Shop RAININ

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Product Catalog 2018

You Spoke. We Listened.

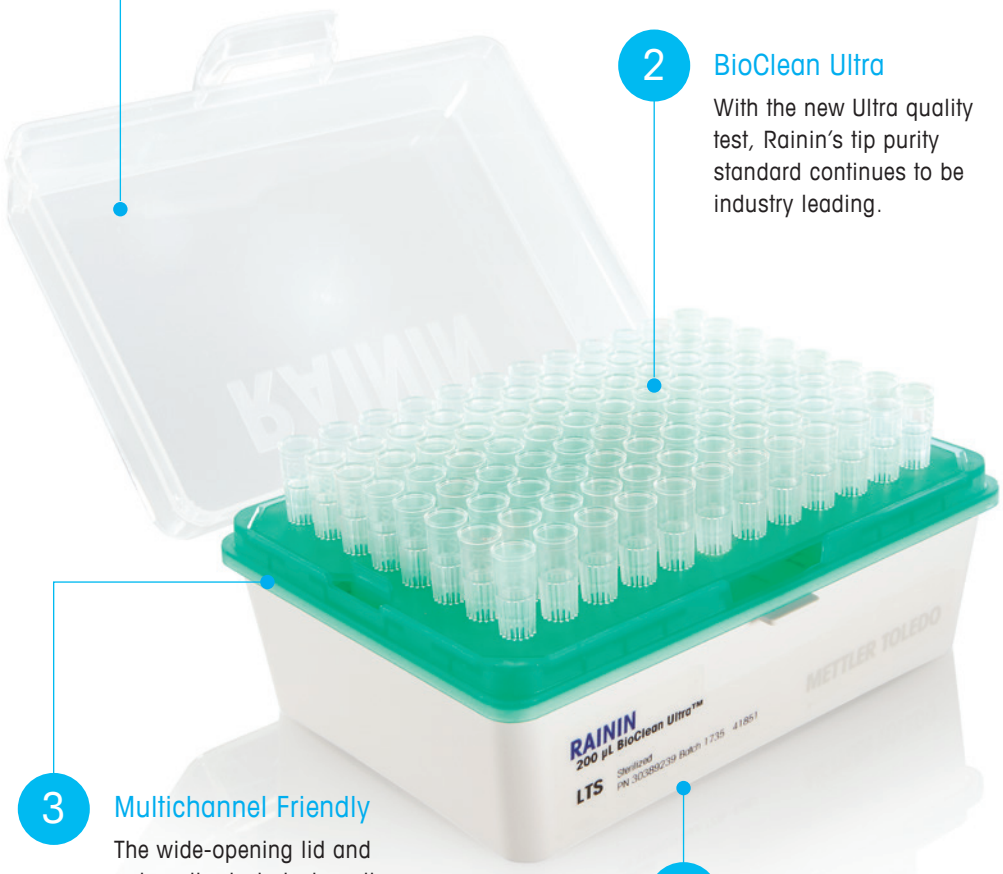
Our new rack & refill system

Same great tips in new packaging!

METTLER TOLEDO

7 Great Reasons to Choose Rainin!

Our new tip rack and refill system offers superior convenience and performance.



1 Hinged/Lift-off Lid

Our innovative new hinged rack holds the lid open to a wide 120° or gently releases to function as a lift-off lid.

2 BioClean Ultra

With the new Ultra quality test, Rainin's tip purity standard continues to be industry leading.

3 Multichannel Friendly

The wide-opening lid and unique tip deck design allows full or partial multichannel loading from any angle.

4 Less Plastic, Lighter Weight

Precision engineering has resulted in a sturdy, stable rack that requires 20% less plastic.

5 Easy-open Latch

Our new latch keeps tips safe and secure, and opens easily with one hand.

6 Stackable, Space-Saving

These new racks stack five-high to save space and create a more organized bench.

7 Fully Autoclavable

Perfect for our Green-Pak and SpaceSaver refill systems, our new rack is designed to withstand many trips through the autoclave.

In this issue

Pipette Tips

Individual rack tips	4
SpaceSaver™ and Green-Pak™ tips	6
Low retention tips	8
TerraRack™ tips	10
StableStak™, StableRak™ & bulk tips	12
Specialty tips	14

LTS™ LiteTouch™ System 16

Pipettes

Single channel manual and electronic XLS+™	18
Multichannel manual and electronic XLS+	22
Adjustable Spacer XLS™	24
Rainin Classic™	26
Positive displacement with Rainin Pos-D™	27
XLS+ Starter Kits with SmartStand	28
Pipette stands	29
Pipette specifications	30

High Throughput Pipetting

BenchSmart™ 96 semi-automated system	32
Liquidator™ 96 manual system	36

Protein Purification

PureSpeed™ sample preparation system	40

Specialty Pipettes

Repeat dispensing with AutoRep™	44
Large volume dispensing with Disp-X™	46
Large volume pipetting with Pipet-X™	47

Pipette Service 48

Good Pipetting Practice (GPP) 49

SmartStand 50

Racked Tips

SBS Standard Tip Packaging

Removable-cover Racks

Removable-cover racks – easy, practical convenient packaging. Many volume sizes available in LTS and universal formats.

BioClean Ultra™

LTS

Hinged-Lid-Cover RT-Racks

CATALOG No.	MAX VOLUME	VOL: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: STERILIZED	FEATURES: SHAFTGARD	FEATURES: WIDE-O	FEATURES: FILTER
30389200	20 µL[1]	10	960				
30389228	20 µL[1]	10	960	✓			
30389225	20 µL[1]	10	960	✓			✓
30389243	200 µL[2]	10	960				
30389247	200 µL[2]	10	960			✓	
30389245	200 µL[2]	10	960	✓			
30389249	200 µL[2]	10	960	✓		✓	
30389239	200 µL[2]	10	960	✓			✓
30389253	300 µL	8	768				
30389255	300 µL	8	768	✓			
30389254	300 µL	8	768	✓			✓
30389211	1000 µL	8	768				
30389217	1000 µL	8	768			✓	
30389215	1000 µL	8	768	✓			
30389220	1000 µL	8	768	✓		✓	
30389212	1000 µL	8	768	✓			✓
30389230	1200 µL	8	768				
30389234	1200 µL	8	768	✓			
30389231	1200 µL	8	768	✓			✓
30389236	2000 µL	8	480				
30389238	2000 µL	8	480	✓			
30389237	2000 µL	8	480	✓			✓
30389256	5000 µL	8	192				
30389257	5000 µL	8	192	✓			

[1] Fits 2, 10 and 20 µL pipettes
[2] Fits 50, 100 and 200 µL pipettes

Fast loading

Robust secure racks make tip loading easy

Autoclavable

Two-position lid for efficient sterilization

Format options

Standard, pre-sterilized, and filter versions available

Protective

Safe from dirt and contamination

UNV

	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: STERILIZED	FEATURES: SHAFTGARD	FEATURES: WIDE-O	FEATURES: FILTER
Hinged-Lid-Cover RT-Racks	**30389163**	10 µL	10	960				
	30389174	10 µL	10	960		✓		
	30389178	10 µL	10	960	✓	✓		
	30389181	10 µL	10	960	✓			
	30389172	10 µL	10	960	✓			✓
	30389175	10 µL	10	960	✓	✓		✓
	30389189	20 µL	10	960	✓			✓
	30389170	100 µL	10	960	✓			✓
	30389186	200 µL	10	960	✓			✓
	30389191	250 µL	10	960				
	30389195	250 µL	10	960			✓	
	30389193	250 µL	10	960	✓			
	30389058	300 µL	8	768				
	30389059	300 µL	8	768	✓			
	30389136	300 µL	8	768	✓			✓
	30389164	1000 µL	8	768				
	30389168	1000 µL	8	768	✓			
	30389165	1000 µL	8	768	✓			✓
	30389183	2000 µL	8	480				
	30389185	2000 µL	8	480	✓			
	30389184	2000 µL	8	480	✓			✓
	30389198	5000 µL	8	192				
	30389199	5000 µL	8	192	✓			

Wide-O = Wide Orifice

Eco-Friendly Refills

Less Waste, More Space

BioClean Ultra™

Space-saving rack refill options enhance your workflow and minimize plastic waste.

Green-Pak™ SpaceSaver™ 85% less waste than conventional racks

Fast
Refill a rack in seconds

Clean
Protects tip from contamination

Convenient
Dispensing sleeve is easy to use

Save space
Each sleeve contains 8 or 10 refills

Green-Pak™ Individually sealed refills

Clean
Each refill is completely sealed

Filter tips
A great refill option for filter tip users

Easy
Load refills without touching the tip

Eco-sensitive
Protective shell made from recycled PETE

Recycled PETE!

Rack base not included with Green-Pak SpaceSaver

[1] Fits 2, 10 and 20 µL pipettes
[2] Fits 50, 100 and 200 µL pipettes

Rack base not included with Green-Pak SpaceSaver

	LTS / UNV	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: STERILIZED	FEATURES: SHAFTGARD	FEATURES: FILTER
Spacesaver	LTS	30389291	20 µL[1]	10	960			
		30389297	20 µL[1]	10	960	✓		
		30389299	200 µL[2]	10	960			
		30389301	200 µL[2]	10	960	✓		
		30389303	300 µL	8	768			
		30389304	300 µL	8	768	✓		
		30389292	1000 µL	8	768			
		30389294	1000 µL	8	768	✓		
Green-Pak Refills	LTS	30389270	20 µL[1]	10	960			
		30389275	20 µL[1]	10	960	✓		
		30389274	20 µL[1]	10	960	✓		✓
		30389277	200 µL[2]	10	960			
		30389278	200 µL[2]	10	960	✓		
		30389276	200 µL[2]	10	960	✓		✓
		30389271	1000 µL	8	768			
		30389273	1000 µL	8	768	✓		
		30389272	1000 µL	8	768	✓		✓
Empty Racks	LTS	30389354	20 µL	10				
		30389353	200 µL	10				
		30397667	300 µL	8				
		30389351	1000 µL	8				
Spacesaver	UNV	30389283	10 µL	10	960		✓	
		30389285	10 µL	10	960	✓	✓	
		30389287	250 µL	10	960			
		30389289	250 µL	10	960	✓		
		30397665	300 µL	8	768			
		30397666	300 µL	8	768	✓		
		30389279	1000 µL	8	768			
		30389281	1000 µL	8	768	✓		
Green-Pak Refills	UNV	30389258	10 µL	10	960			
		30389265	10 µL	10	960	✓		
		30389263	10 µL	10	960	✓		✓
		30389264	10 µL	10	960	✓	✓	✓
		30389267	20 µL	10	960	✓		✓
		30389266	200 µL	10	960	✓		✓
		30389268	250 µL	10	960			
		30389269	250 µL	10	960	✓		
		30389259	1000 µL	8	768			
		30389261	1000 µL	8	768	✓		
		30389260	1000 µL	8	768	✓		✓
Empty Racks	UNV	30389350	10 µL	10				
		30389354	10 µL	10				
		30389353	250 µL	10				
		30397667	300 µL	8				
		30389351	1000 µL	8				

Low Retention Tips

Stop Wasting Valuable Sample!

Rainin LR low retention tips improve pipetting accuracy by minimizing residual volume, particularly when transferring liquids such as viscous samples and those with low surface tension. Minimize waste when handling valuable samples and reagents.

¹ Fits 2, 10 and 20 µL pipettes
² Fits 50, 100 and 200 µL pipettes

Rack base not included with Green-Pak SpaceSaver

	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: STERILIZED	FEATURES: WIDE-O	FEATURES: LOW RET	FEATURES: FILTER
LTS Hinged-Rack RT Tips	**30389227**	20 µL[1]	10	960			✓	
	30389229	20 µL[1]	10	960	✓		✓	
	30389226	20 µL[1]	10	960	✓		✓	✓
	30389244	200 µL[2]	10	960			✓	
	30389248	200 µL[2]	10	960		✓	✓	
	30389246	200 µL[2]	10	960	✓		✓	
	30389250	200 µL[2]	10	960	✓	✓	✓	
	30389240	200 µL[2]	10	960	✓		✓	✓
	30389241	200 µL[2]	10	960	✓	✓	✓	✓
	30389160	300 µL	8	768			✓	
	30389161	300 µL	8	768	✓		✓	
	30389162	300 µL	8	768	✓		✓	✓
	30389214	1000 µL	8	768			✓	
	30389216	1000 µL	8	768	✓		✓	
	30389213	1000 µL	8	768	✓		✓	✓
	30389219	1000 µL	8	768		✓	✓	
	30389221	1000 µL	8	768	✓	✓	✓	
	30389218	1000 µL	8	768	✓	✓	✓	✓
	30389233	1200 µL	8	768			✓	
	30389235	1200 µL	8	768	✓		✓	
	30389232	1200 µL	8	768	✓		✓	✓
SpaceSaver	**30389296**	20 µL[1]	10	960			✓	
	30389298	20 µL[1]	10	960	✓		✓	
	30389300	200 µL[2]	10	960			✓	
	30389302	200 µL[2]	10	960	✓		✓	
	30398985	300 µL	8	768	✓		✓	
	30389293	1000 µL	8	768			✓	
	30389295	1000 µL	8	768	✓		✓	
Bulk	**17014340**	20 µL		1000			✓	
	17014341	200 µL		1000			✓	
	17014342	1000 µL		1000			✓	

Rainin Standard
10 µL Tip
after dispensing

Rainin Low Retention
10 µL Tip
after dispensing

			VOL	QTY	FEATURES				
UNV	CATALOG No.		MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGARD	WIDE-O	LOW RET	FILTER
Hinged-Rack RT Tips	**30389180**		10 µL	10	960				✓	
	30389182		10 µL	10	960	✓			✓	
	30389173		10 µL	10	960	✓			✓	✓
	30389177		10 µL	10	960		✓		✓	
	30389179		10 µL	10	960	✓	✓		✓	
	30389176		10 µL	10	960	✓	✓		✓	✓
	30389190		20 µL	10	960	✓			✓	✓
	30389171		100 µL	10	960	✓			✓	✓
	30389187		200 µL	10	960	✓			✓	✓
	30389188		200 µL	10	960	✓		✓	✓	✓
	30389192		250 µL	10	960				✓	
	30389196		250 µL	10	960			✓	✓	
	30389194		250 µL	10	960	✓			✓	
	30389197		250 µL	10	960	✓		✓	✓	
	30389137		300 µL	8	768				✓	
	30389138		300 µL	8	768	✓			✓	
	30389139		300 µL	8	768	✓			✓	✓
	30389167		1000 µL	8	768				✓	
	30389169		1000 µL	8	768	✓			✓	
	30389166		1000 µL	8	768	✓			✓	✓

Rack base not included with Green-Pak SpaceSaver

SpaceSaver	**30389284**		10 µL	10	960		✓		✓	
	30389286		10 µL	10	960	✓	✓		✓	
	30389288		250 µL	10	960				✓	
	30389290		250 µL	10	960	✓			✓	
	30389280		1000 µL	8	768				✓	
	30389282		1000 µL	8	768	✓			✓	

Bulk	**17014395**		10 µL		1000				✓	
	17014396		10 µL		1000		✓		✓	
	17014397		250 µL		1000				✓	
	17014398		1000 µL		1000				✓	
	17015068		1000 µL		1000			✓	✓	

Wide-O = Wide Orifice, Low Ret = Low Retention

TerraRack

The Most Eco-Friendly Rack Around

Less weight, less waste, 100% recyclable

TerraRack™ is a revolutionary new concept in tip racks. Sturdy as conventional racks, yet made with less than half the plastic and completely recyclable. In fact, the hinged TerraRack shell is made from PETE, which is easily recycled.

For convenience and complete cleanliness, TerraRacks with BioClean tips come pre-sterilized, eliminating the need to autoclave.

[1] Fits 2, 10 and 20 µL pipettes
[2] Fits 50, 100 and 200 µL pipettes

	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: PRESTERILIZED	FEATURES: SHAFTGARD	FEATURES: FILTER
LTS TerraRack	17014960	20 µL[1]	10	960	✓		
	17014961	20 µL[1]	10	960	✓		✓
	17014962	200 µL[2]	10	960	✓		
	17014963	200 µL[2]	10	960	✓		✓
	17014964	300 µL	8	768	✓		
	17014965	300 µL	8	768	✓		✓
	17014966	1000 µL	8	768	✓		
	17014967	1000 µL	8	768	✓		✓
	17014968	1200 µL	8	768	✓		
	17014969	1200 µL	8	768	✓		✓
UNV TerraRack	17014970	10 µL	10	960	✓		
	17014971	10 µL	10	960	✓		✓
	17014972	10 µL	10	960	✓	✓	
	17014973	10 µL	10	960	✓	✓	✓
	17014974	30 µL	10	960	✓		✓
	17014975	100 µL	10	960	✓		✓
	17014977	200 µL	10	960	✓		✓
	17014976	250 µL	10	960	✓		
	17014978	300 µL	8	768	✓		
	17014979	300 µL	8	768	✓		✓
	17014980	1000 µL	8	768	✓		
	17014981	1000 µL	8	768	✓		✓

Less waste

With 50% less plastic than conventional racks,TerraRacks are also extremely compressible, so racks occupy significantly less space in a waste or storage container.

100% recyclable

In addition to being completely recyclable, much of each TerraRack is composed of PETE, which is easily recycled and aggressively recovered from the plastic waste stream.

Sterile

TerraRacks are pre-sterilized so you can be certain that you're working with a fresh, clean rack every time.

Double-96 Racked Tips

StableStak and StableRak

Ideal for high production environments.

StableRak™

Individual double-96 racks with 192 tips per layer.

Formats

Standard, presterilized and filter versions available

Protective

Safe from dirt and contamination

Fast loading

Sturdy, non-slip racks make tip loading easy

StableStak™

Stacked double-96 racks with 192 tips per layer.

StableRak and StableStak

[1] Fits 2, 10 and 20 µL pipettes
[2] Fits 50, 100 and 200 µL pipettes

Bulk Tips

LTS and UNV formats

*individually wrapped

	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: TIPS/CARTON	FEATURES: PRESTERILIZED	FEATURES: FILTER	FEATURES: SHAFTGARD	FEATURES: WIDE-O
StableRak	17005862	20 µL[1]	5	960				
	17005861	20 µL[1]	5	960	✓			
	17005860	20 µL[1]	5	960	✓	✓		
	17005864	200 µL[2]	5	960				
	17005863	200 µL[2]	5	960	✓			
	17005859	200 µL[2]	5	960	✓	✓		
	17005867	300 µL	4	768				
	17005866	300 µL	4	768	✓			
	17005865	300 µL	4	768	✓	✓		
	17007083	1000 µL	4	768				
	17007082	1000 µL	4	768	✓			
	17007081	1000 µL	4	768	✓	✓		
	17007086	1200 µL	4	768				
	17007085	1200 µL	4	768	✓			
	17007084	1200 µL	4	768	✓	✓		
StableStak	17005873	20 µL[1]	5	960				
	17005872	20 µL[1]	5	960	✓			
	17005875	200 µL[2]	5	960				
	17005874	200 µL[2]	5	960	✓			
	17005877	300 µL	4	768				
	17005876	300 µL	4	768	✓			
	17007090	1000 µL	4	768				
	17007089	1000 µL	4	768	✓			
	17005857	300 µL	4	768				
Bulk Tips	17001128	20 µL[1]		1000				
	17001118	200 µL[2]		1000				
	17001132	300 µL		1000				
	17001129	1000 µL		1000				
	17006324	1200 µL		1000				
	17001130	2000 µL		1000				
	17001133	5000 µL		1000				
	17001119	10 mL		200				
	17005940*	10 mL		75	✓			
	17001131	20 mL		100				
	17005941*	20 mL		50	✓			
Bulk Tips	17001124	10 µL	5	960				
	17001123	10 µL	5	960			✓	
	17001116	250 µL	5	960				
	17001127	250 µL	5	960				✓
	17001121	1000 µL	5	960				
	17001125	2000 µL	5	960				
	17001126	2500 µL	4	768				
	17001117	5000 µL	4	768				
	17001122	10 mL	4	768				
	17005939*	10 mL	4	768	✓			

Wide-O = Wide Orifice

Specialty Tips

Unique Tips for Special Applications

LTS

Extended-length tips

For tall narrow tube work. BioClean.

102 mm long

Rainin extended-length LTS tips reach to the bottom of blocks, tall vials, flasks, 100 mm tubes, etc.

Narrow diameter

These tips will pass through 8 mm ID penetrable septa, such as on specimen collection kits.

LTS

UNV

Wide-orifice tips

Ideal for delicate samples. BioClean.

For samples with mammalian cells or high-molecular-weight DNA. 1.5 mm wide orifice minimizes shear forces on delicate samples and flow resistance for viscous samples. 250 and 1000 µL.

UNV

ShaftGard™ 10µL tips

Avoid cross-contamination. BioClean.

Tip protects shaft, tip ejector

Shaft and tip ejector are protected from contamination, reducing the need to decontaminate or sterilize the shaft and tip ejector when working with biological, radioactive or other critical samples.

UNV

Gel-Well™

Load gels in thin wells.

Dispense samples into thin wells in electrophoretic slab gel apparatus or in sample recovery. Flexible ultra-thin micro-capillary is ideal for DNA sequencing and protein separation. Autoclaving at 1 bar and 121°C up to 15 minutes is possible without significant capillary shrinkage or closure.

- **Flat or round tip ends**
- **Certified free from RNase and DNase**

LTS

	CATALOG No.	MAX VOLUME	RACKS/CARTON	TIPS/CARTON	PRESTERILIZED	WIDE-O	LOW RET	FILTER	X-LENGTH
Hinged-Lid Racks	**30389251**	200 µL[2]	8	768					✓
	30389252	200 µL[2]	8	768	✓				✓
	30389242	200 µL[2]	8	768	✓			✓	✓
	30389222	1000 µL	8	768					✓
	30389224	1000 µL	8	768	✓				✓
	30389223	1000 µL	8	768	✓			✓	✓
	30389247	200 µL[2]	10	960		✓			
	30389248	200 µL[2]	10	960		✓	✓		
	30389249	200 µL[2]	10	960	✓	✓			
	30389250	200 µL[2]	10	960	✓	✓	✓		
	30389241	200 µL	10	960	✓	✓	✓	✓	
	30389217	1000 µL	8	768		✓			
	30389219	1000 µL	8	768		✓	✓		
	30389220	1000 µL	8	768	✓	✓			
	30389221	1000 µL	8	768	✓	✓	✓		
	30389218	1000 µL	8	768	✓	✓	✓	✓	

[2] Fits 50, 100 and 200 µL pipettes

UNV

	CATALOG No.	MAX VOLUME	RACKS/CARTON	TIPS/CARTON	PRESTERILIZED	GEL-WELL	SHAFTGARD	WIDE-O	LOW RET	FILTER	
Racks	**30389174**	10 µL	10	960			✓				
	30389178	10 µL	10	960	✓		✓				
	30389175	10 µL	10	960	✓		✓			✓	
	30389195	250 µL	10	960				✓			
	30389196	250 µL	10	960				✓	✓		
	30389197	250 µL	10	960	✓			✓	✓		
	30389188	250 µL	10	960	✓			✓		✓	
Bulk	**17001127**	250 µL		1000				✓			
	17015068	1000 µL		1000				✓	✓		
Refills	**30389283***	10 µL	10	960			✓				
	30389285*	10 µL	10	960	✓		✓				
	30389264	10 µL	10	960	✓		✓			✓	
Racks	**17002375**	10 µL	1	200		✓	0.17 mm, flat				
	17002377	10 µL	1	200		✓	0.37 mm, flat				
	17002380	10 µL	1	200		✓	0.57 mm, round				
	17002379	250 µL	1	200		✓	0.57 mm, flat				
	17002378	250 µL	1	200		✓	0.37 mm, flat				
	17002376	250 µL	1	200		✓	0.17 mm, round				

*Green-Pak SpaceSaver

Wide-O = Wide Orifice, Low Ret = Low Retention

The LTS LiteTouch System

Because Pipetting Shouldn't Hurt

Minimize fatigue and risk of developing repetitive strain injury (RSI) with the Rainin LTS™ LiteTouch tip ejection system.

The Rainin LTS® LiteTouch system is available on all Rainin XLS+ single and multichannel pipettes.

Pipetting is a forceful, repetitive activity that can result in minor stresses that develop into injuries. The Rainin LTS™ LiteTouch tip ejection system reduces tip ejection force by up to 85%.

Because pipettes are integral to so many laboratory workflows, their design and features affect performance and ergonomic impact on users.

- Accuracy and precision impacts liquid delivery to drive data integrity.
- Tip ejection force directly correlates to muscle fatigue that can compromise technique, accuracy, and repeatability.
- Versatility with a variety of tip selections and adjustability for use in multiple applications.

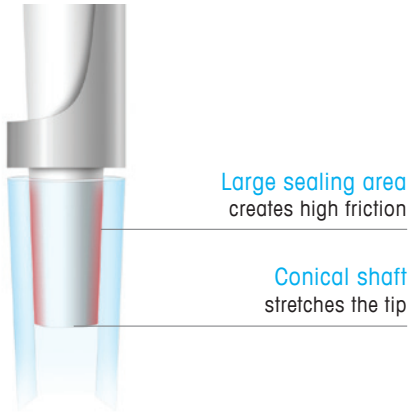
A pipette's ergonomic features are essential.

- Countless hours pipetting samples can lead to injured hands, wrists, and arms.
- Loading and ejecting tips, and aspirating and dispensing liquids exerts considerable force on your thumb, hand and arm.
- Risk of developing a RSI increases as injurious effects of tip ejection forces accumulate over time.

The LTS difference

The Rainin LiteTouch System dramatically reduces the amount of force required to load and eject tips. LTS pipettes work in concert with LTS tips to deliver a perfect seal every time.

- LTS tips slide easily over the shaft to create a firm, air-tight fit with minimal force
- A thin sealing ring near the top of an LTS tip virtually eliminates friction between the tip and shaft



Universal pipetting

Universal pipettes have cone-shaped shafts that rely on friction to hold tips firmly.

- Universal tips stretch to fit around the shaft
- Users typically apply force to the shaft to achieve a reliable friction seal
- Due to the excessive force used to insert the tip, a high force is required to eject the tip

Pipet-Lite XLS+

Performance You Can Feel

Rainin Pipet-Lite™ XLS+ raises the bar on comfort, performance and control.

Smooth operation

The sealing system on XLS+ pipettes delivers a plunger stroke that is smooth, precise and requires less force than before. Perfect for pipetting applications that require delicate control!

Highly accurate

Built to last and manufactured with premium quality materials, XLS+ pipettes are designed to deliver superior performance, year after year.

Autoclavable

XLS+ single-channel pipettes are designed for easy autoclaving where it counts: the complete liquid end, including the seals and piston. Autoclaving won't compromise performance or feel.

Total comfort

With sure-fit handles, contoured fingerhooks, lighter springs and low-drag seals, you can comfortably use Pipet-Lite XLS+ pipettes all day.

A better tip ejector

The tip ejector is made from a high density polymer that is corrosion free, autoclavable and highly resistant to chemical and physical insults. The ejector slides off in a single easy motion for cleaning.

For pipette specifications, see page 30.

GLP/GMP security

Every Rainin XLS pipette is equipped with RFID – radio frequency identification – for accessing service and calibration data right from the pipette.

Secure volume lock

The snag-proof lock design on XLS+ pipettes prevents accidental volume drift while allowing for rapid volume adjustment, even while wearing gloves.

LTS

	CATALOG No.	VOLUME RANGE
Pipet-Lite XLS+	**17014393**	0.1–2 µL
	17014388	0.5–10 µL
	17014392	2–20 µL
	17014384	10–100 µL
	17014391	20–200 µL
	17014405	20–300 µL
	17014382	100–1000 µL
	17014390	200–2000 µL
	17011790	500–5000 µL
	17011783	1–10 mL
	17011788	2–20 mL

Rainin LTS pipettes are designed for use with LTS tips.
See LTS page 16.

UNV

	CATALOG No.	VOLUME RANGE
Pipet-Lite XLS+	**17014413**	0.1–2 µL
	17014409	0.5–10 µL
	17014412	2–20 µL
	17014408	10–100 µL
	17014411	20–200 µL
	17014414	20–300 µL
	17014407	100–1000 µL
	17014410	200–2000 µL
	17011801	500–5000 µL
	17011795	1–10 mL

E4 XLS+

Simple, Versatile and Secure

Our easiest to use, most richly featured and secure electronic pipette.

The E4 XLS+ is easily configured to be as simple or elaborate as your work requires.

- The large color screen, joystick control and graphic interface make moving between functions and operating the pipette easy and effortless.
- Highly customizable functions with multiple protocols that can be stored on board for later use.

Your data is everything – trust the E4 XLS+ to deliver!

Watch the E4 XLS demo ▶ **www.mt.com/raininE4**

A "Smart" Charging Stand!

SmartStand charges up to four E4s simultaneously and offers a simple, yet sophisticated way to track and manage every XLS pipette in your lab.
See page 54.

Performance

An advanced microprocessor-guided stepper motor has 4,000 discrete steps for extremely accurate liquid dispensing.

App master

For serial dilutions, filling plates, pipetting unusual liquids and performing complex pipetting steps, the E4's versatile range of pipetting modes offer maximum convenience.

Save your protocols

Store multiple custom protocols in the on-board memory. Simultaneously review and select your protocols with a simple movement of the joystick. No more re-entering protocols over and over again!

Highly configurable

With E4's Admin Mode, you can configure the pipette any way you want. For convenience or security, remove unwanted modes or lock in preferred settings.

GLP/GMP security

Minimize pipetting SOP deviations by locking protocol settings. Onboard service data is extremely secure and quick to access. Avoid calibration compliance errors by password protecting access to service interval alarms.

GLP

LTS

	CATALOG No.	VOLUME RANGE
E4 XLS+	**17014484**	0.5–10 µL
	17014487	2–20 µL
	17014483	10–100 µL
	17014486	20–200 µL
	17014488	20–300 µL
	17014482	100–1000 µL
	17014485	200–2000 µL
	17012312	500–5000 µL
	17012313	1–10 mL
	17012314	2–20 mL

Rainin LTS pipettes are designed for use with LTS tips.
Li-Ion battery and wall power supply are included.

UNV

	CATALOG No.	VOLUME RANGE
E4 XLS+	**17014491**	0.5–10 µL
	17014494	2–20 µL
	17014490	10–100 µL
	17014493	20–200 µL
	17014495	20–300 µL
	17014489	100–1000 µL
	17014492	200–2000 µL
	17012353	500–5000 µL
	17012354	1–10 mL

Universal-Fit pipettes use universal tips.
Li-Ion battery and wall power supply are included.
Specifications, see page 30.

XLS+ Multichannels

Performance You Can Feel!

8 or 12 channels; volumes from 0.5–1200 µL.

E4 XLS+ Electronic Multichannel

Nothing compares with the functionality, speed and accuracy of E4 XLS+

- Same functionality and ease of use as single-channel models
- E4 does the work with Multidispense and Autopace
- Consistent sample loading across all channels with low tip ejection forces

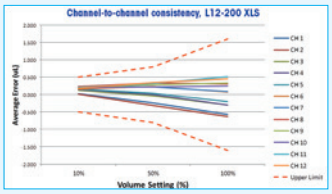
LTS

	CATALOG No.	VOLUME RANGE
E4 XLS+ Multichannel	**8-Channel**	
	17013792	0.5–10 µL
	17013793	2–20 µL
	17013794	5–50 µL
	17013795	20–200 µL
	17013796	20–300 µL
	17014498	100–1200 µL
	12-Channel	
	17013797	0.5–10 µL
	17013798	2–20 µL
	17013799	5–50 µL
	17013800	20–200 µL
	17013801	20–300 µL
	17014499	100–1200 µL

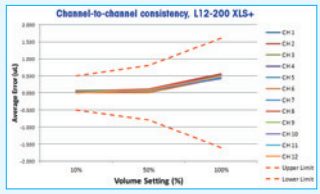
Li-Ion battery and wall power supply are included.
Specifications, see page 30.

Exceptional Channel-to-Channel Consistency

The channel-to-channel consistency on the previous generation of XLS multichannel pipettes was very good. However, the radical new technology of the XLS+ delivers superior channel-to-channel consistency.



L12-200XLS



L12-200XLS+

Pipet-Lite XLS+ Manual Multichannel

Ergonomic design

- Balanced, lightweight, lower forces
- Easy quick-lock volume setting – no drift
- Rugged and durable

LTS

Pipet-Lite XLS+ Multichannel

CATALOG No.	VOLUME RANGE
8-Channel	
17013802	0.5–10 µL
17013803	2–20 µL
17013804	5–50 µL
17013805	20–200 µL
17013806	20–300 µL
17014496	100–1200 µL
12-Channel	
17013807	0.5–10 µL
17013808	2–20 µL
17013809	5–50 µL
17013810	20–200 µL
17013811	20–300 µL
17014497	100–1200 µL

Rainin LTS pipettes are designed for use with LTS tips.
Specifications, see page 30.

Adjustable Spacer Pipettes

Tubes to Plates with Just a Twist!

Adjust from standard 9 mm spacing to 14 mm or 19 mm; manual or electronic 6- and 8-channel versions.

Pipet-Lite XLS Manual

One-hand adjustable spacing.

Fast, convenient

Quickly change from format to format in a single step

Nozzle spacing ranges

6-channel: 9–19 mm
8-channel: 9–14 mm

Multiple formats

Use with 24-, 48- and 96-well plates and a variety of tube formats

Applications

Ideal for genomic, proteomic and cellular assay applications

LTS

	CATALOG No.	VOLUME RANGE
Pipet-Lite XLS	**6-Channel**	
	17011841	20–300 µL
	17011840	100–1200 µL
	8-Channel	
	17011844	5–50 µL
	17011843	20–300 µL
	17011842	100–1200 µL

Rainin LTS pipettes are designed for use with LTS tips.
Specifications, see page 30.

E4 XLS Electronic

Different formats? No problem!

Easy, accurate and repeatable spacing

Just set the limiter dial and quickly move between formats by twisting the spacing control. Marks on the liquid end give fast visual confirmation of nozzle spacing. Ideal for routine micro-well work when you need to change formats quickly.

LTS

	CATALOG No.	VOLUME RANGE
E4 XLS	**6-Channel**	
	17012327	20–300 µL
	17012328	100–1200 µL
	8-Channel	
	17012329	5–50 µL
	17012330	20–300 µL
	17012331	100–1200 µL

Rainin LTS pipettes are designed for use with LTS tips. Specifications, see page 30.

Li-Ion battery and wall power supply are included.

Rainin Classic

Timeless Design, Exceptional Performance

An economical pipette with advanced ergonomic features not found on other pipettes in its class.

An economical pipette with decades of expertise built in, Rainin Classic™ will deliver years of reproducible performance. Lighter spring forces, low-drag seals and a shock absorber make it easy on your hands.

Durable

Stainless steel and quality PVDF ensure fewer out-of-tolerance failures and low cost of ownership.

Lower plunger force

Plunger force in Rainin Classic is 25% less than in similar pipettes.

Comfort

The fingerhook allows a lighter grip during pipetting cycles.

UNV

	CATALOG No.	VOLUME RANGE
Rainin Classic	**17008648**	0.1–2 µL
	17008649	0.5–10 µL
	17008650	2–20 µL
	17008651	10–100 µL
	17008652	20–200 µL
	17008653	100–1000 µL
	17008654	500–5000 µL
	17008655	1–10 mL
Starter Kit	**17008708**	Starter kit: PR-20, PR-200, PR-1000 and accessories

Rainin Classic pipettes use universal tips. Specifications, see page 30.

Rainin Pos-D

Positive-Displacement Pipetting

The right solution for liquids with high densities, viscosities or vapor pressures.

Rainin Pos-D™ positive displacement pipettes are ideal when pipetting liquids with high densities, viscosities or vapor pressures.

Relax!

The ergonomically designed Pos-D rests in your hand while you work.

Easy to load

Pre-assembled, pre-sterilized capillaries are packed in convenient racks.

No cross contamination

Positive displacement prevents aerosol formation and protects samples from contamination.

	CATALOG No.	VOL MAX VOLUME	QTY RACKS/CARTON	QTY TIPS/CARTON	PRESTERILIZED
Pos-D Pipettes	**17008575**	0.5–10 µL			
	17008576	3–25 µL			
	17008577	20–50 µL			
	17008578	10–100 µL			
	17008579	50–250 µL			
	17008580	100–1000 µL			
Capillaries and Pistons	**17008604**	10 µL	3	180	✓
	17008605	25 µL	3	180	✓
	17008606	50 µL	3	180	✓
	17008607	100 µL	3	180	✓
	17008608	250 µL	3	180	✓
	17008609	1000 µL	3	180	✓
	17012264	10 µL	3	180	
	17012265	25 µL	3	180	
	17012266	50 µL	3	180	
	17012267	100 µL	3	180	
	17012268	250 µL	3	180	
	17012135	1000 µL	3	180	

New Pipette Starter Kits

14 Easy Ways to Buy New XLS+ Pipettes

NEW!

SmartStand + EasyDirect software
= Easy Pipette Management

Each Starter Kit includes a SmartStand and EasyDirect software.

- Manage calibration and service for all of your pipettes
- View pipette calibration status right at your bench
- Quick charge your E4 XLS+ electronic pipettes

		Single Channel Manual						Multichannel Manual				Single Channel Electronic			
	CATALOG No.	2 µL	10 µL	20 µL	200 µL	1000 µL	5000 µL	20 µL 8-channel	200 µL 8-channel	20 µL 12-channel	200 µL 12-channel	20 µL	200 µL	1000 µL	SmartStand
LTS	30386738	✓	✓	✓	✓										✓
LTS	30386597	✓		✓	✓	✓									✓
LTS	30386599			✓	✓	✓									✓
LTS	30386737				✓	✓	✓								✓
LTS	30386734			✓	✓	✓		✓							✓
LTS	30386733			✓	✓	✓			✓						✓
LTS	30386736			✓	✓	✓				✓					✓
LTS	30386735			✓	✓	✓					✓				✓
LTS	30386739							✓	✓						✓
LTS	30386740									✓	✓				✓
LTS	30386731											✓	✓	✓	✓
UNV	30386598	✓		✓	✓	✓									✓
UNV	30386730			✓	✓	✓									✓
UNV	30386732											✓	✓	✓	✓
UNV	17008708*			✓	✓	✓									

* Rainin Classic

Pipette Stands

Storage and Protection

Keep your pipettes charged, organized and ready to use.

SmartStand

Intelligent, easy-to-use, for manual and electronic XLS+ pipettes, single or multichannel. Charges up to four E4s.

See page 50 for details.

Universal Carousel Stand

Handy rotating carousel stand for up to seven manual pipettes. Weighted base – won't tip over.

Hang-Ups™

Built-in magnets for ferrous surfaces, with adhesive disks for other surfaces.

Shelf Hang-Ups

Three Hang-Ups on a bracket for attachment to a shelf.

	CATALOG No.	DESCRIPTION
Pipette Stands	**30312897**	SmartStand intelligent stand w/Bluetooth®
	17012879	Electronic pipette power supply
	17001255	Universal Carousel Stand for seven pipettes
	17003024	Hang-Ups, magnetic, for three pipettes
	17004992	Shelf Hang-Ups for three pipettes
	17006638	E4 XLS/XLS+ adapters for Hang-Ups and Carousel Stand (3/pkg)

Pipette Specifications

Specifications at 10%, 50% and 100% volume

All Rainin single-channel models, including:

Manual pipettes
- Pipet-Lite XLS/ XLS+
- Rainin Classic

Electronic pipettes
- E4 XLS/ XLS+

	PIPETTE VOLUME	VOL VOLUME	INCREMENT µL MANUAL	INCREMENT µL ELECTRONIC	ACCURACY %	ACCURACY (±) µL	PRECISION %	PRECISION (≤) µL
Single-channel pipettes	**2 µL**	0.2 µL	0.002	n/a	12.0	0.024	6.0	0.012
		1 µL			2.7	0.027	1.3	0.013
		2 µL			1.5	0.030	0.7	0.014
	10 µL	1.0 µL	0.02	0.01	2.5	0.025	1.2	0.012
		5.0 µL			1.5	0.075	0.6	0.03
		10.0 µL			1.0	0.1	0.4	0.04
	20 µL	2 µL	0.02	0.02	7.5	0.15	2.0	0.04
		10 µL			1.5	0.15	0.5	0.05
		20 µL			1.0	0.2	0.3	0.06
	100 µL	10 µL	0.2	0.1	3.5	0.35	1.0	0.1
		50 µL			0.8	0.4	0.24	0.12
		100 µL			0.8	0.8	0.15	0.15
	200 µL	20 µL	0.2	0.2	2.5	0.5	1.0	0.2
		100 µL			0.8	0.8	0.25	0.25
		200 µL			0.8	1.6	0.15	0.3
	300 µL	30 µL	0.5	0.2	2.5	0.75	1.0	0.3
		150 µL			0.8	1.2	0.25	0.375
		300 µL			0.8	2.4	0.15	0.45
	1000 µL	100 µL	2	1	3.0	3.0	0.6	0.6
		500 µL			0.8	4.0	0.2	1.0
		1000 µL			0.8	8.0	0.15	1.5
	2000 µL	200 µL	2	2	3.0	6.0	0.6	1.2
		1000 µL			0.8	8.0	0.2	2.0
		2000 µL			0.8	16.0	0.12	2.4
	5000 µL	500 µL	5	5	2.4	12.0	0.6	3.0
		2500 µL			0.6	15.0	0.2	5.0
		5000 µL			0.6	30.0	0.16	8.0
	10 mL	1 mL	20	10	5.0	50.0	0.6	6.0
		5 mL			1.0	50.0	0.2	10.0
		10 mL			0.6	60.0	0.16	16.0
	20 mL	2 mL	20	20	5.0	100.0	0.6	12.0
		10 mL			1.0	100.0	0.2	20.0
		20 mL			0.6	120.0	0.16	32.0

All Rainin multichannel models, including:

Manual pipettes

- Pipet-Lite XLS/XLS+
- Pipet-Lite XLS Adjustable Spacer

Electronic pipettes

- E4 XLS/XLS+
- E4 XLS Adjustable Spacer

	PIPETTE VOLUME	VOL VOLUME	INCREMENT µL MANUAL / ELECTRONIC	ACCURACY %	ACCURACY (±) µL	PRECISION (MANUAL) %	PRECISION (MANUAL) (≤) µL	PRECISION (ELECT) %	PRECISION (ELECT) (≤) µL
Multichannel pipettes	**10 µL**	1.0 µL	0.02/0.01	4	0.04	5	0.05	3	0.03
		5.0 µL		1.5	0.075	1.5	0.075	0.8	0.04
		10.0 µL		1	0.1	0.5	0.05	0.5	0.05
	20 µL	2 µL	0.02	7.5	0.15	4	0.08	3	0.06
		10 µL		1.5	0.15	1.5	0.15	1	0.1
		20 µL		1	0.2	0.5	0.1	0.3	0.06
	50 µL	5 µL	0.05	3.5	0.18	2	0.1	1.5	0.075
		25 µL		1.2	0.3	0.5	0.125	0.4	0.1
		50 µL		0.8	0.4	0.4	0.2	0.3	0.15
	200 µL	20 µL	0.2	2.5	0.5	1.2	0.24	1	0.2
		100 µL		0.8	0.8	0.25	0.25	0.25	0.25
		200 µL		0.8	1.6	0.3	0.6	0.2	0.4
	300 µL	30 µL	0.5/0.2	2.5	0.75	1.5	0.45	1	0.3
		150 µL		0.8	1.2	0.3	0.45	0.25	0.375
		300 µL		0.8	2.4	0.25	0.75	0.2	0.6
	1200 µL	100 µL	2/ 1	3.6	3.6	1	1	0.6	0.6
		600 µL		0.8	4.8	0.3	1.8	0.2	1.2
		1200 µL		0.8	9.6	0.2	2.4	0.15	1.8

Specifications subject to change without notice.

BenchSmart 96

Semi-Automated High-Throughput Pipetting

The precision and reproducibility of automated liquid handling with the speed and flexibility of a manual system.

The semi-automated BenchSmart™ 96 improves reproducibility by eliminating user variability when aspirating and dispensing.

- Semi-automated 96- and 384-well plate processing for genomics, proteomics, and cellular-based assays
- BenchSmart gives users complete and precise control over the position of the pipetting head with 96 channels
- The four tray positions save time and reduce your risk of error by minimizing the need to swap out trays and reservoirs

Smart high-throughput

With its large touchpad, BenchSmart makes it easy to design, save and retrieve any protocol, from simple one-step procedures to complex, multi-step experiments.

Three pipetting heads

Get the precision you demand with the 0.5-20 µL head, the lab workhorse you need with the 5-200 µL head, and the multi-dispensing capability of the 100-1000 µL head.

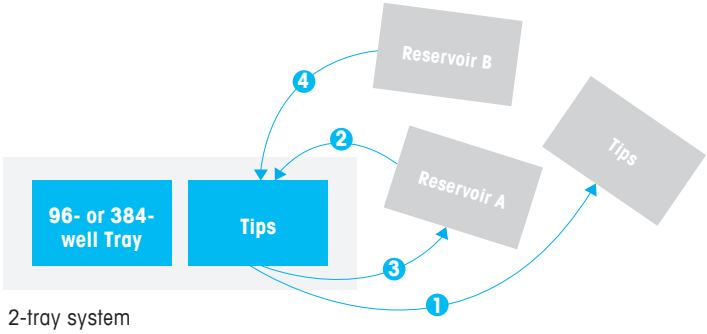
Save time and costs

BenchSmart 96 simplifies and speeds workflows by significantly reducing, if not eliminating, the need to swap out tips and reservoirs.

Speed your workflow

Compared to a two-tray system where reservoirs and trays need to be swapped out, a two solution protocol needs fewer liquid handling steps with BenchSmart.

4-tray BenchSmart 96



2-tray system

	HEAD SIZE	LOW VOLUME 0.5-20 µL	MID VOLUME 5-200 µL	HIGH VOLUME 100-1000 µL
Performance Specifications	**Channel Accuracy** (Systematic Error)	20 µL: ± 1% (0.2 µL) 10 µL: ±1.2% (0.12 µL) 2 µL: ± 6% (0.12 µL) 1 µL: ± 12% (0.12 µL)	200 µL: ± 1% (2 µL) 100 µL: ± 1% (1 µL) 20 µL: ± 2% (0.4 µL) 5 µL: ± 5% (0.25 µL)	1000 µL: ± 1% (10 µL) 500 µL: ± 1% (5 µL) 100 µL: ± 2.5% (2.5 µL)
	Channel Precision (Random Error)	20 µL: ≤0.8% (0.16 µL) 10 µL: ≤1.0% (0.1 µL) 2 µL: ≤ 5% (0.1 µL) 1 µL: ≤ 10% (0.12 µL)	200 µL: ≤0.4% (0.8 µL) 100 µL: ≤0.8% (0.8 µL) 20 µL: ≤1.5% (0.3 µL) 5 µL: ≤3.5% (0.18 µL)	1000 µL: ≤ 0.4% (4 µL) 500 µL: ≤ 0.4% (2 µL) 100 µL: ≤1.25% (1.25 µL)
	Volume Increments	0.02 µL	0.2 µL	1 µL

BenchSmart 96

Simplicity for Superior Performance

So intuitive, anyone in the lab can use it!

BenchSmart's wide range of application modes – from basic pipetting to advanced features like multi-dispense – make setup a snap.

BenchSmart's Application Modes Simplify Operation

Basic pipetting

Transfer individual liquid samples quickly, reproducibly and with minimal effort – everything you need for routine, everyday pipetting.

Advanced pipetting

Take greater control of your workflow by making fine adjustments – with advanced features like setting a fixed volume, volume sequencing and mixing.

Multi-dispense

Dispense multiple aliquots from a single aspirated volume – set a series of fixed volume aliquots or sequence of different volumes.

Dilute

Simplify in-tip dilution of multiple sample volumes with BenchSmart's fixed or volume sequencing features.

Reverse pipetting

Automates a procedure commonly used with viscous liquids – positioning the piston past the first stop, aspirating, then depressing only to the first stop to dispense the aliquot.

BenchSmart 96

LTS

	CATALOG No.	MAX VOL	DESCRIPTION
BenchSmart 96	**30296705**	20 µL	0.5-20 µL BenchSmart 96, complete
	30296706	200 µL	5-200 µL BenchSmart 96, complete
	30296707	1000 µL	100-1000 µL BenchSmart 96, complete
	30296708	20 µL	Pipetting head 0.5-20 µL, BenchSmart 96
	30296709	200 µL	Pipetting head 5-200 µL, BenchSmart 96
	30296780	1000 µL	Pipetting head 100-1000 µL, BenchSmart 96
Acce	**17010394**	–	384-well adapter plate stage, white
	17010791	–	384-well adapter plate stage, black

High-throughput LTS Tips

for use with BenchSmart and Liquidator 96 benchtop pipettors only (1000 µL for BenchSmart only).

LTS

	CATALOG No.	VOL: MAX VOLUME	QTY: RACKS/CARTON	QTY: STACKS	QTY: TIPS/CARTON	FEATURES: PRESTERILIZED	FEATURES: FILTER	FEATURES: LOW RET
Tips in Racks	**17011185**	20 µL	10		960			
	17011186	20 µL	10		960	✓		
	17011117	20 µL	10		960	✓	✓	
	17010645	200 µL	10		960			
	17010647	200 µL	10		960	✓		
	17010646	200 µL	10		960	✓	✓	
	30281704	1000 µL	10		960			
	30296781	1000 µL	10		960	✓		
	30296782	1000 µL	10		960	✓	✓	
	17014399	20 µL	10		960	✓		✓
	17014400	20 µL	10		960	✓	✓	✓
	17014401	200 µL	10		960	✓		✓
	17014402	200 µL	10		960	✓	✓	✓
	30296783	1000 µL	10		960	✓		✓
	30296784	1000 µL	10		960	✓	✓	✓
Tips in Stacks	**17011187**	20 µL		10	960			
	17011287	20 µL		10	960	✓		
	17010648	200 µL		10	960			
	17010649	200 µL		10	960	✓		
	17014403	20 µL		10	960	✓		✓
	17014404	200 µL		10	960	✓		✓

Liquidator 96

Manual High-Throughput Pipetting

Fully manual processing of 96- and 384-well plates for genomics, proteomics and cellular-based assays.

- **Two volume ranges: 0.5-20 µL and 5-200 µL**
- **No power or programming: simply set the volume and pipette**
- **Four-position platform: process up to 3 plates at a time with no stacking**

A fast and highly intuitive pipetting system. Liquidator™ 96 streamlines application workflows for genomics, proteomics and cellular applications, simplifies plate replication, performs serial dilutions, plate washes or quickly moves samples between 96 and 384 well formats.

Count on Liquidator 96 to deliver the highest accuracy for PCR, qPCR, DNA sequencing and genotyping experiments. Generate precise 96-well ELISA, functional, cell viability or chemotaxis assays, all on one platform.

Increase speed

Because Liquidator doesn't require programming or significant training, anyone can be an expert in no time.

Accurate and reproducible

Both 20 µL and 200 µL Liquidator models offer superior accuracy and precision.

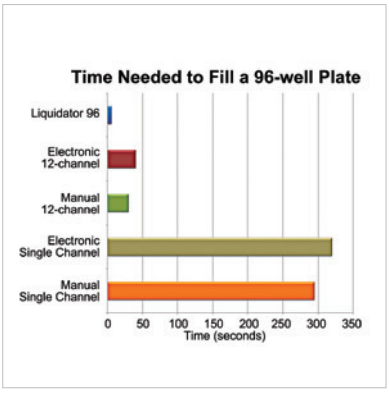
Liquidator 96 specifications

	ACCURACY	PRECISION
20 µL	20 µL: ± 1.0%	20 µL: ≤ 0.8%
	10 µL: ± 1.2%	10 µL: ≤ 1.0%
	2 µL: ± 6%	2 µL: ≤ 5%
	1 µL: ± 12%	1 µL: ≤ 10%

Volume range: 0.5-20 µL
Volume increment: 0.02 µL

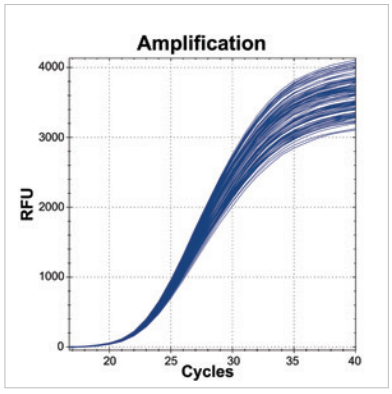
200 µL	200 µL: ± 1.0%	200 µL: ≤ 0.5%
	100 µL: ± 1.0%	100 µL: ≤ 0.8%
	20 µL: ± 2.0%	20 µL: ≤ 1.5%
	5 µL: ± 5.0%	5 µL: ≤ 3.5%

Volume range: 5-200 µL
Volume increment: 0.2 µL



Save time

Liquidator processes 96-well plates in as few as six seconds each, without sacrificing data quality.



Reduce errors

By pipetting all 96 wells simultaneously, Liquidator eliminates the risk of skipping or repeating wells or rows.

Liquidator 96

Liquidator 96

LTS

	CATALOG No.	DESCRIPTION
LIQ 96	**17014207**	0.5-20 µL Benchtop Pipetting System
	17010335	5-200 µL Benchtop Pipetting System

Liquidator 96 is supplied with height adjustment posts, a 384-well adapter plate stage and three racks of tips to get you started.

LIQ 96 Accessories	**17014270**	Height adjustment posts, 0.5-20 µL Liquidator
	17010396	Height adjustment posts, 5-200 µL Liquidator
	17010394	384-well adapter plate stage, white
	17010791	384-well adapter plate stage, black
	17011118	20 µL tip tray adapter, white
	17011119	20 µL tip tray adapter, black

High-throughput LTS Tips

LTS

		VOL	QTY			FEATURES		
	CATALOG No.	MAX VOLUME	RACKS/CARTON	STACKS	TIPS/CARTON	PRESTERILIZED	FILTER	LOW RET
Tips in Racks	**17011185**	20 µL	10		960			
	17011186	20 µL	10		960	✓		
	17011117	20 µL	10		960	✓	✓	
	17010645	200 µL	10		960			
	17010647	200 µL	10		960	✓		
	17010646	200 µL	10		960	✓	✓	
	17014399	20 µL	10		960	✓		✓
	17014400	20 µL	10		960	✓	✓	✓
	17014401	200 µL	10		960	✓		✓
	17014402	200 µL	10		960	✓	✓	✓
Tips in Stacks	**17011187**	20 µL		10				
	17011287	20 µL		10		✓		
	17010648	200 µL		10				
	17010649	200 µL		10		✓		
	17014403	20 µL		10		✓		✓
	17014404	200 µL		10		✓		✓

High-throughput LTS tips are for use with Rainin BenchSmart 96 and Liquidator 96 benchtop pipetting systems only.

Liquidator 96 reservoirs, plates, mats and strips

Reusable SBS footprint polypropylene reservoirs

Deepwell plates, mats, tube strips, cap strips

	CATALOG No.	DESCRIPTION		
Reservoirs	**17012602**	Non-sterile	Low-profile 96 pyramidal bottoms	5-pack
	17012603	Sterile	Low-profile 96 pyramidal bottoms	5-pack, indiv. wrap
	17012604	Non-sterile	Standard profile 96 pyramidal bottoms	5-pack
	17012605	Sterile	Standard profile 96 pyramidal bottoms	5-pack, indiv. wrap
	17012608	Non-sterile	Low-profile 8-channel V-bottom	5-pack
	17012609	Sterile	Low-profile 8-channel V-bottom	5-pack
	17012606	Non-sterile	Standard profile 8-channel V-bottom	5-pack
	17012607	Sterile	Standard profile 8-channel V-bottom	5-pack, indiv. wrap
	17012612	Non-sterile	Low-profile 12-channel V-bottom	5-pack
	17012613	Sterile	Low-profile 12-channel V-bottom	5-pack, indiv. wrap
	17012610	Non-sterile	Standard profile 12-channel V-bottom	5-pack
	17012611	Sterile	Standard profile 12-channel V-bottom	5-pack, indiv. wrap
Accessories	**17012623**	Non-sterile	2.2 mL 96-deepwell plate,	5-pack
	17012624	Sterile	2.2 mL 96-deepwell plate,	5-pack, indiv. wrap
	17012625	Non-sterile	Polymer sealing mat fits 96-deepwell plate	5-pack
	17012626	Sterile	Polymer sealing mat fits 96-deepwell plate	5-pack, indiv. wrap
	17012627	Non-sterile	1.2 mL racked microtube strips (8x12)	5-pack
	17012628	Sterile	1.2 mL racked microtube strips (8x12)	5-pack
	17012629	Non-sterile	Microtube 8-cap strips, box of 300	
	17012630	Sterile	Microtube 8-cap strips, box of 300	25 indiv. bags of 12 strips

Enhance ELISA Data Quality

ELISA data quality can be significantly improved if reagents are added simultaneously and process time is reduced. Our free white paper shows how Liquidator™ 96 used for ELISA workflows is able to generate more linear ELISA standard curves.

Get your free white paper "Improving Quantitative ELISA Data" at:

▸ **tinyurl.com/liq96elisa**

PureSpeed Sample Preparation

Simplify Your Workflow

PureSpeed™ tips radically simplify purification of biomolecules, including recombinant and native proteins. This innovative approach produces the highest concentration of purified biomolecules, allowing for many options for downstream functional assays.

When used in conjunction with Rainin E4 XLS+ electronic pipettes, PureSpeed becomes a powerful, semi-automated purification system. And, unlike gravity-flow affinity columns, spin columns, magnetic beads and loose resins, PureSpeed's unique process draws sample repeatedly over a low dead volume packed resin bed. The result: higher controlled contact time with the resin and higher efficiency binding.

E4 XLS+

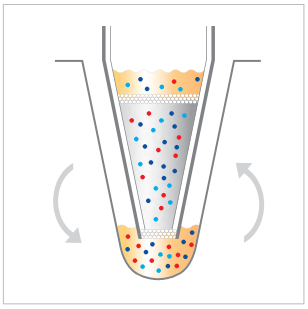
The E4 XLS+ electronic pipette automatically controls the purification process so you don't have to.

See PureSpeed

www.mt.com/purespeed

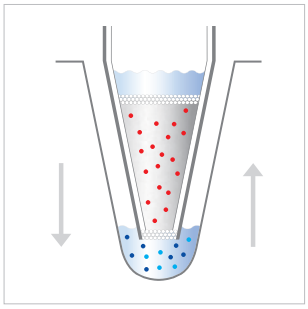
Expand Your Applications with PureSpeed

- Mass spec sample preparation
- Target expression screening
- Protein-protein interactions
- Immunoprecipitation assays
- Purification screening
- Biomarker discovery
- Biomarker validation
- Library screening & selection
- Structural analysis
- Immunogenicity
- Chromatin immunoprecipitation



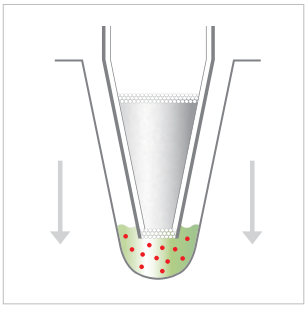
Capture

Sample is aspirated into the tip and the target biomolecule binds to the resin contained in the tip. The sample is drawn through the resin repeatedly to allow binding to reach equilibrium.



Purify

Similar to the capture step, multiple repetitive wash steps remove non-specific biomolecules and contaminants. The concentrated target biomolecules remain bound to the resin.



Enrich

Drawing the elution buffer repeatedly through the tip removes the concentrated target biomolecule from the resin into a fresh sample well. A minimal elution buffer volume is required, producing the highest concentration possible.

PureSpeed Applications

Simplify Proteomic and Genomic Experiments

PureSpeed sample preparation tips can streamline many types of experiments. Here are some examples.

Desalting mass spectrometry samples

PureSpeed C18 Desalting Tips offer the highest peptide capacity, 10 µg, which is critical for generating high-intensity sample spectra during mass spectrometry.

PureSpeed is an affordable, automated solution for purifying up to 12 samples at once, facilitating collection of high-quality sequence coverage data.

Immunoprecipitation

PureSpeed ProA and ProG pre-packed tips can be used with Rainin E4 XLS pipettes to perform direct and indirect immunoprecipitation. Compared to magnetic beads and loose agarose resin, PureSpeed offers a simpler protocol and delivers more concentrated immunoprecipitated sample.

With multichannel E4 XLS pipettes, PureSpeed can process up to 12 samples simultaneously.

Chromatin immunoprecipitation (ChIP)

Use PureSpeed to study the interactions between proteins and DNA in a cell. Unlike magnetic beads, loose agarose resin, spin columns and fixed staphylococcus cells, PureSpeed markedly reduces the hands-on time needed for ChIP.

For ChIP procedures, pre-packed ProA and ProG tips are able to produce highly concentrated samples. When used with the multichannel Rainin E4 XLS pipette, PureSpeed tips offer a truly parallel solution for ChIP experiments.

Recombinant and native protein purification

PureSpeed can simplify your method to capture, purify, and enrich recombinant proteins and native proteins, such as antibodies. Ni-IMAC, ProA and ProG resins can be completely saturated with recombinant proteins or antibodies.

Combined with high volume wash steps and low elution buffer volumes, PureSpeed delivers the highest concentration of purified material in as little as 15 minutes.

Ion exchange chromatography

Using the inexpensive and semi-automated PureSpeed system, it is easy to separate biomolecules based on their overall charge characteristics. Proteins, oligonucleotides, and other molecules can be resolved and purified using our pre-packed strong and weak anion and cation exchange tips.

Tips and Accessories

200 µL pipettes are used with 200 µL tips with 5 and 20 µL resins.
1200 µL pipettes with 1200 µL tips with 20 and 80 µL resins.

LTS

	CATALOG No.	RESIN VOLUME	DETAILS	
ProA Tips	17012561	5 µL		12 x 200 µL
	17012562	20 µL		12 x 200 µL
	17012568	20 µL		12 x 200 µL
	17012569	80 µL		12 x 200 µL
ProG Tips	17012563	5 µL		12 x 200 µL
	17012564	20 µL		12 x 200 µL
	17012570	20 µL		12 x 200 µL
	17012571	80 µL		12 x 200 µL
Ni-IMAC Tips	17012566	5 µL		12 x 200 µL
	17012567	20 µL		12 x 200 µL
	17012572	20 µL		12 x 200 µL
	17012573	80 µL		12 x 200 µL
Ab+ Tips	30382178	20 µL		12 x 1000 µL
	30382179	80 µL		12 x 1000 µL
Ion Exchange Tips	17014190	20 µL	Weak Cation	12 x 1000 µL
	17014191	80 µL	Weak Cation	12 x 1000 µL
	17014186	20 µL	Weak Anion	12 x 1000 µL
	17014187	80 µL	Weak Anion	12 x 1000 µL
	17014188	20 µL	Strong Cation	12 x 1000 µL
	17014189	80 µL	Strong Cation	12 x 1000 µL
	17014184	20 µL	Strong Anion	12 x 1000 µL
	17014185	80 µL	Strong Anion	12 x 1000 µL
C18 Desalting Tips	17014043	LTS tips		12 x 20 µL
	17014045	LTS tips		96 x 20 µL
	17014047	LTS tips		960 x 20 µL

UNV

C18 Desalting Tips	17014044	Universal tips	12 x 10 µL
	17014046	Universal tips	96 x 10 µL
	17014048	Universal tips	960 x 10 µL
PureSpeed Accessories	17012588	Accessory Kit: Base, SD card, 96-deepwell plate, ColorTrak Guides, Adapters	
	17012584	PureSpeed Base	in PT-ACC
	17012587	E4 XLS+ Micro SD Card with PureSpeed protocol	in PT-ACC
	17012582	Pack of 10 adapters, for 200 µL multichannel	in PT-ACC
	17012583	Pack of 10 adapters, for 1000 µL multichannel	in PT-ACC
	17013242	Adapter for 200 µL single channel	in Starter Kit
	17013226	Adapter for 1000 µL single channel	in Starter Kit
	17012623	96-deepwell plate, 5-pack	in PT-ACC

Electronic and Manual Repeaters

AutoRep E and AutoRep S

Flexible volume ranges and a wide selection of syringes ensure precise performance.

AutoRep S

Our ergonomic AutoRep™ S manual repeater pipette is simple to operate, lightweight and easy on the hands.

Useful when working in the range from 2 µL to 50 mL, AutoRep S is an economical choice for repeat dispensing up to 49 aliquots without refilling.

The volume reference card and central volume wheel simplify volume setting. The two-sided volume card fits in a slot on the instrument head.

AutoRep E

AutoRep E virtually eliminates all pipetting forces – a real concern with repeat pipetting. When used with Encode syringes, AutoRep E automatically senses and displays the tip volume.

Three modes:

- **Dispensing:** step counter displays volume
- **Auto dispensing:** learns your pace, so no need to program time intervals
- **Pipetting:** positive displacement

The no-memory/no-maintenance NiMH power pack charges in just three hours.

AutoRep S

AutoRep E

	CATALOG No.	DESCRIPTION	
AutoRep Repeater Pipettes	**17000723**	AutoRep E	Electronic repeater pipette, 1 µL – 50 mL
	17000556	AutoRep E	Charger adapter
	17003233	AutoRep E	NiMH battery pack
	17004324	AutoRep E	Charging base
	17013008	AutoRep S	Manual repeater pipette, 2 µL to 50 mL
	17013009	AutoRep S	Shelf mount
	17013010	AutoRep S	Volume table

Encode positive displacement syringes are ideal for repetitive pipetting of all liquids.

Encode syringes

AutoRep E displays syringe volume automatically, eliminating errors and guesswork. The wide selection of Encode™ syringes gives accurate delivery in any volume from 1 µL to 50 mL, and they are available sterile and non-sterile.

Sterile syringes are certified to be free of detectable DNA, RNase, Endotoxin and ATP. Product is sterilized with beta-radiation to obtain a SAL of 10^{-6}. Individually wrapped.

	CATALOG No.	DESCRIPTION		
Encode Syringes	**17007399**	0.1 mL	100 per pkg	
	17007400	0.1 mL	100 per pkg	Sterile
	17001871	0.5 mL	100 per pkg	
	17001872	0.5 mL	100 per pkg	Sterile
	17013004	1 mL	100 per pkg	
	17013002	1 mL	100 per pkg	Sterile
	17001873	1.25 mL	100 per pkg	
	17001874	1.25 mL	100 per pkg	Sterile
	17001877	2.5 mL	100 per pkg	
	17001878	2.5 mL	100 per pkg	Sterile
	17001883	5 mL	100 per pkg	
	17001884	5 mL	100 per pkg	Sterile
	17013005	10 mL	100 per pkg	
	17013003	10 mL	100 per pkg	Sterile
	17001875	12.5 mL	100 per pkg	
	17001876	12.5 mL	100 per pkg	Sterile
	17001879	25 mL*	50 per pkg	
	17001880	25 mL*	25 per pkg	Sterile
	17001881	50 mL*	25 per pkg	
	17001882	50 mL*	25 per pkg	Sterile
	17001885	Encode set, non-sterile, 20 each: 0.5, 1.0, 1.25, 2.5, 5, 10, 12.5 mL		
	17000546	25/50 mL**	10/pkg	
	17000547	25/50 mL** Wrapped	5/pkg	Sterile

* Includes one adapter. ** Adapter

Large Volume Liquid Handling

Disp-X – Dispense Safely and Easily

Built-in safety features prevent spills and ensure smooth, trouble-free operation.

Superior chemical compatibility

High-grade inert materials assure the purity of your reagents from the first aliquot to the last.

Safety first!

Discharge tube and closure cap prevent accidental dispensing or spilling of corrosive liquids.

Clear and easy control

Adjustable control knob facilitates volume setting.

Flexible options

Telescoping filling tubes accommodate different size bottles.

	CATALOG No.	DESCRIPTION		
Disp-X	**30373527**	Disp-X 0.5–5 mL bottle-top dispenser		
	30373528	Disp-X 1–10 mL bottle-top dispenser		
	30373529	Disp-X 2.5–25 mL bottle-top dispenser		
	30373750	Disp-X 5–50 mL bottle-top dispenser		
Accessories	**30373751**	Disp-X discharge tube	5 or 10 mL	
	30373752	Disp-X discharge tube	25 or 50 mL	
	30373753	Disp-X filling tube	5 or 10 mL	125–240 mm length
	30373754	Disp-X filling tube	5 or 10 mL	250–480 mm length
	30373755	Disp-X filling tube	25 or 50 mL	170–330 mm length
	30373756	Disp-X filling tube	25 or 50 mL	250–480 mm length
	30373757	Disp-X filling valve	5 or 10 mL	
	30373758	Disp-X filling valve	25 or 50 mL	
	30373759	Disp-X discharge valve	5 or 10 mL	
	30373760	Disp-X discharge valve	25 or 50 mL	

Precise Control at Your Fingertips

Pipet-X – Pipette Volumes to 100 mL

Ample flexibility for a wide range of liquid transfer and measurement options.

One tool is all you need

The Pipet-X pipet controller excels at all serological pipetting applications; uses standard plastic or glass serological pipets.

One-handed control

The ergonomic grip and buttons are designed for comfort with large or small hands.

Smart recharging

Pipet-X uses a rechargeable NiMH battery for up to eight hours of uninterrupted use. Can be used while recharging with power cord.

Contamination free

Built-in check valve and 0.2 micron hydrophobic membrane filter protect the Pipet-X internal components from contamination during aspiration.

	CATALOG No.	DESCRIPTION
Pipet-X	**17011733**	Pipet-X pipet controller, 0.1–100 mL
	17011744	Pipet-X silicone adapter with check valve
	17011745	Pipet-X spare membrane filter: 0.2 µm, sterile
	17011746	Pipet-X nickel-metal hydride battery

Stop Pipette Failures Before They Occur

Restore Pipettes to Their Original Condition

Rainin performance maintenance plans target the needs of all labs.

Why do pipettes need routine service?

Seals

Seals are most prone to wear and will perform without leaking for up to a year or more.

Pistons

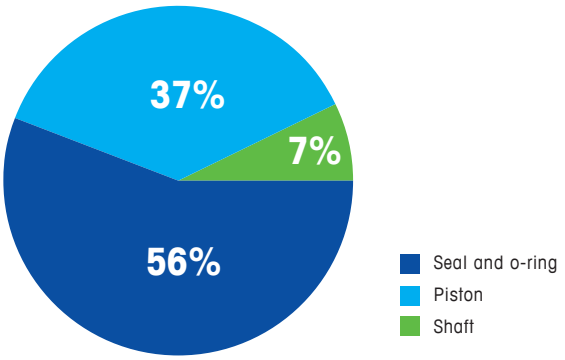
Piston surfaces deteriorate, especially when using corrosive or aggressive samples.

Shafts

Shaft ends can wear or get damaged, particularly if excessive force is used to mount tips.

Sealing system failures

As found service data on more than 120,000 pipettes (all brands) show the relative frequency with which sealing system components fail.



Get Better Results!

GPP – Good Pipetting Practice

Improve your data quality with Good Pipetting Practice™ (GPP™) – METTLER TOLEDO's comprehensive, systematic approach to maximizing pipetting accuracy and repeatability.

Apply the principles of GPP in your lab and everyone on your team will:

- Understand the array of liquid handling instruments and options available
- Know how to optimize their workflow for each of the liquid handling steps involved
- Gain the range of pipetting skills necessary to produce reliable data
- Appreciate how ergonomics can influence data production and their own well being
- Recognize the risk associated with out-of-calibration pipettes and the role of routine checks vs. professional service.

Specification in this publication are subject to change without notice.

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Pipetman is a registered trademark of Gilson Inc. The Bluetooth word mark is a registered trademark of Bluetooth SIG, Inc.

17700924/EN

Your Pipettes Are Assets

Manage Them That Way!

EasyDirect Pipette Management Software with SmartStand – a simple, yet sophisticated system to track and manage your valuable pipette inventory.

- Identify pipettes due for calibration/service
- Manage quick checks between regular calibration intervals
- Know the number and location of all your pipettes (regardless of brand!)
- Read pipette service data – right at the bench
- Link multiple data locations via Bluetooth® wireless technology

Whether you're part of a large pharmaceutical research organization or a medium-sized academic lab, EasyDirect software integrated with SmartStand creates a flexible, scalable pipette management and tracking environment that easily adapts to your specific needs and SOPs.

- Never miss another calibration interval
- Reduce the time and resources required to manage calibration data
- Know the location of every pipette in a lab or your entire organization
- Make pipette data readily available in a single, centralized database
- One EasyDirect software license is included with every SmartStand

SmartStand + EasyDirect = Easy Pipette Management

SmartStand

- Reads the data stored on your pipette
- Provides pipette calibration/service status right at your bench
- Quick charges Rainin electronic E4 XLS and XLS+ pipettes
- Stands alone or mounts to a wall or shelf

EasyDirect Pipette Asset Management

- Manages all of your pipette data
- Creates reports for printing and exports data for other applications
- Links to multiple SmartStands via Bluetooth
- Easily adapts and expands to meet your needs

	CATALOG No.	DESCRIPTION
SmartStand	**30312897**	SmartStand stand with EasyDirect software
	30312899	Fastening kit – magnetic
	30313000	Fastening kit – shelf
	30313247	Fastening kit – bracket
	17012879	Electronic pipette power supply
	30381929	EasyDirect – Pipette Asset Management (PAM) software, basic license
	30449204	SmartStand USB Bluetooth/Adapter

FREE

Technique Posters!

Reliable results require quality pipettes and tips – and the right pipetting techniques for a given application. Rainin technique posters are a great way to remind your research team to optimize their workflows and practice good ergonomics.

Other Rainin technique posters include:

Stretch! • Get Better Results • Bench Posture – It Matters! • Quick Check

Order yours today – they're free!

www.mt.com/rainin-posters

METTLER TOLEDO