


















Technical dataEppendorf Research® plus
English (EN)**11 Technical data****11.1 Adjustable sub-steps****Single-channel pipettes**

| Model | Color symbol | Color name | Increment |
|------------------|---|-------------|-----------|
| 0.1 µL – 2.5 µL |  | dark gray | 0.002 µL |
| 0.5 µL – 10 µL |  | medium gray | 0.01 µL |
| 2 µL – 20 µL |  | light gray | 0.02 µL |
| 2 µL – 20 µL |  | yellow | 0.02 µL |
| 10 µL – 100 µL |  | yellow | 0.1 µL |
| 20 µL – 200 µL |  | yellow | 0.2 µL |
| 30 µL – 300 µL |  | orange | 0.2 µL |
| 100 µL – 1000 µL |  | blue | 1 µL |
| 0.25 mL – 2.5 mL |  | red | 2 µL |
| 0.5 mL – 5 mL |  | violet | 0.005 mL |
| 1 mL – 10 mL |  | turquoise | 0.01 mL |

Multi-channel pipettes

| Model | Color symbol | Color name | Increment |
|------------------|---|--------------|-----------|
| 0.5 µL – 10 µL |  | medium gray | 0.01 µL |
| 1 µL – 20 µL |  | light pink | 0.02 µL |
| 5 µL – 100 µL |  | light yellow | 0.1 µL |
| 10 µL – 100 µL |  | yellow | 0.1 µL |
| 30 µL – 300 µL |  | orange | 0.2 µL |
| 120 µL – 1200 µL |  | dark green | 1 µL |

11.2 Ambient conditions

Operation

| | |
|-----------------------|--------------|
| Operating temperature | 5 °C – 40 °C |
| Relative humidity | 10 % – 95 % |

Storage in transport packing



| | |
|-------------------|----------------|
| Air temperature | -25 °C – 55 °C |
| Relative humidity | 10 % – 95 % |

Storage without transport packing











| | |
|-------------------|---------------|
| Air temperature | -5 °C – 45 °C |
| Relative humidity | 10 % – 95 % |

Technical dataEppendorf Research® plus
English (EN)**11.3 Errors of measurement****Single-channel pipettes with fixed volume setting**

| Model | Test tip epT.I.P.S. | Error of measurement | | | |
|---------------------------|--|----------------------|------|--------|------|
| | | Systematic | | Random | |
| | | ±% | ±μL | % | μL |
| 10 μL ■ medium gray | 0.1 μL – 20 μL ■ medium gray 40 mm | 1.2 | 0.12 | 0.6 | 0.06 |
| 20 μL ■ light gray | 0.5 μL – 20 μL L ■ light gray 46 mm | 0.8 | 0.16 | 0.3 | 0.06 |
| 10 μL ■ yellow | 2 μL – 200 μL ■ yellow 53 mm | 1.2 | 0.12 | 0.6 | 0.06 |
| 20 μL yellow | | 1.0 | 0.2 | 0.3 | 0.06 |
| 25 μL ■ yellow | | 1.0 | 0.25 | 0.3 | 0.08 |
| 50 μL ■ yellow | | 0.7 | 0.35 | 0.3 | 0.15 |
| 100 μL yellow | | 0.6 | 0.6 | 0.2 | 0.2 |
| 200 μL ■ yellow | | 0.6 | 1.2 | 0.2 | 0.4 |
| 200 μL ■ blue | 50 μL – 1000 μL ■ blue 71 mm | 0.6 | 1.2 | 0.2 | 0.4 |
| 250 μL ■ blue | | 0.6 | 1.5 | 0.2 | 0.5 |













| Model | Test tip epT.I.P.S. | Error of measurement | | | |
|--|------------------------|----------------------|-----|--------|-----|
| | | Systematic | | Random | |
| | | ±% | ±μL | % | μL |
| 500 μL  blue | | 0.6 | 3.0 | 0.2 | 1.0 |
| 1000 μL  blue | | 0.6 | 6.0 | 0.2 | 2.0 |

Single-channel pipettes with variable volume setting

| Model | Test tip epT.I.P.S. | Testing volume | Error of measurement | | | |
|--|--|-------------------|----------------------|-------|--------|-------|
| | | | Systematic | | Random | |
| | | | ±% | ±μL | % | μL |
| 0.1 μL – 2.5 μL  dark gray | 0.1 μL – 10 μL  dark gray 34 mm | 0.1 μL | 48 | 0.048 | 12 | 0.012 |
| | | 0.25 μL | 12 | 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 μL – 10 μL  medium gray | 0.1 μL – 20 μL  medium gray 40 mm | 0.5 μL | 8.0 | 0.04 | 5.0 | 0.025 |
| | | 1 μL | 2.5 | 0.025 | 1.8 | 0.018 |
| | | 5 μL | 1.5 | 0.075 | 0.8 | 0.04 |
| | | 10 μL | 1.0 | 0.1 | 0.4 | 0.04 |
| 2 μL – 20 μL  light gray | 0.5 μL – 20 μL L  light gray 46 mm | 2 μL | 5.0 | 0.1 | 1.5 | 0.03 |
| | | 10 μL | 1.2 | 0.12 | 0.6 | 0.06 |
| | | 20 μL | 1.0 | 0.2 | 0.3 | 0.06 |
| 2 μL – 20 μL  yellow | 2 μL – 200 μL  yellow 53 mm | 2 μL | 5.0 | 0.1 | 1.5 | 0.03 |
| | | 10 μL | 1.2 | 0.12 | 0.6 | 0.06 |
| | | 20 μL | 1.0 | 0.2 | 0.3 | 0.06 |
| 10 μL – 100 μL  yellow | 2 μL – 200 μL  yellow | 10 μL | 3.0 | 0.3 | 1.0 | 0.1 |
| | | 50 μL | 1.0 | 0.5 | 0.3 | 0.15 |

Technical data









Eppendorf Research® plus
English (EN)

| Model | Test tip epT.I.P.S. | Testing volume | Error of measurement | | | |
|---|---|-------------------|----------------------|------|--------|------|
| | | | Systematic | | Random | |
| | | | ±% | ±μL | % | μL |
| | 53 mm | 100 μL | 0.8 | 0.8 | 0.2 | 0.2 |
| 20 μL – 200 μL  yellow | 2 μL – 200 μL  yellow 53 mm | 20 μL | 2.5 | 0.5 | 0.7 | 0.14 |
| | | 100 μL | 1.0 | 1.0 | 0.3 | 0.3 |
| | | 200 μL | 0.6 | 1.2 | 0.2 | 0.4 |
| 30 μL – 300 μL  orange | 20 μL – 300 μL  orange 55 mm | 30 μL | 2.5 | 0.75 | 0.7 | 0.21 |
| | | 150 μL | 1.0 | 1.5 | 0.3 | 0.45 |
| | | 300 μL | 0.6 | 1.8 | 0.2 | 0.6 |
| 100 μL – 1000 μL  blue | 50 μL – 1000 μL  blue 71 mm | 100 μL | 3.0 | 3.0 | 0.6 | 0.6 |
| | | 500 μL | 1.0 | 5.0 | 0.2 | 1.0 |
| | | 1000 μL | 0.6 | 6.0 | 0.2 | 2.0 |
| 0.25 mL – 2.5 mL  red | 0.25 mL – 2.5 mL  red 115 mm | 0.25 mL | 4.8 | 12 | 1.2 | 3 |
| | | 1.25 mL | 0.8 | 10 | 0.2 | 2.5 |
| | | 2.5 mL | 0.6 | 15 | 0.2 | 5 |
| 0.5 mL – 5 mL  violet | 0.1 mL – 5 mL  violet 120 mm | 0.5 mL | 2.4 | 12 | 0.6 | 3 |
| | | 2.5 mL | 1.2 | 30 | 0.25 | 6.25 |
| | | 5.0 mL | 0.6 | 30 | 0.15 | 7.5 |
| 1 mL – 10 mL  turquoise | 0.5 mL – 10 mL  turquoise 165 mm | 1.0 mL | 3.0 | 30 | 0.6 | 6 |
| | | 5.0 mL | 0.8 | 40 | 0.2 | 10 |
| | | 10.0 mL | 0.6 | 60 | 0.15 | 15 |

Multi-channel pipettes with fixed cone spacing

| Model | Test tip epT.I.P.S. epT.I.P.S. 384 | Testing volume | Error of measurement | | | |
|--|--|-------------------|----------------------|------|--------|------|
| | | | Systematic | | Random | |
| | | | ±% | ±µL | % | µL |
| 0.5 µL – 10 µL ■ medium gray 8-/12-channel | 0.1 µL – 20 µL ■ medium gray 40 mm | 0.5 µL | 12 | 0.06 | 8.0 | 0.04 |
| | | 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 |
| 1 µL – 20 µL ■ light pink 16-/24-channel | 1 µL – 20 µL ■ light pink 42 mm | 1 µL | 12 | 0.12 | 8 | 0.08 |
| | | 2 µL | 8 | 0.16 | 5 | 0.1 |
| | | 10 µL | 4 | 0.4 | 2 | 0.2 |
| | | 20 µL | 2 | 0.4 | 1 | 0.2 |
| 5 µL – 100 µL ■ light yellow 16-/24-channel | 5 µL – 100 µL ■ light yellow 53 mm | 5 µL | 6 | 0.3 | 4 | 0.2 |
| | | 10 µL | 3 | 0.3 | 2 | 0.2 |
| | | 50 µL | 1.2 | 0.6 | 0.8 | 0.4 |
| | | 100 µL | 1 | 1 | 0.6 | 0.6 |
| 10 µL – 100 µL ■ yellow 8-/12-channel | 2 µL – 200 µL ■ yellow 53 mm | 10 µL | 3.0 | 0.3 | 2.0 | 0.2 |
| | | 50 µL | 1.0 | 0.5 | 0.8 | 0.4 |
| | | 100 µL | 0.8 | 0.8 | 0.3 | 0.3 |
| 30 µL – 300 µL ■ orange 8-/12-channel | 20 µL – 300 µL ■ orange 55 mm | 30 µL | 3.0 | 0.9 | 1.0 | 0.3 |
| | | 150 µL | 1.0 | 1.5 | 0.5 | 0.75 |
| | | 300 µL | 0.6 | 1.8 | 0.3 | 0.9 |
| 120 µL – 1200 µL ■ dark green 8-/12-channel | 50 µL – 1200 µL L ■ dark green 103 mm | 120 µL | 6.0 | 7.2 | 0.9 | 1.08 |
| | | 600 µL | 2.7 | 16.2 | 0.4 | 2.4 |
| | | 1200 µL | 1.2 | 14.4 | 0.3 | 3.6 |

Multi-channel pipettes with variable volume setting

| Model | Test tip epT.I.P.S. epT.I.P.S. 384 | Testing volume | Error of measurement | | | |
|---|---|-------------------|----------------------|------|--------|------|
| | | | Systematic | | Random | |
| | | | ±% | ±μL | % | μL |
| 1 μL – 20 μL  light pink 8-/12-channel | 1 μL – 20 μL  light pink 42 mm | 1 μL | 15 | 0.15 | 8 | 0.08 |
| | | 2 μL | 10 | 0.2 | 5 | 0.1 |
| | | 10 μL | 4 | 0.4 | 2 | 0.2 |
| | | 20 μL | 2 | 0.4 | 1 | 0.2 |
| 5 μL – 100 μL  light yellow 8-/12-channel | 5 μL – 100 μL  light yellow 53 mm | 5 μL | 6 | 0.3 | 4 | 0.2 |
| | | 10 μL | 3 | 0.3 | 2 | 0.2 |
| | | 50 μL | 1.2 | 0.6 | 0.8 | 0.4 |
| | | 100 μL | 1 | 1 | 0.6 | 0.6 |
| 30 μL – 300 μL  orange 4-/6-/8-channel | 20 μL – 300 μL  orange 55 mm | 15 μL | 7.4 | 1.1 | 2 | 0.3 |
| | | 30 μL | 3.7 | 1.1 | 1.8 | 0.5 |
| | | 150 μL | 1 | 1.5 | 0.6 | 0.9 |
| | | 300 μL | 0.7 | 2.1 | 0.6 | 1.8 |
| 120 μL – 1200 μL  dark green 4-/6-/8-channel | 50 μL – 1250 μL L  dark green 103 mm | 50 μL | 14.5 | 7.25 | 2 | 1 |
| | | 120 μL | 6 | 7.2 | 1.3 | 1.6 |
| | | 600 μL | 2.7 | 16.2 | 0.4 | 2.4 |
| | | 1200 μL | 1.2 | 14.4 | 0.3 | 3.6 |

11.4 Test conditions

Test conditions and test evaluation in accordance with DIN EN ISO 8655. Tested using a certified analytical balance with evaporation protection.

- Number of determinations per volume: 10
- Water according to ISO 3696
- Testing at 20 °C (±3 °C) – 27 °C (±3 °C)
Maximum temperature fluctuation during measurement ±0.5 °C
- Dispensing onto the tube inner wall

11.5 Materials

| Component | Material |
|----------------------------------|--|
| Outer surfaces of the upper part | <ul style="list-style-type: none"> • Improved Polypropylene (PP) • Polycarbonate (PC) • Polyetherimide (PEI) • Foil |
| Viewing window | <ul style="list-style-type: none"> • Polycarbonate (PC) |
| Lower parts outside and inside | <ul style="list-style-type: none"> • Improved Polypropylene (PP) • Polyvinylidene fluoride (PVDF) • Polyetherimide (PEI) • Polyphenylene sulfide (PPS) • Polyetheretherketone (PEEK) • Polytetrafluorethylene (PTFE) • Ethylene propylene diene rubber (EPDM) • Silicone • Steel (stainless steel and spring steel) |