eppendorf

PhysioCare
concept

10–100µL

The New Legend

Eppendorf Reference® 2 Pipette

»The new Reference class for modern liquid handling tools.«

The name »Reference« stands for extraordinary precision and accuracy, a long service life, and an ergonomic design. The new Reference 2 boasts these proven Premium characteristics and this operating philosophy with its innovative state of the art technology; making it a reliable partner for you and your demanding work.

Unique upper handle
> Round shape makes it possible to work in every position
> Smooth surface for easy cleaning
> External edges made from stainless steel for outstanding robustness at potential impact sites
> 4-digit display for exact volume setting and secure volume lock

Multi-channel version
> Channel indicator guarantees continuously identical pipette alignment during the work process
> Spring-loaded tip cones for reproducible tip fit and reduced effort (to be switched on/off optionally)
> Simple maintenance with the ability to remove single cones

User friendly adjustment
> The Reference 2 provides user adjustment for liquids other than aqueous solutions leaving factory settings untouched
> Suggestions for settings are provided
> Reset back to manufacturer setting just as quick and easy

The Eppendorf Reference® 2 at a Glance

A pipette is only as good as its tip
> Eppendorf epT.I.P.S.® pipette tips,
  Totally Integrated Pipetting System
> Maximum Precision
  and Reliability

Spring-loaded tip cone
> Improved reproducibility
> Low effort during
  operation/ejection

Heightened Traceability
> Serial number is printed
  on multiple components
  of the pipette
> Internal RFID technology

> Color coded and volume labeled for quick
  identification of the volume size/ tip size
> Round upper part
  makes it possible to work in every position
> 4-digit display for exact volume setting
  (clearly visible from every angle)
> Quick and secure volume setting, include volume lock
> Fully autoclavable

* The Reference 2 pipette is designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. This pipette is an in vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998. It is intended exclusively for indoor use and for operation by qualified staff.

Sturdy Upper Handle
> Guarantees long service life
  and increased robustness

Optimized surface
> Few rough edges
> Smooth surface for
  comfortable working
  and simple cleaning

Single-button operation
> Ergonomic handling with
  reduced operating effort.
> Simple and quick tip ejection
  with active aerosol reduction
> Reduce repetitive strain
  injuries by not having to
  move your thumb sideways
> Haptic feedback before
  tip ejection

Additional advantages:
> High precision and accuracy provides
  reliable pipetting results
> User friendly secondary adjustment
> Customizable labeling area

Ordering information

Description	Volume	Systematic error ± %	Systematic error ± µL/mL	Random error ± %	Random error ± µL/mL	Order no. (International)	
Eppendorf Reference® 2, single–channel variable*							
0.1–2.5 µL ■ dark gray	0.1 µL	±48.0	±0.048	±12.0	± 0.012	4920 000.016	
	0.25 µL	±12.0	±0.03	±6.0	±0.015		
	1.25 µL	±2.5	±0.031	±1.5	±0.019		
	2.5 µL	±1.4	±0.035	±0.7	±0.018		
0.5–10 µL ■ medium gray	0.5 µL	±8.0	±0.040	±5.0	±0.025	4920 000.024	
	1 µL	±2.5	±0.025	±1.8	±0.018		
	5 µL	±1.5	±0.075	±0.8	±0.04		
	10 µL	±1.0	±0.10	±0.4	±0.04		
2–20 µL ■ light gray	2 µL	±5.0	±0.10	±1.5	±0.03	4920 000.032	
	10 µL	±1.2	±0.12	±0.6	±0.06		
	20 µL	±1.0	±0.20	±0.3	±0.06		
2–20 µL ■ yellow	2 µL	±5.0	±0.10	±1.5	±0.03	4920 000.040	
	10 µL	±1.2	±0.12	±0.6	±0.06		
	20 µL	±1.0	±0.2	±0.3	±0.06		
10–100 µL ■ yellow	10 µL	±3.0	±0.3	±0.7	±0.07	4920 000.059	
	50 µL	±1.0	±0.5	±0.3	±0.15		
	100 µL	±0.8	±0.8	±0.20	±0.20		
20–200 µL ■ yellow	20 µL	±2.5	±0.5	±0.7	±0.14	4920 000.067	
	100 µL	±1.0	±1.0	±0.3	±0.3		
	200 µL	±0.6	±1.2	±0.2	±0.4		
30–300 µL ■ orange	30 µL	±2.5	±0.75	±0.7	±0.21	4920 000.075	
	150 µL	±1.0	±1.5	±0.3	±0.45		
	300 µL	±0.6	±1.8	±0.2	±0.6		
100–1000 µL ■ blue	100 µL	±3.0	±3.0	±0.6	±0.6	4920 000.083	
	500 µL	±1.0	±5.0	±0.2	±1.0		
	1000 µL	±0.6	±6.0	±0.2	±2.0		
0.25–2.5 mL ■ red	0.25 mL	±4.8	±0.012	±1.2	±0.003	4920 000.091	
	1.25 mL	±0.8	±0.010	±0.2	±0.0025		
	2.5 mL	±0.6	±0.015	±0.2	±0.005		
0.5–5 mL ■ purple	0.5 mL	±2.4	±0.012	±0.6	±0.003	4920 000.105	
	2.5 mL	±1.2	±0.030	±0.25	±0.006		
	5.0 mL	±0.6	±0.030	±0.15	±0.0075		
1–10 mL ■ turquoise	1.0 mL	±3.0	±0.030	±0.6	±0.006	4920 000.113	
	5.0 mL	±0.8	±0.040	±0.2	±0.010		
	10.0 mL	±0.6	±0.060	±0.15	±0.015		
Eppendorf Reference® 2, 8- and 12-channel variable						**8–channel**	**12–channel**
0.5–10 µL ■ medium gray	0.5 µL	±12.0	±0.06	±8.0	±0.04	4922 000.013	4922 000.021
	1 µL	±8.0	±0.08	±5.0	±0.05		
	5 µL	±4.0	±0.2	±2.0	±0.1		
	10 µL	±2.0	±0.2	±1.0	±0.1		
10–100 µL ■ yellow	10 µL	±3.0	±0.3	±2.0	±0.2	4922 000.030	4922 000.048
	50 µL	±1.0	±0.5	±0.8	±0.4		
	100 µL	±0.8	±0.8	±0.3	±0.3		
30–300 µL ■ orange	30 µL	±3.0	±0.9	±1.0	±0.3	4922 000.056	4922 000.064
	150 µL	±1.0	±1.5	±0.5	±0.75		
	300 µL	±0.6	±1.8	±0.3	±0.9		

* All Eppendorf Reference 2 single-channel adjustable-volume pipettes come with an epT.I.P.S. Box (except 2.5 mL, 5 mL and 10 mL)
Technical specifications subject to change. Errors and omissions excepted.

Ordering information

Description	Color code	Systematic error		Random error		Order no. (International)
		± %	± µL/mL	± %	± µL/mL	
Eppendorf Reference® 2, single–channel fixed						
1 µL	■ dark gray	±2.5	±0.025	±1.8	±0.018	4921 000.010
2 µL	■ dark gray	±2.0	±0.04	±1.2	±0.024	4921 000.028
5 µL	■ medium gray	±1.2	±0.06	±0.6	±0.03	4921 000.036
10 µL	■ medium gray	±1.0	±0.1	±0.5	±0.05	4921 000.044
10 µL	■ yellow	±1.2	±0.12	±0.6	±0.06	4921 000.052
20 µL	■ light gray	±0.8	±0.16	±0.3	±0.06	4921 000.060
20 µL	■ yellow	±1.0	±0.2	±0.3	±0.06	4921 000.079
25 µL	■ yellow	±1.0	±0.25	±0.3	±0.075	4921 000.087
50 µL	■ yellow	±0.7	±0.35	±0.3	±0.15	4921 000.095
100 µL	■ yellow	±0.6	±0.6	±0.2	±0.2	4921 000.109
200 µL	■ yellow	±0.6	±1.2	±0.2	±0.4	4921 000.117
200 µL	■ blue	±0.6	±1.2	±0.2	±0.4	4921 000.125
250 µL	■ blue	±0.6	±1.5	±0.2	±0.5	4921 000.133
500 µL	■ blue	±0.6	±3.0	±0.2	±1.0	4921 000.141
1000 µL	■ blue	±0.6	±6.0	±0.2	±2.0	4921 000.150
2 mL	■ red	±0.6	±0.012	±0.2	±0.004	4921 000.168
2.5 mL	■ red	±0.6	±0.015	±0.2	±0.005	4921 000.176
Accessories						
Pipette carousel Eppendorf Reference 2						4923 000.009

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