

Minilab 201

Repeating Pipettor



Instruction Manual

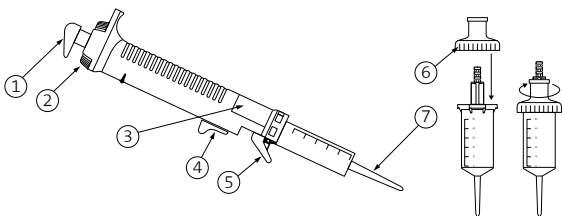
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1. Overview



1. Dosing button

By pressing the dosing button down to the stop, the adjusted volume is dispensed.

2. Adjusting wheel

By moving the adjusting wheel into the position 1 to 5, the requested dosing volume is set in compliance with the table below.

3. Dosing table

4. Filling slide

By pushing the slide upwards, the syringe tip is filled up.

5. Stopping lever

The stopping lever is used to secure the syringe tip inserted.

6. Adapter

7. Syringe tip

2. Selecting the Volume

- Use the table (3) below to look for the requested dosing volume first of all.
- The position, to which the adjusting wheel (2) has to be set, is given in the topmost line (NO).
- For the suitable size of syringe tip (7), please refer to the left-hand column.
- For the number of dispensing steps, please refer to the bottommost line (STEPS) in following table.

NO	1	2	3	4	5
0.05 mL	1 µL	2 µL	3 µL	4 µL	5 µL
0.10 mL	2 µL	4 µL	6 µL	8 µL	10 µL
0.20 mL	4 µL	8 µL	12 µL	16 µL	20 µL
0.50 mL	10 µL	20 µL	30 µL	40 µL	50 µL
1.00 mL	20 µL	40 µL	60 µL	80 µL	100 µL
1.25 mL	25 µL	50 µL	75 µL	100 µL	125 µL
2.50 mL	50 µL	100 µL	150 µL	200 µL	250 µL
5.00 mL	100 µL	200 µL	300 µL	400 µL	500 µL
10.00 mL	200 µL	400 µL	600 µL	800 µL	1,000 µL
12.50 mL	250 µL	500 µL	750 µL	1,000 µL	1,250 µL
25.00 mL	500 µL	1,000 µL	1,500 µL	2,000 µL	2,500 µL
50.00 mL	1,000 µL	2,000 µL	3,000 µL	4,000 µL	5,000 µL
STEPS	48	23	15	11	8

NOTE:

The dosing table conveniently displays the total dispensing volume proportional to the dispensing step and tip sizes.

Example: pipettor will dispense exactly 200 µL in 11 dosing steps (STEPS) with program number 4 (NO) when a 2.5 mL syringe tip is used. Program NO 1 corresponds to 50 µL in maximum 48 steps with the same syringe tip size or 500 µL when a 25 mL syringe tip is used.

3. Set-up

Inserting the Syringe tip

- Push the filling slide (4) right down to the stop.
- Push the stopping lever (5) upwards.
- Exert a slight pressure to insert syringe tip (7), which has to lock into place.
- Push the filling slide down a bit, and press down the stopping lever until it locks the syringe tip in its place.
- Use the adjusting wheel (2) to set the required dosing volume.

NOTE:

- Syringe tip 25 mL and 50 mL should be inserted in the Minilab 201 with the corresponding adapter. Place the adapter on the syringe tip, and fasten by turning (bayonet socket). After use of the syringe tip, the adapter can be removed and can be reused as often as required. The adapter can be autoclaved at 121°C.
- Syringe tip 0.05 mL may be used with the pipet tip 10 µL. This facilitates filling from containers with narrow necks and the dosing of smaller volumes is more accurate.

4. Filling and Dosing**Filling the Syringe tip**

- Immerse the tip of the syringe tip into the liquid.
- Fill the syringe tip by slowly pressing the filling slide (4) upwards.
- Dispense the first dosing step.

NOTE:

- In order to prevent a negative pressure and a saturation of the liquid with minute air bubbles when filling the syringe tip; the filling slide should be pushed up slowly.
- An air bubble which might be in the upper part of the cylinder will have no influence on the accuracy if the last dispensing step is not carried out.

Dosing

- Check the volume setting at the adjusting wheel (2).
- Wipe the tip of the syringe tip with a lint-free cellulose wadding.
- Place the tip of the syringe tip at an angle to the wall of the vessel.
- Press the dosing button (1) down to the stop.

NOTE:

- Discard the first dispensing step.
- The syringe tip should be changed when the reagent is changed.
- In order to return the residual liquid into the vessel press the filling slide (4) down slowly to the stop.

Removing the Syringe tip

- Empty the syringe tip.
- Push the stopping lever (5) upwards.
- Remove the syringe tip from the Minilab 201.

5. Maintenance

The Minilab 201 is factory-calibrated and works maintenance-low. Potential clogging is removed best of all with warm water or isopropyl alcohol. To disinfect the device, conventional disinfectants suitable for polycarbonate can be used. The device should not be autoclaved. Only 25 and 50 mL syringe tips adapters can be autoclaved at 121°C for 20 minutes.

The device should not be disassembled.

6. Troubleshooting

Problem	Cause	Solution
Syringe tip cannot be inserted.	Filling slide has not been pushed upwards up to the stop.	Push filling slide right up to the stop.
Stopping lever cannot be pushed down.	Syringe tip has not been inserted properly.	Remove the syringe tip, push the piston of the syringe tip all the way in. Push the filling slide right down to the stop.
Filling slide cannot be moved upwards.	Stopping lever has not clicked into its place.	Press the stopping lever right down to the stop.
Dosing volume is uncertain	Adjusting wheel has not locked into place.	Click adjusting wheel into place.

7. Technical Data

- **Weight:** Approx. 105 g
- **Liquid:** Bi-distilled water
- **Reference temperature:** 20°C to 25°C, $\pm 0.5^\circ\text{C}$ constant
- **Measurement:** In accordance with EN ISO 8655

- Accuracy and precision: See table below

Syringe tip volume [mL]	Dispensed volume [μ L]	Inaccuracy [$10\% V_{nom}$]	Imprecision [$10\% V_{nom}$]
0.05	5	± 4	≤ 4.0
0.10	10	± 1.5	≤ 2.0
0.20	20	± 1.0	≤ 1.0
0.50	50	± 1.0	≤ 0.8
1.00	100	± 1.0	≤ 0.9
1.25	125	± 0.9	≤ 0.6
2.50	250	± 0.7	≤ 0.6
5.00	500	± 0.3	≤ 0.4
10.00	1,000	± 0.3	≤ 0.4
12.50	1,250	± 0.3	≤ 0.4
25.00	2,500	± 0.5	≤ 0.3
50.00	5,000	± 0.5	≤ 0.3

The data for 0.05 mL syringe tips are based on a measurement carried out with a 10 μ L pipet tip.

8. Package Contents

Description	Quantity
Minilab 201 Repeating Pipettor	1
Quick User Guide	1
Adapter for 50 mL syringe tips	1

9. Limited Warranty

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HTL LAB SOLUTIONS

PZ HTL S.A.

Daniszewska 4
03-230 Warsaw
Poland

t 48 22 492 19 00

f 48 22 492 19 93

www.htl.com.pl

For additional product information or technical information, visit www.htl.com.pl or contact your local sales office.

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Singapore

t 65 6572-9740

f 65 6735-2913

Taiwan

t 886 2-2716-0338

f 886 2-2516-7500

EUROPE

htlcs@corning.com

LATIN AMERICA

grupoLA@corning.com

Brazil

t 55 (11) 3089-7400

Mexico

t (52-81) 8158-8400

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www.htl.com.pl

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