Pipette Performance Data Sheet



Eppendorf Research® plus

The Eppendorf Research plus is one of the safest and most ergonomic mechanical pipettes available. Meeting the highest needs of precision and accuracy while providing high flexibility via a large number of variants, the Research plus will become an indispensable companion in your lab. This micropipette is remarkably light, both in terms of weight and pipetting forces, which helps you to avoid hand and arm strain. The 16- and 24-channel pipette system combines proven concepts with new innovations and facilitates quick & easy manual pipetting in 384-well plates.

Features

> Mechanical air-cushion pipette for accurate, easy & ergonomic pipetting of aqueous solutions
> Feel the difference in weight and pipetting forces: Designed according to the Eppendorf PhysioCare Concept® principles
> Enjoy minimal tip attachment forces due to a spring-loaded tip cone (available for all pipettes up to 1 mL) that reduces stress without sacrificing tip tightness
> Benefit from one of the lowest operating and tip ejection forces on the pipette market, helping to reduce hand and arm strain
> Temporarily adjust your pipette in seconds for better accuracy when pipetting challenging liquids like ethanol or when pipetting at high altitudes. Return to factory adjustment without calibration
> Autoclave the entire pipette or only the lower part according to your needs and applications to ensure a proper decontamination
> Premium material ensures a high UV and chemical resistance; special single-channel lower parts for aggressive chemicals available
> Enjoy excellent flexibility and choose among single-channel pipettes in fixed or variable volume as well as 8-, 12-, 16- and 24-channel pipettes
> ACT®-labeled single-channel pipettes and epT.I.P.S.® pipette tips help you make an informed choice when it comes to sustainability

Applications

> Forward pipetting
> Reverse pipetting
> Removal of supernatants
> Sample mixing
> Phase extraction
> Filling of plates, gels, and reaction vessels

Technical Specifications

Intended use	Ergonomic micropipettes with low operating forces for general laboratory use. Intended for transferring liquids in the specified volume range in combination with matching tips.
Pipetting type	Air-cushion pipette
Channel options	1, 8, 12, 16, 24, Move It® adjustable tip spacing (with 4, 6, 8 or 12 channels)
Volume range	0.1 µL – 10,000 µL
Volume increments	0.002 µL – 10 µL
Operation	Mechanical, 4-digit volume display
Autoclavable	Fully autoclavable (121 °C, 1 bar, 20 min)
UV resistance	Yes (254 nm)
Consumables	epT.I.P.S.® pipette tips
Open system (3rd party consumables)	Yes
Conforms with	ISO 8655
Temporary adjustment	Easy adjustment for liquid types, elongated tips or altitude
Storage accessories (sold separately)	> Pipette Carousel for 6 pipettes > Pipette Stand (with optional holder) > Pipette Holder for Carousel, Stand or wall mounting
Storage & transport conditions	> Temperature: -5 °C – 45 °C > Humidity: 10 % – 95 %
Operating conditions	> Temperature: 5 °C – 40 °C > Humidity: 10 % – 95 %
Others	> Spring-loaded tip cones for easy tip attachment & ejection (up to 1 mL) > High chemical resistance & special lower parts with resistance to different chemicals available > Life-time tested for min. 5 years of use, including disassembly and reassembly, adjustment changes, and drop tests > Easy maintenance, spare parts, accessories and calibration services available from Eppendorf

DOMINIQUE DUTSCHER SAS

Technical specifications are subject to change. Errors and omissions excepted.

Dimensions

Length	> 242 mm (1-channel, 1,000 µL) > 238 mm (8-channel, 300 µL) > 232 mm (16-channel, 100 µL)
Weight	> 80 g (1-channel, 1,000 µL) > 155 g (8-channel, 300 µL) > 160 g (16-channel, 100 µL)
Packaging (W x H x D)	32 cm x 16 cm x 12 cm (max., depending on model)
Shipping weight	200 g – 850 g (depending on model)

Technical specifications are subject to change. Errors and omissions excepted.

Measurement Deviations

Single-channel pipettes

Eppendorf Research® plus, single-channel, fixed volume

Volume range	Color code	Systematic error[1)]		Random error[1)]	
10 µL	■ medium gray (for epT.I.P.S.® 20 µL)	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL
20 µL	■ light gray (for epT.I.P.S.® 20 µL L)	±0.8 %	±0.16 µL	±0.3 %	±0.06 µL
20 µL	■ yellow for epT.I.P.S.® 200 µL)	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL
25 µL		±1.0 %	±0.25 µL	±0.3 %	±0.08 µL
50 µL		±0.7 %	±0.35 µL	±0.3 %	±0.15 µL
100 µL		±0.6 %	±0.6 µL	±0.2 %	±0.2 µL
200 µL		±0.6 %	±1.2 µL	±0.2 %	±0.4 µL
200 µL	■ blue (for epT.I.P.S.® 1,000 µL)	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL
250 µL		±0.6 %	±1.5 µL	±0.2 %	±0.5 µL
500 µL		±0.6 %	±3.0 µL	±0.2 %	±1.0 µL
1,000 µL		±0.6 %	±6.0 µL	±0.2 %	±2.0 µL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Single-channel pipettes, variable volume

Eppendorf Research® plus, single-channel, variable volume, incl. epT.I.P.S.® Box 2.0 with 96 pipette tips

Volume range	Color code	Volume	Systematic error[1)]		Random error[1)]	
0.1 – 2.5 µL	■ dark gray (for epT.I.P.S.® 10 µL)	0.1 µL	±48.0 %	±0.048 µL	±12.0 %	±0.012 µL
		0.25 µL	±12.0 %	±0.03 µL	±6.0 %	±0.015 µL
		1.25 µL	±2.5 %	±0.031 µL	±1.5 %	±0.019 µL
		2.5 µL	±1.4 %	±0.035 µL	±0.7 %	±0.018 µL
0.5 – 10 µL	■ medium gray (for epT.I.P.S.® 20 µL)	0.5 µL	±8.0 %	±0.04 µL	±5.0 %	±0.025 µL
		1 µL	±2.5 %	±0.025 µL	±1.8 %	±0.018 µL
		5 µL	±1.5 %	±0.075 µL	±0.8 %	±0.04 µL
		10 µL	±1.0 %	±0.1 µL	±0.4 %	±0.04 µL
2 – 20 µL	■ light gray (for epT.I.P.S.® 20 µL L)	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL
		10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL
		20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL
2 – 20 µL	■ yellow (for epT.I.P.S.® 200 µL)	2 µL	±5.0 %	±0.1 µL	±1.5 %	±0.03 µL
		10 µL	±1.2 %	±0.12 µL	±0.6 %	±0.06 µL
		20 µL	±1.0 %	±0.2 µL	±0.3 %	±0.06 µL
10 – 100 µL		10 µL	±3.0 %	±0.3 µL	±1.0 %	±0.1 µL
		50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL
		100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL
20 – 200 µL	■ yellow (for epT.I.P.S.® 200 µL)	20 µL	±2.5 %	±0.5 µL	±0.7 %	±0.14 µL
		100 µL	±1.0 %	±1.0 µL	±0.3 %	±0.3 µL
		200 µL	±0.6 %	±1.2 µL	±0.2 %	±0.4 µL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

DOMINIQUE DUTSCHER SAS

Eppendorf Research® plus, single-channel, variable volume, incl. epT.I.P.S.® Box 2.0 with 96 pipette tips

Volume range	Color code	Volume	Systematic error[1)]		Random error[1)]	
30 – 300 µL	■ orange	30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 µL
	(for epT.I.P.S.® 300 µL)	150 µL	±1.0 %	±1.5 µL	±0.3 %	±0.45 µL
		300 µL	±0.6 %	±1.8 µL	±0.2 %	±0.6 µL
100 – 1,000 µL	■ blue	100 µL	±3.0 %	±3.0 µL	±0.6 %	±0.6 µL
	(for epT.I.P.S.® 1,000 µL)	500 µL	±1.0 %	±5.0 µL	±0.2 %	±1.0 µL
		1,000 µL	±0.6 %	±6.0 µL	±0.2 %	±2.0 µL
Eppendorf Research® plus, single-channel, variable volume, incl. epT.I.P.S.® sample bag with 10 pipette tips						
0.25 – 2.5 mL	■ red	0.25 mL	±4.8 %	±0.012 mL	±1.2 %	±0.003 mL
	(for epT.I.P.S.® 2.5 mL)	1.25 mL	±0.8 %	±0.01 mL	±0.2 %	±0.0025 mL
		2.5 mL	±0.6 %	±0.015 mL	±0.2 %	±0.005 mL
0.5 – 5 mL	■ violet	0.5 mL	±2,4 %	±0,012 mL	±0,6 %	±0,003 mL
	(for epT.I.P.S.® 5 mL)	2.5 mL	±1,2 %	±0,03 mL	±0,25 %	±0,006 mL
		5 mL	±0,6 %	±0,03 mL	±0,15 %	±0,008 mL
1 – 10 mL	■ turquoise	1 mL	±3,0 %	±0,03 mL	±0,6 %	±0,006 mL
	(for epT.I.P.S.® 10 mL)	5 mL	±0,8 %	±0,04 mL	±0,2 %	±0,01 mL
		10 mL	±0,6 %	±0,06 mL	±0,15 %	±0,015 mL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

8- & 12-channel pipettes, for 96 well plates

Eppendorf Research® plus, 8- or 12-channel, variable volume, incl. epT.I.P.S.® Box 2.0 with 96 pipette tips

Volume range	Color code	Volume	Systematic error[1)]		Random error[1)]	
0.5 – 10 µL	■ medium gray	0.5 µL	±12,0 %	±0,06 µL	±8,0 %	±0,04 µL
	(for epT.I.P.S.® 20 µL)	1 µL	±8,0 %	±0,08 µL	±5,0 %	±0,05 µL
		5 µL	±4,0 %	±0,2 µL	±2,0 %	±0,1 µL
		10 µL	±2,0 %	±0,2 µL	±1,0 %	±0,1 µL
10 – 100 µL	■ yellow	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0,2 µL
	(for epT.I.P.S.® 200 µL)	50 µL	±1.0 %	±0.5 µL	±0.8 %	±0,4 µL
		100 µL	±0.8 %	±0.8 µL	±0.3 %	±0,3 µL
30 – 300 µL	■ orange	30 µL	±3,0 %	±0,9 µL	±1,0 %	±0,3 µL
	(for epT.I.P.S.® 300 µL)	150 µL	±1,0 %	±1,5 µL	±0,5 %	±0,75 µL
		300 µL	±0,6 %	±1,8 µL	±0,3 %	±0,9 µL
Eppendorf Research® plus, 8- or 12-channel, variable volume, without pipette tips						
120 – 1,200 µL	■ dark green	120 µL	±6,0 %	±7,2 µL	±0,9 %	±1,08 µL
	(for epT.I.P.S.® 1,250 µL L)	600 µL	±2,7 %	±16,2 µL	±0,4 %	±2,4 µL
		1,200 µL	±1,2 %	±14,4 µL	±0,3 %	±3,6 µL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

16- & 24-channel pipettes, for 384-well plates

Eppendorf Research® plus, 16- or 24-channel, variable volume, incl. epT.I.P.S.® Box 2.0 with 384 pipette tips

Volume range	Color code	Volume	Systematic error[1)]		Random error[1)]	
1 – 20 µL	■ light pink	2 µL	±8 %	±0.16 µL	±5 %	±0.1 µL
	(for epT.I.P.S.® 384, 20 µL	10 µL	±4 %	±0.4 µL	±2 %	±0.2 µL
		20 µL	±2 %	±0.4 µL	±1 %	±0.2 µL
5 – 100 µL	■ light yellow	10 µL	±3 %	±0.3 µL	±2 %	±0.2 µL
	(for epT.I.P.S.® 384, 100 µL)	50 µL	±1.2 %	±0.6 µL	±0.8 %	±0.4 µL
		100 µL	±1 %	±1 µL	±0.6 %	±0.6 µL

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

DOMINIQUE DUTSCHER SAS

Your local distributor: www.eppendorf.com/contact
Eppendorf SE · 22339 Hamburg · Germany
E-mail: eppendorf@eppendorf.com

www.eppendorf.com

For more information and article numbers, visit

www.eppendorf.com/researchplus

Eppendorf®, the Eppendorf Brand Design, Eppendorf Research®, Eppendorf PhysioCare Concept®, Move It® and epT.I.P.S.® are registered trademarks of Eppendorf SE, Germany. ACT® is a registered trademark of My Green Lab, USA.
All rights reserved, including graphics and photos. Copyright © 2024 by Eppendorf SE. Order No. AA01 035 820/INT5/WEB/0124/ME