

Larger Display—  
Easier to Use



# Generation E

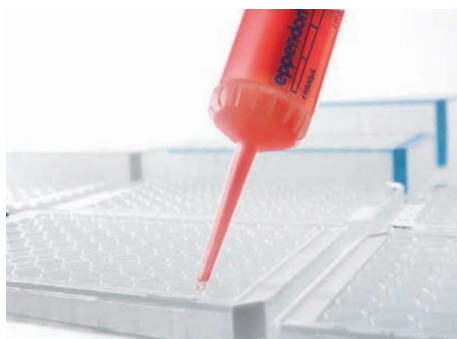
Repeater® E3 and E3x: Dispense without compromising accuracy or precision



> Repeater E3 and Repeater E3x are the experts  
for long series pipetting and non-aqueous liquids.  
[www.eppendorf.com/repeater-system](http://www.eppendorf.com/repeater-system)

# »There are many reasons for a Repeater®. You are the most important one!«

In 1979, 17 years after introducing the first piston-stroke pipette, Eppendorf revolutionized the Life Science Market again— always having customer needs in mind. The first positive-displacement pipette, the Repeater, made it possible to pipette a long series of dispenses with a single aspiration. Since then several generations of mechanical and electronic Repeaters have become an integral part of daily laboratory work. Our latest version of the electronic repeater, the E3 and E3x, now makes repetitive pipetting tasks even more efficient and easier



## Save time

The Eppendorf Repeater pipettes make long pipetting series faster and easier. An aspirated liquid can be dispensed up to 100 times without a refill. It is an ideal and smart solution for filling plates or large series of tubes (e.g., nucleic acid purification kits).



## Relax

With the light weight Repeater E3 the risk of repetitive strain injuries is reduced in various ways: It minimizes operation forces through an electronic motor drive, and buttons are positioned to accommodate natural hand movements. The new enlarged display reduces eye strain when reviewing settings.

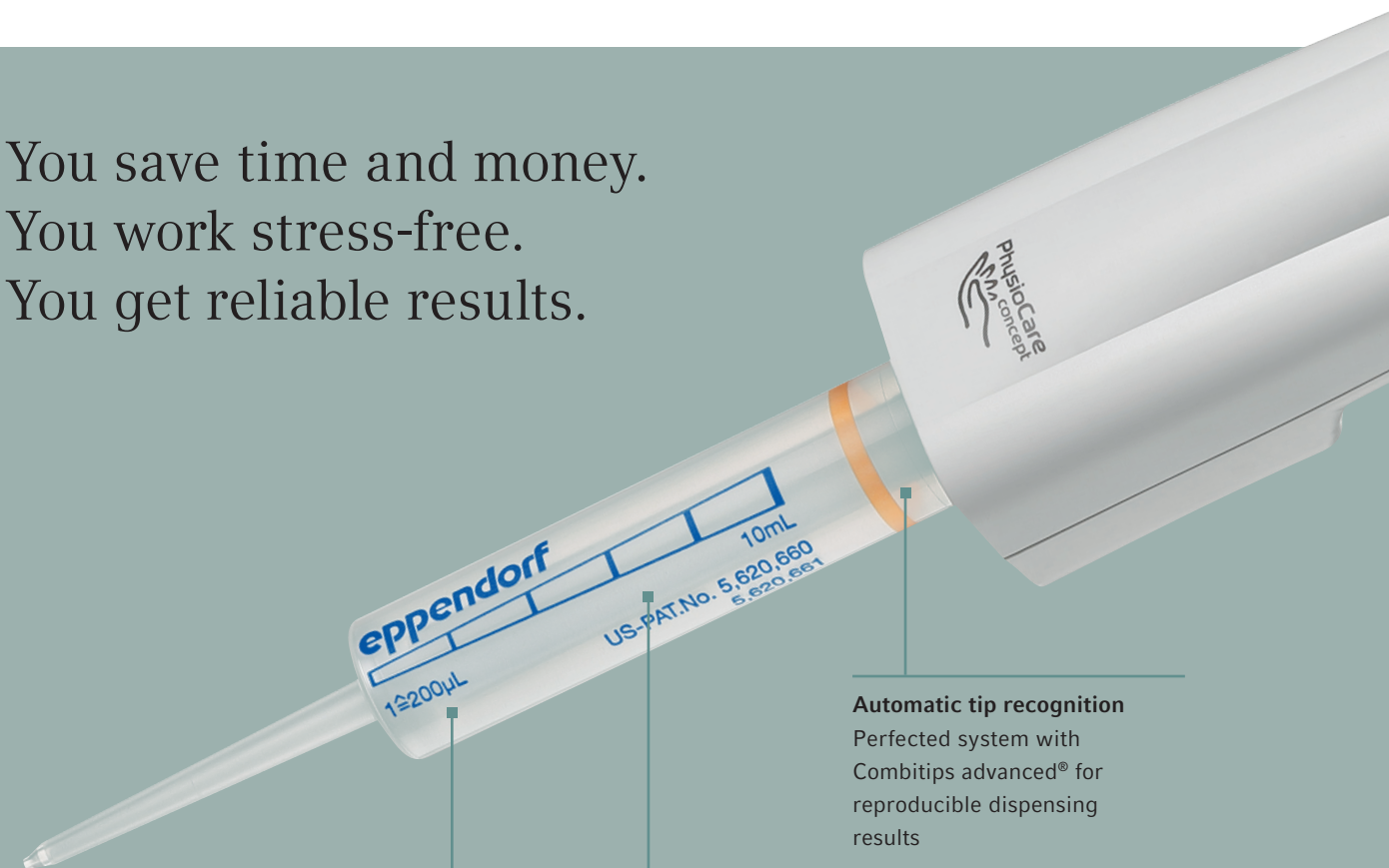


## Work precisely and safely

The optimized system of Repeater and Combitips® allows automatic tip recognition for ease of use. The syringe style Combitip maximizes pipetting accuracy and precision. It allows you to work with liquids of different properties, helps to avoid pipetting errors and provides protection from aerosol contaminations.

# The One Pipette Missing in Your Pipette Set.

You save time and money.  
You work stress-free.  
You get reliable results.



#### Automatic tip recognition

Perfected system with Combitips advanced® for reproducible dispensing results

#### Free of slip agents and leachables

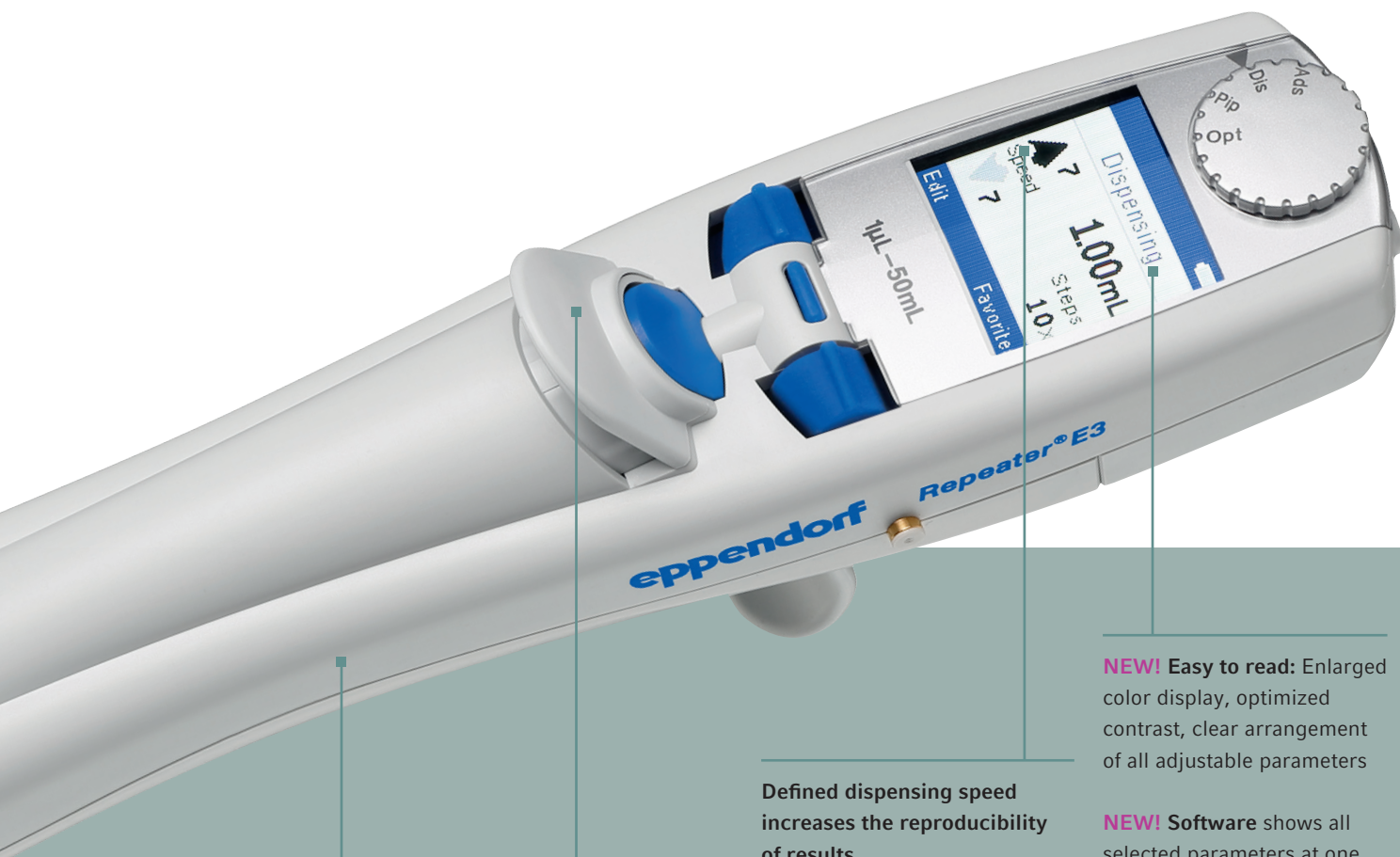
Combitips advanced® have been designed to ensure purity and optimal protection of your sample

#### One instrument only

for precise pipetting from 1 µL to 50 mL with up to 5000 possible volume settings







**NEW! RFID chip** contains all relevant data regarding the Repeater (serial no., dispensing vol., factory adjustment, and more.) For more information: [www.eppendorf.com/trackit](http://www.eppendorf.com/trackit)

**One button tip ejection** enables one handed operation

**Defined dispensing speed increases the reproducibility of results**

- > Eight different speed levels allow the optimum speed for each application
- > Reduced minimum speed increases the range of viscosity of dispensable liquids
- > Increased maximum speed saves time without splashing

**NEW! Easy to read:** Enlarged color display, optimized contrast, clear arrangement of all adjustable parameters

**NEW! Software** shows all selected parameters at one glance; Proven intuitive software navigation—similar to Eppendorf Xplorer® pipettes

**NEW! Display** in 9 different languages

#### Selection wheel with seven operation modes with Repeater E3x

- > **Dispensing (Dis):** Serial pipetting for up to 100 steps in a row
- > **Automatic dispensing (Ads):** Volume is dispensed at fixed intervals between 0.1 s and 10 s
- > **Pipetting (Pip):** Precise liquid transfer of up to 50mL
- > **Sequential dispensing (Seq):** Individual volume setting for up to 16 dispensing steps
- > **Multi-aspirate (Asp):** Consecutive aspiration of liquid of the same volume into one Combitip
- > **NEW! Aspirate and dispensing (A/D):** Uptake and volume calculation of an unknown volume with immediate dispense in desired partial volumes
- > **Titrate (Tit):** Sensitive dosing of liquids while volume is displayed
- > **NEW! 5 programs** per Combitip per method/mode
- > **NEW! Store up to 225 different parameter settings** to save programming time for routine applications
- > **NEW! Sleep Mode** saves battery when not in use, and wakes up when Repeater is moved; Long life lithium-ion battery allows filling of more than one hundred 96-well plates with one charging



# Customer Testimonials

Participants from an independent usability study conducted at the Institute of Human Factors Engineering, Technical University Darmstadt, Germany.

» Aspirating liquid and dispensing in individual steps was easy. The settings were also easily made. «

**C. Bender**  
Biology student, Germany

» The display always shows exactly what to do. «

**Laboratory technician**

» User-friendly operation and clear menu navigation—complex settings made easy. «

**M. Reinhard**  
MSc in biology, Germany

## Positive-displacement Principle





























With the Repeater/Combitips system volumes are dispensed using the positive displacement-principle. The liquid is directly dispensed without an air cushion, ensuring the correct volume is always dispensed regardless of the density, viscosity and volatility of the liquid. In addition to serial dispensing, the Repeater/Combitip system is the perfect instrument to go beyond the limitations of a standard pipette.

### The Repeater/Combitip positive-displacement principle:

- > Allows high-precision dispensing regardless of the physical properties of the liquid\*
  - > Prevents aerosol contamination with hermetically sealed piston for secure dispensing
  - > Provides protection from radioactive and toxic substances
  - > Enables quick dispensing of long series with precise, repeated dispensing of identical volumes
  - > Accurate pipetting independent of common errors such as pipetting angle and immersion depth of the tip seen with air-cushion pipettes
- \*Viscous liquids with high resistance to flow, e.g., glycerol, liquids with a different density than water, liquids with high vapor pressure, e.g., acetone, liquids containing detergent lowering the surface tension, foaming liquids and liquids with different temperatures



# Repeater® E3 and Repeater® E3x at a Glance

Feature	Repeater E3	Repeater E3x
High speed dispensing with motorized piston		
Automatic Combitips advanced® tip recognition		
One button tip ejection		
Volume range from 1 µL to 50 mL		
5000 possible volume settings		
Speed adjustment		
Storage of 225 parameter settings		
Li-ion battery		
Illuminated display		
Pipetting (Pip)		
Dispensing (Dis)		
Automatic dispensing (Ads)		
Sequential dispensing (Seq)		
Aspirate (Asp) (pipetting of supernatants)		
Combined aspiration and dispensing mode (A/D)		
Titrate (Tit)		

Technical specifications (information refers to the Repeater E3/Repeater E3x/Combitips advanced system)								
Combitips advanced®	Min. volume	Max. volume	Increment	Volume	Rel. systematic error <sup>1)</sup>	Abs. systematic error <sup>1)</sup>	Rel. random error <sup>1)</sup>	Abs. random error <sup>1)</sup>
0.1 mL	1 µL	100 µL	0.1 µL	10 µL	±1.6%	± 0.16 µL	±2.5%	± 0.25 µL
				50 µL	±1.0%	± 0.5 µL	±1.5%	± 0.75 µL
				100 µL	±1.0%	± 1 µL	±0.5%	± 0.5 µL
0.2 mL	2 µL	200 µL	0.2 µL	20 µL	±1.3%	± 0.26 µL	±1.5%	± 0.2 µL
				100 µL	±1.0%	± 1 µL	±1.0%	± 1 µL
				200 µL	±1.0%	± 2 µL	±0.5%	± 1 µL
0.5 mL	5 µL	500 µL	0.5 µL	50 µL	±0.9%	± 0.45 µL	±0.8%	± 0.4 µL
				250 µL	±0.9%	± 2.25 µL	±0.5%	± 1.25 µL
				500 µL	±0.9%	± 4.5 µL	±0.3%	± 1.5 µL
1 mL	10 µL	1 mL	1 µL	100 µL	±0.9%	± 0.9 µL	±0.55%	± 0.55 µL
				500 µL	±0.6%	± 3 µL	±0.3%	± 1 µL
				1,000 µL	±0.6%	± 6 µL	±0.2%	± 3 µL
2.5 mL	25 µL	2,5 mL	2.5 µL	250 µL	±0.8%	± 2 µL	±0.45%	± 1.125 µL
				1,250 µL	±0.5%	± 2.5 µL	±0.3%	± 1.5 µL
				2,500 µL	±0.5%	± 12.5 µL	±0.15%	± 3.75 µL
5 mL	50 µL	5 mL	5 µL	500 µL	±0.8%	± 4 µL	±0.35%	± 1.75 µL
				2,500 µL	±0.5%	± 5 µL	±0.25%	± 2.5 µL
				5,000 µL	±0.5%	± 25 µL	±0.15%	± 7.5 µL
10 mL	100 µL	10 mL	10 µL	1,000 µL	±0.5%	± 5 µL	±0.25%	± 2.5 µL
				5,000 µL	±0.4%	± 20 µL	±0.25%	± 12.5 µL
				10,000 µL	±0.4%	± 40 µL	±0.15%	± 15 µL
25 mL	250 µL	25 mL	25 µL	2,500 µL	±0.3%	± 7.5 µL	±0.35%	± 8.75 µL
				12,500 µL	±0.3%	± 15 µL	±0.25%	± 12.5 µL
				25,000 µL	±0.3%	± 75 µL	±0.15%	± 37.5 µL
50 mL	500 µL	50 mL	50 µL	5,000 µL	±0.3%	± 15 µL	±0.5%	± 25 µL
				25,000 µL	±0.3%	± 30 µL	±0.2%	± 20 µL
				50,000 µL	±0.3%	± 150 µL	±0.15%	± 75 µL

<sup>1)</sup> The error data, according to EN ISO 8655, only apply if original Eppendorf Combitips advanced are used. Technical specifications are subject to change. Errors and omissions excepted.

# Repeater® E3/E3x ordering information

Description	Order number
<b>Repeater® E3</b> , with charging cable and Combitips advanced® assortment pack (1 Combitip of each size)	4987000118
<b>Repeater® E3 bundle</b> incl. charger stand, with charging cable and Combitips advanced® assortment pack	4987000398
<b>Repeater® E3x</b> , with charging cable and Combitips advanced® assortment pack (1 Combitip of each size)	4987000134
<b>Repeater® E3x bundle</b> incl. charger stand, with charging cable and Combitips advanced® assortment pack	4987000410
<b>Charger stand</b> for Repeater® stream/Repeater® Xstream/Repeater® E3 & E3x, for one device	4880000018
<b>Charger Carousel</b> for 4 Eppendorf Xplorer® and Eppendorf Xplorer® plus (charger shells for electronic Repeater® available)	4880000026
<b>Repeater® charger shell</b> for charger carousel (488000026)	4880601003
<b>Wallmount</b> for Repeater® stream/Repeater® Xstream/Repeater® E3 & E3x	4986604001
<b>Eppendorf TrackIT</b> consisting of software and RFID reader	3903000014

# Ordering information for Combitips advanced and accessories

Combitips advanced®	Color coding	Eppendorf Quality™ box of 100 pcs. (4 bags × 25 pcs.)	PCR clean*1 box of 100 pcs., (4 bags reclosable bag × 25 pcs.)	Sterile box of 100 pcs. (individually wrapped)	Eppendorf Biopur®*2 box of 100 pcs. (individually wrapped)
0.1 mL	□ White	0030089405	0030089766	0030089510	0030089618
0.2 mL	■ Light blue	0030089413	0030089774	0030089529	0030089626
0.5 mL	■ Purple	0030089421	0030089782	0030089537	0030089634
1 mL	■ Yellow	0030089430	0030089790	0030089545	0030089642
2.5 mL	■ Green	0030089448	0030089804	0030089553	0030089650
5 mL	■ Blue	0030089456	0030089812	0030089561	0030089669
10 mL	■ Orange	0030089464	0030089820	0030089570	0030089677
25 mL*3	■ Red	0030089472	0030089839	0030089588	0030089685
50 mL*3	■ Light gray	0030089480	0030089847	0030089596	0030089693
<b>Accessories</b>					
25 mL adapter (1 pc.)	■ Red	0030089715			
25 mL adapter (7 pcs.)	■ Red				0030089731
50 mL adapter (1 pc.)	■ Light gray	0030089723			
50 mL adapter (7 pcs.)	■ Light gray				0030089740
Combitip Rack (for 8 Combitips advanced®, 0.1 mL – 10 mL)		0030089758			
Combitips advanced Assortment pack (1 Combitip of each size, incl. adapters)		0030089936			

\*1 PCR clean: batch tested and certified to be free of: human DNA, DNase, RNase, PCR inhibitors

\*2 Biopur®: batch tested and certified to be sterile and free of: human and bacterial DNA, DNase, RNase, PCR inhibitors, ATP, Pyogen

\*3 4 boxes of 25 pcs. each. Each box contains an adapter.

## > We Care for Your Pipettes

Regular maintenance, calibration and adjustment ensure that your pipettes continue to generate reproducible results. We offer a range of service options, from quick economical calibration to GLP/GMP custom-designed, calibration services – according to national and international standards.



> More details and local offers: [www.eppendorf.com/epServices](http://www.eppendorf.com/epServices)

> Video «Eppendorf Pipette Service»: [www.eppendorf.com/pipette-video](http://www.eppendorf.com/pipette-video)

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