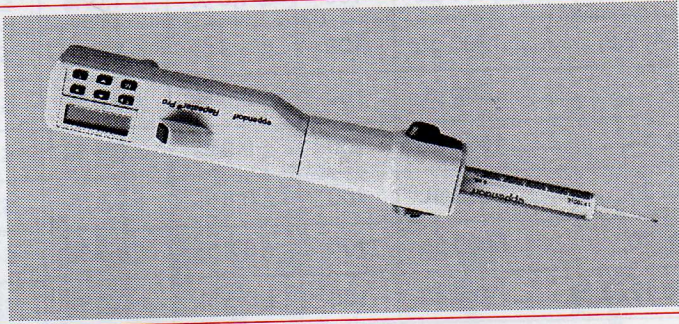


Eppendorf Repeater® Pro

Instruction Manual Manual de Instrucciones



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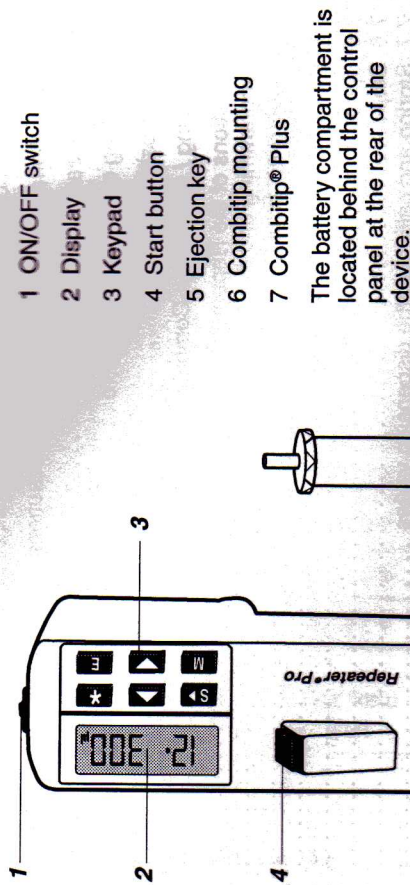
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Technical Data / Datos técnicos see chapter 12 / ver apartado 12

	Vol.	Max. No. Steps	Δ		CV	
			1/10 max. Vol.	max. Vol.	1/10 max. Vol.	max. Vol.
0.1 mL Combitip	1.0, 1.2, 1.4, 100 μL	100	± 1.6 %	± 1.0 %	≤ 2.5 %	≤ 0.5 %
0.2 mL Combitip	2.0, 2.4, 2.8, 200 μL	100	± 1.3 %	± 1.0 %	≤ 1.5 %	≤ 0.5 %
0.5 mL Combitip	5, 6, 7, 500 μL	100	± 0.9 %	± 0.9 %	≤ 0.8 %	≤ 0.3 %
1.0 mL Combitip	10, 12, 14, 1000 μL	100	± 0.9 %	± 0.6 %	≤ 0.55 %	≤ 0.2 %
2.5 mL Combitip	25, 30, 35, 2500 μL	100	± 0.8 %	± 0.5 %	≤ 0.45 %	≤ 0.2 %
5.0 mL Combitip	50, 60, 70, 5000 μL	100	± 0.8 %	± 0.5 %	≤ 0.35 %	≤ 0.15 %
10.0 mL Combitip	0.10, 0.12, 0.14, 10.0 mL	100	± 0.5 %	± 0.4 %	≤ 0.25 %	≤ 0.15 %
50.0 mL Combitip	0.5, 0.6, 0.7, 50.0 mL	100	± 0.3 %	± 0.3 %	≤ 0.25 %	≤ 0.15 %

Δ = Inaccuracy / Inexactitud
CV = Imprecision / Imprecisión

1 Operating controls



- 1 ON/OFF switch
- 2 Display
- 3 Keypad
- 4 Start button
- 5 Ejection key
- 6 Combitip mounting
- 7 Combitip® Plus

The battery compartment is located behind the control panel at the rear of the device.

2 Applicational limitations and safety precautions

The Repeater® Pro can be used to dispense liquids with a viscosity up to that of moderately heavy mineral oils (400 m Pa sec with Combitips® Plus ≤ 10.0 mL). The technical data is based on the use of distilled water (see Section 12).

When liquids with a high vapor pressure (e.g. hexane) are dispensed, it is advisable to saturate the air bubble in the Combitip by means of vapor pressure. This is achieved by aspirating and dispensing liquid several times.

Please note that even slight contact with the Start button may trigger a dispensing procedure. Handle the device with care when dispensing toxic or inflammable liquids or liquids containing bacteria (use the charging stand). A safe working environment must also be guaranteed (flue, laboratory which conforms to safety regulations). Extensive instructions on handling bacteria or biological material are defined in national and international regulations.

Caution: The charging stand may only be used with the transformer contained in the delivery package. We do not honor any warranty or accept any responsibility for damage resulting from the use of other transformers.

3 Delivery package

- 1 Repeater® Pro
- 1 Charging stand (pipette stand)
- 1 Transformer
- 1 Instruction manual
- 1 Combitip® Plus, 2.5 mL

Fig. 1

9.3 Battery capacity

50 x 100 dispensings of 1/100 of a Combiteip® volume (aqueous solutions) may be carried out using a fully-charged Repeater® Pro. If regularly placed in the charging stand after use, the device is always ready to use. If the battery is charged in the meantime, the charging time must be considerably shorter than 14 hours. This prevents the battery from being damaged due to overcharging.

The power consumption of the device is very low when it is switched on, but not in use. The device should only be switched off if it is not used for several weeks and is not placed in the charging stand. This prevents a total discharge of the batteries.

9.4 Changing the battery set



The functionality of the battery set is constant for approximately 1,000 charging cycles. The capacity of the batteries then decreases and they should be replaced: Open the battery compartment at the rear of the device by loosening the screw using a screwdriver or a coin and remove the battery set. When inserting the new battery set, ensure that the battery contacts (indicated as a metal strip) are facing forwards/upwards (forwards = in the direction of the battery compartment).

10 Maintenance and cleaning

The Repeater® Pro is maintenance-free. See Section 9 for information on charging and replacing the battery set.

The housing of the Repeater® Pro should be cleaned using a moist cloth and a diluted soap solution. Alcohol-based disinfectants may be used. Ensure that no liquid enters the device.

11 Troubleshooting

Error	Cause	Solution
Combiteip® drips.	- Combiteip® is not attached correctly. - Combiteip® is leaking.	- Attach Combiteip® correctly. - Replace Combiteip®.
LobAt appears in the display.	- Battery set needs to be recharged.	- Charge Repeater® Pro.
Number of dispensing steps/charging cycles decreases. LobAt appears more often.	- Charging capacity of the battery set is decreasing.	- Insert a new battery set (see Ordering information).
Error appears in the display.	- Battery set needs to be recharged or electronics are defective.	- Charge Repeater® Pro, switch device on/off. If this is unsuccessful, contact Service.
Display "tip".	- No Combiteip® Plus has been attached.	- Attach Combiteip® Plus.