Pipette Performance Data Sheet

Eppendorf Research® 3 neo Pipettes

Are you searching for a mechanical pipette that could be the best fit for you? Look no further than the new Eppendorf Research® 3 neo! Experience an efficiency boost with faster volume selection or precise one-handed tuning with the 'easy' volume adjustment setting. Improve your reproducibility with the new volume lock and temporary adjustment to increase accuracy in different workflows. Enjoy comfortable pipetting with a short pipetting button and low operating forces. And you can of course always rely on the Research 3 neo for precise and consistent pipetting, crafted with the same excellence in liquid handling that has made Eppendorf pipettes renowned worldwide.

Currently available as single-channel pipettes with nominal volumes ranging from 2.5 µL to 10 mL.

Features

> Mechanical air-cushion pipette with 2-button operation (one operating element for volume changes / pipetting, and one for tip ejection), and customizable settings for easy, ergonomic, and reliable pipetting
> Shorter control button with integrated volume adjustment enhances ergonomics for all and provides added comfort for small hands
> Unique volume gear shift to either speed up volume changes by up to 40 % (fast setting) or fine-tune easily with just one hand (easy setting)
> Volume lock to prevent unintentional volume changes
> Pipetting performance beyond ISO 8655 requirements when used with epT.I.P.S.® pipette tips
> Ergonomic design according to the Eppendorf PhysioCare Concept®: well-balanced, organic, lightweight, and featuring low pipetting forces
> Spring-loaded tip cones reduce tip attachment and ejection forces, minimizing the risk of strain injuries
> Temporary adjustment to increase accuracy for various liquid types, tip geometries, or altitude without permanently altering the factory calibration
> Removable labeling and marking options with ColorTag pipette marking rings[1)]
> Full autoclavability, high UV and chemical resistance, along with easy disassembly and reassembly, facilitate versatile use and effortless decontamination and cleaning
> Sustainability independently validated via ACT® label by NGO My Green Lab

[1)] sold separately
[2)] not recommended

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 for general lab use. Intended for liquid transfer within specified volumes using compatible tips.
Pipette type	Air-cushion system
Channel options	1
Volume range	0.1 µL – 10,000 µL (11models)
Volume increments	0.002 µL – 10 µL (11 models)
Operation	Mechanical, 4-digit volume display
Volume adjustment	Unique volume gear shift with 2 modes: > Fast mode: Up to 40 % quicker > Easy mode: Effortless fine-tuning
Volume lock	Yes
Customization options	> Two volume adjustment speeds > Temp. adjustment for liquids, tips, altitude, or reverse pipetting (separate from factory adjustment) > Mark your name, lab, application, calibration date with new ColorTag marking rings[1)]
Autoclavable	Fully autoclavable (121 °C, 1 bar, 20 min)
UV resistance	Yes (254 nm, 30 W, 60 cm distance)
H_2O_2 resistance	Yes
Consumables	> epT.I.P.S.® > ep Dualfilter T.I.P.S.® / ep Dualfilter T.I.P.S.® SealMax® > epT.I.P.S.® BioBased
Open system (compatible with 3rd party tips)	Yes[2)]
Conforms with	ISO 8655
Storage accessories (sold separately)	> Pipette Carousel for 6 pipettes > Pipette Stand (with separate holder) > Pipette Holder for Carousel, Stand or wall mounting
Operating conditions	> Temperature: 5 °C – 40 °C > Humidity: 10 % – 95 %
Others	> Spring-loaded tip cones for easy tip attachment & ejection > High chemical resistance suitable for a wide variety of applications > Life-time tested for min. 5 years of use, incl. disassembly & reassembly, adjustment, drop tests, autoclaving > Easy maintenance, spare parts, accessories and calibration services available from Eppendorf

Sustainability

Certification	ACT label (pipettes), ISO 14001 (manufactory)
Manufactory	Assembled with 100 % renewable energy and under EU regulations in Hamburg, Germany.
Packaging	Fully recyclable: Made from 95% recycled cardboard, with reduced size and ink use compared to previous pipette packs. No composite materials, plastic only used for spare filters and pipette tip wrappings.
Maintenance	Easy disassembly and reassembly, lifetime-tested for at least 5 years of use.
Repairability	Reliable repair services provided by Eppendorf, and supply of spare parts for 7 years after sales stop.

Dimensions and Storage & Transport Conditions

Length	> 225 mm (1-channel, 2.5 µL) > 235 mm (1-channel, 1,000 µL) > 210 mm (1-channel, 10 mL)
Weight	> 74 g (1-channel, 2.5 µL) > 80 g (1-channel, 1,000 µL) > 112 g (1-channel, 10 mL)
Packaging (W x H x D)	27.5 cm x 17 cm x 9.4 cm (max., depending on model)
Storage & transport conditions	> Temperature: -5 °C – 45 °C > Humidity: 10 % – 95 %
Shipping weight	183 g – 617 g (depending on model)

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Measurement Deviations

Order no.	Volume range	Color code	Increment	Volume	Systematic error[1)]		Random error[1)]	
Eppendorf Research® 3 neo, 1-channel, incl. epT.I.P.S.® Box 2.0 (x 96 tips) and ep Dualfilter T.I.P.S.® 'PCR clean & sterile' Rack (x 96 tips)								
3174 000 001	0.1 - 2.5 µL	■ dark gray (for epT.I.P.S.® 10 µL)	0.002 µL	0.10 µL	± 24 %	± 0.024 µL	± 10 %	± 0.01 µL
				0.25 µL	± 12 %	± 0.03 µL	± 6 %	± 0.015 µL
				1.25 µL	± 2.5 %	± 0.031 µL	± 1.5 %	± 0.019 µL
				2.50 µL	± 1.4 %	± 0.035 µL	± 0.7 %	± 0.018 µL
Eppendorf Research® 3 neo, 1-channel, incl. epT.I.P.S.® Box 2.0 (x 96 tips) and ep Dualfilter T.I.P.S.® BioBased 'PCR clean & sterile' Reload (x 96 tips)								
3174 000 002	0.5 - 10 µL	■ medium gray (for epT.I.P.S.® 20 µL)	0.01 µL	0.5 µL	± 8 %	± 0.04 µL	± 5 %	± 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 %	± 0.1 µL	± 0.4 %	± 0.04 µL
3174 000 003	1 - 20 µL	■ light gray (for epT.I.P.S.® 20 µL)	0.02 µL	1 µL	± 10 %	± 0.1 µL	± 3 %	± 0.03 µL
				2 µL	± 5 %	± 0.1 µL	± 1.5 %	± 0.03 µL
				10 µL	± 1.2 %	± 0.12 µL	± 0.6 %	± 0.06 µL
				20 µL	± 1 %	± 0.2 µL	± 0.3 %	± 0.06 µL
3174 000 004	1- 20 µL		0.02 µL	1 µL	± 10 %	± 0.1 µL	± 3 %	± 0.03 µL
				2 µL	± 5 %	± 0.1 µL	± 1.5 %	± 0.03 µL
				10 µL	± 1.2 %	± 0.12 µL	± 0.6 %	± 0.06 µL
				20 µL	± 1 %	± 0.2 µL	± 0.3 %	± 0.06 µL
3174 000 005	5 - 100 µL	■ yellow (for epT.I.P.S.® 200 µL)	0.1 µL	5 µL	± 6 %	± 0.3 µL	± 2 %	± 0.1 µL
				10 µL	± 3 %	± 0.3 µL	± 1 %	± 0.1 µL
				50 µL	± 1 %	± 0.5 µL	± 0.3 %	± 0.15 µL
				100 µL	± 0.8 %	± 0.8 µL	± 0.2 %	± 0.2 µL
3174 000 006	10 - 200 µL		0.2 µL	10 µL	± 5 %	± 0.5 µL	± 1.4 %	± 0.14 µL
				20 µL	± 2.5 %	± 0.5 µL	± 0.7 %	± 0.14 µL
				100 µL	± 1 %	± 1 µL	± 0.3 %	± 0.3 µL
				200 µL	± 0.6 %	± 1.2 µL	± 0.2 %	± 0.4 µL
3174 000 007	15 - 300 µL	■ orange (for epT.I.P.S.® 300 µL)	0.2 µL	15 µL	± 5 %	± 0.75 µL	± 1.4 %	± 0.21 µL
				30 µL	± 2.5 %	± 0.75 µL	± 0.7 %	± 0.21 µL
				150 µL	± 1 %	± 1.5 µL	± 0.3 %	± 0.45 µL
				300 µL	± 0.6 %	± 1.8 µL	± 0.2 %	± 0.6 µL
3174 000 008	50 - 1000 µL	■ blue (for epT.I.P.S.® 1,000 µL)	1 µL	50 µL	± 6 %	± 3 µL	± 1.2 %	± 0.6 µL
				100 µL	± 3 %	± 3 µL	± 0.6 %	± 0.6 µL
				500 µL	± 1 %	± 5 µL	± 0.2 %	± 1 µL
				1000 µL	± 0.6 %	± 6 µL	± 0.2 %	± 2 µL
Eppendorf Research® 3 neo, 1-channel, incl. epT.I.P.S.® sample bag (x 10 tips)								
3174 000 009	0.1 - 2 mL	■ red (for epT.I.P.S.® 2.5 mL)	2 µL	100 µL	± 5 %	± 5 µL	± 1.4 %	± 1.4 µL
				200 µL	± 3 %	± 6 µL	± 1.2 %	± 2.4 µL
				1000 µL	± 0.8 %	± 8 µL	± 0.2 %	± 2 µL
				2000 µL	± 0.5 %	± 10 µL	± 0.2 %	± 4 µL
3174 000 010	0.25 - 5 mL	■ violet (for epT.I.P.S.® 5 mL)	5 µL	250 µL	± 4.8 %	± 12 µL	± 1.2 %	± 3 µL
				500 µL	± 2.4 %	± 12 µL	± 0.6 %	± 3 µL
				2500 µL	± 0.8 %	± 20 µL	± 0.25 %	± 6.25 µL
				5000 µL	± 0.6 %	± 30 µL	± 0.15 %	± 7.5 µL
3174 000 011	0.5 - 10 mL	■ turquoise (for epT.I.P.S.® 10 mL)	10 µL	500 µL	± 6 %	± 30 µL	± 1.2 %	± 6 µL
				1000 µL	± 3 %	± 30 µL	± 0.6 %	± 6 µL
				5000 µL	± 0.8 %	± 40 µL	± 0.2 %	± 10 µL
				10000 µL	± 0.6 %	± 60 µL	± 0.15 %	± 15 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.