



Ergonomic Pipettes
LTS LiteTouch System
High-Throughput Systems
BioClean Green Tips
BioClean Ultra Tips
Pipette Management
Good Pipetting Practice
Global Service Network



Pipettes, Tips and Service

Quality Products for Superior Performance

NEW Products to Enhance Your Workflow

Electronic
Vero



Pipettes • Tips • Service

PFAS-Free
LR Tips



NEW

Rainin Vero Electronic Pipettes

Our new innovative line of electronic pipettes that makes customers' wishes come true. Available in LTS, single and multichannel models | [See page 6](#)

NEW

PFAS-Free Low Retention Tips

Our greener option: LR tips without "Forever Chemicals". Available in racks in volumes 20, 200 and 1000 | [See page 61](#)

Service Tracking Feature

Service Order History

/ Orders

My Service Orders

Open Orders

La

PO #

Order No.

O

X215993US

[220981401](#)Mai
C:

5993US

[220981402](#)Mai
C:[220975563](#)On:
C:

Pipettes

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NEW

Track Your Pipette Through Service!

This new online feature provides an instant up-to-date service status and much more |

See page 44

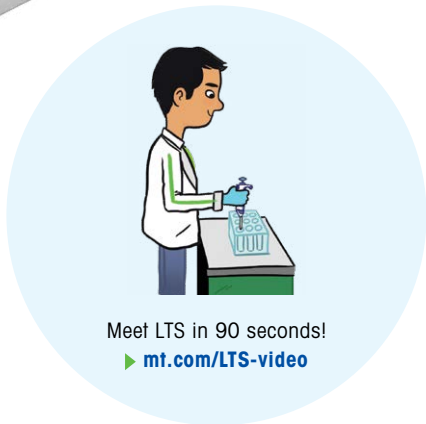
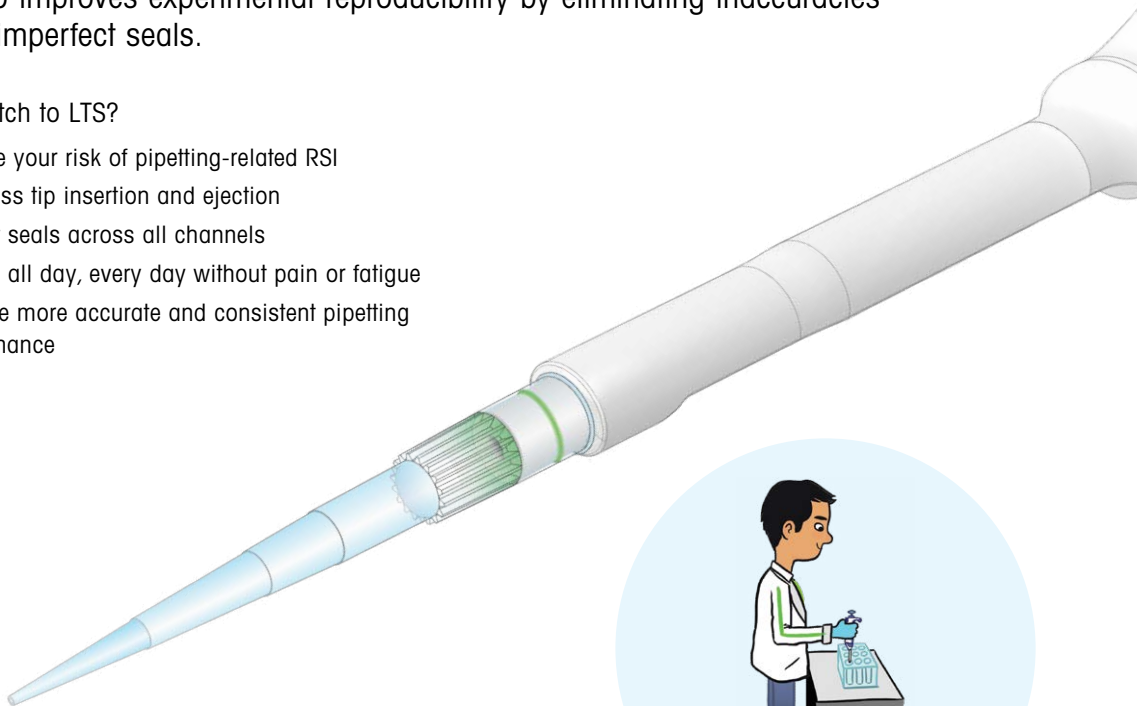
The Rainin LTS LiteTouch System

Because Pipetting Shouldn't Hurt

Rainin revolutionized pipetting with the LiteTouch™ System. LTS™ not only virtually eliminates the harmful forces associated with tip loading and ejection, but also improves experimental reproducibility by eliminating inaccuracies due to imperfect seals.

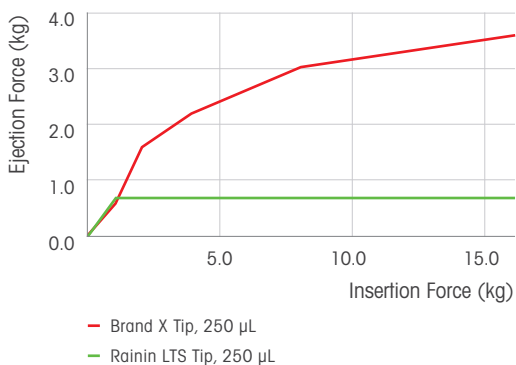
Why switch to LTS?

- Reduce your risk of pipetting-related RSI
- Effortless tip insertion and ejection
- Perfect seals across all channels
- Pipette all day, every day without pain or fatigue
- Achieve more accurate and consistent pipetting performance



Meet LTS in 90 seconds!
▶ mt.com/LTS-video

Good ergonomics = better, more consistent results



Accuracy requires consistency, yet consistency is difficult to maintain when a user's hands are fatigued or in pain. Pipetting is highly repetitive and the effects of pipetting forces – jamming tips onto shafts, then struggling to eject them – are cumulative, hence the documented relationship between pipetting accuracy and the effects of pipetting forces.

At 0.6 kg, LTS all but eliminates tip loading/ejecting forces, so users face none of the debilitating issues one experiences when working with standard tips.

▶ mt.com/lts



**Typical
Shaft/Tip**



**LTS
Shaft/Tip**



Effortless tip loading and ejection

Achieving a reliable seal with standard tips relies heavily on the strength (and persistence) of the user. Conventional pipette shaft-ends and tips are cone-shaped, so a tight seal relies on the strength of the user and pliability of the tip material. What's more, tip geometries vary from manufacturer to manufacturer, affecting the seal consistency and the accuracy of dispensed volumes.

LTS shafts and tips are cylindrical with a unique sealing ring inside the tip. Tips slide easily onto the shaft, stop when properly seated and make a perfect seal every time. Once seated, LTS tips won't fall off, yet slide off easily when pushed by the ejector.

Are you at risk?

- **Pipetting** is one of the most repetitive tasks in the laboratory.
- **More than 30%** of all workplace injuries are musculoskeletal disorders, including repetitive strain injuries and cumulative trauma disorders (injuries associated with repetition, excessive force and poor posture).
- Pipettes without LTS require up to **12 kg* of force** to complete a pipetting cycle.
- Forces should not exceed 30% of maximum average strength capacity:

3 kg

For men

2.1 kg

For women

- You are at risk if:
 - You pipette more than **an hour a day** or **300 hours a year**.
 - You use non-LTS pipettes that can require up to **12 kg* of force**.
- Prevention is the key to reducing musculoskeletal disorders and repetitive strain injuries.

*What is 12 kg of force equal to?

Driving a stake into the ground with a sledgehammer

Turning a manual can opener to open a can of food

Picking up a small child

Download our pipetting ergonomics white paper
[▶ mt.com/pipetting-ergo](https://www.mt.com/pipetting-ergo)

Rainin Vero

Confidence in Every Pipetting Step

Rainin Vero™ electronic pipettes improve consistency with customizable pipetting protocols and industry-leading accuracy and precision.

Reliable data

Achieve more reliable results with industry-leading accuracy and precision. Improve consistency with adjustable flow rate, mixing parameters, custom protocols, and pipetting modes for multi-dispense and more.

Designed for comfort

Lightweight and evenly balanced handle design delivers all day comfort.

Eliminate errors

Easily create, save, and switch between protocols, streamlining repetitive tasks and reducing the risk of mistakes. The carefully designed interface eliminates accidental setting changes or pipetting actions.

Lower compliance risk

Equipped for regulated laboratories with password protection, accessible service records, and service interval alarms. Minimize deviations by locking SOPs.

Electronic tip ejection

Reduce the risk of repetitive strain injury by eliminating manual tip ejection forces

Color coded

The color-coded ring and name plate allow easy identification of the pipette volume range and matching tips



Charging Stand

Small footprint charging stand for three Vero pipettes
Wall power supply is included

LTS

	CATALOG No.	VOLUME RANGE
Vero Single Channel	30983887	0.5–10 µL
	30983908	2–20 µL
	30983909	10–100 µL
	30983910	20–200 µL
	30983911	20–300 µL
	30983913	100–1000 µL
	30983914	200–2000 µL
	31103649	Vero Charging Stand

LTS pipettes use LTS tips. Li-Ion battery and wall power supply are included. For pipette specifications, [see page 18](#).

Note: Availability may vary depending on the region. Please inquire with your local sales representative.

New Electronic Era!

Intuitive display

Menu tiles make changing modes and settings faster than scrolling menus



Joystick control

Rapidly adjust volume, flow rate, and mixing parameters with just a few taps of the joystick

Ergonomic trigger buttons

Choose thumb (joystick) or index finger (trigger button) operation





LTS	CATALOG No.	VOLUME RANGE
Vero Multichannel	8-Channel	
	31034227	0.5–10 µL
	31034228	2–20 µL
	31034229	5–50 µL
	31034230	20–200 µL
	31034231	20–300 µL
	31034232	100–1200 µL
	12-Channel	
	31034233	0.5–10 µL
	31034234	2–20 µL
31034235	5–50 µL	
31034236	20–200 µL	
31034237	20–300 µL	
31034238	100–1200 µL	

LTS pipettes use LTS tips. Li-Ion battery and wall power supply are included. For pipette specifications, [see page 19](#).

► mt.com/vero

Rainin Pipet-Lite XLS+

Performance You Can Feel

Rainin Pipet-Lite® XLS+ raises the bar on comfort, performance and control. Many volume sizes available in both LTS  and universal  formats.

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 chemicals. The ejector slides off in a single easy motion for cleaning.



CATALOG No. VOLUME RANGE

	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

Universal pipettes use universal tips. For pipette specifications, see page 20.

[mt.com/single-channel](https://www.mt.com/single-channel)

Advanced asset management

The RFID tag on board every Rainin XLS+ pipette stores calibration data that is electronically read by the Rainin SmartStand and PipetteX software. [See page 69](#) for details.

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

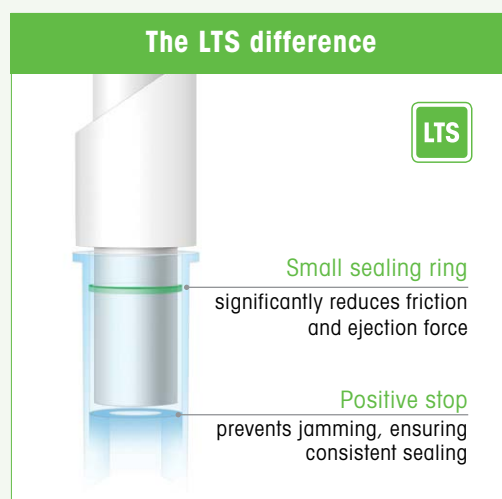


You Deserve LTS

Happy Hands Yield Better Results!

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

The LTS difference



LTS

CATALOG No.

VOLUME RANGE

Pipet-Lite XLS+	CATALOG No.	VOLUME RANGE
	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

LTS pipettes use LTS tips.
For pipette specifications, [see page 20](#).



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, airtight fit with minimal force.
- A thin sealing ring near the top of an LTS tip virtually eliminates friction between the tip and shaft, minimizing ejection force.
- Positive stop prevents over-insertion of the tip and ensures an airtight seal.



Rainin E4 XLS+

Simple, Versatile and Secure

Many volume sizes available in both LTS  and universal  formats.

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 onboard for later use.

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



• **A “smart” charging stand!**

SmartStand charges up to four E4s simultaneously and offers a simple yet sophisticated way to track and manage every XLS brand pipette in your lab. [See page 69.](#)

Performance

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

The app master

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

Save your protocols

Store multiple custom protocols in the onboard 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 deviations from your pipetting SOPs 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.

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

LTS pipettes use LTS tips. Li-Ion battery and wall power supply are included. For more information about LTS, [see page 4](#). For pipette specifications, [see page 20](#).

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 pipettes use universal tips. Li-Ion battery and wall power supply are included. For pipette specifications, [see page 20](#).

► [mt.com/single-channel](https://www.mt.com/single-channel)

Rainin XLS+ Multichannels

Performance You Can Feel!

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

Available only in LTS. 

E4 XLS+ Electronic Multichannel

- 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.



E4 XLS+ Electronic

Pipet-Lite XLS+ Manual

LTS

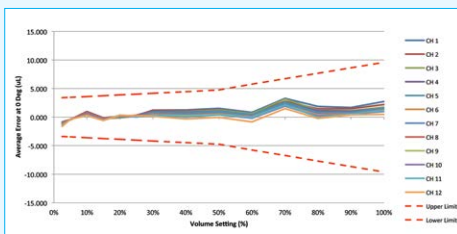
CATALOG No. VOLUME RANGE

E4 XLS+ Electronic 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

LTS pipettes use LTS tips. Li-Ion battery and wall power supply are included. For more information about LTS, [see page 4](#). For pipette specifications, [see page 21](#).

Industry-leading Channel-to-Channel Consistency

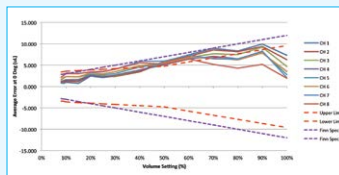
There's a reason Rainin multichannel pipettes are the market leader: ease-of-use and exceptional channel-to-channel consistency.



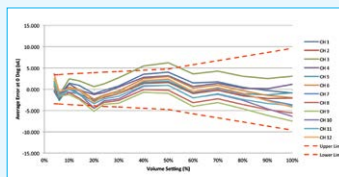
Rainin XLS+ 1200 µL



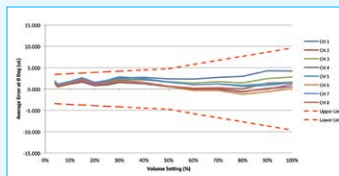
VS.



Competitor A • 1200 µL



Competitor B • 1200 µL



Competitor C • 1200 µL

Pipet-Lite XLS+ Manual Multichannel

Ergonomic design and exceptional performance

- Balanced, lightweight, reduced loading and ejection forces.
- Easy quick-lock volume setting – no drift
- Rugged and durable.



CATALOG No. VOLUME RANGE

	CATALOG No.	VOLUME RANGE
Pipet-Lite XLS+ Manual Multichannel	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	

LTS pipettes use LTS tips.
 For more information about LTS, [see page 4](#).
 For pipette specifications, [see page 21](#).

► mt.com/multichannel

Rainin 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.

Available only in LTS. 

Pipet-Lite XLS Adjustable Manual Multichannel

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 Adjustable	6-Channel	
	17011841	20–300 µL
	17011840	100–1200 µL
	8-Channel	
	17011844	5–50 µL
	17011843	20–300 µL
	17011842	100–1200 µL

LTS pipettes use LTS tips.

For more information about LTS, [see page 4](#).

For pipette specifications, [see page 21](#).

E4 XLS Adjustable Electronic Multichannel

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 Adjustable	6-Channel	
	17012327	20–300 μ L
	17012328	100–1200 μ L
	8-Channel	
	17012329	5–50 μ L
	17012330	20–300 μ L
	17012331	100–1200 μ L

LTS pipettes use LTS tips. Li-Ion battery and wall power supply are included. For more information about LTS, [see page 4](#). For pipette specifications, [see page 21](#).

► mt.com/elect-adj-spacer

Reservoirs for Multichannel Pipettes

- Capacity 75 mL
- Available with and without lid
- Great addition for repeat dispensing

CATALOG No.		QUANTITY
30852500	Reservoir with lid, non-sterilized	25/pack
30852501	Reservoir without lid, non-sterilized	50/pack





Pipette Starter Kits

Multiple Ways to Buy New Rainin XLS+ Pipettes!

Available with charging stands or Hang-Ups™

Starter Kits with SmartStand include PipetteX software for easy pipette management (see page 71):

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

Ordering Information

		Single Channel Manual					Multichannel Manual				Single Channel Electronic			SmartStand w/ PipetteX software	Hang-Ups	Vero Charging Stand	
		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
LTS	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 w/ PipetteX software	Hang-Ups	Vero Charging Stand
	30386738	✓	✓	✓	✓										✓		
	30579469	✓	✓	✓	✓											✓	
	30386597	✓		✓	✓	✓									✓		
	30579367	✓		✓	✓	✓										✓	
	30386599			✓	✓	✓									✓		
	30386737				✓	✓	✓								✓		
	30386734			✓	✓	✓		✓							✓		
	30386733			✓	✓	✓			✓						✓		
	30386736			✓	✓	✓				✓					✓		
	30386735			✓	✓	✓					✓				✓		
	30386739							✓	✓						✓		
	30456871			✓	✓	✓										✓	
	30579472							✓	✓							✓	
	30386740									✓	✓				✓		
	30579471									✓	✓					✓	
	30386731											✓	✓	✓	✓		
	31101720*											✓	✓	✓			✓
UNV	30386598	✓		✓	✓	✓								✓			
	30386730			✓	✓	✓								✓			
	30456872			✓	✓	✓									✓		
	30386732										✓	✓	✓	✓			
	17008708**			✓	✓	✓						✓	✓	✓		✓	

SmartStand + PipetteX software = Easy Pipette Management



► m1.com/starterkit

Other Options



NEW

* 31101720
Rainin Vero
Electronic Pipette
Starter Kit

LTS

(Includes Vero
charging stand)



** 17008708
Rainin Classic
Manual Pipette
Starter Kits

UNV

(Includes a set of
Hang-Ups)

Pipette Performance Specifications

Specifications at 10%, 50% and 100% volume

Single-channel models

Electronic pipettes

- Rainin Vero



PIPETTE VOLUME	VOL		INCREMENT μL		SYSTEMATIC ERROR		RANDOM ERROR	
	VOLUME	ELECTRONIC	%	(\pm) μL	%	(\leq) μL		
10 μL	1 μL	0.01	2.4	0.024	1.2	0.012		
	5 μL		1.2	0.060	0.60	0.030		
	10 μL		0.90	0.090	0.40	0.040		
20 μL	2 μL	0.02	4.5	0.090	1.5	0.030		
	10 μL		1.1	0.11	0.50	0.050		
	20 μL		0.80	0.16	0.30	0.060		
100 μL	10 μL	0.1	2.0	0.20	1.0	0.10		
	50 μL		0.70	0.35	0.23	0.15		
	100 μL		0.50	0.50	0.15	0.15		
200 μL	20 μL	0.2	2.3	0.46	0.70	0.14		
	100 μL		0.80	0.80	0.25	0.25		
	200 μL		0.60	1.2	0.15	0.30		
300 μL	30 μL	0.2	1.8	0.54	0.60	0.18		
	150 μL		0.60	0.90	0.20	0.30		
	300 μL		0.60	1.8	0.15	0.45		
1000 μL	100 μL	1	2.0	2.0	0.50	0.50		
	500 μL		0.60	3.0	0.20	1.0		
	1000 μL		0.45	4.5	0.15	1.5		
2000 μL	200 μL	2	2.7	5.4	0.60	1.2		
	1000 μL		0.80	8.0	0.20	2.0		
	2000 μL		0.60	12	0.18	3.6		

Multichannel models

Electronic pipettes

- Rainin Vero



PIPETTE VOLUME	VOL		INCREMENT μL		SYSTEMATIC ERROR		RANDOM ERROR	
	VOLUME	ELECTRONIC	%	(\pm) μL	%	(\leq) μL		
10 μL	1 μL	0.01	3.9	0.039	3.0	0.030		
	5 μL		1.4	0.070	0.80	0.040		
	10 μL		0.90	0.090	0.50	0.050		
20 μL	2 μL	0.02	5.0	0.10	3.0	0.060		
	10 μL		1.4	0.14	1.0	0.10		
	20 μL		0.90	0.18	0.30	0.060		
50 μL	5 μL	0.5	3.4	0.17	1.4	0.070		
	25 μL		1.1	0.275	0.40	0.10		
	50 μL		0.70	0.35	0.30	0.15		
200 μL	20 μL	0.2	1.9	0.38	1.0	0.20		
	100 μL		0.70	0.70	0.25	0.25		
	200 μL		0.60	1.2	0.20	0.40		
300 μL	30 μL	0.2	1.9	0.57	1.0	0.30		
	150 μL		0.80	1.2	0.25	0.375		
	300 μL		0.60	1.8	0.20	0.60		
1200 μL	100 μL	1	1.9	1.9	0.60	0.60		
	120 μL		1.9	2.28	0.60	0.72		
	600 μL		0.70	4.2	0.20	1.2		
	1200 μL		0.60	7.2	0.15	1.8		

Specifications subject to change without notice.

Pipette Performance Specifications

Specifications at 10%, 50% and 100% volume

Single-channel models

Manual pipettes

- Pipet-Lite XLS/XLS+
- Rainin Classic

Electronic pipettes

- E4 XLS/XLS+



PIPETTE VOLUME	VOL		INCREMENT μL		SYSTEMATIC ERROR		RANDOM ERROR	
	VOLUME	MANUAL	ELECTRONIC	%	$(\pm) \mu\text{L}$	%	$(\leq) \mu\text{L}$	
2 μL	0.2 μL	0.002	n/a	12	0.024	6.0	0.012	
	1 μL			2.7	0.027	1.3	0.013	
	2 μL			1.5	0.030	0.70	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	0.60	0.030	
	10.0 μL			1.0	0.10	0.40	0.040	
20 μL	2 μL	0.02	0.02	7.5	0.15	2.0	0.040	
	10 μL			1.5	0.15	0.50	0.050	
	20 μL			1.0	0.20	0.30	0.060	
100 μL	10 μL	0.2	0.1	3.5	0.35	1.0	0.10	
	50 μL			0.80	0.40	0.24	0.12	
	100 μL			0.80	0.80	0.15	0.15	
200 μL	20 μL	0.2	0.2	2.5	0.50	1.0	0.20	
	100 μL			0.80	0.80	0.25	0.25	
	200 μL			0.80	1.6	0.15	0.30	
300 μL	30 μL	0.5	0.2	2.5	0.75	1.0	0.30	
	150 μL			0.80	1.2	0.25	0.375	
	300 μL			0.80	2.4	0.15	0.45	
1000 μL	100 μL	2	1	3.0	3.0	0.60	0.60	
	500 μL			0.80	4.0	0.20	1.0	
	1000 μL			0.80	8.0	0.15	1.5	
2000 μL	200 μL	2	2	3.0	6.0	0.60	1.2	
	1000 μL			0.80	8.0	0.20	2.0	
	2000 μL			0.80	16	0.12	2.4	
5000 μL	500 μL	5	5	2.4	12	0.60	3.0	
	2500 μL			0.60	15	0.20	5.0	
	5000 μL			0.60	30	0.16	8.0	
10 mL	1 mL	20	10	5.0	50	0.60	6.0	
	5 mL			1.0	50	0.20	10	
	10 mL			0.60	60	0.16	16	
20 mL	2 mL	20	20	5.0	100	0.60	12	
	10 mL			1.0	100	0.20	20	
	20 mL			0.60	120	0.16	32	

Multichannel models

Manual pipettes

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

Electronic pipettes

- E4 XLS/XLS+
- E4 XLS Adjustable Spacer

PIPETTE VOLUME	VOL		INCREMENT μL		SYSTEMATIC ERROR		RANDOM ERROR – MANUAL		RANDOM ERROR – ELECTRONIC	
	VOLUME	MANUAL / ELECTRONIC	%	(\pm) μL	%	(\leq) μL	%	(\leq) μL	%	(\leq) μL
Multichannel Pipettes	10 μL	1.0 μL	0.02/0.01	4.0	0.040	5.0	0.050	3.0	0.030	
		5.0 μL		1.5	0.075	1.5	0.075	0.80	0.040	
		10.0 μL		1.0	0.10	0.50	0.050	0.50	0.050	
	20 μL	2 μL	0.02	7.5	0.15	4.0	0.080	3.0	0.060	
		10 μL		1.5	0.15	1.5	0.15	1.0	0.10	
		20 μL		1.0	0.20	0.50	0.10	0.30	0.060	
	50 μL	5 μL	0.05	3.5	0.175	2.0	0.10	1.5	0.075	
		25 μL		1.2	0.30	0.50	0.125	0.40	0.10	
		50 μL		0.80	0.40	0.40	0.20	0.30	0.15	
200 μL	20 μL	0.2	2.5	0.50	1.2	0.24	1.0	0.20		
	100 μL		0.80	0.80	0.25	0.25	0.25	0.25		
	200 μL		0.80	1.6	0.30	0.60	0.20	0.40		
300 μL	30 μL	0.5/0.2	2.5	0.75	1.5	0.45	1.0	0.30		
	150 μL		0.80	1.2	0.30	0.45	0.25	0.375		
	300 μL		0.80	2.4	0.25	0.75	0.20	0.60		
1200 μL	100 μL	2/1	3.6	3.6	1.0	1.0	0.60	0.60		
	600 μL		0.80	4.8	0.30	1.8	0.20	1.2		
	1200 μL		0.80	9.6	0.20	2.4	0.15	1.8		

Specifications subject to change without notice.



Rainin NanoRep

Electronic Repeater Pipette

Automatically dispense up to 1,000 aliquots
– with no contact necessary from vessel to vessel.

- Lightweight, comfortable grip
- Transfer volatile, viscous and dense liquids
- No Touch Off™ dispense
- Aliquots as low as 100 nL, with increments as low as 10 nL – down to 1/10,000th the nominal volume of any syringe tip
- Up to 1,000 aliquots from one aspiration



Conserve samples, reagents and syringe tips with up to 1,000 aliquots per tip: 100 µL (shown), 10 mL, 50 mL

Avoid contact contamination with No Touch Off dispense – down to 100-nanoliter aliquots



CATALOG No. DESCRIPTION

	CATALOG No.	DESCRIPTION
NanoRep	30568171	Electronic NanoRep repeater pipette (includes: charging cable, Hang-Up and 10 mL syringe tip)
	17012878	Wall power supply
	30584027	Hang-Ups (for pipettes with fingerhook)
	30575784	NanoRep stand



Cushioned joystick to navigate and operate

Effortless tip ejection

Enjoy crisp readability and track progress visually on clear color screen

Fingerhook allows a relaxed grip for greater comfort and control

Comfortable manual dispensing with left or right side buttons, or joystick. NanoRep also dispenses automatically at adjustable timed intervals

NanoRep syringe tips | Specifications

Tip Vol. mL	Systematic Error			
	1%	10%	50%	100%
0.1	1 μ L \pm 8% (0.080 μ L)	10 μ L \pm 1.6% (0.16 μ L)	50 μ L \pm 0.90% (0.45 μ L)	100 μ L \pm 0.90% (0.90 μ L)
10	100 μ L \pm 2% (2.0 μ L)	1 mL \pm 0.40% (4.0 μ L)	5 mL \pm 0.40% (20 μ L)	10 mL \pm 0.30% (30 μ L)
50	500 μ L \pm 2% (10 μ L)	5 mL \pm 0.25% (12.5 μ L)	25 mL \pm 0.25% (62.5 μ L)	50 mL \pm 0.25% (125 μ L)

Tip Vol. mL	Random Error			
	1%	10%	50%	100%
0.1	1 μ L \leq 12% (0.12 μ L)	10 μ L \leq 2.5% (0.25 μ L)	50 μ L \leq 0.80% (0.40 μ L)	100 μ L \leq 0.50% (0.50 μ L)
10	100 μ L \leq 3% (3.0 μ L)	1 mL \leq 0.35% (3.5 μ L)	5 mL \leq 0.20% (10 μ L)	10 mL \leq 0.15% (15 μ L)
50	500 μ L \leq 3.5% (17.5 μ L)	5 mL \leq 0.45% (22.5 μ L)	25 mL \leq 0.20% (50 μ L)	50 mL \leq 0.10% (50 μ L)

Tip Volume

mL	Min. Aliquot* μ L	Min. Incr.** μ L
0.1	0.1	0.01
10	10	1
50	50	5

*Min. Aliquot = Smallest dispensable volume/tip.

**Min. Increment = Lowest incremental adjustment/tip.

	CATALOG No.	MAX. VOLUME	QUANTITY	
NanoRep Syringe Tips	30575705	0.1 mL	100 per pkg	
	30575777	0.1 mL	25 per pkg	Sterilized
	30575707	10 mL	100 per pkg	
	30575779	10 mL	25 per pkg	Sterilized
	30575789	50 mL	25 per pkg	
	30575781	50 mL	25 per pkg	Sterilized

mt.com/nanorep

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, sterilized disposable syringe tips are packed in convenient racks.

No cross contamination

Positive displacement prevents aerosol formation and protects samples from contamination.



[mt.com/pos-d](https://www.mt.com/pos-d)

CATALOG No.	VOL	QTY	
	VOLUME RANGE	RACKS/CARTON	TIPS/CARTON
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	CATALOG No.	VOLUME RANGE	RACKS/CARTON	TIPS/CARTON	STERILIZED
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		

Specifications

Nominal Volume	Volume Increment	Systematic Error		Random Error	
		(µL)	(%)	(µL)	(%)
10	1 µL	0.090	9.0	0.030	3.0
	5 µL	0.10	2.0	0.030	0.60
	10 µL	0.15	1.5	0.060	0.60
25	3 µL	0.249	8.3	0.081	2.7
	10 µL	0.27	2.7	0.080	0.80
	25 µL	0.30	1.2	0.10	0.40
50	20 µL	0.34	1.7	0.20	1.0
	50 µL	0.70	1.4	0.30	0.60
100	10 µL	0.50	5.0	0.20	2.0
	50 µL	0.75	1.5	0.30	0.60
	100 µL	1.0	1.0	0.40	0.40
250	50 µL	1.5	3.0	0.30	0.60
	100 µL	1.7	1.7	0.30	0.30
	250 µL	2.5	1.0	0.50	0.20
1000	100 µL	3.0	3.0	1.6	1.6
	500 µL	5.0	1.0	2.5	0.50
	1000 µL	8.0	0.80	4.0	0.40

Why Consider Positive Displacement?

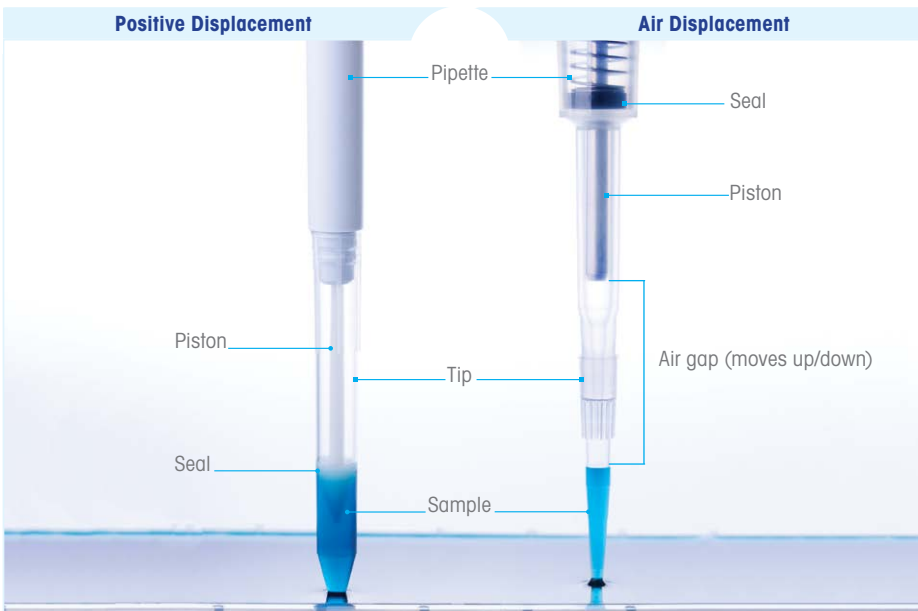
A Quick Roundup

Ideal for wide range of liquids

Positive displacement outperforms air displacement in the handling of viscous and volatile liquids. Because they can be slow and difficult to move in and out of a pipette tip, viscous liquids can stretch and compress the air column inside an air displacement pipette, leading to measurement inaccuracies. Volatile liquids constantly emit vapor, so when aspirated into an air displacement pipette tip, air pressure builds up inside the pipette and can push liquid out of the tip without any dispense action initiated by the user. This can also lead to measurement inaccuracies.


Extreme accuracy

Positive displacement pipettes use syringe tips that contain an inner plastic piston extending the full length of the tip. At zero volume, the end of the inner piston is fully extended, closing off the opening of the tip. As a user aspirates liquid, the end of the piston rises, pulling liquid into the tip. With zero air between the piston and the liquid in a positive displacement system, the pressures that viscous and volatile liquids exert on air do not come into play, and extreme accuracy is preserved.



Rainin Classic

Timeless Design, Exceptional Performance

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

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 high-quality PVDF materials ensure durability, fewer out-of-tolerance failures and low cost of ownership.

Lower plunger force

The Rainin Classic's plunger force is 25% less than similar pipettes.

Comfort

The fingerhook allows a lighter grip during pipetting cycles, for improved ergonomics.

Great value – lower prices!



CATALOG No. VOLUME RANGE

	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

Universal pipettes use universal tips.
For pipette specifications, [see page 20](#).

Rainin Disp-X

Large Volume Bottle Top Dispensing

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

Superior chemical compatibility

High-grade inert materials ensure 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	

► [mt.com/disp-x](https://www.mt.com/disp-x)

96-Channel Pipetting

Faster, More Accurate Workflows

By making it possible to perform experiments more efficiently, accurately and reliably, 96-channel pipettors have become indispensable tools in many life science laboratories. They can significantly reduce the time and effort required to perform experiments, while providing higher accuracy and reproducibility. They are particularly useful in applications that involve large-scale screenings, such as drug discovery, ELISAs, proteomics and cell-based assays.

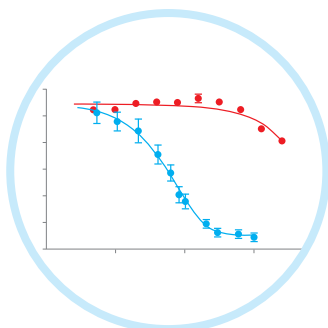
Unlike single- and multichannel pipettes, which are more dependent on user's technique, manual and semi-automated 96-channel pipettors are ideal for research and scale-up, and can often provide more reliable and reproducible results. They also dispense small volumes of liquid with high accuracy, which is important in many applications that require precise measurements.

Rainin offers 96-channel pipettors to meet your exact need.

- **MicroPro** – our most compact, affordable and advanced semi-automated 96-channel pipettor.
- **BenchSmart 96** – with four plate-trays, ideal for labs that do a lot of multi-plate work.
- **Liquidator 96** – perfect for researchers who want to manually control every aspect of their workflow.

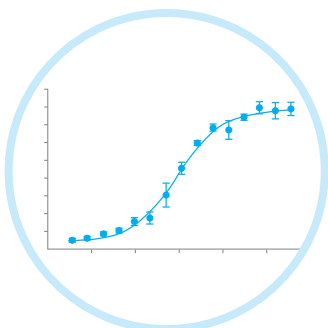
	MicroPro	BenchSmart 96	Liquidator 96
96/384-Well Plate Applications	●	●	●
Interchangeable Heads	●	●	●
Suitable for BSL/PCR Cabinets	●	●	●
Small Footprint	●	●	●
Low Cost	●	●	●
Volume Range	2-20 µL 5-300 µL 50-1250 µL	0.5-20 µL 5-200 µL 100-1000 µL	0.5-20 µL 5-200 µL

How can a 96-channel pipettor speed your workflow?



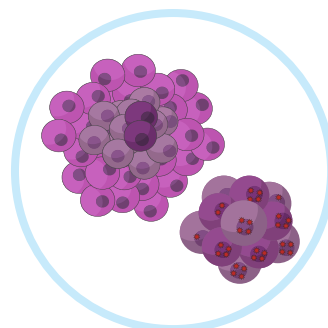
High-Throughput Screening

For various applications, such as genomic, drug screening or proteomics research, a 96-channel pipettor enables you to quickly and accurately screen large numbers of samples.



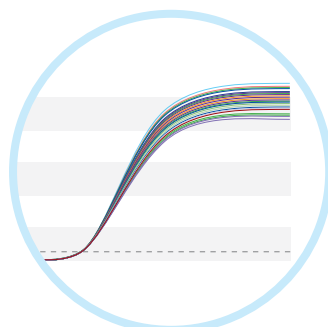
ELISA Assays

Using a 96-channel pipettor, you can simultaneously transfer the reagents to multiple wells or wash wells, significantly reducing the time and effort needed to perform an ELISA assay.



Cell-Based Assays

Perform high-throughput cell-based assays using a 96-channel pipettor to quickly transfer cells, reagents and other components to multiple wells with exceptional accuracy.



PCR/qPCR Amplification

Streamline the PCR process and increase throughput using a 96-channel pipettor to quickly and accurately transfer reagents for PCR amplification.

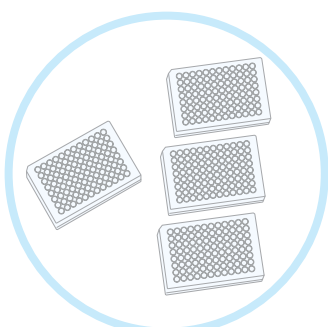


Plate Replication

Increasing your efficiency and reduce the chance of errors using a 96-channel pipettor to quickly and accurately transfer the contents of a mother plate to multiple daughter plates.



DNA Sequencing

A 96-channel pipettor can help researchers accomplish the many sample preparation steps often involved prior to DNA sequencing faster and with greater accuracy.



Rainin MicroPro

Affordable, Portable 96-Channel Pipetting



MicroPro simplifies and streamlines 96- and 384-well microplate work, from filling plates to complex, multi-step workflows.

Compact, highly affordable and easy to use, the MicroPro wirelessly connects to a high resolution touchscreen for an intuitive and user-friendly experience.

- 20 µL, 300 µL and 1250 µL models
- Weighs just around 13 pounds!
- Save/retrieve complex workflows
- Intuitive touchscreen interface
- 10x speed control



Simplify your workflows

From the touchless tip ejection and programmable Pipetting Depth Recall™ to saving complex, multistep protocols, the MicroPro boosts productivity and improves reproducibility.



Your research assistant

MicroPro goes beyond simply adding and mixing reagents by offering convenient features such as aliquot dispensing, sample dilution with mixing and multi-aspirate with mixing.



Custom protocols

Custom protocols are easy to create and allow you to build and save a tailored sequence of instruction and liquid handling steps that exactly match the needs of your protocols.



MicroPro Tips

The innovative and proprietary design of the MicroPro pipette tips and tip cartridges requires minimal force for loading all 96 tips. This significant force reduction allows MicroPro to be small and lightweight – currently the smallest benchtop on the market! MicroPro tips work with the Rainin MicroPro instrument only. They are available as low-retention tips in 20, 300 and 1250 μL volume sizes, sterilized and sterilized with filter.

Tips in Strips – **NEW** 300 μL Tips by Column

With our new MicroPro 300 μL “Tips in Strips” you can perform serial dilutions (a series of dilutions related to each other by setting a constant dilution) and protocols involving partial plate filling (replicates within the same plate) with greater ease, speed and reproducibility.



MicroPro

	CATALOG No.	MAX VOL	DESCRIPTION
MicroPro	30835029	20 μL	2-20 μL MicroPro 20
	30835028	300 μL	5-300 μL MicroPro 300
	30932001	1250 μL	50-1250 μL MicroPro 1250
	30835030		Two-Tray Dual Nest, MPR 96/96

See page 36 for high-throughput MicroPro tips.

Rainin BenchSmart 96

Semi-Automated 96- and 384-Well 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 high-throughput 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.



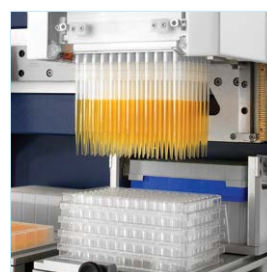
Smart high-throughput

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 money

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

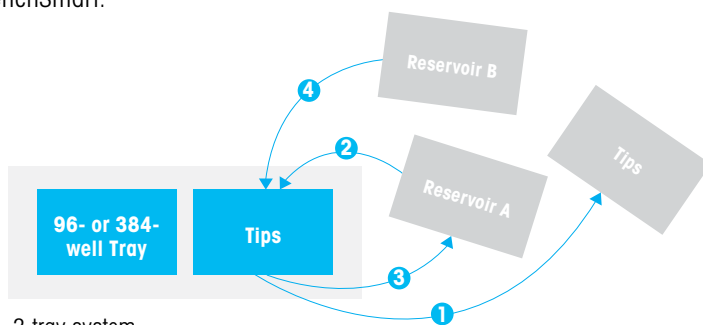


Speed your workflow

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

BenchSmart 96

LTS

	CATALOG No.	MAX VOL	DESCRIPTION
BST 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
Accs.	17010394	–	384-well adapter plate stage, white
	17010791	–	384-well adapter plate stage, black
	30321288	–	Terminal Conversion Kit

See page 36 for high-throughput LTS tips.
For reservoirs, plates, mats and strips, see page 35.

[mt.com/benchsmart96](https://www.mt.com/benchsmart96)

Rainin Liquidator 96

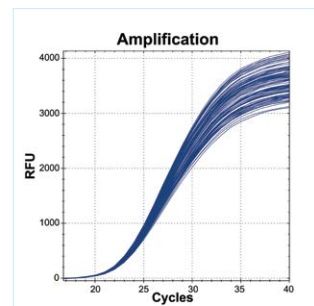
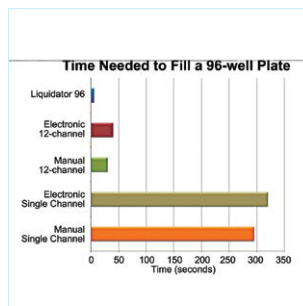
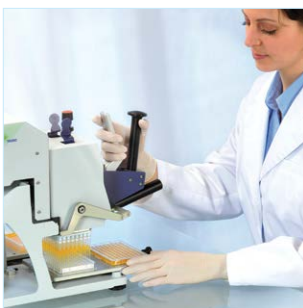
Manual High-Throughput Pipetting

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

Liquidator™ 96 streamlines application workflows for genomics, proteomics and cellular applications, simplifies plate replication, runs serial dilutions, performs 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.

- 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 without stacking



Easy to use

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

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

LTS

	CATALOG No.	MAX VOL	DESCRIPTION
LIQ 96	17014207	20 µL	0.5-20 µL Benchtop Pipetting System
	17010335	200 µL	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 Accs.	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

Reservoirs, plates, mats and strips

Reusable
SBS footprint
polypropylene
reservoirs

	CATALOG No.	DESCRIPTION		
Reservoirs	17012602	Non-sterile	Low-profile 96 pyramidal bottoms	5-pack
	17012603	Sterile	Low-profile 96 pyramidal bottoms	5-pack, ind. wrap
	17012604	Non-sterile	Standard profile 96 pyramidal bottoms	5-pack
	17012605	Sterile	Standard profile 96 pyramidal bottoms	5-pack, ind. 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, ind. wrap
	17012612	Non-sterile	Low-profile 12-channel V-bottom	5-pack
	17012613	Sterile	Low-profile 12-channel V-bottom	5-pack, ind. wrap
	17012610	Non-sterile	Standard profile 12-channel V-bottom	5-pack
	17012611	Sterile	Standard profile 12-channel V-bottom	5-pack, ind. wrap



Deepwell
plates, mats,
tube strips,
cap strips

Accessories	17012623	Non-sterile	2.2 mL 96-deepwell plate	5-pack
	17012624	Sterile	2.2 mL 96-deepwell plate	5-pack, ind. wrap
	17012625	Non-sterile	Polymer sealing mat fits 96-deepwell plate	5-pack
	17012626	Sterile	Polymer sealing mat fits 96-deepwell plate	5-pack, ind. wrap
	17012630	Sterile	1.2 mL racked microtube strips (8x12)	box of 300


Tips for 96-Channel Platforms

High-Throughput LTS Tips

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

	CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES		
			MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	FILTER	LOW RET
 Tips in Racks	17011185	LQR LTS 20µL 960/10	20 µL	10	960				
	17011186	LQR LTS 20µL S 960/10	20 µL	10	960	✓			
	17011117	LQR LTS 20µL F 960/10	20 µL	10	960	✓	✓		
	17010645	LQR LTS 200µL 960/10	200 µL	10	960				
	17010647	LQR LTS 200µL S 960/10	200 µL	10	960	✓			
	17010646	LQR LTS 200µL F 960/10	200 µL	10	960	✓	✓		
	30281704	LQR LTS 1000µL 960/10	1000 µL	10	960				
	30296781	LQR LTS 1000µL S 960/10	1000 µL	10	960	✓			
	30296782	LQR LTS 1000µL F 960/10	1000 µL	10	960	✓	✓		
	17014399	LQR LTS 20µL LS 960/10	20 µL	10	960	✓			✓
	17014400	LQR LTS 20µL FL 960/10	20 µL	10	960	✓	✓		✓
	17014401	LQR LTS 200µL LS 960/10	200 µL	10	960	✓			✓
	17014402	LQR LTS 200µL FL 960/10	200 µL	10	960	✓	✓		✓
	30296783	LQR LTS 1000µL LS 960/10	1000 µL	10	960	✓			✓
30296784	LQR LTS 1000µL FL 960/10	1000 µL	10	960	✓	✓		✓	
 Tips in Stacks	17011187	LQS LTS 20µL 960/10	20 µL	10	960				
	17011287	LQS LTS 20µL S 960/10	20 µL	10	960	✓			
	17010648	LQS LTS 200µL 960/10	200 µL	10	960				
	17010649	LQS LTS 200µL S 960/10	200 µL	10	960	✓			
	17014403	LQS LTS 20µL LS 960/10	20 µL	10	960	✓			✓
	17014404	LQS LTS 200µL LS 960/10	200 µL	10	960	✓			✓

MicroPro Tips in Racks

 MicroPro Tips	63305398	MPR 20µL LS 4800/50	20 µL	50	4800	✓		✓	
	63305397	MPR 20µL FL 4800/50	20 µL	50	4800	✓	✓	✓	
	63305400	MPR 300µL LS 4800/50	300 µL	50	4800	✓		✓	
	63305399	MPR 300µL FL 4800/50	300 µL	50	4800	✓	✓	✓	
	63305538	MPR 1250µL LS 960/10	1250 µL	10	960	✓		✓	
	63305537	MPR 1250µL FL 960/10	1250 µL	10	960	✓	✓	✓	
	Tips in Strips								
63305551	MPR 300µL Strip LS 960/10	300 µL	10	960	✓			✓	
63305401	MPR 300µL Strip FL 960/10	300 µL	10	960	✓	✓		✓	

► mt.com/ht-tips

Specifications for 96-Channel Platforms

MODEL/MAX. VOLUME	20 μ L	200 μ L	1000 μ L
BenchSmart 96			
HEAD SIZE	LOW VOLUME 0.5 – 20 μ L	MID VOLUME 5 – 200 μ L	HIGH VOLUME 100 – 1000 μ L
Systematic Error (per channel)	20 μ L: \pm 1.0% (0.20 μ L) 10 μ L: \pm 1.2% (0.12 μ L) 2 μ L: \pm 6.0% (0.12 μ L) 1 μ L: \pm 12% (0.12 μ L)	200 μ L: \pm 1.0% (2.0 μ L) 100 μ L: \pm 1.0% (1.0 μ L) 20 μ L: \pm 2.0% (0.40 μ L) 5 μ L: \pm 5.0% (0.25 μ L)	1000 μ L: \pm 1.0% (10 μ L) 500 μ L: \pm 1.0% (5.0 μ L) 100 μ L: \pm 2.5% (2.5 μ L)
Random Error (per channel)	20 μ L: \leq 0.80% (0.16 μ L) 10 μ L: \leq 1.0% (0.10 μ L) 2 μ L: \leq 5.0% (0.10 μ L) 1 μ L: \leq 10% (0.10 μ L)	200 μ L: \leq 0.40% (0.80 μ L) 100 μ L: \leq 0.80% (0.80 μ L) 20 μ L: \leq 1.5% (0.30 μ L) 5 μ L: \leq 3.5% (0.175 μ L)	1000 μ L: \leq 0.40% (4.0 μ L) 500 μ L: \leq 0.40% (2.0 μ L) 100 μ L: \leq 1.25% (1.25 μ L)
Volume Increments	0.02 μ L	0.2 μ L	1 μ L

MODEL/MAX. VOLUME	20 μ L	200 μ L
Liquidator 96		
VOLUME RANGE	0.5 – 20 μ L	5 – 200 μ L
Systematic Error (per channel)	20 μ L: \pm 1.0% (0.20 μ L) 10 μ L: \pm 1.2% (0.12 μ L) 2 μ L: \pm 6.0% (0.12 μ L) 1 μ L: \pm 12% (0.12 μ L)	200 μ L: \pm 1.0% (2.0 μ L) 100 μ L: \pm 1.0% (1.0 μ L) 20 μ L: \pm 2.0% (0.40 μ L) 5 μ L: \pm 5.0% (0.25 μ L)
Random Error (per channel)	20 μ L: \leq 0.80% (0.16 μ L) 10 μ L: \leq 1.0% (0.10 μ L) 2 μ L: \leq 5.0% (0.10 μ L) 1 μ L: \leq 10% (0.12 μ L)	200 μ L: \leq 0.50% (1.0 μ L) 100 μ L: \leq 0.80% (0.80 μ L) 20 μ L: \leq 1.5% (0.30 μ L) 5 μ L: \leq 3.5% (0.175 μ L)
Volume Increments	0.02 μ L	0.2 μ L

MODEL/MAX. VOLUME	20 μ L	300 μ L	1250 μ L
MicroPro			
VOLUME RANGE	2 – 20 μ L	5 – 300 μ L	50 – 1250 μ L
Systematic Error (per channel)	20 μ L: \pm 1.0% (0.20 μ L) 10 μ L: \pm 1.5% (0.15 μ L) 2 μ L: \pm 5.0% (0.10 μ L)	300 μ L: \pm 1.0% (3.0 μ L) 150 μ L: \pm 1.5% (2.25 μ L) 30 μ L: \pm 1.5% (0.45 μ L) 15 μ L: \pm 2.0% (0.30 μ L)	1250 μ L: \pm 1.8% (22.5 μ L) 625 μ L: \pm 2.0% (12.5 μ L) 125 μ L: \pm 2.5% (3.125 μ L)
Random Error (per channel)	20 μ L: \leq 0.50% (0.10 μ L) 10 μ L: \leq 1.0% (0.10 μ L) 2 μ L: \leq 3.0% (0.060 μ L)	300 μ L: \leq 1.0% (3.0 μ L) 150 μ L: \leq 1.0% (1.5 μ L) 30 μ L: \leq 1.0% (0.30 μ L) 15 μ L: \leq 2.0% (0.30 μ L)	1250 μ L: \leq 0.80% (10 μ L) 625 μ L: \leq 1.0% (6.25 μ L) 125 μ L: \leq 1.5% (1.875 μ L)
Volume Increments	0.01 μ L	0.1 μ L	1 μ L



Easy Control at Your Fingertips

Rainin SP and SP+ Pipette Controller

Blends ergonomics with state-of-the-art technology and a unique, extendable head to conquer your most challenging liquid handling needs with speed and ease.

Extendable head (SP+)

Telescoping head for added comfort, particularly when operating in a laminar flow hood.

Variable speed, low force

Easily adjustable aspiration/dispense speeds offer greater flexibility with various solutions and media, and protection for sensitive cells.

Lightweight, easy to use

The ergonomic and well-balanced design makes the instrument easy to hold and operate.

Powerful battery

Deliver 15 hours of operation on single charge and up to one hour after just 10 minutes.

Wide range of consumables

Rainin SP and SP+ work with all types of 1 mL to 100 mL serological and micro pipettes and can transfer liquid from 0.1 mL to 100 mL.



	CATALOG No.	DESCRIPTION
SP+	30671415	Rainin SP+ pipette controller, 0.1–100 mL
SP	30671413	Rainin SP pipette controller, 0.1–100 mL (China)
	30671414	Rainin SP pipette controller, 0.1–100 mL
Accs.	30621244	Filter, non-sterilized
	30695285	Filter, sterilized
	30621247	Pipette adaptor

Product availability varies by region.

[▶ mt.com/sp](https://www.mt.com/sp)

Rainin QuickFlow

Portable Easy-to-Use Aspirator

This compact benchtop aspirator delivers reliable performance while combining exceptional ergonomics with a broad range of features and conveniences.

Smart features

- Variable speed settings
- Non-contact liquid level sensor
- 4 L waste reservoir with carry handle
- Quick-snap connectors and tubing
- Autoclavable bottle and cap
- Fits in most hoods
- Single channel, 8-channel and serological adapters

Guaranteed safety

The robust, non-contact liquid level sensor prevents overflows with auto-stop, a flashing light and audible alarm when the reservoir is full. Simple, self-sealing snap connectors keep the contents and any contamination inside the bottle.

Is your liquid aspiration due for an upgrade?

It's easy! Rainin QuickFlow Handle Kit with three adapters attaches easily to your central vacuum system.



CATALOG No. DESCRIPTION

QuickFlow	30519826	QuickFlow System – UNV
	30551530	QuickFlow System – LTS
	30519824	QuickFlow Handle Kit – UNV
	30551534	QuickFlow Handle Kit – LTS

RaininService

Guaranteed Quality

Reliable pipette service is part of the Rainin 360+™ system for optimal liquid handling results. Precision pipettes, high-purity tips and expert service are all backed by innovative tools, software and training to ensure exceptional performance across your workflows.

With secure, global measurement standards and the world's largest service team, only METTLER TOLEDO offers the depth, breadth and level of process integrity and control your pipettes demand.



Our Lab or Yours – You Choose.*

Mail-in

- Service when you need it – no waiting to schedule!
- Fast turnaround
- ISO 17025 accredited by A2LA*
- Tightly-controlled environment
- 6- and 7-place METTLER TOLEDO balances
- METTLER TOLEDO MCP multichannel balances – all channels tested
- Free inbound shipping
- Free return kits (4+ pipettes)

Onsite

- We come to you!
- Perfect for labs with chain-of-custody concerns
- ISO 17025 accredited by A2LA*
- METTLER TOLEDO balances
- Minimal downtime
- Pipettes are calibrated in the environment where they are used
- Experienced Rainin onsite technicians available nationwide

Mail-in calibration services are available to order online. Everything you need to manage mail-in orders now in one convenient location.

US only  [ShopRainin.com/service-selection](https://shoprainin.com/service-selection)

 mt.com/service

* Service plans and accreditation vary by country.

Why choose Rainin Service?

Flexibility, convenience and highly trained technicians!

Choice

Our service offering includes onsite or mail-in calibration service and a wide range of plans to choose from.

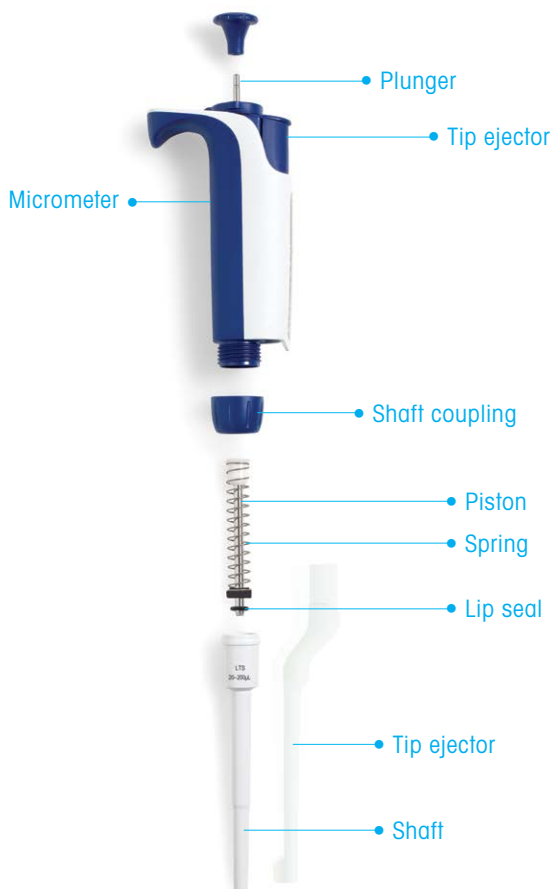
Trust

Our highly trained service experts have years of experience repairing and calibrating many different brands of pipettes. We only use Rainin parts on Rainin pipettes.

Confidence

Rainin pipette service has the knowledge, tools and certifications to deliver expert performance every time.

Every calibration includes meticulous cleaning of each component, part replacement as needed, and preventive maintenance.



Can't decide? Try our Service Finder to see which plans fit your lab's needs.

US only  [ShopRainin.com/service-selection](https://www.ShopRainin.com/service-selection)

Mail-in Pipette Calibration

Mail-in Calibration Services

As the world’s largest pipette service provider, Rainin makes it easy to get fast reliable service and calibration, guaranteed!

- Quick turnaround with conveniently located service labs
- We service all brands of pipettes – most with manufacturers’ original parts (Rainin®, Eppendorf®, Gilson®, Integra®, Thermo Fisher®, Sartorius®)
- We service all pipettes – single channels, multichannels and all Rainin benchtop pipettors
- Free inbound shipping (US only)
 - 4 or more, request a **free return kit**
 - 3 or fewer, or in a rush, pack them yourself and print a **complimentary inbound shipping** label

Service Plans

All plans include:

- Full preventive maintenance (PM) with seal replacement or restoration
- Liquid leak test on all nozzles
- Adjustment to manufacturer’s tolerances
- Calibration certificate with detailed results
- Calibration label

Standard	Advanced	Accredited	Accredited+ ISO-7	Accredited+ ISO-6
Labs with basic service needs	When prior performance matters	Complete ISO 17025 documentation	ISO 8655-7 and 17025 compliance	ISO 8655-6 and 17025 compliance
Perfect for Academic R&D Research Labs	Pharma Biotech Clinical Research Labs	GLP/GMP, Regulated Labs	GLP/GMP, Regulated Labs	GLP/GMP, Regulated Labs

As Found	N/A	4 Test weighings @ 10, 100%	4 Test weighings @ 10, 50, 100%	10 Test weighings @ 10, 50, 100%	10 Test weighings @ 10, 50, 100%
As Returned	4 Test weighings @ 10, 100%	4 Test weighings @ 10, 100%	10 Test weighings @ 10, 50, 100%	10 Test weighings @ 10, 50, 100%	10 Test weighings @ 10, 50, 100%
Preventive Maintenance	Yes	Yes	Yes	Yes	Yes
Calibration Certificate	Non-accredited	Non-accredited	Accredited	Accredited	Accredited
Compliance	SOPs based on ISO 8655	SOPs based on ISO 8655	SOPs based on ISO 8655	ISO 8655:2022 part 7 modified gravimetric method	ISO 8655:2022 part 6 reference gravimetric method

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 mt.com/service

* Service plans vary by country.

Onsite Pipette Calibration

Expert Calibration in Your Lab

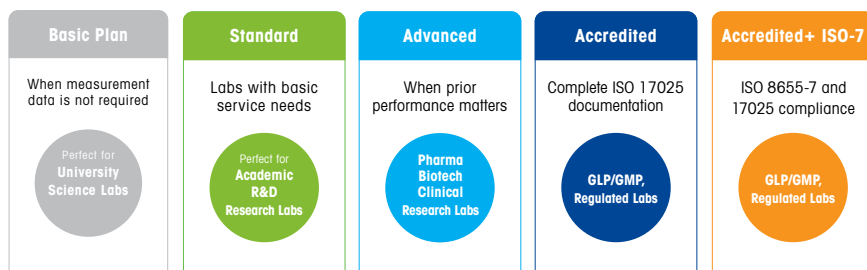
Rainin makes it easy to receive state-of-the-art ISO 17025-accredited pipette service right in your lab. We service all brands.

Regardless of plan, all pipettes we service receive:

- Full preventive maintenance (PM) with seal replacement or restoration
- Liquid leak test on all nozzles
- Calibrated to ISO 8655:2022 tolerances
- Calibration certificates with detailed results (except Basic Plan)
- Calibration label

Service Plans

Calibration Plans



As Found	N/A	N/A	4 Test weighings @ 10%, 100%	4 Test weighings @ 10%, 50%, 100%	10 Test weighings @ 10%, 50%, 100%
As Returned	4 Test weighings @ 10% and 100%	4 Test weighings @ 10%, 100%	4 Test weighings @ 10%, 100%	4 Test weighings @ 10%, 50%, 100%	10 Test weighings @ 10%, 50%, 100%
Preventive Maintenance	Yes	Yes	Yes	Yes	Yes
Calibration Certificate	N/A	Non-accredited	Non-accredited	Accredited	Accredited
Compliance	N/A	ISO 8655-7 Annex A	ISO 8655-7 Annex A	ISO 8655-7 Annex A	ISO 8655:2022 part 7 modified gravimetric method

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mt.com/service

To schedule, call 800.472.4646 (choose option "2" or Sales).

* Service plans vary by country.

Service Order Tracking

Track Your Pipette Through Service

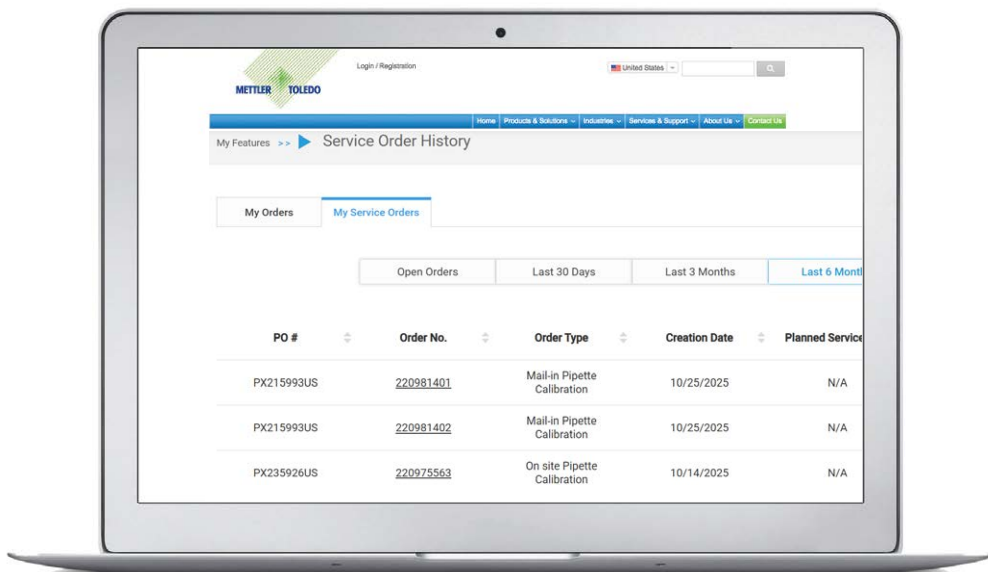


You can now track the status of Mail-in and Onsite service orders at your convenience from your computer by simply logging in to your Rainin Service account – no more waiting for an update from the depot or calling yourself.

Benefits of the Service Tracking tool

- See the status of your order at every stage during the servicing process
- Check on your other pending orders
- Get a detailed order history up to six months
- See all additional documentation
- OnSite Service order tracker will even let you know whether our service technician is already on the way to see you!

Pre-requisite: • User registration



Current. Easy. Convenient.

US only [ShopRainin.com/service-selection](https://shoprainin.com/service-selection)

store.mt.com

* Service plans vary by country.

Expert Calibration and Repair

Buy Vouchers Now, Use Them When You Need Them*

Purchase service vouchers when you buy your pipettes or when you have funding. Use them later – whenever you're ready for calibration!

- Valid for two years
- Use with any brand of pipette
- Eliminate separate purchase orders
- Purchase with your pipettes and tips
- Valid for **mail-in service only**
- Available in US only.
Coming to other regions soon!

CATALOG No.	DESCRIPTION
17014448	Standard Single channel service voucher
17014453	Standard Multichannel All 8-channel service voucher
17014456	Standard Multichannel All 12-channel service voucher
30415513	Standard Liquidator 96 – 96 channels, includes box & round-trip UPS Ground shipping
30456199	Standard BenchSmart 96 Head – 96 channels, includes round-trip UPS Ground shipping
17014449	Advanced Single channel service voucher
17014454	Advanced Multichannel All 8-channel service voucher
17014457	Advanced Multichannel All 12-channel service voucher
30415514	Advanced Liquidator 96 – 96 channels, includes box & round-trip UPS Ground shipping
30456200	Advanced BenchSmart 96 Head – 96 channels, includes round-trip UPS Ground shipping
17014450	Accredited Single channel service voucher
17014455	Accredited Multichannel All 8-channel service voucher
17014458	Accredited Multichannel All 12-channel service voucher
30415517	Accredited Liquidator 96 – 96 channels, includes box & round-trip UPS Ground shipping
30456201	Accredited BenchSmart 96 Head – 96 channels, includes round-trip UPS Ground shipping
31104624	Accredited+ ISO-7 Single channel service voucher
31104626	Accredited+ ISO-7 Multichannel All 8-channel service voucher
31105042	Accredited+ ISO-7 Multichannel All 12-channel service voucher
31104625	Accredited+ ISO-6 Single channel service voucher
31104627	Accredited+ ISO-6 Multichannel All 8-channel service voucher
31105043	Accredited+ ISO-6 Multichannel All 12-channel service voucher

* Availability varies by country.

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Good Pipetting Practice

Better Results Through Better Understanding

The performance of any instrument is improved in the hands of a skilled operator. Through GPP™, labs can reduce errors and improve the reliability and repeatability of their results. The key: better understanding the factors that affect experiments and learning application-specific techniques.

You can improve data quality with Good Pipetting Practice™ – METTLER TOLEDO’s comprehensive, systematic approach to maximizing pipetting accuracy and repeatability.

Routine operation

Learn how to care for pipettes every day and how to set up the right schedule for calibration and routine testing to ensure optimal pipette performance

Evaluation

Evaluate the variables, tolerances and other requirements of your pipettes

Selection

Maximize your potential to produce accurate and reproducible data by selecting the right tools for a specific application

Training

Optimize workflows and improve outcomes with application-specific pipetting techniques. Also, learn how to minimize pipetting discomfort and injury through better ergonomics

Calibration

Recognize the risks associated with out-of-calibration pipettes and know how preventive maintenance ensures pipetting performance over time



At Your Service!

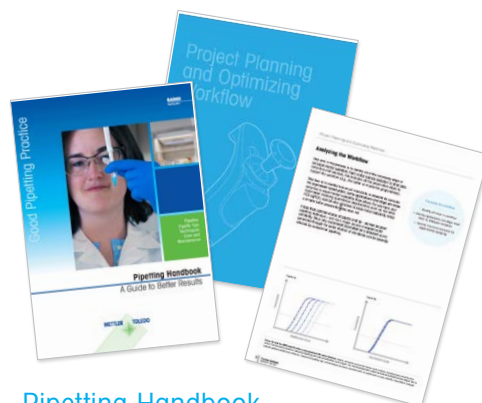
We're Here to Help



Pipette Inventory Assessment

Time for a pipette review? Contact your local Rainin representative to request an inventory assessment. You'll receive a complimentary summary report that includes quantity, age and ergonomic evaluation. Optimize your pipette inventory to your current laboratory workflow, eliminate redundancy and minimize your risk of using out-of-calibration pipettes.

www.mt.com/pipette-inventory



Pipetting Handbook

This guide provides an in-depth overview of pipettes, tips, pipetting techniques and pipetting accuracy for both new and experienced users.

Pipetting is probably the most frequently practiced activity in life science labs today. Understanding the basics of Good Pipetting Practice is important to the success and reproducibility of any experiment. No matter how precise a pipette is, the skill and knowledge of the user ultimately determines the accuracy and reliability of their results.

www.mt.com/pipetting-handbook



Technique Posters

From good techniques to pipette cleaning to good ergonomics, our free technique posters reinforce pipetting practices that will help ensure more consistent and accurate results.

www.mt.com/rainin-posters



Scan the QR code
to discover what GPP
can do for your lab!



www.mt.com/contacts

Reduce Plastic Waste with Rainin

Greener Tip Rack Solutions

Rainin offers a number of waste-saving pipette tip rack options to help meet your sustainability objectives. We've taken a three-pronged approach to reducing plastic rack waste:

- Reducing the amount of plastic – particularly #5 polypropylene that, when recycled, downcycles into lower-quality products (e.g., doormats, crates, etc.).
- Replacing polypropylene with PET, which is more widely recycled. Recycled #1 PET can be made into the same or similar products (water bottles, TerraRacks, etc.).
- Avoiding plastic components, instead using natural, compostable materials like plant fiber.

Plastic savings shown below are calculated using our current standard 1000 μ L polypropylene tip rack as the baseline. Components used for the calculation include the rack base, lid, tip deck, sleeve (refills) and any plastic wrapping – tips are not included. Actual plastic savings percentages vary slightly by rack size (10 μ L racks are smaller than 1000 μ L racks). Our current standard rack, which we introduced in 2018, uses 20% less polypropylene than the rack it replaced, so the amount of plastic saved shown below is on top of the already-reduced plastic rack.



Bulk Tips

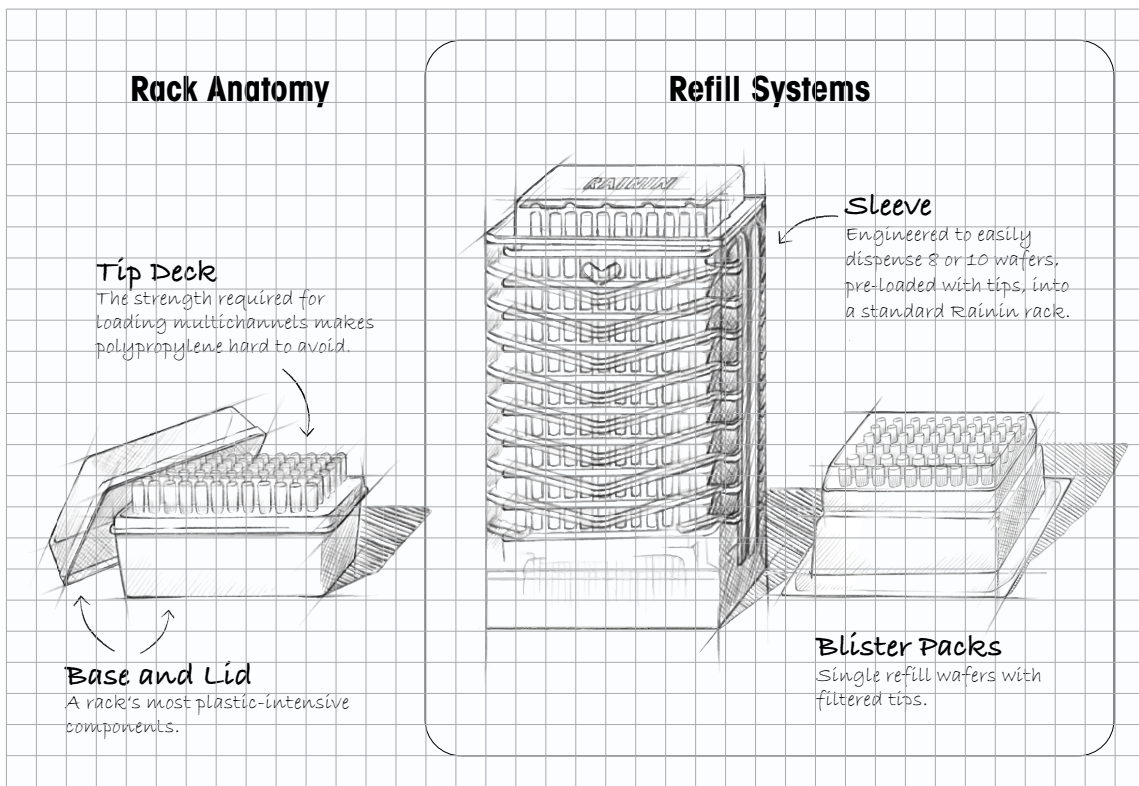
The most sustainable rack is the rack you don't use, which makes manually refilling spent racks and wafers with BioClean Ultra tips in bulk a reasonable option for some labs. [See page 57.](#)

EarthRack

EarthRack eliminates plastic waste almost entirely. Other than the thin polypropylene tip deck, EarthRack is made entirely from compostable, rapidly renewable plant fiber. EarthRack uses up to 82% less plastic than the Rainin standard rack. [See page 50.](#)

Green-Pak

Green-Pak and Green-Pak SpaceSaver refill systems for Rainin standard racks reduce plastic waste by up to 80%. Green-Pak's SpaceSaver sleeve and Green-Pak sealed refill packs are both made from highly recyclable PET. [See page 54.](#)



► [mt.com/eco-tips](https://www.mt.com/eco-tips)



StableStak

Rainin StableStak multilayer system is designed for high-production multichannel work. With five layers mounted on a sturdy base and 192 tips per layer, each StableStak is equivalent to 10 96-tip racks. [See page 56.](#)



TerraRack

Not only composed of 50% less plastic than the Rainin standard rack, TerraRack is made almost entirely from PET – the same plastic as in water bottles and the most commonly recycled plastic worldwide. Easy to disassemble and compress, TerraRacks take up considerably less volume as waste. [See page 52.](#)



Rainin Standard Rack


Like most pipette tip racks, Rainin standard racks are 100% polypropylene (#5), which is prized for strength and durability. This rack was reengineered in 2018 to reduce the amount of polypropylene it contains by 20%. [See page 58.](#)

EarthRack

Compostable, Biodegradable Tip Rack

EarthRack is made primarily from refined cellulose that is easy to compost and is biodegradable. Because the small, recyclable polypropylene tip deck is the only plastic component, EarthRack significantly reduces plastic use and waste.

Available in 20 µL, 200 µL and 1000 µL.

Rainin LTS LiteTouch System only. 



Scan the QR code for a timelapse video of EarthRack biodegrading



Earth friendly

EarthRack's lid and base are composed of a biodegradable bamboo and sugar cane cellulose material that can be composted at municipal facilities. If deposited in a landfill, they will biodegrade.

Reduces plastic waste

With up to 75% less plastic than conventional racks, adopting EarthRack can help organizations meet their sustainability objectives.

Less carbon

When composted, incinerated or deposited into a landfill, EarthRack's cellulose components contribute no net increase in atmospheric CO₂. Carbon absorbed during initial plant growth is simply returned to the atmosphere.



Specifications

BioClean Green Test Limits of Detection (LODs)

Human DNA	<0.32 pg
Bacterial DNA	<0.032 pg
Plant (chloroplast) DNA	<0.032 pg
DNase (three tests)	
• Gel electrophoresis	$\leq 10^{-7}$ KU/ μ L
• Kunitz Assay	$\leq 10^{-4}$ KU/ μ L
• qPCR	$\leq 10^{-5}$ KU/ μ L
RNase (three tests)	
• Gel electrophoresis	$\leq 10^{-5}$ KU/ μ L
• Kunitz Assay	$\leq 10^{-5}$ KU/ μ L
• RT-qPCR	$\leq 10^{-5}$ KU/ μ L
Endotoxin (LPS)	≤ 0.01 EU/mL
Protein	<2 ng/tip
Protease	<500 ng/mL
PCR inhibitors	None detected

EarthRack is **BioClean Green**™

Rainin EarthRack products are certified to be BioClean Green – a comprehensive testing process and specifications developed specifically for cellulose-based tip racks.

Because EarthRack is derived from natural, plant-based materials, BioClean Green employs a broader, more intrusive quality testing procedure to ensure the absence of biological contaminants. For example, the use of cellulose requires an additional test for chloroplast DNA. Testing for DNase and RNase has been expanded to include three separate tests for each nuclease for complete assurance of tip performance.

CATALOG No.	DESCRIPTION	VOL	QTY	FEATURES		
		MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	FILTER
30807966	ER LTS 20 μ L F 960G/10	20 μ L ¹	10	960	✓	✓
30807967	ER LTS 200 μ L F 960G/10	200 μ L ²	10	960	✓	✓
30808038	ER LTS 1000 μ L F 768G/8	1000 μ L	8	768	✓	✓

¹ Fits 2, 10 and 20 μ L pipettes ² Fits 50, 100 and 200 μ L pipettes

[mt.com/earthrack](https://www.mt.com/earthrack)



TerraRack

The Most Eco-Friendly Rack Around

Less weight, less waste, 100% recyclable

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

For convenience and complete cleanliness, TerraRacks with BioClean Ultra tips come sterilized (they are not autoclavable).

Many volume sizes available in both LTS  and universal  formats.



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 PET, which is easily recycled and aggressively recovered from the plastic waste stream.



Non slip accessory

Each TerraBase provides secure footing on slippery bench surfaces for an enhanced pipetting experience. Durable construction provides high-impact resistance.

► mt.com/terrack



CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES		
		MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGUARD	FILTER
LTS TerraRack	17014960	TR LTS 20µL S 960A/10	20 µL ¹	10	960	✓		
	17014961	TR LTS 20µL F 960A/10	20 µL ¹	10	960	✓		✓
	17014962	TR LTS 250µL S 960A/10	200 µL ²	10	960	✓		
	17014963	TR LTS 200µL F 960A/10	200 µL ²	10	960	✓		✓
	17014964	TR LTS 300µL S 768A/8	300 µL	8	768	✓		
	17014965	TR LTS 300µL F 768A/8	300 µL	8	768	✓		✓
	17014966	TR LTS 1000µL S 768A/8	1000 µL	8	768	✓		
	17014967	TR LTS 1000µL F 768A/8	1000 µL	8	768	✓		✓
	17014968	TR LTS 1200µL S 768A/8	1200 µL	8	768	✓		
	17014969	TR LTS 1200µL F 768A/8	1200 µL	8	768	✓		✓

UNV TerraRack	17014970	TR UNV 10µL S 960A/10	10 µL	10	960	✓		
	17014971	TR UNV 10µL F 960A/10	10 µL	10	960	✓		✓
	17014972	TR UNV 10µL GS 960A/10	10 µL	10	960	✓	✓	
	17014973	TR UNV 10µL GF 960A/10	10 µL	10	960	✓	✓	✓
	17014974	TR UNV 20µL F 960A/10	20 µL	10	960	✓		✓
	17014975	TR UNV 100µL F 960A/10	100 µL	10	960	✓		✓
	17014977	TR UNV 200µL F 960A/10	200 µL	10	960	✓		✓
	17014976	TR UNV 250µL S 960A/10	250 µL	10	960	✓		
	17014978	TR UNV 300µL S 768A/8	300 µL	8	768	✓		
	17014979	TR UNV 300µL F 768A/8	300 µL	8	768	✓		✓
	17014980	TR UNV 1000µL S 768A/8	1000 µL	8	768	✓		
	17014981	TR UNV 1000µL F 768A/8	1000 µL	8	768	✓		✓

TerraBase	TerraBase Accessory for TerraRack	
17014982	TerraRack Base – short; 1 base to fit 10 - 300 µL TerraRack racks	
17014983	TerraRack Base – tall; 1 base to fit 1000/1200 µL TerraRack racks	

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

Eco-Friendly Refills

Less Waste, More Space

Space-saving rack refill options enhance your workflow and minimize plastic waste. Order empty racks if you don't already have them. Many volume sizes available in both LTS and universal formats.



Green-Pak®

Individually sealed refills – ideal for filter tip users



	CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES			
			MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGUARD	FILTER	
Green-Pak	30389270	GP LTS 20µL 960A/10	20 µL ¹	10	10	960				
	30389275	GP LTS 20µL S 960A/10	20 µL ¹	10	10	960	✓			
	30389274	GP LTS 20µL F 960A/10	20 µL ¹	10	10	960	✓		✓	
	30389277	GP LTS 250µL 960A/10	200 µL ²	10	10	960				
	30389278	GP LTS 250µL S 960A/10	200 µL ²	10	10	960	✓			
	30389276	GP LTS 200µL F 960A/10	200 µL ²	10	10	960	✓		✓	
	30389271	GP LTS 1000µL 768A/8	1000 µL	8	8	768				
	30389273	GP LTS 1000µL S 768A/8	1000 µL	8	8	768	✓			
	30389272	GP LTS 1000µL F 768A/8	1000 µL	8	8	768	✓		✓	
Green-Pak	30389258	GP UNV 10µL 960A/10	10 µL	10	10	960				
	30389265	GP UNV 10µL S 960A/10	10 µL	10	10	960	✓			
	30389263	GP UNV 10µL F 960A/10	10 µL	10	10	960	✓		✓	
	30389264	GP UNV 10µL FG 960A/10	10 µL	10	10	960	✓	✓	✓	
	30389267	GP UNV 20µL F 960A/10	20 µL	10	10	960	✓		✓	
	30389262	GP UNV 100µL F 960A/10	100 µL	10	10	960	✓		✓	
	30389266	GP UNV 200µL F 960A/10	200 µL	10	10	960	✓		✓	
	30389268	GP UNV 250µL 960A/10	250 µL	10	10	960				
	30389269	GP UNV 250µL S 960A/10	250 µL	10	10	960	✓			
	30389259	GP UNV 1000µL 768A/8	1000 µL	8	8	768				
	30389261	GP UNV 1000µL S 768A/8	1000 µL	8	8	768	✓			
	30389260	GP UNV 1000µL F 768A/8	1000 µL	8	8	768	✓		✓	



Fast

Refill a rack in seconds

Clean

Protects tips from contamination

Convenient

Dispensing sleeve is easy to use

► mt.com/spacesaver

Green-Pak SpaceSaver®

Each sleeve contains 8 or 10 refills

	CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES		
			MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGUARD	FILTER	
LTS SpaceSaver	30389291	GPS LTS 20µL 960A/10	20 µL ¹	10	960				
	30389297	GPS LTS 20µL S 960A/10	20 µL ¹	10	960	✓			
	30389299	GPS LTS 250µL 960A/10	200 µL ²	10	960				
	30389301	GPS LTS 250µL S 960A/10	200 µL ²	10	960	✓			
	30389303	GPS LTS 300µL 768A/8	300 µL	8	768				
	30389304	GPS LTS 300µL S 768A/8	300 µL	8	768	✓			
	30389292	GPS LTS 1000µL 768A/8	1000 µL	8	768				
	30389294	GPS-LTS 1000µL S 768A/8	1000 µL	8	768	✓			
Empty Racks	30389354	Tip Racks GPR LTS 20µL 0/10	20 µL	10					
	30389353	Tip Racks GPR XXX 250µL 0/10	200 µL	10					
	30397667	Tip Racks GPR XXX 300µL 0/8	300 µL	8					
	30389351	Tip Racks GPR XXX 1000µL 0/8	1000 µL	8					
UNV SpaceSaver	30389283	GPS UNV 10µL G 960A/10	10 µL	10	960			✓	
	30389285	GPS UNV 10µL GS 960A/10	10 µL	10	960	✓		✓	
	30389287	GPS UNV 250µL 960A/10	250 µL	10	960				
	30389289	GPS UNV 250µL S 960A/10	250 µL	10	960	✓			
	30397665	GPS UNV 300µL 768A/8	300 µL	8	768				
	30397666	GPS UNV 300µL S 768A/8	300 µL	8	768	✓			
	30389279	GPS UNV 1000µL 768A/8	1000 µL	8	768				
	30389281	GPS UNV 1000µL S 768A/8	1000 µL	8	768	✓			
Empty Racks	30389350	Tip Racks GPR UNV 10µL 0/10	10 µL	10					
	30389353	Tip Racks GPR XXX 250µL 0/10	250 µL	10					
	30397667	Tip Racks GPR XXX 300µL 0/8	300 µL	8					
	30389351	Tip Racks GPR XXX 1000µL 0/8	1000 µL	8					

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

Double-96 Racked Tips

StableRak and StableStak

Ideal for high production environments. Perfect for multichannel pipetting!
Available in both LTS and universal formats.

StableRak and StableStak are available in standard, sterilized and filter (StableRak only) formats. They keep the tips safe from debris, dust and contamination. Their sturdy construction using non-slip racks allows fast and easy loading.

StableRak™

Individual double-96 racks with 192 tips per layer.

StableStak™

Stacked double-96 racks with 192 tips per layer.





CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES				
		MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	FILTER	SHAFTGUARD	WIDE-O		
StableRak	17005862	SR LTS 20µL 960A/5	20 µL ¹	5	960					
	17005861	SR LTS 20µL S 960A/5	20 µL ¹	5	960	✓				
	17005860	SR LTS 20µL F 960A/5	20 µL ¹	5	960	✓	✓			
	17005864	SR LTS 250µL 960A/5	200 µL ²	5	960					
	17005863	SR LTS 250µL S 960A/5	200 µL ²	5	960	✓				
	17005859	SR LTS 200µL F 960A/5	200 µL ²	5	960	✓	✓			
	17005867	SR LTS 300µL 768A/4	300 µL	4	768					
	17005866	SR LTS 300µL S 768A/4	300 µL	4	768	✓				
	17005865	SR LTS 300µL F 768A/4	300 µL	4	768	✓	✓			
	17007083	SR LTS 1000µL 768A/4	1000 µL	4	768					
	17007082	SR LTS 1000µL S 768A/4	1000 µL	4	768	✓				
	17007081	SR LTS 1000µL F 768A/4	1000 µL	4	768	✓	✓			
	17007086	SR LTS 1200µL 768A/4	1200 µL	4	768					
	17007085	SR LTS 1200µL S 768A/4	1200 µL	4	768	✓				
	17007084	SR LTS 1200µL F 768A/4	1200 µL	4	768	✓	✓			
StableStak	17005873	SS LTS 20µL 960A/5	20 µL ¹	5	960					
	17005872	SS LTS 20µL S 960A/5	20 µL ¹	5	960	✓				
	17005875	SS LTS 250µL 960A/5	200 µL ²	5	960					
	17005874	SS LTS 250µL S 960A/5	200 µL ²	5	960	✓				
	17005877	SS LTS 300µL 768A/4	300 µL	4	768					
	17005876	SS LTS 300µL S 768A/4	300 µL	4	768	✓				
	17007090	SS LTS 1000µL 768A/4	1000 µL	4	768					
	17007089	SS LTS 1000µL S 768A/4	1000 µL	4	768	✓				
	17005857	SR UNV 300µL 768/4	300 µL	4	768					

Bulk Tips

The Economic Solution

Ideal for academia and other research laboratories.

Available in both LTS  and universal  formats.

CATALOG No.	DESCRIPTION	VOL	QTY	FEATURES				
		MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	FILTER	SHAFTGUARD	WIDE-O
 Bulk Tips	17001128	RC LTS 20µL 1000A/1	20 µL ¹	1000				
	17001118	RC LTS 250µL 1000A/1	200 µL ²	1000				
	17001132	RC LTS 300µL 1000A/1	300 µL	1000				
	17001129	RC LTS 1000µL 1000A/1	1000 µL	1000				
	17006324	RC LTS 1200µL 1000A/1	1200 µL	1000				
	17001130	RC LTS 2000µL 1000A/1	2000 µL	1000				
	17001133	RC LTS 5000µL 1000A/1	5000 µL	1000				
	17001119	RC LTS 10mL 200A/1	10 mL	200				
	17005940*	RC LTS 10mL S 75A/*	10 mL	75	✓			
	17001131	RC LTS 20mL 100A/1	20 mL	100				
	17005941*	RC LTS 20mL S 50A/*	20 mL	50	✓			
 Bulk Tips	17001124	RC UNV 10µL 1000A/10	10 µL	1000				
	17001123	RC UNV 10µL G 1000A/10	10 µL	1000		✓		
	17001116	RC UNV 250µL 1000A/1	250 µL	1000				
	17001127	RC UNV 250µL W 1000A/1	250 µL	1000				✓
	17001121	RC UNV 1000µL 1000A/1	1000 µL	1000				
	17001125	RC UNV 2000µL 1000A/1	2000 µL	1000				
	17001126	RC UNV 2500µL 1000A/1	2500 µL	1000				
	17001117	RC UNV 5000µL 1000A/1	5000 µL	1000				
	17001122	RC UNV 10mL 200A/1	10 mL	200				
	17005939*	RC UNV 10mL S 75A/*	10 mL	75	✓			

* Individually wrapped Wide-O = Wide Orifice ¹ Fits 2, 10 and 20 µL pipettes ² Fits 50, 100 and 200 µL pipettes

Racked Tips

SBS Standard Tip Packaging

Removable-cover Racks

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



- 20% less plastic than the original RT rack!
- Locking latch
- Removable hinged lid
- BioClean Ultra-certified
- Use with Green-Pak and SpaceSaver refills
- Available with low retention tips (see page 60)



CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES			
		MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGUARD	WIDE-O	FILTER
30389200	RT LTS 20µL 960A/10	20 µL ¹		10	960				
30389228	RT LTS 20µL S 960A/10	20 µL ¹		10	960	✓			
30389225	RT LTS 20µL F 960A/10	20 µL ¹		10	960	✓			✓
30389243	RT LTS 250µL 960A/10	200 µL ²		10	960				
30389247	RT LTS 250µL W 960A/10	200 µL ²		10	960			✓	
30389245	RT LTS 250µL S 960A/10	200 µL ²		10	960	✓			
30389249	RT LTS 250µL SW 960A/10	200 µL ²		10	960	✓		✓	
30389239	RT LTS 200µL F 960A/10	200 µL ²		10	960	✓			✓
30389253	RT LTS 300µL 768A/8	300 µL		10	768				
30389255	RT LTS 300µL S 768A/8	300 µL		8	768	✓			
30389254	RT LTS 300µL F 768A/8	300 µL		8	768	✓			✓
30389211	RT LTS 1000µL 768A/8	1000 µL		8	768				
30389217	RT LTS 1000µL W 768A/8	1000 µL		8	768			✓	
30389215	RT LTS 1000µL S 768A/8	1000 µL		8	768	✓			
30389220	RT LTS 1000µL SW 768A/8	1000 µL		8	768	✓		✓	
30389212	RT LTS 1000µL F 768A/8	1000 µL		8	768	✓			✓
30389230	RT LTS 1200µL 768A/8	1200 µL		8	768				
30389234	RT LTS 1200µL S 768A/8	1200 µL		8	768	✓			
30389231	RT LTS 1200µL F 768A/8	1200 µL		8	768	✓			✓
30389236	RT LTS 2000µL 480A/8	2000 µL		8	480				
30389238	RT LTS 2000µL S 480A/8	2000 µL		8	480	✓			
30389237	RT LTS 2000µL F 480A/8	2000 µL		8	480	✓			✓
30389256	RT LTS 5000µL 192A/8	5000 µL		8	192				
30389257	RT LTS 5000µL S 192A/8	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

15 psi, 121°C, 20 minutes

Format options

Standard, sterilized and filter versions available

Protective

Safe from dirt and contamination

► mt.com/pipette-tips



CATALOG No. DESCRIPTION

MAX VOLUME	VOL		QTY		FEATURES				
			RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GARD	WIDE-O	FILTER	

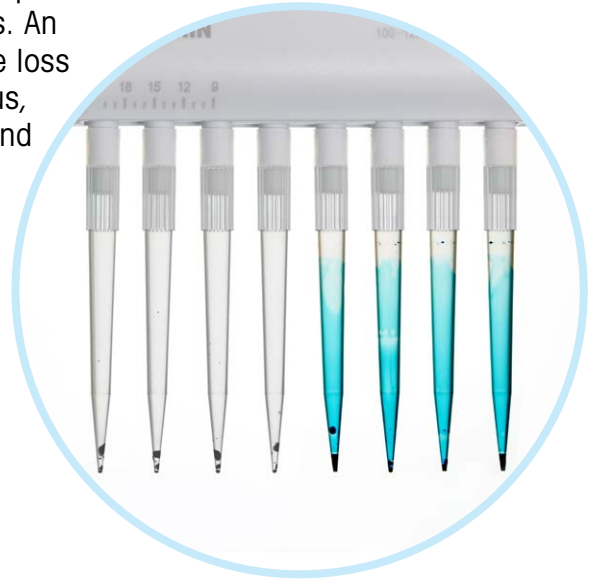
Racked Tips	CATALOG No.	DESCRIPTION	MAX VOLUME	VOL	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GARD	WIDE-O	FILTER
	30389163	RT UNV 10µL 960A/10	10 µL	10	960					
	30389174	RT UNV 10µL G 960A/10	10 µL	10	960		✓			
	30389178	RT UNV 10µL GS 960A/10	10 µL	10	960	✓	✓			
	30389181	RT UNV 10µL S 960A/10	10 µL	10	960	✓				
	30389172	RT UNV 10µL F 960A/10	10 µL	10	960	✓				✓
	30389175	RT UNV 10µL FG 960A/10	10 µL	10	960	✓	✓			✓
	30389189	RT UNV 20µL F 960A/10	20 µL	10	960	✓				✓
	30389170	RT UNV 100µL F 960A/10	100 µL	10	960	✓				✓
	30389186	RT UNV 200µL F 960A/10	200 µL	10	960	✓				✓
	30389191	RT UNV 250µL 960A/10	250 µL	10	960					
	30389195	RT UNV 250µL W 960A/10	250 µL	10	960			✓		
	30389193	RT UNV 250µL S 960A/10	250 µL	10	960	✓				
	30389058	RT UNV 300µL 768A/8	300 µL	10	768					
	30389059	RT UNV 300µL S 768A/8	300 µL	10	768	✓				
	30389136	RT UNV 300µL F 768A/8	300 µL	8	768	✓				✓
	30389164	RT UNV 1000µL 768A/8	1000 µL	8	768					
	30389168	RT UNV 1000µL S 768A/8	1000 µL	8	768	✓				
	30389165	RT UNV 1000µL F 768A/8	1000 µL	8	768	✓				✓
	30389183	RT UNV 2000µL 480A/8	2000 µL	8	480					
30389185	RT UNV 2000µL S 480A/8	2000 µL	8	480	✓					
30389184	RT UNV 2000µL F 480A/8	2000 µL	8	480	✓				✓	
30389198	RT UNV 5000µL 192A/8	5000 µL	8	192						
30389199	RT UNV 5000µL S 192A/8	5000 µL	8	192	✓					



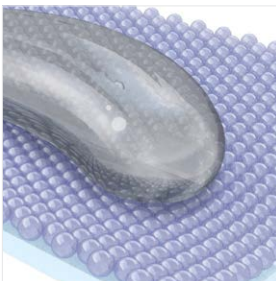
Rainin Low Retention Tips

Stop Wasting Precious Samples!

Achieve accurate results from precious samples with Genuine Rainin low retention (LR) tips. An even, hydrophobic surface reduces sample loss and maximizes liquid ejection with precious, expensive, viscous, low surface tension, and other challenging liquids.



Available in many volumes and packaging options in both LTS  and universal  formats.



Even hydrophobic surface

Liquids glide above the surface of the tip, maximizing liquid ejection and minimizing interaction between the sample and polypropylene surface.



Pipette with confidence

The hydrophobic tip surface minimizes liquid retention with viscous, low surface tension, and precious liquids containing proteins, enzymes, DNA, and RNA.



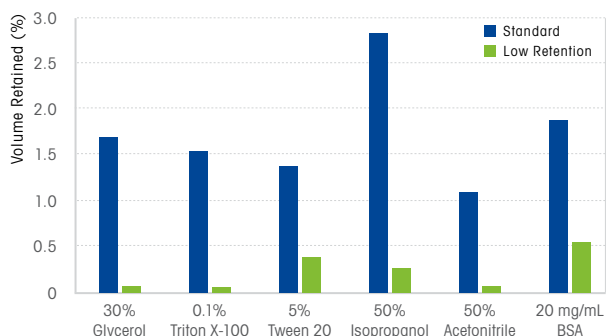
Genuine Rainin quality

Manufactured from the highest quality polypropylene and certified to the rigorous BioClean Ultra™ standard, Genuine Rainin tips protect the integrity of every sample.

► [mt.com/low-retention](https://www.mt.com/low-retention)

Higher pipetting accuracy


Rainin low retention tips improve pipetting accuracy over a broad range of liquids. The hydrophobic tip surface dramatically enhances the flow of commonly used liquids, resulting in more complete aspiration and minimizing liquid retention during dispensing.



PFAS-Free Hydrophobic Low Retention Tips

A greener choice for low retention. While many low retention tips use “forever chemical” additives, these tips are PFAS-free like other Genuine Rainin tips.

Available in 20 μ L, 200 μ L and 1000 μ L.

Rainin LTS LiteTouch System only. 

Excellent performance

With the same excellent performance as all Rainin low retention tips, switching to PFAS-free is seamless.

Lower environmental impact

A novel non-leaching additive creates a hydrophobic surface without per- and polyfluoroalkyl substance (PFAS) “forever chemicals.”

Eliminate compliance uncertainty

As PFAS is increasingly regulated, switching to our PFAS-free LR alternative reduces risk without sacrificing performance.



PFAS-Free Labeling

For your reference, Rainin PFAS-Free LR racks and boxes are clearly labeled

200 μ L BioClean Ultra™ PFAS Free
LTS
18x18 Filter
Sterilized



[▶ mt.com/lr-pfas-free](https://www.mt.com/lr-pfas-free)

Low Retention Tips

Stop Wasting Valuable Sample!

LTS



CATALOG No. DESCRIPTION

VOL		QTY		FEATURES				
MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	WIDE-O	LOW RET	FILTER	PFAS-FREE	

Racked Tips	30389227	RT LTS 20µL L 960A/10	20 µL ¹	10	960			✓		
	30389229	RT LTS 20µL LS 960A/10	20 µL ¹	10	960	✓		✓		
	30389226	RT LTS 20µL FL 960A/10	20 µL ¹	10	960	✓		✓	✓	
	30389244	RT LTS 250µL L 960A/10	200 µL ²	10	960			✓		
	30389248	RT LTS 250µL LW 960A/10	200 µL ²	10	960		✓	✓		
	30389246	RT LTS 250µL LS 960A/10	200 µL ²	10	960	✓		✓		
	30389250	RT LTS 250µL LSW 960A/10	200 µL ²	10	960	✓	✓	✓		
	30389240	RT LTS 200µL FL 960A/10	200 µL ²	10	960	✓		✓	✓	
	30389241	RT LTS 200µL FLW 960A/10	200 µL ²	10	960	✓	✓	✓	✓	
	30389160	RT LTS 300µL L 768A/8	300 µL	8	768			✓		
	30389161	RT LTS 300µL LS 768A/8	300 µL	8	768	✓		✓		
	30389162	RT LTS 300µL FL 768A/8	300 µL	8	768	✓		✓	✓	
	30389214	RT LTS 1000µL L 768A/8	1000 µL	8	768			✓		
	30389216	RT LTS 1000µL LS 768A/8	1000 µL	8	768	✓		✓		
	30389213	RT LTS 1000µL FL 768A/8	1000 µL	8	768	✓		✓	✓	
	30389219	RT LTS 1000µL LW 768A/8	1000 µL	8	768		✓	✓		
30389221	RT LTS 1000µL LSW 768A/8	1000 µL	8	768	✓	✓	✓			
30389218	RT LTS 1000µL FLW 768A/8	1000 µL	8	768	✓	✓	✓	✓		
30389233	RT LTS 1200µL L 768A/8	1200 µL	8	768			✓			
30389235	RT LTS 1200µL LS 768A/8	1200 µL	8	768	✓		✓			
30389232	RT LTS 1200µL FL 768A/8	1200 µL	8	768	✓		✓	✓		
SpaceSaver	30389296	GPS LTS 20µL L 960A/10	20 µL ¹	10	960			✓		
	30389298	GPS LTS 20µL LS 960A/10	20 µL ¹	10	960	✓		✓		
	30389300	GPS LTS 250µL L 960A/10	200 µL ²	10	960			✓		
	30389302	GPS LTS 250µL LS 960A/10	200 µL ²	10	960	✓		✓		
	30389895	GPS LTS 300µL LS 768A/8	300 µL	8	768	✓		✓		
	30389293	GPS LTS 1000µL L 768A/8	1000 µL	8	768			✓		
30389295	GPS LTS 1000µL LS 768A/8	1000 µL	8	768	✓		✓			
Bulk	17014340	RC LTS 20µL L 1000A/1	20 µL		1000			✓		
	17014341	RC LTS 250µL L 1000A/1	200 µL		1000			✓		
	17014342	RC LTS 1000µL L 1000A/1	1000 µL		1000			✓		

¹ Fits 2, 10 and 20 µL pipettes

² Fits 50, 100 and 200 µL pipettes



Rack base not included with SpaceSaver. See page 55 for empty racks.



PFAS-Free Low Retention Tips

NEW!



Racked Tips	31126111	RT LTS 20µL FH 960A/10	20 µL ¹	10	960	✓		✓	✓	✓
	31126110	RT LTS 200µL FH 960A/10	200 µL ²	10	960	✓		✓	✓	✓
	31126109	RT LTS 1000µL FH 768A/8	1000 µL	8	768	✓		✓	✓	✓



CATALOG No. DESCRIPTION

VOL		QTY		FEATURES					
MAX VOLUME	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GUARD	WIDE-O	LOW RET	FILTER		



Racked Tips	CATALOG No.	DESCRIPTION	VOL	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GUARD	WIDE-O	LOW RET	FILTER	
	30389180	RT UNV 10µL L 960A/10	10 µL	10	960				✓		
	30389182	RT UNV 10µL LS 960A/10	10 µL	10	960	✓			✓		
	30389173	RT UNV 10µL FL 960A/10	10 µL	10	960	✓			✓	✓	
	30389177	RT UNV 10µL GL 960A/10	10 µL	10	960		✓		✓		
	30389179	RT UNV 10µL GLS 960A/10	10 µL	10	960	✓	✓		✓		
	30389176	RT UNV 10µL FGL 960A/10	10 µL	10	960	✓	✓		✓	✓	
	30389190	RT UNV 20µL FL 960A/10	20 µL	10	960	✓			✓	✓	
	30389171	RT UNV 100µL FL 960A/10	100 µL	10	960	✓			✓	✓	
	30389187	RT UNV 200µL FL 960A/10	200 µL	10	960	✓			✓	✓	
	30389188	RT UNV 200µL FLW 960A/10	200 µL	10	960	✓		✓	✓	✓	
	30389192	RT UNV 250µL L 960A/10	250 µL	10	960				✓		
	30389196	RT UNV 250µL LW 960A/10	250 µL	10	960			✓	✓		
	30389194	RT UNV 250µL LS 960A/10	250 µL	10	960	✓			✓		
	30389197	RT UNV 250µL LSW 960A/10	250 µL	10	960	✓		✓	✓		
	30389137	RT UNV 300µL L 768A/8	300 µL	8	768				✓		
	30389138	RT UNV 300µL LS 768A/8	300 µL	8	768	✓			✓		
	30389139	RT UNV 300µL FL 768A/8	300 µL	8	768	✓			✓	✓	
30389167	RT UNV 1000µL L 768A/8	1000 µL	8	768				✓			
30389169	RT UNV 1000µL LS 768A/8	1000 µL	8	768	✓			✓			
30389166	RT UNV 1000µL FL 768A/8	1000 µL	8	768	✓			✓	✓		



Rack base not included with SpaceSaver. See page 55, for empty racks.

SpaceSaver	CATALOG No.	DESCRIPTION	VOL	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GUARD	WIDE-O	LOW RET	FILTER
	30389284	GPS UNV 10µL GL 960A/10	10 µL	10	960		✓		✓	
	30389286	GPS UNV 10µL GLS 960A/10	10 µL	10	960	✓	✓		✓	
	30389288	GPS UNV 250µL L 960A/10	250 µL	10	960				✓	
	30389290	GPS UNV 250µL LS 960A/10	250 µL	10	960	✓			✓	
	30389280	GPS UNV 1000µL L 768A/8	1000 µL	8	768				✓	
30389282	GPS UNV 1000µL LS 768A/8	1000 µL	8	768	✓			✓		



Bulk	CATALOG No.	DESCRIPTION	VOL	RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFT-GUARD	WIDE-O	LOW RET	FILTER
	17014395	RC UNV 10µL L 1000A/1	10 µL		1000				✓	
	17014396	RC UNV 10µL GL 1000A/1	10 µL		1000		✓		✓	
	17014397	RC UNV 250µL L 1000A/1	250 µL		1000				✓	
	17014398	RC UNV 1000µL L 1000A/1	1000 µL		1000				✓	
17015068	RC UNV 1000µL LW 1000A/1	1000 µL		1000			✓	✓		

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

► mt.com/low-retention
► mt.com/lr-pfas-free

Specialty Tips

Unique Tips for Special Applications



Extended-length tips

For tall, narrow tube work.
BioClean Ultra.

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.



Wide-orifice tips

Ideal for delicate samples.
BioClean Ultra.

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. 200 and 1000 µL.



ShaftGuard™ 10 µL tips

Avoid cross-contamination.
BioClean Ultra.

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.

LTS

	CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES				
			MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	WIDE-O	LOW RET	FILTER	X-LENGTH
Racked Tips	30389251	RT LTS 250µL X 768A/8	200 µL ²	8	768						✓
	30389252	RT LTS 250µL SX 768A/8	200 µL ²	8	768	✓					✓
	30389242	RT LTS 200µL FX 768A/8	200 µL ²	8	768	✓				✓	✓
	30389222	RT LTS 1000µL X 768A/8	1000 µL	8	768						✓
	30389224	RT LTS 1000µL SX 768A/8	1000 µL	8	768	✓					✓
	30389223	RT LTS 1000µL FX 768A/8	1000 µL	8	768	✓				✓	✓
	30389247	RT LTS 250µL W 960A/10	200 µL ²	10	960		✓				
	30389248	RT LTS 250µL LW 960A/10	200 µL ²	10	960		✓	✓			
	30389249	RT LTS 250µL SW 960A/10	200 µL ²	10	960	✓	✓				
	30389250	RT LTS 250µL LSW 960A/10	200 µL ²	10	960	✓	✓	✓			
	30389241	RT LTS 200µL FLW 960A/10	200 µL	10	960	✓	✓	✓	✓		
	30389217	RT LTS 1000µL W 768A/8	1000 µL	8	768		✓				
	30389219	RT LTS 1000µL LW 768A/8	1000 µL	8	768		✓	✓			
	30389220	RT LTS 1000µL SW 768A/8	1000 µL	8	768	✓	✓				
	30389221	RT LTS 1000µL LSW 768A/8	1000 µL	8	768	✓	✓	✓			
	30389218	RT LTS 1000µL FLW 768A/8	1000 µL	8	768	✓	✓	✓	✓		

² Fits 50, 100 and 200 µL pipettes

UNV

	CATALOG No.	DESCRIPTION	VOL		QTY		FEATURES				
			MAX VOLUME		RACKS/CARTON	TIPS/CARTON	STERILIZED	SHAFTGARD	WIDE-O	LOW RET	FILTER
Racked Tips	30389174	RT UNV 10µL G 960A/10	10 µL	10	960		✓				
	30389178	RT UNV 10µL GS 960A/10	10 µL	10	960	✓	✓				
	30389175	RT UNV 10µL FG 960A/10	10 µL	10	960	✓	✓				✓
	30389195	RT UNV 250µL W 960A/10	250 µL	10	960				✓		
	30389196	RT UNV 250µL LW 960A/10	250 µL	10	960				✓	✓	
	30389197	RT UNV 250µL LSW 960A/10	250 µL	10	960	✓			✓	✓	
Bulk	17001127	RC UNV 250µL W 1000A/1	250 µL		1000				✓		
	17015068	RC UNV 1000µL LW 1000A/1	1000 µL		1000				✓	✓	
Refills	30389283*	GPS UNV 10µL G 960A/10	10 µL	10	960		✓				
	30389285*	GPS UNV 10µL GS 960A/10	10 µL	10	960	✓	✓				
	30389264	GP UNV 10µL FG 960A/10	10 µL	10	960	✓	✓				✓

Wide-O = Wide Orifice, Low Ret = Low Retention *Green-Pak SpaceSaver



The Highest Standard for Tip Purity and Performance

Rainin continuously tests and certifies its BioClean Ultra™ pipette tip products. Researchers can have absolute confidence in the integrity of their experiments and the fidelity of their data.



Why BioClean Ultra?

This table shows the thoroughness and completeness of Rainin BioClean Ultra quality testing, compared to other major tip brands. Rainin maintains the industry’s most comprehensive testing procedures.

	HUMAN DNA	BACTERIAL DNA	DNASE
BioClean Ultra™	< 0.32 pg	< 1 pg	≤ 10 ⁻⁷ KU/μL
Brand – A	“Free of”	–	10 ⁻⁵ KU/μL
Brand – B	< 0.40 fg	–	–
Brand – C	< 2 pg	< 50 fg	10 ⁻⁴ KU
Brand – D	None detected	–	None detected
Brand – E	< 1 pg	–	“Free of”
Brand – F	“Free of”	“Free of”	“Free of”
Brand – G	–	–	< 6.25 x 10 ⁻⁵ U/μL
Brand – H	< 30 pg	–	< 10x ⁻⁷ KU/μL
Brand – I	< 30 pg	–	< 10 ⁻⁷ KU/μL
Brand – J	“Free of”	“Free of”	“Free of”



Tested and Certified Purity

- The industry’s most comprehensive testing procedures.
- The only tips certified to be both protein- and protease-free.
- Virgin polypropylene – completely inert, with no bioactive components.

Clean Manufacturing and Packaging

- Manufactured under Class 100,000 clean room conditions.
- Fully automated material handling – zero human contact.
- Strict conformance to ISO 9001 eliminates all external sources of contamination.

RNASE	ENDOTOXIN	PROTEIN	PROTEASE	ATP	PCR INHIBITORS
≤ 10 ⁻⁹ KU/μL	≤ 0.001 EU/mL	< 2 ng/sample	≤ 500 ng/mL	< 2 x 10 ⁻¹² mg/μL	None detected
10 ⁻⁹ KU/μL	≤ 0.05 EU/mL	–	–	–	–
< 8.6 fg	< 1 pg	–	–	< 1 fg	–
10 ⁻⁹ KU	< 0.001 EU/mL	<1ng/μL	–	< 5.5 x 10 ⁻¹² mg	< 10 targets amplifiable
None detected	< 0.06 EU/mL	–	–	–	None detected
“Free of”	< 0.05 EU/mL	–	“Free of”	“ATP-free”	–
“Free of”	“Free of”	–	“Free of”	“ATP-free”	“Free of”
< 3.125 x 10 ⁻⁹ U/μL	< 0.03 EU/mL	–	–	–	–
< 10 ⁻⁹ KU/μL	< 0.06 EU/mL	–	–	–	–
< 10 ⁻⁹ KU/μL	≤ 0.06 EU/mL	–	–	< 10 ⁻¹³ mg/μL	None detected
“Free of”	“Free of”	–	–	–	–

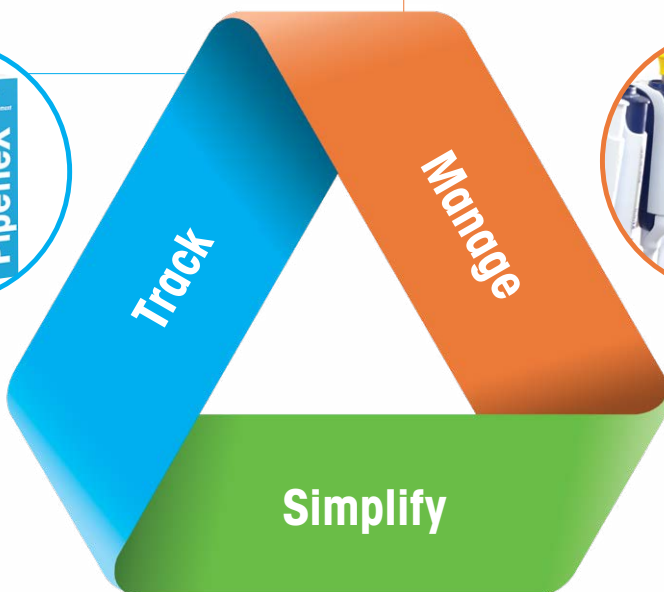
KU Kunitz Units **EU** Endotoxin Units **ng** nanogram (Factor: 10⁻⁹) **pg** picogram (Factor: 10⁻¹²) **fg** femtogram (Factor: 10⁻¹⁵)
 “Non detected”, “Free of” and “... Free” designations apparently indicate no observed contamination. No specifications or test methodology provided.
 “–” no data available.

Flexible, Integrated and Easy to Implement

Pipette Management Simplified

- Assign locations, users and groups.
- Search and filter custom reports and schedules.
- Know everything about your pipettes.

- See all calibration data.
- Schedule calibrations.
- All critical pipette data located in one single database.



- The Bluetooth® wireless technology-enabled SmartStand electronically transmits pipette serial numbers, calibration and other relevant data to PipetteX.
- Rainin calibration certificates are electronically transmitted and linked to your pipette.
- Eliminate time-consuming reading of serial numbers, barcodes or stickers.

	CATALOG No.	DESCRIPTION
PipetteX Software	30475913	PipetteX - Site
	30475915	PipetteX - Unlimited
	30478260	PipetteX - Site, Renewal
	30478262	PipetteX - Unlimited, Renewal

[▶ mt.com/pipetex](https://mt.com/pipetex)

Rainin SmartStand

The Intelligent Pipette Stand

By reading the RFID chip that's in every Rainin XLS and XLS+ pipette, SmartStand instantly displays the compliance status for up to four pipettes – manual or electronic. Pick up a pipette and SmartStand's color LCD screen switches to a detailed view of that pipette's service and calibration status. Works seamlessly with PipetteX!



CATALOG No. DESCRIPTION

Pipette Stands	CATALOG No.	DESCRIPTION
	30312897	SmartStand stand with PipetteX basic software
	17001255	Universal Carousel Stand for seven pipettes
	17003024	Hang-Ups, magnetic, for three pipettes
	17004992	Shelf Hang-Ups for three pipettes
	17006638	Adapters for E4XLS with Hang-Ups, carousel

Check out our
Starter Kits
 with **SmartStand**
 on [page 16!](#)

► mt.com/smartstand

Rainin SmartCheck

Verify the Accuracy of Any Pipette

Reduce experimental errors, between-calibration compliance failures and improve pipetting technique.

Trust your pipettes! SmartCheck is a quick and easy way to verify that your pipettes are working properly. It takes very little space on the benchtop so you can use it every day.

Avoid expensive rework

Reduce out-of-tolerance challenges such as having to re-do expensive experiments or incur costly downstream process waste.

60 seconds or less!

Pipette verification in less than a minute: SmartCheck provides a clear Pass/Fail indication following a simple process with just four gravimetric measurements.

Verify any brand of pipette

Verify the performance of any brand of pipette dispensing volumes between 10 – 1000 µL. You can verify individual channels of multichannel pipettes too.

Ideal for regulated environments

SmartCheck is the only verification tool that can operate within a 21 CFR Part 11 compliant process (requires PipetteX software).



	CATALOG No.	DESCRIPTION
SmartCheck	30564095	SmartCheck SLS1010S
	30448961	Function Test Kit
	30448967	EasyScan RFID LAN set

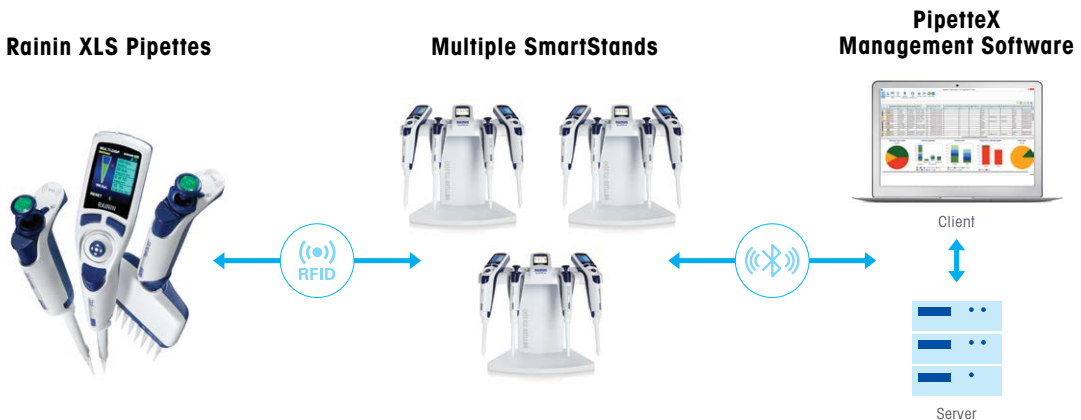
mt.com/smartcheck

Rainin PipetteX

Software to Simplify Pipette Management

PipetteX™ uses the RFID tag embedded in every Rainin XLS pipette to automatically track and manage calibration data, pipette usage and location. Our simple software solution integrates with SmartStand, SmartCheck and Rainin Service to create a powerful, easy-to-use pipette tracking and calibration management system.

- Automatic transfer of calibration documentation from service center to software
- Controls all elements of calibration tracking and movement
- 21 CFR Part 11 compliant management system
- Integrated in-line pipette validations
- Manage all brands of pipettes



A simple, unified system for tracking and managing pipettes (all manufacturers)

Place any Rainin XLS-brand pipette on a SmartStand to instantly see the pipette's calibration status and service details right at the bench. PipetteX connects to SmartStand via Bluetooth or USB to automatically transfer serial numbers, service and other data to the PipetteX database.

PipetteX maintains a complete history of your entire pipette inventory including calibration certificates and verification reports. This makes it easy to track the status, location, calibration and service schedule for any pipette.

That's pipette management...simplified!

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Low Retention Tips

Introducing PFAS-Free Option

- Pipette with confidence
- Smooth hydrophobic surface
- Lower environmental impact

New!



Available in Genuine LTS – BioClean Ultra Certified

For more information, see [page 61](#).

METTLER TOLEDO