

# Pipette Performance Data Sheet



## Eppendorf Xplorer® plus

The Eppendorf Xplorer plus is an enhanced version of the Eppendorf Xplorer electronic pipette, offering exciting extras such as additional operating modes, individual fixed volume settings, and programming to simplify and expedite the pipetting process. The Eppendorf Xplorer plus is the perfect choice for scientists requiring reliable, ergonomic pipetting with added versatility.

Besides 1-, 8-, or 12-channel variants, the Eppendorf Xplorer plus pipettes are also available with 16 or 24 channels for 384-well plate applications. Additionally, Xplorer plus Move It® adjustable tip spacing pipettes are available in various volume and channel variants, allowing for easy liquid transfer between different vessel formats.

Choose the Eppendorf Xplorer plus for a comprehensive electronic pipetting solution that meets the diverse needs of today's labs.

## Features

- > Electronic air-cushion pipette reaching new levels of simplicity, precision and reproducibility
- > Intuitive handling via multi-function rocker with »up is up« (aspiration) & »down is down« (dispensing) logic; practical selection dial to access all pipetting modes
- > Self-explanatory color display without cluttered submenus, ergonomic viewing angle for optimal readability in every position
- > Spring-loaded tip cone in all Xplorer plus pipettes up to 1,000  $\mu\text{L}$  reduces tip attachment forces
- > Individual programming, fixed volume settings, password protection, display of service intervals
- > Powerful rechargeable battery for up to 8 hours use; work can continue while charging via power socket
- > Pre-programmed and individual adjustment to external conditions (e.g. geographic height, liquids with high density, elongated tips)
- > Autoclavable lower parts for easy decontamination (all models, incl. Move It®)
- > ACT®-labeled single-channel pipettes and epT.I.P.S.® pipette tips help you make an informed choice when it comes to sustainability

## Technical Specifications

Intended use	Electronic micropipettes for general laboratory use. Intended for dispensing liquids from 0.5 $\mu\text{L}$ to 10 mL in combination with matching pipette 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	0.5 $\mu\text{L}$ – 10,000 $\mu\text{L}$
Volume increments	0.01 $\mu\text{L}$ – 10 $\mu\text{L}$
Operation	Electronic
Pipetting modes	9 (see Applications)
Pipette Manager enabled	Yes (sold separately)
Aspiration & dispensing speed	8 levels
Display languages	Chinese, Dutch, English, French, German, Italian, Japanese, Portuguese, Spanish
Autoclavable	All lower parts (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	> Pre-programmed adjustments for liquid types, altitude or elongated pipette tips > Individual adjustments in 1, 2 or 3 points
Power supply	Power supply/mains with plug adapters included (100-240 V $\pm$ 10 %, 50-60 Hz)
Battery type	Rechargeable lithium polymer (3.7 V)
Charging ports	> Connector socket for plug > Charging contacts for Carousel or Stand
Interface	Micro USB (for software updates)
Storage accessories (sold separately)	> Charger Carousel for 6 pipettes > Charger Stand > 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	> Designed according to the Eppendorf PhysioCare Concept®: lightweight, well-balanced, convenient handle > Easy maintenance, spare parts, accessories and calibration services available from Eppendorf

## Applications

- > Automated (forward) pipetting of liquids (**Pip**)
- > Reverse pipetting (**Spc**) for non-aqueous solutions
- > Dispensing (**Dis**) to quickly fill plates, gels, and reaction vessels
- > Automatic dispensing (**Ads**) for automated filling of plates, gels, and reaction vessels
- > Pipetting and mixing (**P/M**) for automated mixing of samples
- > Manual pipetting (**Man**) for volume determination
- > Multi aspiration (**Spc**): Pooling supernatants from different vessels
- > Sequential dispensing and pipetting (**Spc**) for user-defined volume steps
- > Diluting (**Spc**) for preparation of dilution series
- > Fix volume (**Fix**): Save up to 10 volumes for ease of operation

## Dimensions

Length	> 278 mm (1-channel, 1,000 µL) > 275 mm (8-channel, 300 µL) > 272 mm (16-channel, 100 µL)
Weight	> 158 g (1-channel, 1,000 µL) > 236 g (8-channel, 300 µL) > 242 g (16-channel, 100 µL)
Packaging (W x H x D)	32 cm x 16 cm x 12 cm (for all variants)
Shipping weight	650 g – 950 g (depending on model)

## Measurement Deviations

### Single-channel pipettes

#### Eppendorf Xplorer® plus, single-channel

Volume range	Color code	Volume	Systematic error <sup>1)</sup>		Random error <sup>1)</sup>	
0.5 – 10 µL	■ medium gray (for epT.I.P.S.® 20 µL)	0.5 µL	±6.0 %	±0.03 µL	±3.0 %	±0.015 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
1 – 20 µL	■ light gray (for epT.I.P.S.® 20 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
5 – 100 µL	■ yellow (for epT.I.P.S.® 200 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
		50 µL	±1.0 %	±0.5 µL	±0.3 %	±0.15 µL
		100 µL	±0.8 %	±0.8 µL	±0.2 %	±0.2 µL
10 – 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
15 – 300 µL	■ orange (for epT.I.P.S.® 300 µL)	15 µL	±5.0 %	±0.75 µL	±1.4 %	±0.21 µL
		30 µL	±2.5 %	±0.75 µL	±0.7 %	±0.21 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
50 – 1,000 µL	■ blue (for epT.I.P.S.® 1,000 µL)	50 µL	±6.0 %	±3 µL	±1.0 %	±0.5 µL
		100 µL	±3.0 %	±3 µL	±0.6 %	±0.6 µL
		500 µL	±1.0 %	±5 µL	±0.2 %	±1 µL
		1,000 µL	±0.6 %	±6 µL	±0.2 %	±2 µL
0.1 – 2.5 mL	■ red (for epT.I.P.S.® 2.5 mL)	125 µL	±5 %	±6.25 µL	±1.4 %	±1.75 µL
		250 µL	±4.8 %	±12 µL	±1.2 %	±3.0 µL
		1,250 µL	±0.8 %	±10 µL	±0.2 %	±2.5 µL
		2,500 µL	±0.6 %	±15 µL	±0.2 %	±5.0 µL
0.2 – 5 mL	■ violet (for epT.I.P.S.® 5 mL)	200 µL	±4.8 %	±12 µL	±1.2 %	±3 µL
		500 µL	±3.0 %	±15 µL	±0.6 %	±3 µL
		2,500 µL	±1.2 %	±30 µL	±0.25 %	±6.25 µL
		5,000 µL	±0.6 %	±30 µL	±0.15 %	±7.5 µL
0.5 – 10 mL	■ turquoise (for epT.I.P.S.® 10 mL)	500 µL	±6.0 %	±30 µL	±1.2 %	±6 µL
		1,000 µL	±3.0 %	±30 µL	±0.6 %	±6 µL
		5,000 µL	±0.8 %	±40 µL	±0.2 %	±10 µL
		10,000 µL	±0.6 %	±60 µL	±0.15 %	±15 µL

<sup>1)</sup> 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 Xplorer® plus, 8- or 12-channel

Volume range	Color code	Volume	Systematic error <sup>1)</sup>		Random error <sup>1)</sup>	
0.5 – 10 µL	<span style="color: gray;">■</span> medium gray (for epT.I.P.S.® 20 µL)	0.5 µL	±10.0 %	±0.05 µL	±6.0 %	±0.03 µL
		1 µL	±5.0 %	±0.05 µL	±3.0 %	±0.03 µL
		5 µL	±3.0 %	±0.15 µL	±1.5 %	±0.075 µL
		10 µL	±2.0 %	±0.2 µL	±0.8 %	±0.08 µL
5 – 100 µL	<span style="color: yellow;">■</span> yellow (for epT.I.P.S.® 200 µL)	5 µL	±6.0 %	±0.3 µL	±4.0 %	±0.2 µL
		10 µL	±2.0 %	±0.2 µL	±2.0 %	±0.2 µL
		50 µL	±1.0 %	±0.5 µL	±0.8 %	±0.4 µL
		100 µL	±0.8 %	±0.8 µL	±0.25 %	±0.25 µL
15 – 300 µL	<span style="color: orange;">■</span> orange (for epT.I.P.S.® 300 µL)	15 µL	±6.0 %	±0.9 µL	±2.0 %	±0.3 µL
		30 µL	±2.5 %	±0.75 µL	±1.0 %	±0.3 µL
		150 µL	±1.0 %	±1.5 µL	±0.5 %	±0.75 µL
		300 µL	±0.6 %	±1.8 µL	±0.25 %	±0.75 µL
50 – 1,200 µL	<span style="color: green;">■</span> green (for epT.I.P.S.® 1,250 µL)	50 µL	±8.0 %	±4.0 µL	±1.2 %	±0.6 µL
		120 µL	±6.0 %	±7.2 µL	±0.9 %	±1.08 µL
		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

<sup>1)</sup> 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- or 24- channel pipettes, for 384-well plates

### Eppendorf Xplorer® plus, 16- or 24-channel, variable

Volume range	Color code	Volume	Systematic error <sup>1)</sup>		Random error <sup>1)</sup>	
1 – 20 µL	<span style="color: pink;">■</span> light pink (for epT.I.P.S.® 384, 20 µL)	2 µL	8 %	0.16 µL	5%	0.1 µL
		10 µL	±4 %	±0.4 µL	±2%	±0.2 µL
		20 µL	±2.0 %	±0.4 µL	±1%	±0.2 µL
5 – 100 µL	<span style="color: yellow;">■</span> light yellow (for epT.I.P.S.® 384, 100 µL)	10 µL	±3.0 %	±0.3 µL	±2.0 %	±0.2 µL
		50 µL	±1.2 %	±0.6 µL	±0.8%	±0.4 µL
		100 µL	±1.0 %	±1.0 µL	±0.6 %	±0.6 µL

<sup>1)</sup> 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.

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