

Instructions for use

16/24-channel multi-channel lower parts for 384-well plates

English (EN)

This document complements the operating manual for the Research plus pipette and does not replace it. Before using the multi-channel lower part, read the operating manual for the pipette. You will find the current version on the Internet at www.eppendorf.com.

1 Intended use

The Eppendorf Research plus 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 medical device according to Directive 98/79/EC of the European Parliament and of the Council of 27 October 1998.

It is intended exclusively for indoor use and for operation by qualified staff.

2 Safety



CAUTION! Poor safety due to incorrect accessories and spare parts.

The use of accessories and spare parts other than those recommended by Eppendorf may impair the safety, functioning and precision of the device. Eppendorf cannot be held liable or accept any liability for damage resulting from the use of incorrect or non-recommended accessories and spare parts, or from the improper use of such equipment.

- ▶ Only use accessories and original spare parts recommended by Eppendorf.



NOTICE! Damage to device due to missing pipette tips.

- ▶ Use the pipette with fitted pipette tips only.



NOTICE! Damage to device due to penetration of liquid.

- ▶ Only immerse the pipette tip in the liquid.
- ▶ Do not put the pipette down when the pipette tip is filled.
- ▶ The pipette itself may not come into contact with the liquid.



NOTICE! Damage to device due to penetration of liquid.

Liquid can enter the tip cones due to the use of unsuitable pipette tips with too little volume.

- ▶ Use the appropriate pipette tips for the multi-channel lower part.
- ▶ Note the coloring of the trays and the multi-channel pipette.

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3 Product overview – Research plus

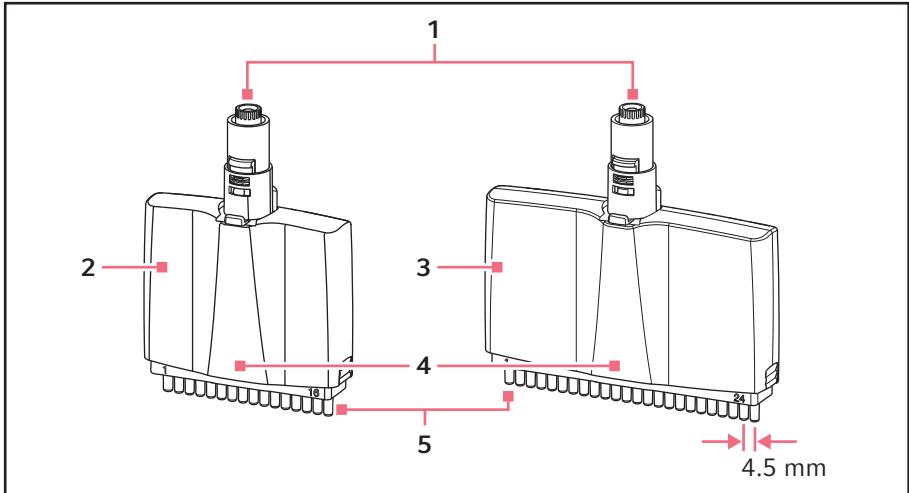


Fig. 1: Multi-channel lower parts with a cone spacing of 4.5 mm for 384-well plates

1 Mechanical coupling

For Research plus

2 16-channel lower part

For 384-well plate

3 24-channel lower part

For 384-well plate

4 Nominal volume

5 Tip cones with spring-loading action

Spring-loading action cannot be deactivated

4 Attaching the pipette tips

- ▶ Place the multi-channel lower part on the pipette tips and press it down until the tip cones are completely compressed.
The pipette tips are securely attached to the tip cones.

5 Troubleshooting

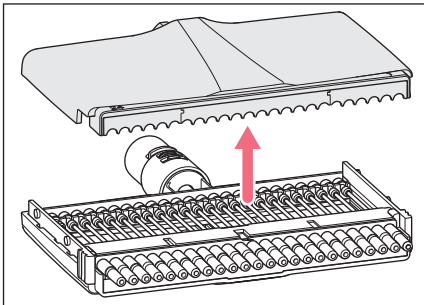
Problem	Cause	Solution
Liquid drips from the pipette tips.	<ul style="list-style-type: none"> The pipette tips are not securely attached. The tip cones were not compressed during attachment. 	<ul style="list-style-type: none"> Eject the pipette tips. Attach the tip cones to new pipette tips and press down until the tip cones compress.
Liquid in the tip cones.	<ul style="list-style-type: none"> The attached pipette tips are too small. The volume of the pipette tips does not match the volume of the multi-channel pipette. 	<ul style="list-style-type: none"> Eject the pipette tips. Contact authorized service personnel.

6 Disassembling the multi-channel lower part – 4.5 mm cone spacing

6.1 Opening the multi-channel lower part

Prerequisites

- The lower part is detached from the pipette upper part.

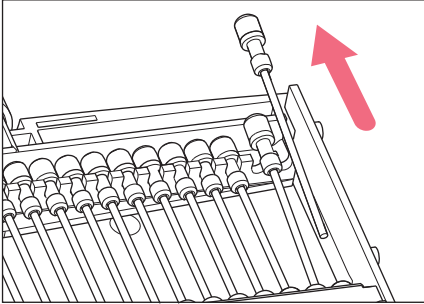


- Slide both latches on the sides of the lower part down.
- Remove the housing lid.

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6.2 Removing pistons

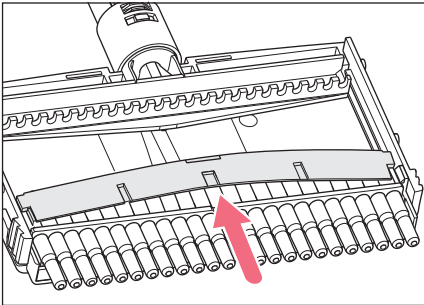


1. Lift the piston out of the piston mount.
2. Pull the piston out of the cylinder.

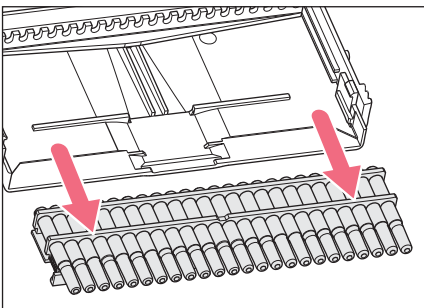
6.3 Removing the cylinder block

Prerequisites

- All pistons are removed.



1. Lift the clamping bar at its center and remove it.



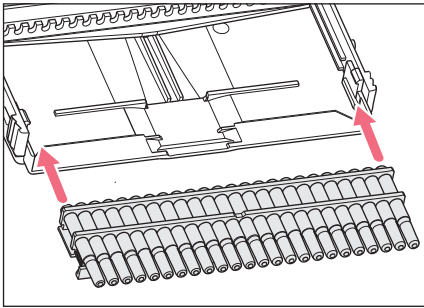
2. Slide the cylinder block straight down and out of the housing case.
The lower part can be cleaned.

7 Assembling the multi-channel lower part – 4.5 mm cone spacing

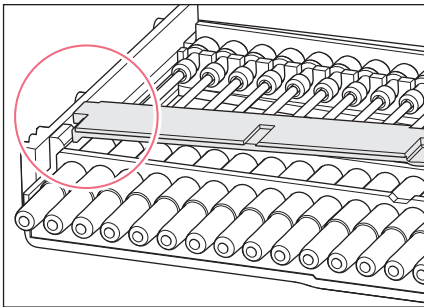
7.1 Inserting the cylinder block

Prerequisites

- All pistons are removed.

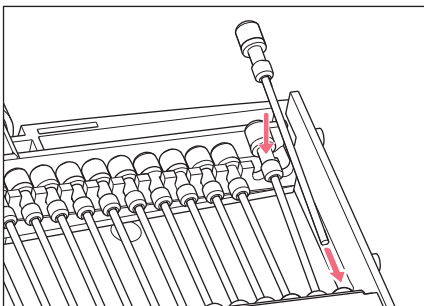


1. Insert the cylinder block straight into the housing case.
2. Slide the cylinder block straight into the housing case.
The cylinder block needs to be flush with the edge of the housing case.



3. Insert the clamping bar on one side into the housing case under the lug.
4. Bend the clamping bar and slide it under the lug on the other side.
The cylinder block is now fixed.

7.2 Insert the pistons



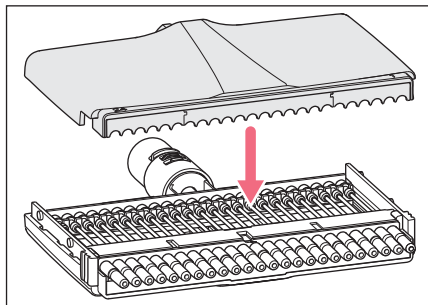
1. Slide the piston into the cylinder.
2. Insert the end of the piston into the piston mount.

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7.3 Closing the multi-channel lower part



1. Attach the housing lid.
2. Slide both latches on the sides of the lower part up.

8 Multi-channel pipette with fixed cone spacing

Model	Test tip epT.I.P.S.	Testing volume	Error of measurement			
			systematic		random	
			± %	± μL	± %	± μL
1 μL – 20 μL pearl white 16/24-channel	1 μL – 20 μL pearl white 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

9 Ordering information

Order no. (International)	Description
	Eppendorf Research plus 16-channel
3122 000.078	1 – 20 μL , cone spacing 4,5 mm
3122 000.094	5 – 100 μL , cone spacing 4,5 mm
	Eppendorf Research plus 24-channel
3122 000.086	1 – 20 μL , cone spacing 4,5 mm
3122 000.108	5 – 100 μL , cone spacing 4,5 mm



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