<i>Channels</i>		<i>Channels</i>	
		<b>1</b>	<b>8,12</b>	<b>1</b>	<b>8,12</b>
<i>Page/Tip Type</i>		<b>Pipet Tips</b>			
65	<b>A</b>	0.2-2, 1-10		0.2-10	0.2-10
58,62,63,66	<b>C</b>	2.5-25, 10-100	5-50	5-100	
64	<b>E</b>	10-100		5-100	
64	<b>F</b>	10-100			
58,64	<b>G</b>		30-300		25-250
63	<b>H</b>	2.5-25, 10-100	5-50	5-100	
66	<b>L</b>	100-1000		50-1000	
58,66	<b>I</b>	100-1000		50-1000	


<b>KENDALL®</b>		
<b>Oxford Benchmate®</b>		
<i>Channels</i>		
<b>1</b>		
<i>Page/Tip Type</i>	<b>Pipet Tips</b>	
65	<b>A</b>	0.1-2, 0.5-10
65	<b>B</b>	0.5-10
58,62,63,66	<b>C</b>	10-100, 20-200, 40-200
64	<b>E</b>	20-200
64	<b>F</b>	20-200
58,64	<b>G</b>	20-200, 40-200
63	<b>H</b>	10-100, 20-200
58,66	<b>I</b>	200-1000
68	<b>O</b>	1000-5000


<b>LABNET®</b>						
		<b>Excel®</b>		<b>Labpette Discovery®</b>		<b>Discovery Pro®</b>
		<i>Channels</i>		<i>Channels</i>		<i>Channels</i>
		<b>1</b>	<b>8, 12</b>	<b>1</b>	<b>8, 12</b>	<b>1, 8, 12</b>
<i>Page/Tip Type</i>		<b>Pipet Tips</b>				
65	<b>A</b>	0.5-10	0.5-10	0.2-2, 0.5-10	1-10	0.2-2, 0.5-10
58	<b>U</b>	2-20	2-20			
58,62,63,66	<b>C</b>	10-100	10-100	2-20, 5-50, 10-100, 20-200	5-50, 20-200	2-20, 20-200
64	<b>E</b>	10-200	10-200			
58,64	<b>G</b>			50-250	50-300	
63	<b>H</b>	10-200	10-200	10-100, 20-200	20-200	
66	<b>L</b>			100-1000		100-1000
58,66	<b>I</b>	100-1200	100-1200	100-1000		100-1000
68	<b>O</b>			1000-5000		
68	<b>Y</b>			1000-10000		



### OTHER PIPETTOR BRANDS



	<b>METTLER®</b>	
	Multimate®	
	Channels	
	1	
Page/Tip Type	Pipet Tips	
65	A	0.1-2.5, 0.5-10
58,62,63,66	C	2-20, 10-100, 20-200
63	D	2-20, 10-100, 20-200
64	E	2-20, 10-100, 20-200
64	F	10-100, 20-200
63	H	2-20, 10-100, 20-200
58,66	I	100-1000




N I C H I R Y O®				
EX®, EX® Plus		Le®		Nichipet® 7000
Channels		Channels		Channels
1		1		8, 12
Page/Tip Type		Pipet Tips		
65	A	0.2-2, 0.5-10	0.5-10	0.5-10
65	B	0.5-10		
58,62,63,66	C	2-20, 10-100, 20-200	2-20, 10-100, 20-200	5-50, 40-200
64	E	20-200	20-200	
64	F	20-200	20-200	
58,64	G	20-200	20-200	40-200, 50-300
63	H	10-100, 20-200	10-100, 20-200	5-50, 40-200
58,66	L	100-1000	100-1000	
52,61,71	I	100-1000	100-1000	
68	X	1000-5000		


## LIQUID HANDLING


### Pipet Tips Compatibility Chart - ACCUMAX®, DRAGONLAB®, SOCOREX®

#### OTHER PIPETTOR BRANDS

µl volume  
ranges shown  
**µl**


		
A C C U M A X®		
Smart®, Accumax® Pro, A, VA-FA		
Channels		
1, 8, 12		
Page/Tip Type	Pipet Tips	
65	<b>A</b>	0.1-2.5, 0.5-10
58,62,63,66	<b>C</b>	2-20, 5-50, 10-100, 20-200, 50-200
64	<b>E</b>	20-200, 50-200
64	<b>F</b>	20-200
63	<b>H</b>	20-200


		
D R A G O N L A B®		
TopPette®, MicroPette®, MicroPette® Plus		
Channels		
1, 8, 12		
Page/Tip Type	Pipet Tips	
65	<b>A</b>	0.1-2.5, 0.5-10
58,62,63,66	<b>C</b>	2-20, 5-50, 10-100, 20-200, 50-200
64	<b>E</b>	20-200, 50-200
64	<b>F</b>	20-200
63	<b>H</b>	20-200



S O C O R E X®								
Acura® 825, Manual XS®			Acura® 835	Calibra® 822	Calibra® 825	Electro® 925	Electro® 955	
Channels			Channels	Channels	Channels	Channels	Channels	
1		8, 12	1	1	8, 12	1	8, 12	
Page/Tip Type			Pipet Tips					
65	A	0.1-2, 0.5-10				0.5-10	0.5-10	
65	B		0.5-10		0.2-2, 1-10	1-10		
58,62,63,66	C	1-10, 2-20, 5-50, 10-100, 20-200	5-50, 20-200		1-10, 2-20, 5-50, 10-100, 20-200	10-100, 20-200	2.5-50, 10-100	2.5-50
64	E	20-200			20-200	20-200	10-200	
64	F	20-200	20-200					
58,64	G		40-350		20-200	20-200		
63	H	20-200	20-200		20-200	20-200		2.5-50
66	L	100-1000			100-1000			
58,66	I	100-1000			100-1000			
68	W			500-5000				
68	X			500-5000				



			<b>POULTEN®</b>	
			Volac® Ultra Variable	
			Channels	
			1	
<b>Page/Tip Type</b>			<b>Pipet Tips</b>	
65	<b>B</b>		1-10	
58,62,63,66	<b>C</b>		5-50, 20-100, 20-200	
64	<b>E</b>		20-200	
64	<b>F</b>		20-200	
63	<b>H</b>		20-200	
58,66	<b>I</b>		100-1000	

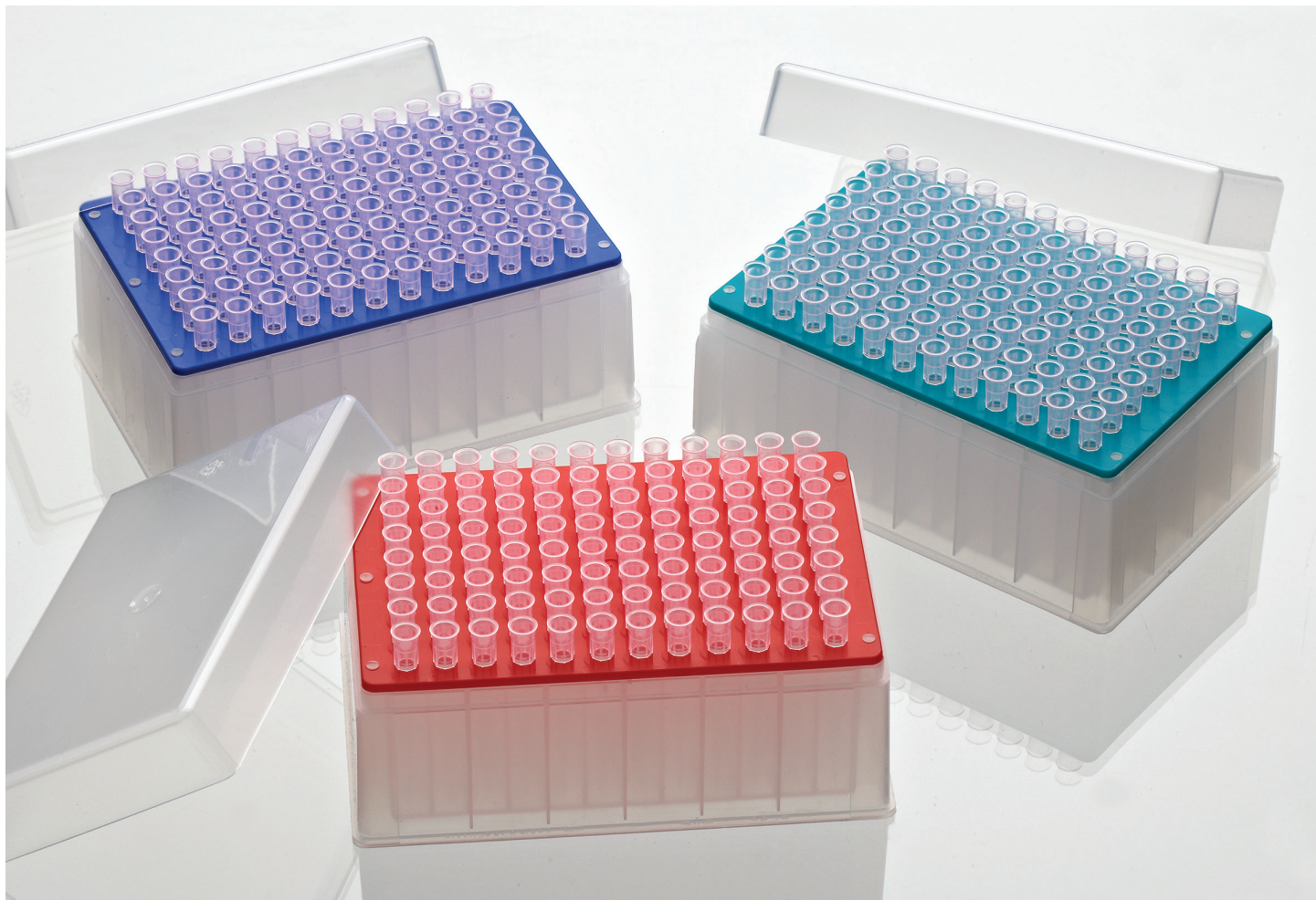
						<b>VISTALAB®</b>		
						MLA®	Ovation®	Ovation® Electronic
						Channels	Channels	Channels
						1	1	1, 8, 12
<b>Page/Tip Type</b>						<b>Pipet Tips</b>		
65	<b>A</b>			1-10	0.5-20	0.5-20		
58	<b>U</b>			0.2, 1-10	0.2-2	0.2-2		
58,62,63,66	<b>C</b>	10-50, 50-200	10-100, 20-200	2-125, 5-250	2-125, 5-250	2-125, 5-250		
64	<b>E</b>	10-50, 50-200	20-200	2-125, 5-250	2-125, 5-250	2-125, 5-250		
64	<b>F</b>	50-200						
58,64	<b>G</b>		20-200	5-250	5-250	5-250		
63	<b>H</b>	10-50, 50-200	10-100, 20-200	2-125	2-125	2-125		
66	<b>L</b>		100-1000, 201-1000*					
58,66	<b>I</b>		100-1000*	25-1250*				
68	<b>O</b>	1000-5000		100-5000				
68	<b>W</b>	1000-5000		100-5000				

\* requires Type A Nozzle Vistalab #9057-1016 100-1000µl, 25-1250µl, 201-1000µl



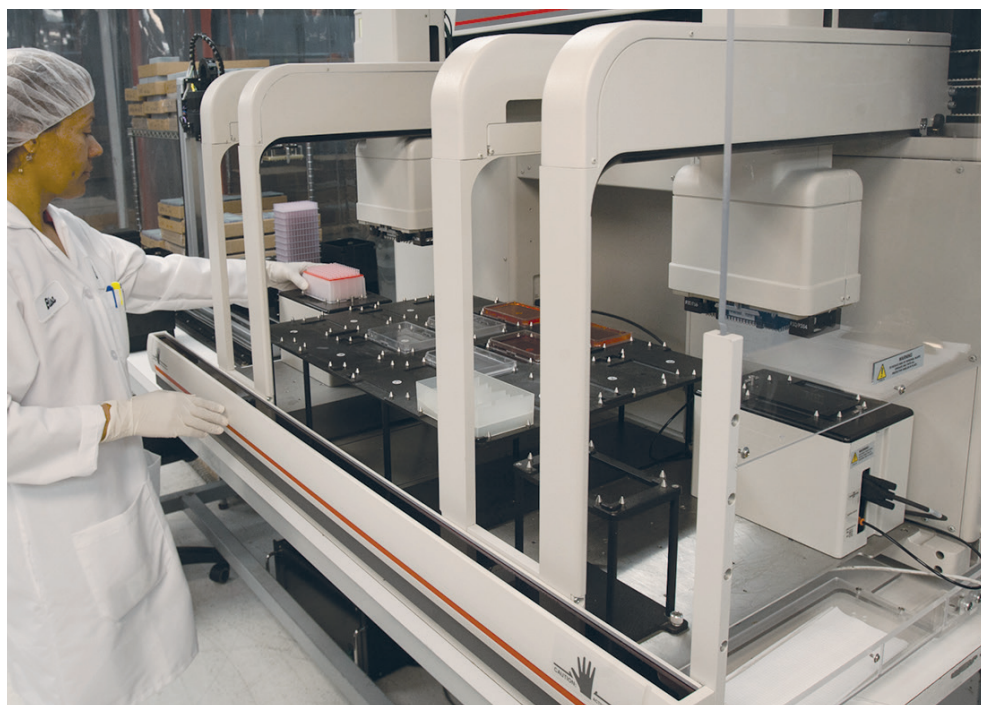
## LIQUID HANDLING

### VWR Pipet Tips for Workstations



### Robotic Pipet Tips for Workstations

- For Beckman® Workstations
- Automation Certified
- RNase/DNase Free
- Non pyrogenic
- Pre-tested medical grade resin
- Color coded racks





### Robotic Pipet Tips

VWR robotic pipet tips for Beckman® FX and NX are designed and tested to fit your workstation. Made from pure pre-tested medical grade resins to ensure the integrity of your work. Each lot is tested and certified free of RNase/DNase (Nuclease), Human DNA, and Endotoxins (non pyrogenic). Resins are pre-tested with a U.S.P. test method to ensure they are metal free and free of Oleamide and Phalates. Unlike tips sold as “pre-sterile” these tips use a validated medical grade sterilization process. So you can use these tips in diagnostics, regulated testing, and medical screening procedures.

VWR Robotic Pipet Tips are made of virgin polypropylene and furnished pre-racked in extra heavy automation grade polypropylene racks. Autoclavable.

- For Beckman® FX and NX
- Non pyrogenic, Endotoxin, Nuclease, Protease, Metal Free
- Pure medical grade resins
- Sterile (validated) and Non-sterile available
- Aerosol Filter Tip versions available

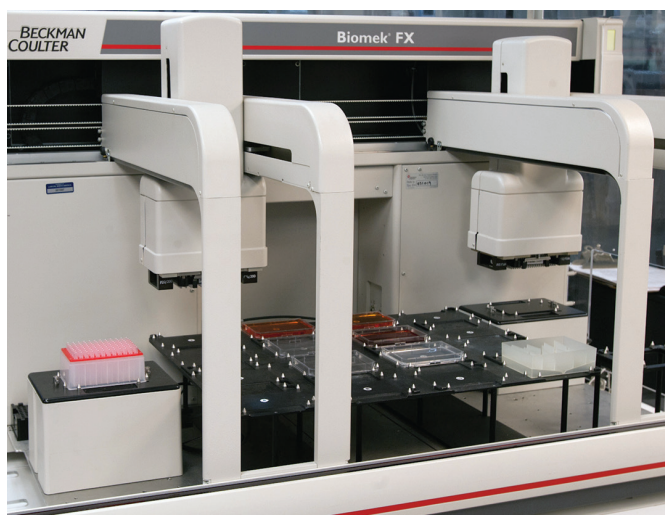


Style	Item	Package	Qty/Pk	Sterile	Price/Pk	Cs/5Pk
1.	82009-992	P30 AP384 Style, 30µL capacity	384 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs		\$767.70	\$3601.35
1.	82009-994	P30 AP384 Style, 30µL capacity	384 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs	✓	805.77	3811.02
2.	89187-860	P20 AP96 Style, 100µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs		98.33	489.23
2.	89187-862	P20 AP96 Style, 100µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs	✓	110.62	550.35
2.	89495-354	P20 AP96 Style with Aerosol Filter, 100µL capacity	96 Tips/Racks/Pkg, 5Pkg/Cs	✓	159.00	789.00
3.	89187-856	P50XL AP96 Style, 90µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs		98.33	489.23
3.	89187-858	P50XL AP96 Style, 90µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs	✓	110.62	550.35
3.	89495-356	P20 AP96 Style with Aerosol Filter, 90µL capacity	96 Tips/Racks/Pkg, 5Pkg/Cs	✓	159.00	789.00
4.	89187-852	P250XL AP96 Style, 220µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs		98.33	489.23
4.	89187-854	P250XL AP96 Style, 220µL capacity	96 Tips/Rack, 10 Racks/Pkg, 5 Pkg/Cs	✓	110.62	550.35
4.	89495-358	P20 AP96 Style with Aerosol Filter, 220µL capacity	96 Tips/Racks/Pkg, 5Pkg/Cs	✓	159.00	789.00

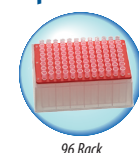
*Tips are actual size.*



Every lot of tips are meticulously tested and inspected.



**Packaging Options**



96 Rack



## MOLECULAR BIOLOGY

### VWR PCR\* Disposables



Our disposables for PCR\* are not only tested to preclude the presence of RNase and DNase. Every lot is lab tested to ensure there is no Human DNA on any of the thermocycling supplies we offer you. And since we operate our own microbiology lab we use our plates, strips, and tubes to test and validate all of our products. So consistency is not only important to you, it is important to us.

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.





VWR PCR\* tubes, strips and plates are designed to fit many popular thermocyclers including brands like Applied Biosystems®, Eppendorf®, Thermo Scientific®, and Bio Rad®. All our PCR\* disposables are made from 100% virgin polypropylene and are lot tested and certified to be free of RNase, DNase, and Human DNA. Autoclavable. PCR\* Workstation, see page 92.



**0.2 ml PCR\* Tubes with Attached Bubble Caps**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-010	Natural	1000	\$99.00	\$761.34



**0.2 ml PCR\* Tubes with Attached Flat Caps**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-012	Natural	1000	\$100.23	\$773.15



**0.2 ml Strips with 8 wells with Individually Attached Bubble Caps**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
53509-304	Natural	120	\$304.05	\$2338.84



**0.2 ml PCR\* Strips with Attached Bubble Caps**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-606	Natural	125	\$191.01	\$1467.95



**0.2 ml PCR\* Strips with 8 wells**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-002	Natural	125	\$231.07	\$1768.27



**0.2 ml PCR\* Strips with 12 wells**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
53509-300	Natural	80	\$182.77	\$1410.98

7



8



**0.2 ml PCR\* Strips and Bubble Strip Caps in convenience packaging**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-004	0.2 ml Strips with 8 wells, separate caps. Natural, caps in separate bag.	125	\$178.72	\$1376.83
53509-306	0.2 ml Strips with 12 wells, separate caps. Natural, caps in separate bag.	80	215.37	1614.37



**Bubble Strip Caps for PCR\* Strips**

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
20170-000	Strip Caps for 8 wells, Natural	125	\$52.53	\$402.64
53509-302	Strip Caps for 12 wells, Natural	125	84.18	646.15

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.

See Compatibility Charts on page 84-85.

# MOLECULAR BIOLOGY

## VWR PCR\* Disposables Compatibility Chart

Numbers relate to PCR products on p. 83-88,  
and to Real Time PCR products on p. 89.

- ▼ = Real Time PCR products
- = Genetic Analyzer products

Thermocycler Brand		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	16	16	17	17	18	19	20	21	22	23	24
BECKMAN COULTER	CEQ									◆																		
	Exicycler																▼											
BIONEER	Genecycler	◆	◆																									
	Icycler	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							◆					
	PTC-100	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆													
	PTC-200	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆													
	PTC-225	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆													
	MJ Mini	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	MyCycler	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	DNA Engine	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	DNA Engine Dyad	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	DNA Engine Tetrad	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	C1000	◆	◆	◆							◆			◆	◆								◆					
	S1000	◆	◆	◆						◆	◆			◆	◆								◆					
	Opticon, Opticon 2										▼			▼	▼					▼	▼							
	Chromo-4										▼			▼	▼					▼	▼							
	CFX96													▼	▼													
	CFX384													▼	▼													
	Base													●														
EPPENDORF	Mastercycler	◆	◆																									
	Mastercycler Personal	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			◆														
	Mastercycler Gradient	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			◆														
	ep Gradient									◆																		
	ep Gradient S									◆																		
	ep 384														◆													
	EP Realplex, 2, 25, 4, 4s	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			◆									◆					
	Mastercycler Nexus	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			◆														
	Mastercycler Pro	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
GE HEALTHCARE (Amersham)	MegaBACE 1000													●														
	MegaBACE 4000													●														
G-STORM	GS1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
	GS2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
	GS4	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
	GS482	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
ERICOMP	Singleblock	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆										◆					
	Twinblock	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆										◆					
	Deltacycler	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆										◆					
	Deltacycler II	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆										◆					
	Powerblock	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆													
APPLIED BIOSYSTEMS/ (Life Technologies)	2400	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	2700	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										◆					
	2720	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆												◆					
	3100																						◆					
	3130																						◆					
	3700									▼			▼										◆					
	3730																						◆					
	7000																	▼	▼				◆					
	7700									▼			▼					▼	▼				◆					
	7900HT									▼			▼			▼		▼	▼				◆					
	7300									▼			▼			▼		▼	▼				◆					
	7500									▼			▼			▼		▼	▼				◆					
	7500 Fast									▼			▼			▼		▼	▼				◆					
	Step One																								▼	▼		
	Step One Plus																								▼	▼		
	9600	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆			◆								◆					
	9700	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆		◆								◆					◆
	Veriti 96 Well 0.2ml	◆	◆	◆	◆	◆	◆	◆	◆			◆																
	Dual 384														◆													◆
	Prism 310									▼			▼	▼									▼					
	Prism 3100									▼			▼	▼									▼					
	3130 XL									▼			▼	▼									▼					
	3700									▼			▼	▼		▼												
	Prism 3730 XL									▼			▼	▼														
ROCHE	Lightcycler																						◆					

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.

Brand and model names may be trademarks or registered trademarks of the manufacturers or suppliers shown.



Numbers relate to PCR products on p. 83-88,  
and to Real Time PCR products on p. 89.

- ▼ = Real Time PCR products
- = Genetic Analyzer products

Thermocycler Brand		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	16	16	17	17	18	19	20	21	22	23	24
PEQLAB	Primus 25		◆																									
	PegStar 96 Universal		◆							◆	◆																	
	PegStar 96 Universal Gradient		◆							◆	◆																	
	PegStar 96 HPL		◆							◆	◆																	
	PegStar 96 HPL Gradient		◆							◆	◆																	
	PegStar 384 HPL															◆												
QIAGEN (corbett)	PalmCycler 96										◆			◆									◆					
	PalmCycler 384														◆													
	Rotorgene																									◆		
EUROFINS MWG	Primus 25	◆	◆																									
	Primus 96	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆									◆					
	Primus 384															◆												
EUROFINS OPERON	OPR-PCR96	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆															
APPLIGENE ONCOR	Crocodile III	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆															
AGILENT STRATAGENE	Robocycler 96	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆		◆													
	Robocycler Gradient	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆															
	MX3000									◆	◆		◆	◆														
	MX4000									◆	◆		◆	◆														
THERMO LABLINE	Surecycler 8800		◆											◆														
	212	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	214	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	225													◆														
	226	◆	◆	◆	◆																							
TAKARA	227	◆	◆	◆	◆					◆	◆																	
	TP-240	◆	◆																									
TECHNE	TP-3000	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆									◆				
	Techgene	◆	◆																									
	Touchgene	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆									◆					
	Cyclogene										◆		◆	◆										◆				
	Flexigene	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆							◆					
	Genius	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆									◆					
	Genius Quad	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆									◆					
	Prime	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆							◆					
	PrimeG	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆									◆					
	Prime Elite	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆							◆					
	Prime Elite Satellite	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆							◆					
	3PrimeX	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	3PrimeG	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	3Prime	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	TC-PLUS	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆			◆												
	TC-Plus Satellite	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆		◆													
	THERMO HYBAID	Quantica										▼		▼		▼							▼	▼				
PCR Sprint				◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆							◆					
PCR Express		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆							◆					
PxE										◆	◆		◆	◆	◆	◆							◆					
Omnigene										◆	◆		◆	◆	◆	◆							◆					
MultiBlock										◆	◆		◆	◆	◆	◆							◆					
THERMO SCIENTIFIC	OMN-E	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆							◆					
	Touchdown	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆							◆					
ANALYTICA JENA/BIOMETRA	Arktik	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆				◆													
	Pico		◆								◆											▼						
	Uno	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆														
	Uno II	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆														
	T1Personal Cycler	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			◆														
	T1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆								◆					
	T1Plus	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆													
	T3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																	
	Tgradient	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆							◆					
	Trobot										◆		◆	◆	◆								◆					
	TOptical										◆																	
	TProfessional	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆										▼		▼				▼	
	TProfessional Standard	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆											▼	▼					
	TProfessional Basic	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆											▼	▼					
	TPersonal	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆											▼	▼					
Flexcycler	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆											▼	▼						
Speedcycler2		◆								◆	◆				◆						▼	▼						

The information on these charts is believed to be true at the time of printing. However, instrument manufacturers routinely modify the designs of their products without notice. Please test the items above with the instrument shown before use.

Brand and model names may be trademarks or registered trademarks of the manufacturers or suppliers shown.



## MOLECULAR BIOLOGY

### VWR PCR\* Disposables

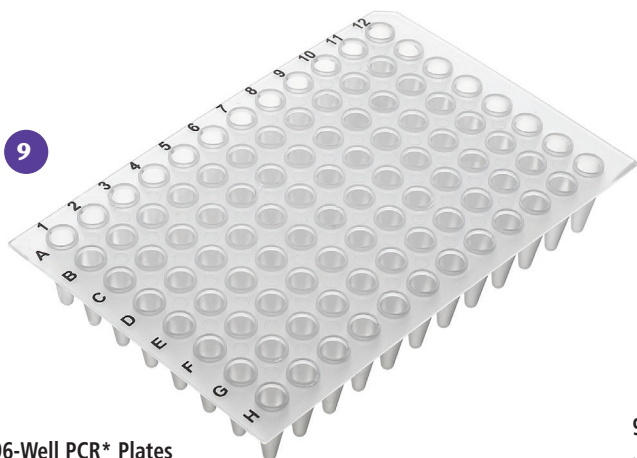
#### DNA tested



#### PCR\* Plates

Our 96 0.2 ml well PCR\* plates are available in styles to fit most popular thermocyclers including VWR, Applied Biosystems® 9600 and 9700, Bio Rad® 1000 Series and others. Autoclavable. Lot tested and certified free of RNase, ATP, DNase and Human DNA. Polypropylene.

9

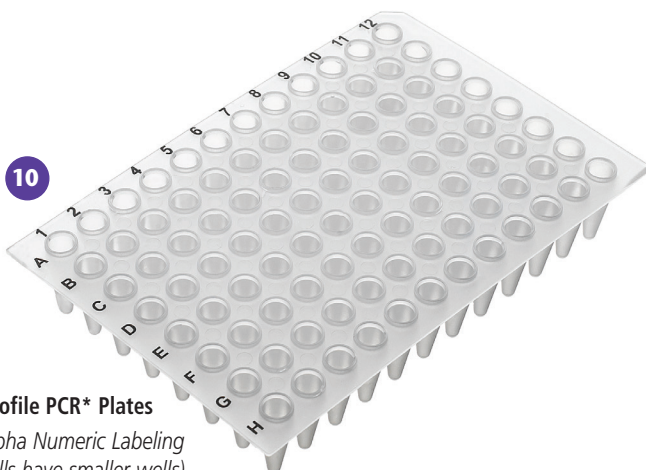


#### 96-Well PCR\* Plates

with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-636	Natural	10	\$87.81	\$679.68

10

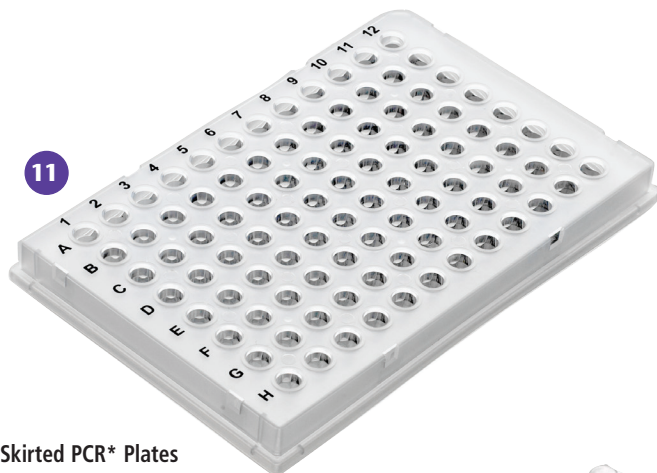


#### 96-Well Low Profile PCR\* Plates

with printed Alpha Numeric Labeling  
(Low profile wells have smaller wells)

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-650	Natural	20	\$121.37	\$578.53

11



#### 96-Well Skirted PCR\* Plates

with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-704	Natural	10	\$87.16	\$673.54
89218-292	with Barcode	10	48.21	481.99

14

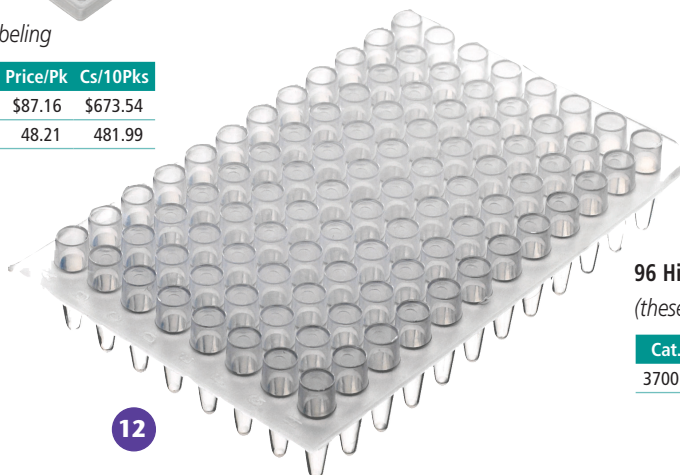


#### 96-Well Half Skirt PCR\* Plates

for ABI® style thermocyclers

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89049-178	Natural	10	\$41.11	\$315.40

12



#### 96 High Well PCR\* Plates

(these can be sealed with strip caps on page 19)

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
37001-272	Natural	10	\$89.14	\$690.58

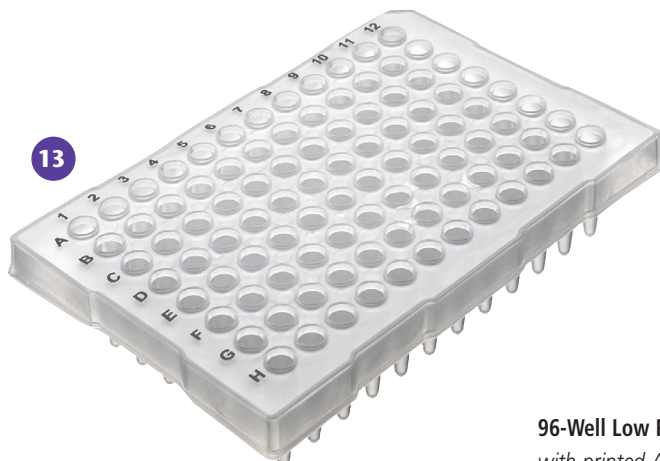
\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.



**DNA tested**



13



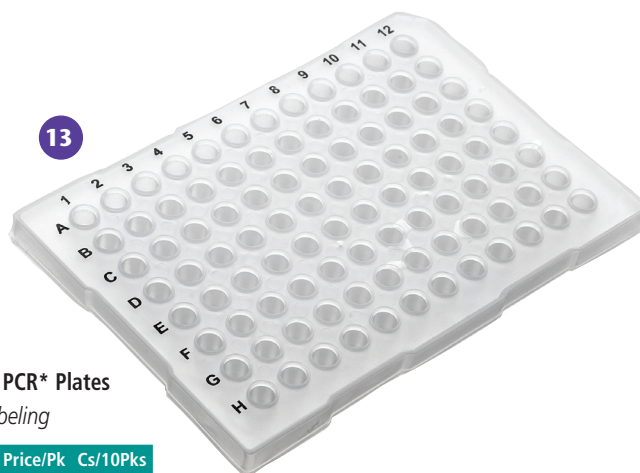
**96-Well Half Skirt PCR\* Plates**  
with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
83007-374	Natural	10	\$65.63	\$505.58

**96-Well Low Profile Half Skirt PCR\* Plates**  
with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-664	Natural	10	\$89.14	\$690.58

13



13



**96-Well Half Skirt PCR\* Plates, Raised Lip**  
with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
93001-100	Natural	10	\$85.28	\$654.64



Barcoded plates are available incorporating unique numbers.

20



**96-Well PCR\* Plates for Roche® Lightcycler® 480**  
with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89218-298	Natural	10	\$53.83	\$538.24

21



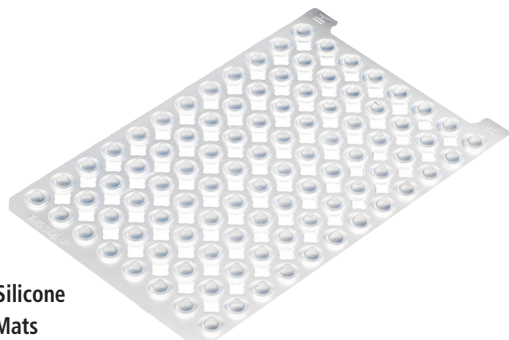
**96-Well PCR\* Plates for ABI® Fast 7500**  
with printed Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89218-296	Natural	10	\$53.83	\$538.24
89218-290	with Barcode	10	48.21	481.99

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.

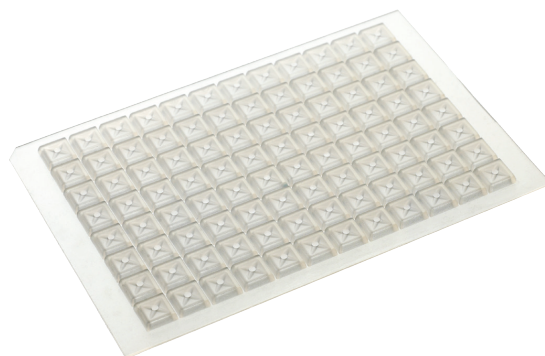


## DNA tested



96-Well Silicone Sealing Mats

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-692	Round Wells, Natural	5	\$80.01	\$615.19



96-Well Silicone Sealing Mats

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82009-996	Square Wells, Natural	5	\$72.80	\$569.80

## PCR\* Plate Sealing Mats and Film

Sealing mats and sealing film from VWR are made to reduce evaporation when cycling plates. Reusable silicone mats fit most brands of 96-well PCR\* plates and can be cleaned and reused. Autoclavable at 122° C.

Sealing film is 3 mil polypropylene and has an adhesive backing that adheres to most PCR\* plates and has an operating temperature from -40° C to 125° C.



## 384-Well PCR\* Plates

384-well PCR\* plates are made for high throughput thermocycling applications. These plates are very flexible and skirted to allow bar coding. Each plate includes alpha numeric labeling with a frosted labeling area. Each well holds 25µl and has smooth inner walls for rapid heat transfer. Slightly raised walls seal with films or foils. Autoclavable. Made of polypropylene.

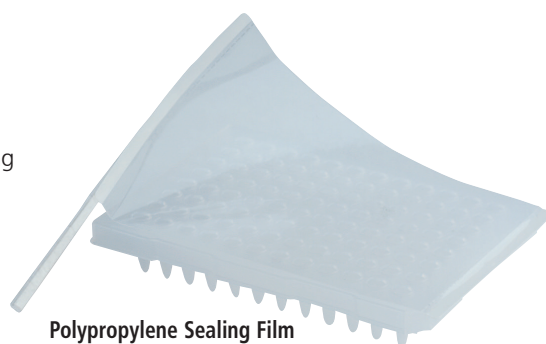
384-Well Skirted PCR\* Plates with Alpha Numeric Labeling

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-678	Natural	10	\$74.57	\$572.69
89218-288	with Barcode	10	48.21	481.99



384-Well Skirted PCR\* Plates with Alpha Numeric Labeling

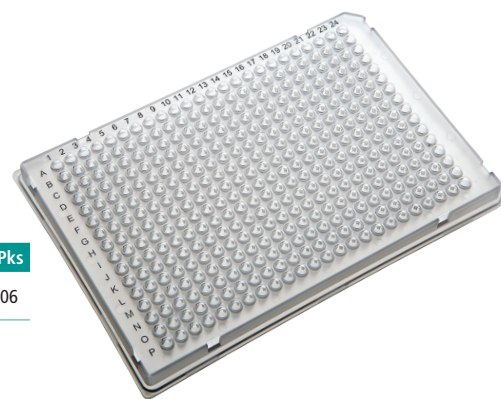
Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89218-294	for ABI® Thermocyclers	10	\$77.72	\$775.06



Polypropylene Sealing Film

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/12Pks
82018-844	Film	100	\$126.52	\$1168.20
82018-846	Sterile Film	100	202.63	1864.68

24



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## PCR\* Reaction Strips and Caps

These 4 well ultra clear reaction strips fit the Qiagen® Rotorgene®. They include 250 4 well strips and 250 separate strip caps per package. RNase/Dnase free. Made of polypropylene.

4 Well PCR\* Reaction Strips and Caps for Qiagen® RotorGene®

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89218-300	Natural	250	\$568.80	\$2275.20

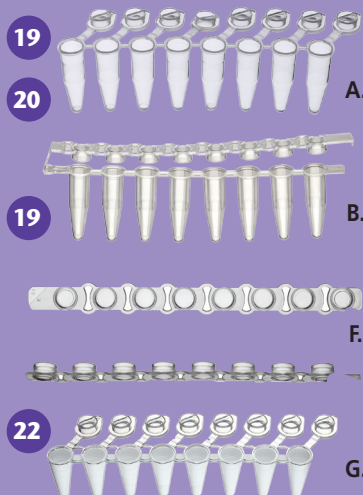
\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.





## VWR Real Time PCR\* Disposables

These disposables for Real Time PCR\* thermocycling fit major thermocyclers that require an optically clear cover or cap to ensure proper functioning. Available as strips or in either white or black plates for those machines that use fluorescence to quantify processing. Plates are available in flat, skirted or semi skirted versions with dark printed alpha numeric references. Can be sealed with strip caps. Made of polypropylene.



**A. 8-Well Strips**  
with optically clear  
flat caps

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
93001-118	0.2 ml Strip with caps	120	\$204.02	\$1542.12
93001-120	0.2 ml Low Profile Strip with caps	120	204.02	1542.12

**B. 8-Well Strips**  
with optically clear  
flat cap strip

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89096-722	0.2 ml Strips with Strip caps	125	\$166.00	\$1582.53

**C. 96-Well Flat**  
Real Time PCR\* Plates

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
83009-668	White	10	\$63.37	\$485.72
83009-666	Black	10	63.37	485.72

**D. 96-Well Semi-Skirted**  
Real Time PCR\* Plates

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
83009-676	White	10	\$63.37	\$485.72
83009-674	Black	10	63.37	485.72

**E. 96-Well Skirted**  
Real Time PCR\* Plates

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
83009-672	White	10	\$63.37	\$485.72
83009-670	Black	10	61.95	474.87

**F. Optically Clear Strip**  
Caps for Real Time PCR\*

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
83009-684	8 Strip Caps	125	\$38.06	\$291.69

**G. 8-Well Optical Real Time**  
Strips with Clear/Flat  
attached Caps and  
opaque white wells

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
89401-570	1.0mL Well Strip	125	\$144.84	\$1443.30

## Deep Well Plates and Reservoirs

These heavy deep well plates feature printed alpha numeric labeling and smooth inside surfaces to ensure that all of the sample can be pipetted. They are designed to be manipulated by robots and can be autoclaved and sealed using film or mats. Freezable -80° C.

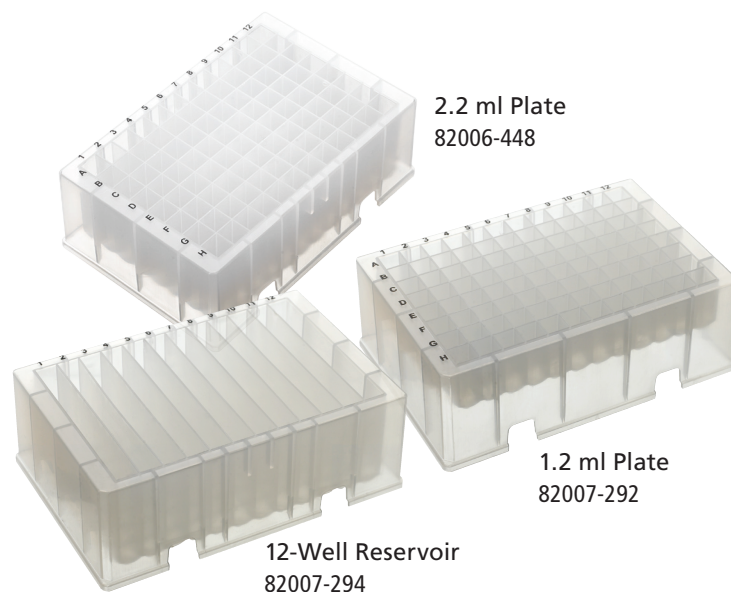


### 96-Well Polypropylene Plates

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82007-292	1.2 ml, Natural	10	—	\$583.48
82006-448	2.2 ml, Natural	10	\$74.47	572.83

### 12-Well Polypropylene Reservoir

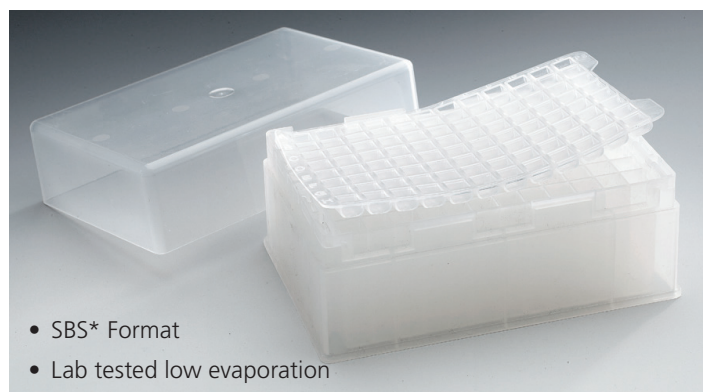
Cat. No.	Description	Qty/Pk	Price
82007-294	22 ml	20	\$138.18



2.2 ml Plate  
82006-448

1.2 ml Plate  
82007-292

12-Well Reservoir  
82007-294



- SBS\* Format
- Lab tested low evaporation

## Extra Volume 2.5 ml 96 Square Well Plate System

These square hole plates hold a full 2.5 ml\*\* (2.2 with mat in place) and work as storage plates or reservoirs. A black snap in corner marker ensures proper orientation. Openings in the plate sides permit easy removal of mats or film. A clear lift off lid is available for transport or freezer storage. The clear lid fits even with a mat in place. Lid and plate of polypropylene. Autoclavable. Freezable -80° C.

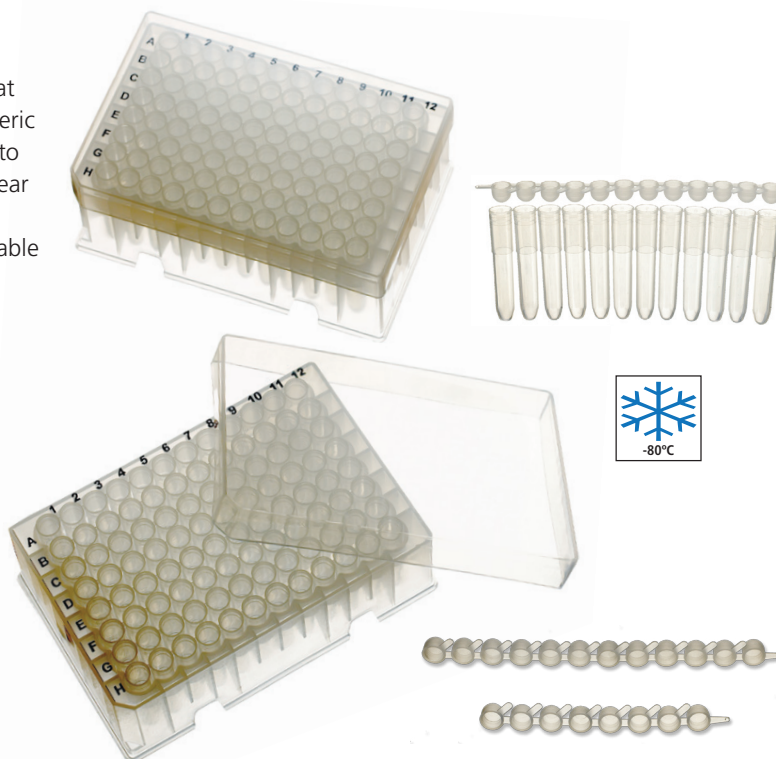
Cat. No.	Description	Qty/Pk	Price
37001-518	Reservoir	10	\$95.07
37001-520	Reservoir with Lid	10	141.60

- \* Society for Biomolecular Screening  
\*\* 2.2 ml with silicone mat in place

## Sample Library Tubes

These 1.2 ml sample library tubes are supplied in a 96 tube format for storage of specimens. Each rack is printed with an alpha numeric grid that allows you to easily find a sample. The rack is designed to meet SBS standards and can be used in robotic applications. A clear snug-fit lid is included. In individual tube, 8-strip, and 12-strip formats. Racks, tubes and lid are autoclavable (122° C) and freezable (-80° C). Made of polypropylene. Separate polyethylene closure strips are available for tubes. Available sterile and non-sterile.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
82006-698	96 Individual Tubes, Racked	10	\$93.83	\$722.09
93000-040	96 Individual Tubes, Racked, Sterile	10	78.13	601.87
82006-700	96 8-Strip Tubes, Racked	10	93.96	722.23
93000-042	96 8-Strip Tubes, Racked, Sterile	10	79.77	628.33
82006-702	96 12-Strip Tubes, Racked	10	85.45	656.70
93000-044	96 12-Strip Tubes, Racked, Sterile	10	87.72	690.97
82006-694	8-Strip Tube Closures	125	36.64	281.82
93000-046	8-Strip Tube Closures, Sterile	125	35.85	275.22
82006-696	12-Strip Tube Closures	80	36.64	281.82
93000-048	12-Strip Tube Closures, Sterile	80	35.85	275.22
83009-678	Individual Tubes, Loose	1000	52.96	407.34
83009-680	8-Strip Tubes, Loose	125	55.86	428.06
83009-682	12-Strip Tubes, Loose	80	55.86	428.06



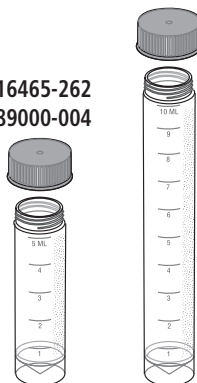




IATA 95kPA  
Certified

**16465-260**  
**89000-006**  
**16465-262**

**16465-262**  
**89000-004**



## VWR 5 ml and 10 ml Sample Tubes

Leakproof freestanding mailing tubes with screw caps feature graduations at 1 ml increments and a large frosted writing surface for convenient labeling and identification. Each tube is molded from durable polypropylene, has a conical bottom, and a wide skirted base. Polyethylene screw caps are included. Tubes are autoclavable (122° C) and lab tested and certified IATA 95kPA standard for safe shipping of samples. Available sterile in medical grade packaging. Sterilized by validated (ISO) process.

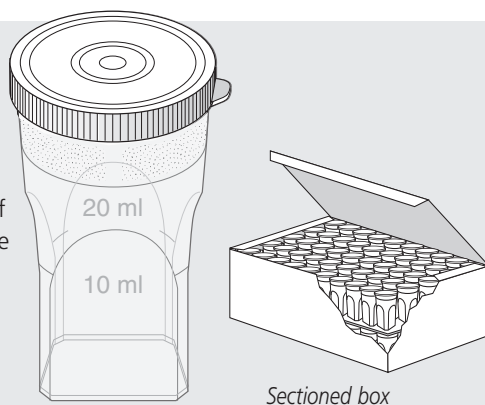


## VWR 30 ml Sample Tubes

These freestanding sample and centrifuge tubes include permanent molded graduations and easy to label white caps. Made of polypropylene. Tubes and caps are autoclavable (122° C). Sterile tubes are radiation sterilized by validated (ISO) process.

## VWR Sample Vials

Manufactured in a clean environment. Vials are particle free with an attached leak proof polyethylene cap. Vials are made from virgin polystyrene and can be used in a blood cell counter.



### 1. 5 ml and 10 ml Sample Tubes with screw cap

Polypropylene

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Price/Cs
16465-262	5 ml tube	500		\$120.86	\$181.29
89000-004	5 ml tube, 50/bag, 10 bags/case	500	✓	–	333.91
16465-260	10 ml tube	500		120.86	181.29
89000-006	10 ml tube, 50/bag, 10 bags/case	500	✓	–	333.91
16465-265	10 ml tube, 50/bag	1000		–	334.43

### 2. 30 ml Sample Tubes with screw cap

Polypropylene

Cat. No.	Package	Qty/Pk	Sterile	Price/Pk	Price/Cs
89012-782	30 ml tube, 50/bag, 10 bags/case	500		–	\$127.81
89012-778	30 ml tube, 50/bag, 10 bags/case	500	✓	–	156.42
89012-780	30 ml tube, bulk	500		–	114.87

### 3. Sample Vials

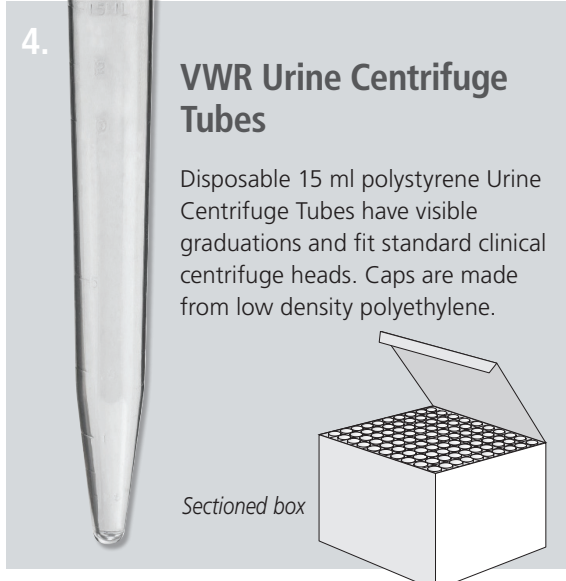
Polystyrene

Cat. No.	Package	Qty/Pk	Sterile	Price/Cs
14310-684	Vials, 144/sectioned box, 5 boxes/case	720		\$230.45

### 4. 15 ml Urine Centrifuge Tubes

Polystyrene

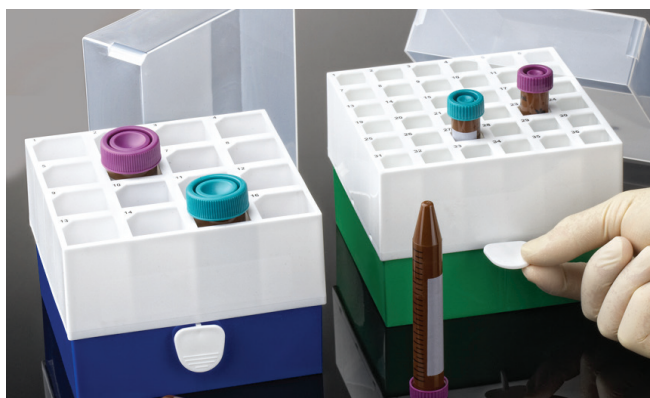
Cat. No.	Package	Qty/Pk	Sterile	Price/Cs
21008-000	Urine tube, 100/sectioned box, 10 boxes/case	1000		\$214.86
21008-035	Urine tube, 1000/bag	1000		138.53
21008-033	Urine tube, Polypropylene, 1000/bag	1000		159.39
21008-022	Cap for Urine tube, Polyethylene, 1000/case	1000		81.67





## STORAGE

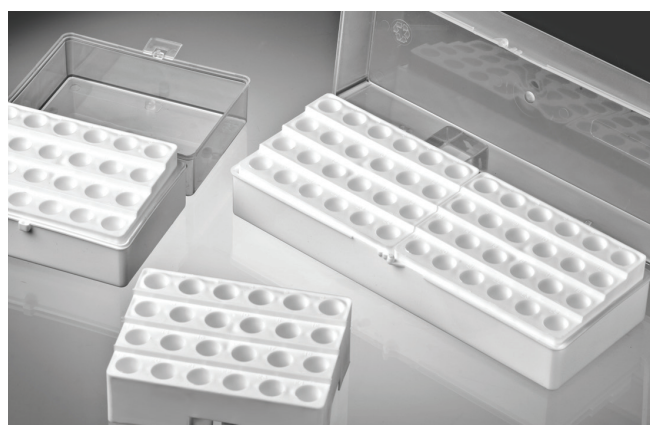
### Storage Racks



### 16-Place or 36-Place Freezer Storage Boxes for 50 ml and 15 ml Centrifuge Tubes

Designed to hold 50 ml or 15 ml VWR tubes these boxes are perfect for long term storage of frozen samples. They include a white upper body that can be easily labeled with a lab marker, a numerical reference grid, and a pull tab to make removal from storage racks easier. A clear cover is included. Made of autoclavable (122° C) polypropylene.

Cat. No.	Description	Qty/Pk	Price
82017-232	Rack, 15 ml with Lid	2	\$40.96
83009-692	Rack, 50 ml with Lid	2	40.96



### 24- & 48-Place Floating Racks

24-Place and 48-Place microcentrifuge tube and cryo-vial storage system. For 1.5 ml and 2.0 ml tubes. These racks fit into VWR pipet tip boxes and are made of recycled plastic. Fully autoclavable (122° C) and freezable (-80° C). Stackable racks float in your water bath and can incorporate dry ice for use with frozen samples on the bench.



Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
24270-200	24-Place Rack, in hinged box	10	\$49.73	\$370.74
24270-204	24-Place Rack, without box	10	22.95	164.20
24270-230	48-Place Rack, in hinged box	5	38.65	289.05
24270-240	Hinged box, without rack	5	43.97	327.80



### Reusable Racks for 50 ml and 15 ml Centrifuge Tubes

These racks are designed to hold VWR centrifuge tubes and replace the foam racks you use. Unlike foam racks they are autoclavable and will not fall apart with repeated use. They can be frozen, and they stack together to minimize storage space. Also, they have an interlocking design so you can connect more than one rack and create a handy work station. Autoclavable (122° C) and freezable (-80° C). These racks are designed for VWR centrifuge tubes, other tube brands may not fit.

#### for 15 ml tubes

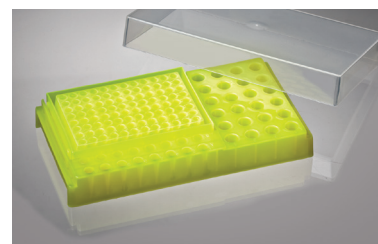
Cat. No.	Description	Qty/Pk	Price
89079-514	Natural	5	\$35.16
89079-516	White	5	35.16
89079-518	Yellow	5	35.16
89079-520	Orange	5	35.16
89079-522	Red	5	35.16
89079-524	Purple	5	35.16
89079-526	Blue	5	35.16
89079-528	Green	5	35.16
89079-530	Assorted	5	42.20

#### for 50 ml tubes

Cat. No.	Description	Qty/Pk	Price
89079-496	Natural	5	\$35.16
89079-498	White	5	35.16
89079-500	Yellow	5	35.16
89079-502	Orange	5	35.16
89079-504	Red	5	35.16
89079-506	Purple	5	35.16
89079-508	Blue	5	35.16
89079-510	Green	5	35.16
89079-512	Assorted	5	42.20



### PCR\* Workstation and Prep Rack



The VWR PCR\* Workstation is perfect for preparing samples for cycling or working with completed procedures. These racks have a separate removable 96-well rack that holds a plate or any combination of strips or tubes. Separate working wells surround the 96-well plate and accommodate 0.5, 1.5 or 2.0 ml tubes. Clear lid is included. Available in assortment pack of five colors: red, orange, yellow, green and blue. Autoclavable and freezable. Made of polypropylene. 96-well rack separates from PCR\* workstation.

Cat. No.	Description	Qty/Pk	Price
16466-026	PCR* Workstation, Assorted	5	\$65.65

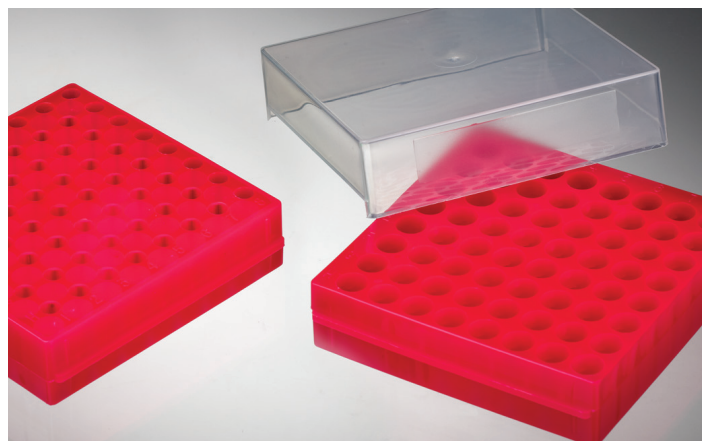
\* PCR is a patented process of Hoffman-LaRoche. Use of the PCR process requires a license.

## 64-Place Reversible Rack for Micro Tubes

A smaller version of the 96-place rack, this 64-place rack fits into popular freezer racks. Use instead of cardboard 5¼" square racks. These racks hold 0.5 ml micro tubes on one side and 1.5 ml or 2.0 ml tubes on the other side. Clear lid is included. Autoclavable and freezable. Made of polypropylene. Assorted color package includes red, orange, yellow, green, and blue.



Cat. No.	Description	Qty/Pk	Price
16466-012	64-Place Rack, Natural with Lid	5	\$72.80
16466-010	64-Place Rack, Assorted Colors with Lid	5	74.81



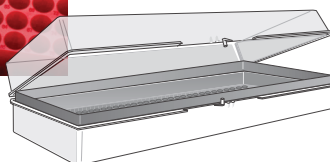
Cat. No.	Description	Qty/Pk	Price/Pk	Cs/10Pks
30128-290	Hinged Storage Box for 80-Place Racks	5	\$41.45	\$309.05

## 80-Place Racks and Storage Boxes

For use with 1.5 ml and 2.0 ml microcentrifuge tubes and 2.0 ml cryo-vials. Racks are used for bench work and the Gilson® FC-80 fraction collector. Rack and storage box are fully autoclavable (122° C) and freezable (-80° C). Made of polypropylene.



Cat. No.	Description	Qty/Pk	Price
30128-266	Natural	5	\$34.45
30128-272	Red	5	34.02
30128-270	Orange	5	34.02
30128-269	Yellow	5	34.02
30128-278	Green	5	34.02
30128-276	Blue	5	34.02
30128-274	Purple	5	34.02
30128-267	Black	5	34.02
30128-282	Assorted	5	34.71



## 96-Place Racks and Storage Boxes

For use with 0.5 ml, 1.7 ml and 2.0 ml microcentrifuge tubes and 2.0 ml cryo-vials. These double-sided racks hold 1.7 and 2.0 ml tubes on one side and 0.5 ml on the reverse side. Rack and clear lid are fully autoclavable (122° C) and freezable (-80° C). Made of polypropylene.



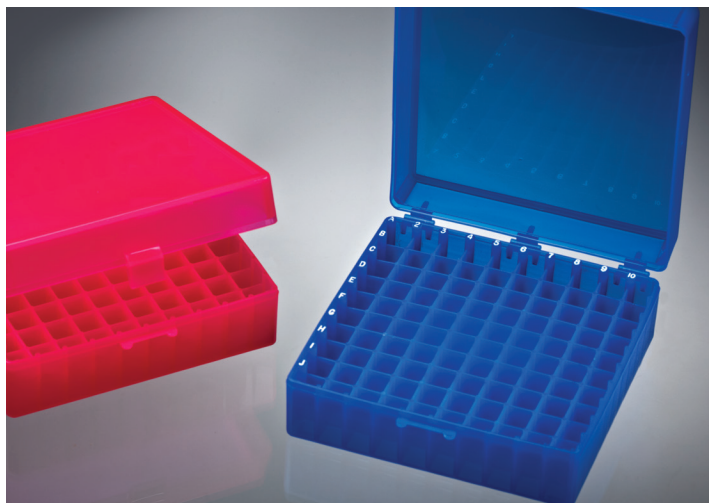
Cat. No.	Description	Qty/Pk	Price
30128-330	Natural	5	\$56.95
30128-338	Red	5	61.44
30128-336	Orange	5	61.44
30128-334	Yellow	5	61.44
30128-344	Green	5	61.44
30128-342	Blue	5	61.44
30128-340	Purple	5	61.44
30128-332	Black	5	61.44
30128-346	Assorted	5	73.17
30128-350	Cover, Clear	5	63.81





## STORAGE

### Storage Racks



### 50- or 100-Place Freezer Box with Attached Hinged Lids

These freezer boxes are designed to hold 1.5 ml and 2.0 ml tubes and some 1.2 ml cryo-vials. Convenient hinged lid and snap lock closure make these boxes very versatile in any lab. Alpha numeric labeled grid makes identifying contents simple. Indented lids can be labeled. Autoclavable. Assorted color package: red, orange, yellow, green, and blue. Made of polypropylene.

Cat. No.	Description	Qty/Pk	Price
16466-018	50-Place Freezer Box, Natural	5	\$42.94
16466-020	50-Place Freezer Box, Assorted Colors	5	44.98
16466-022	100-Place Freezer Box, Natural	5	69.81
16466-024	100-Place Freezer Box, Assorted Colors	5	73.63

### 81-Place Freezer Box with Separate Lid

This high capacity freezer box is designed to fit into existing freezer storage racks. Holds 81 x 1.5 ml or 2.0 ml microcentrifuge tubes. Labeled alpha numerically for easy identification of contents. 5¼"L x 5¼"W size replaces cardboard racks. Clear lid included. Autoclavable. Assorted color package includes red, orange, yellow, green, and blue. Made of polypropylene.

Cat. No.	Description	Qty/Pk	Price
16466-014	81-Place Freezer Box, Natural	5	\$73.63
16466-016	81-Place Freezer Box, Assorted Colors	5	71.72



### 100-Place Freezer Storage Box with Separate Lid

The VWR 100-Place Storage Box is for use with VWR and major brands of screw cap microcentrifuge tubes. This box is designed to hold 100 tubes upright and separate to provide adequate spacing for sub zero storage. Drain holes are provided in box for usage to -190° C.

5¼"L x 5¼"W x 2½"H size fits all standard storage units. Clear lid gives you a good view of samples and does not require special alignment to close. Posts next to tubes are numbered letting you locate the sample you need quickly. Stackable and autoclavable. Made of polycarbonate.

Cat. No.	Description	Qty/Pk	Qty/Pk	Price
89004-568	100-Place Storage Box	5	\$113.62	\$340.18







## VWR PCR Storage Racks

The VWR PCR\* Storage rack is perfect for storing your samples before cycling or working with completed procedures. These racks will hold tubes, strips, or plates and have a separate snap on lid. In an assortment pack of five colors: red, orange, yellow, green, and blue. Autoclavable and freezable. Made of polypropylene.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/5Pks
83009-690	PCR Storage Rack	5	\$55.43	—



## VWR Benchtop Color Change PCR Chiller

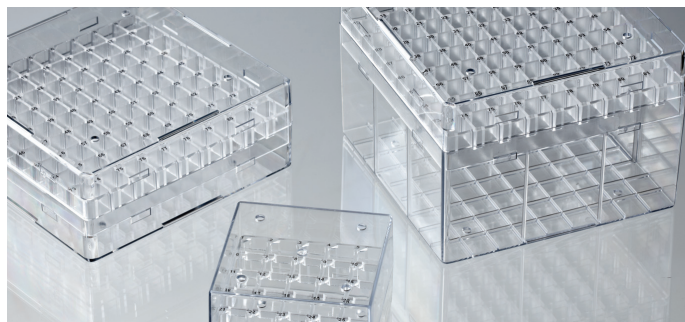
Like the VWR Benchtop chiller but designed to work with your standard PCR\* tubes, strips, and plates. These chillers change color from solid purple to pink as the cooling surface warms. This gives you a visual indication when your samples need to be returned to the freezer. Holds all major brands of PCR disposables. Includes clear lid. Made of polypropylene and thermal gel.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/5Pks
89004-570	0° PCR Chiller	2	\$145.28	\$542.57

## VWR Expandable Bench Racks

This expandable 4-part rack system holds 15 ml and 50 ml centrifuge tubes, microcentrifuge tubes, PCR\* tubes and plates, and culture tubes. You can assemble it into the configuration that works for your lab. Autoclavable (122° C) and freezable (-80° C). Includes purple, yellow, green, and blue sections.

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.



## VWR Cryo Storage Boxes

These durable polycarbonate storage boxes hold most major brands of cryo tubes and microcentrifuge tubes. They include a special labeled inner grid that lets you easily locate your stored sample even if frost covers the lid. The clear body and lid allow you to periodically assess the contents without having to remove the lid and samples. And you won't have to fumble with orienting the lids since they fit in any direction. Available in 25 place, 81 place, and 81 place tall for 5 ml cryo tubes. Autoclavable.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/4Pks
89004-562	25 Place	5	\$63.35	\$189.66
89004-564	81 Place	5	105.53	315.98
89004-566	81 Place Tall	5	137.55	410.54



## VWR Benchtop Chillers

The VWR Benchtop chiller works with 0.5, 0.65, 1.5, 1.7, and 2.0 ml micro tubes. Freeze these chillers overnight and remove them from the freezer. After about a hour they will be at the defined chilling temperature appropriate for your bench work and they will hold that temperature for up to 4 hours. Available in 0° and -20° versions. Holds 20 tubes. Made of polycarbonate and thermal gel.

Cat. No.	Description	Qty/Pk	Price/Pk	Cs/4Pks
89004-560	0° Chiller	1	\$122.16	\$369.19
89004-558	-20° Chiller	1	134.37	406.09



Cat. No.	Description	Qty/Pk	Price
89096-724	4 Part Block	1	\$65.59

## QUALITY AND COMPLIANCE



We make independently verified quality. All the VWR products in this catalog are supplied by an ISO 9001:2008 registered manufacturing facility. Every aspect of these products are quality proven from design to delivery before independent auditors every six months.



The manufacturing facility is registered by the U.S. Food and Drug Administration to manufacture medical devices.



U.S. Pharmacopeia Methods and Guidelines (U.S.P. Class VI) are used if there is an applicable standard.

We use more expensive medical grade resins instead of the more common commodity grade used in most pipet tips. We then pre-test to check for contaminating clarifying agents or molding additives before we approve them for use in the products we supply you.



The plastic resins we use are compliant with FDA CFR Title 21-177.1520, 178.3295, 178.3297 and ISO 10993-3 to ensure that they are non cytotoxic and are not harmful to cells or tissue samples.



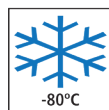
The resins used for these products have been tested for the presence of trace heavy metals and have been found to contain less than a detectable level of 1 part per million (PPM). Products shown in this catalog as Metal Free have been tested and are certified to contain less than 1 part per Billion (PPB) of common extractable metals. A separate certificate is available for these items.



Spin rates for tubes are expressed as RCF (Relative Centrifugal Force). RCF is calculated for any rotor by using the formula:  $RCF = (11.17 \times 10^{-7}) \cdot RN^2$  where R=Radius in mm from centrifuge spindle to bottom of tube and N=Speed of spindle in RPM. Always run a trial to establish the RCF for the tube you intend to use. Spin rates shown have been confirmed using distilled water. Use of organic solvents, chloroform, freeze/thaw cycles, sequential processing, or autoclaving may reduce maximum achievable spin rates.



Items listed as autoclavable can be autoclaved at 122°C for a maximum of 20 minutes at 15 P.S.I. Remember to back-off the caps of tubes to prevent collapse when autoclaving. A steam cycle should be used with the items in this catalog that are listed as autoclavable. Always air dry these items. Avoid using a dry cycle or glassware cycle as deformation can occur to plastics that are heated for extended periods.



When freezing samples in tubes remember to provide adequate spacing to allow for even cooling rates. Crowding or inadequate spacing or use of foam or other types of insulated racks that cause uneven cooling, can cause cracking or crazing. Maximum nominal freezing temperatures are shown for specific products.



Pipet tip racks are completely molded of recycled plastics. Racks are also coded for local recycling. A recycling program is available to pre-authorized participants. Please contact us for more information on how to join.



Items shown with the CE marking are compliant with CE directive 98/79 EEC for In-vitro Diagnostics.



Because the presence of nucleases, both RNase and DNase, is of great concern, we test every production lot of pipet tips, centrifuge tubes, and microtubes where noted inside. Our testing frequency is so great you can be sure these VWR products are safe and pure. All products noted are tested for the presence of DNA. Every lot of tested product is tested to a detection level of 1 picogram (pg) of Human Genomic DNA.



Those products noted are Lot tested for the presence of Adenosine Triphosphate and results show less than X10-12 mg/μl.



Every lot of the items noted in this catalog is tested to guarantee that they are free of protease contamination. This assures that these products can reliably be used in protein and proteomic research.



Following the latest U.S.P. methods we check every lot of sterile products for endotoxins before sterilization. This ensures that our extremely clean process is systematically maintained.

\* PCR\* is a patented process of Hoffman-LaRoche. Use of the PCR\* process requires a license.

# TEMPERATURE AND CHEMICAL RESISTANCE

Hi Density Polyethylene and Low Density Polyethylene have the same chemical resistance properties. Chemical resistance is shown on a sliding scale of ▲ to ◆.

high resistance ▲ ● ■ ◆ no resistance

Note: Resistance was tested at: 20° C; 60° C; 100° C., so each listing below may have more than one symbol applied.

	% CONC	PE	PP	PS
Acetic Acid (glacial)	97	◆	▲	◆
Acetic Acid	50	●	▲	◆
Acetone	100	▲	■	◆
Acetophenone	100	▲	●	◆
Aluminum chloride		▲	▲	▲
Ammonia (aqueous)		▲	▲	▲
Ammonium carbonate	satd.	▲	▲	▲
Ammonium sulphate	satd.	▲	▲	▲
Amyl acetate	100	◆	■	◆
Amyl alcohol	100	▲	●	◆
Aniline	100	■	●	◆
Aqua regia		◆	●	◆
Barium carbonate	100	▲	▲	▲
Barium chloride	satd.	▲	▲	▲
Benzaldehyde		▲	●	◆
Benzene		◆	■	◆
Benzoic acid	100	▲	▲	▲
Benzyl acetate	satd.	●	■	◆
Benzyl alcohol		▲	◆	◆
Borax	satd.	▲	▲	▲
Boric acid		▲	▲	▲
Bromine liquid	satd.	◆	◆	◆
Butyl acetate		■	■	◆
Butyl alcohol	100	▲	▲	◆
Butyric acid		●	◆	◆
Calcium chloride	satd.	▲	▲	▲
Calcium hypochlorite bleach		▲	▲	●
Carbon dioxide (wet)		▲	▲	▲
Carbon disulphide		◆	▲	◆
Castor oil		▲	▲	▲
Cetyl alcohol		▲	●	▲
Chlorine	100	◆	◆	■
Chlorobenzene		◆	◆	◆
Chloroform	100	◆	◆	◆
Chlorosulfonic acid	100	◆	◆	◆
Chromic acid	50	●	■	●
Cider		▲	▲	▲
Citric acid		▲	▲	▲
Copper sulfate	satd.	▲	▲	▲
Cottonseed oil	satd.	▲	▲	▲
Cyclohexane	satd.	▲	■	◆
Cyclohexanol		▲	●	●
Cyclohexanone	100	◆	■	◆
Decalin		■	■	◆
Detergents		▲	▲	▲
Diacetone alcohol		▲	●	■
Dibutyl phthalate		▲	▲	◆
Dichlorobenzene		●	■	◆
Diethylene glycol		▲	▲	▲
Ethanol	95	▲	▲	▲
Ethyl acetate		■	●	◆
Ethyl benzene	40	◆	◆	◆
Ethyl chloride		◆	■	◆
Ethylene glycol	100	▲	▲	▲
Formaldehyde		▲	▲	▲
Formic acid	100	▲	▲	●
Fuel oil		■	■	●
Furfural		◆	■	◆
Gasoline		◆	●	◆
Glycerine		▲	▲	▲
Heptane		◆	◆	◆
Hydrochloric acid	50	▲	▲	■
Hydrofluoric acid	40	▲	▲	●
Hydrogen peroxide		●	●	▲
Hydrogen sulfide		▲	▲	●
Hydroquinone		▲	▲	●
Iodine tincture		●	●	●
Kerosene		●	●	■
Lactic acid		▲	▲	▲
Laurel oil		▲	▲	▲
Lead acetate	100	▲	▲	▲
Linseed oil	satd.	▲	▲	▲
Magnesium carbonate		▲	▲	▲
Magnesium chloride	satd.	▲	▲	▲
Magnesium sulfate	satd.	▲	▲	▲
Mercuric chloride		▲	▲	▲

## TYPE OF PLASTIC

Minimum / Maximum  
Temperatures ° C \*

Hi Density Polyethylene (PE)	-40	+140
Low Density Polyethylene (PE)	-40	+100
Polypropylene (PP)	-80	+140
Polystyrene (PS)	-40	+90
Polycarbonate (PC)	-190	+140

	% CONC	PE	PP	PS
Mercury		▲	▲	▲
Methanol		▲	▲	▲
Methyl acetate		▲	●	◆
Methylene chloride	100	◆	■	◆
Methyl ethyl ketone	100	◆	●	◆
Methyl isobutyl ketone	100	●	■	◆
Methyl propyl ketone		●	■	◆
Mineral spirits	100	▲	▲	▲
Naphthalene	100	▲	▲	■
Nickel sulfate	satd.	▲	▲	▲
Nitric acid	satd.	▲	◆	■
Nitric acid fuming		◆	◆	■
Nitrobenzene		◆	●	◆
Octane		▲	▲	▲
Oleic acid		▲	▲	▲
Olive oil		▲	▲	▲
Oxalic acid (aqueous)		▲	▲	▲
Ozone	50	◆	◆	◆
Petroleum ether	100	◆	■	◆
Phenol (liquid)		●	■	■
Phosphoric acid	100	▲	▲	▲
Potassium bichromate		▲	▲	●
Potassium bromate	satd.	▲	▲	▲
Potassium bromide		▲	▲	▲
Potassium carbonate	1	▲	▲	▲
Potassium chloride	satd.	▲	▲	▲
Potassium chromate	satd.	▲	▲	▲
Potassium dichromate	satd.	▲	▲	●
Potassium fluoride	satd.	▲	▲	▲
Potassium hydroxide		▲	▲	▲
Potassium nitrate		▲	▲	▲
Potassium permanganate	satd.	▲	▲	▲
Potassium sulfate	satd.	▲	▲	▲
Potassium sulfide	10	▲	▲	▲
Propane		■	■	■
Propanol		▲	▲	▲
Propylene glycol		▲	◆	◆
Propylene oxide		◆	◆	◆
Pyridine		▲	●	◆
Salicylic acid		▲	▲	▲
Silicone oil		▲	▲	●
Silver nitrate		▲	▲	▲
Sodium acetate	100	▲	▲	▲
Sodium borate	satd.	▲	▲	▲
Sodium bromide oil solution	satd.	▲	▲	▲
Sodium carbonate	satd.	▲	▲	▲
Sodium chloride		▲	▲	▲
Sodium fluoride	satd.	▲	▲	▲
Sodium hydroxide	satd.	▲	▲	▲
Sodium hypochlorite	satd.	▲	●	●
Sodium nitrate	15	▲	▲	●
Sodium sulfate		▲	▲	▲
Sodium sulfide		▲	▲	▲
Sodium sulfite		▲	▲	▲
Stearic acid, (crystals)	satd.	▲	▲	▲
Sulfur	satd.	▲	▲	▲
Sulfuric acid	satd.	▲	▲	▲
Sulfuric acid	98	■	■	●
Tannic acid	10	▲	▲	▲
Tartaric acid		◆	■	◆
Tetrahydrofuran		■	■	◆
Tetralin		■	■	◆
Thionil chloride		●	■	◆
Toluene	100	◆	■	◆
Transformer oil	100	■	■	◆
Trichloroethylene		◆	■	◆
Triethanolamine	100	▲	▲	▲
Triethylene glycol		▲	▲	▲
Turpentine		●	■	◆
Undecanol	100	▲	▲	▲
Urea		▲	▲	▲
Vinegar		▲	▲	▲
Water (all forms)		▲	▲	▲
Whiskey		▲	▲	▲
Xylene	100	◆	●	◆
Zinc chloride		▲	▲	▲
Zinc sulfate		▲	▲	▲

\*Using water. Organic solvents or physical procedures like centrifuging may reduce usable temperature range





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