

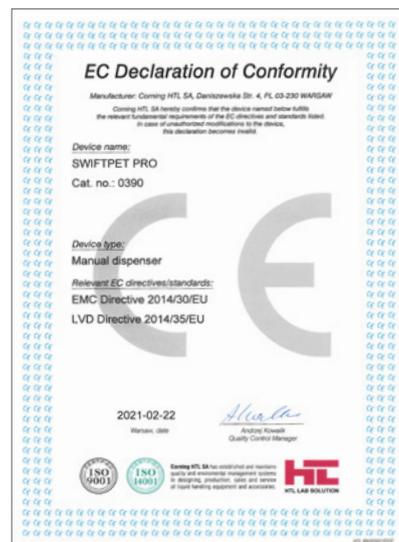


# HTL Product Catalog



[www.htl.com.pl](http://www.htl.com.pl)

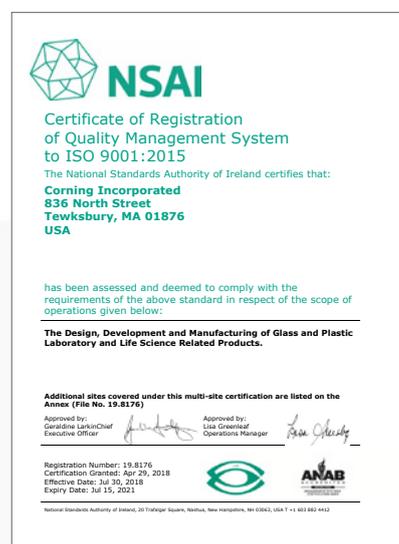
Corning HTL SA is a modern, expanding enterprise that is part of Corning Incorporated. We have our own product development department and an experienced, highly-qualified staff. We use established production and management standards to deliver products of the highest quality to the global market. Throughout all manufacturing stages, we use well-tested quality control systems. Every product has a unique number to enable its complete identification. Individual parameters for each pipettor are provided on the certificate enclosed with the product. All devices made by Corning HTL are developed and manufactured in compliance with European Union standards and directives.



Corning HTL SA has a certified Quality Management System, compliant with ISO 9001:2015, that is reflected in all significant processes within the company.

Thanks to an excellently organized sales network, HTL products reach over 145 distributors in 80 countries worldwide. In Poland, our home market, we have a countrywide distributor network.

Our company puts a major emphasis on issues related to environmental protection. The core tenet of Corning HTL's environmental policy is to make its operations environmentally friendly. We meet this commitment by complying with applicable legal provisions and environmental protection standards as well as by meeting the rules of conduct set in the corporate policy. Regular environmental audits are carried out to identify potential threats and areas of non-compliance and implement corrective measures. Ongoing monitoring is performed to facilitate the implementation of pro-environment measures in new areas and the improvement of the Environmental Management System.



On 21 December 2016, Corning HTL Calibration Laboratory was awarded accreditation pursuant to ISO/IEC 17025:2018-02 by the Polish Centre of Accreditation (PCA), which is a member of IAF (International Accreditation Forum, Inc.), ILAC (International Laboratory Accreditation Cooperation), and EA (European co-operation for Accreditation). ISO accreditation is the most important means of demonstrating that a laboratory uses an internationally accepted quality management system along with procedures that guarantee and improve the quality of its products and services. The Corning HTL Calibration Laboratory's official accreditation number is AP169 (see details on the page 27).



Each pipettor is individually calibrated and delivered with a quality certificate. Accuracy and precision according to ISO 8655.



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The wide range of liquid handling products available in the Corning HTL catalog is designed to address the evolving expectations of our customers, who place a high value on the safety, ease of use and reliability offered by HTL products.

Thanks to over 40 years of experience, cutting edge manufacturing technologies and the dedication of our entire team, the products we manufacture are of the highest quality.

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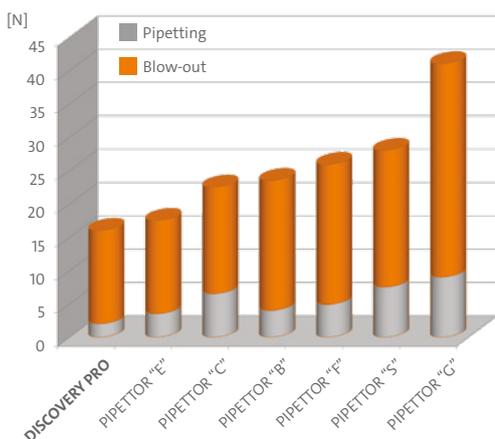
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# Discovery Pro

## Single- and Multi-channel Pipettors

The Discovery Pro Pipettor Series is uniquely designed to offer three key benefits: ergonomics, accuracy and precision. Lightweight construction and the contoured shape of the handle and finger hook guarantee correct grip, which reduces wrist strain and fatigue (RSI). The tip ejection force is reduced by more than 30% in comparison to conventional pipettors thanks to the unique pushbutton-lever system.

### Ultra-low pipetting forces



### Modern design and innovative construction guarantee thermal insulation of internal parts

- ▶ Risk of heat transfer to the inner mechanism of the pipettor is eliminated
- ▶ Accuracy is enhanced

fully  
**121°C**  
autoclavable

**UV**  
resistant

years  
**3**  
warranty



### Quality according to GLP standards

- ▶ Color coding
- ▶ Volume setting auto-lock

### 4-digit counter

- ▶ Remains visible during work
- ▶ Clear and easy to read numbers
- ▶ Rapid counter rewinding

Use of superior-grade materials guarantees optimal chemical and mechanical resistance and enables sterilization under UV light and by autoclaving.

Thanks to universal shafts and a long ejector stroke, Discovery Pro pipettors are compatible with many brands of pipet tips.

## Discovery Pro Single-channel Pipettors

Model	Cat. No.	Color Code	Volume (μL)	A (%)	P (%)	Non-filter Tips	
DP2	6001	●	0.1	±40.0	≤12.0	10 μL	
			1.0	± 2.7	≤ 1.3		
			Max. 2.0	± 1.5	≤ 0.7		
DP10	6002	●	Min. 0.5	± 4.0	≤ 2.8		
			5.0	± 1.5	≤ 0.7		
			Max. 10.0	± 1.0	≤ 0.4		
DP20	6003	●	Min. 2	± 3.0	≤ 1.5		200 μL
			10	± 1.0	≤ 0.5		
			Max. 20	± 0.8	≤ 0.3		
DP100	6004	●	Min. 10	± 3.0	≤ 1.0		
			50	± 1.0	≤ 0.3		
			Max. 100	± 0.8	≤ 0.2		
DP200	6005	●	Min. 20	± 2.0	≤ 0.7		
			100	± 1.0	≤ 0.3		
			Max. 200	± 0.6	≤ 0.2		
DP1000	6006	●	Min. 100	± 2.5	≤ 0.6	1,000 μL	
			500	± 0.8	≤ 0.3		
			Max. 1,000	± 0.6	≤ 0.2		

## Discovery Pro Multi-channel Pipettors

Model	Cat. No.	Color Code	Volume (μL)	A (%)	P (%)	Non-filter Tips	
DP8-10	4951	●	0.5	±10.0	≤ 8.0	10 μL	
			5	± 4.0	≤ 2.0		
			Max. 10	± 2.0	≤ 1.2		
DP8-50	4952	●	Min. 5	± 4.0	≤ 2.5		
			25	± 3.0	≤ 1.2		
			Max. 50	± 1.6	≤ 0.6		
DP8-200	4953	●	Min. 20	± 3.0	≤ 1.5		200 μL
			100	± 1.5	≤ 0.8		
			Max. 200	± 1.0	≤ 0.6		
DP8-300	4954	●	Min. 50	± 1.6	≤ 1.5		
			150	± 1.2	≤ 1.0		
			Max. 300	± 1.0	≤ 0.6		

## Discovery Pro Starter 4-pack

Economy set of 4 pipettors and accessories.

Product	Cat. No.	Models	Accessories
	7903	DP10 DP20 DP200 DP1000	<ul style="list-style-type: none"> <li>▶ Plexi 4-position stand</li> <li>▶ Tips (10 μL/96 pcs, 200 μL/96 pcs, 1,000 μL/100 pcs)</li> <li>▶ Calibration tool x 4</li> <li>▶ Shelf clip x 4</li> <li>▶ Instruction manual</li> </ul>

### Intuitive User Calibration



Lock the volume setting knob. Remove the red cap using the calibration key. Set the calibration switch in its upper "CAL" position.



Insert the calibration key into the ejector orifice. Turn the key so as the volume indicated by the counter is equal to the average calculated volume. Refer to the user manual for details.



Remove the calibration key and set the calibration switch in its lower position. Place the cap on the ejector button.



Plexi 4-position stand  
(Cat. No. 5480)

Plexi 1-position stand  
(Cat. No. 5479)

Multiple stand  
(Cat. No. 5449)

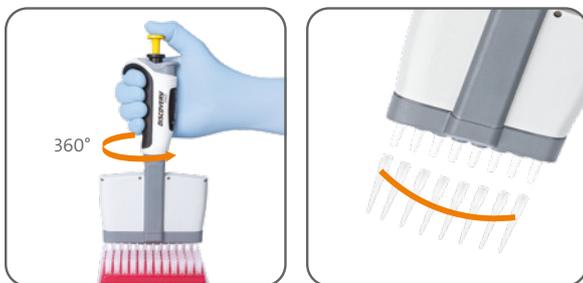
Shelf clip  
(Cat. No. SP19483)

## Multi-channel Pipettor

The Multi-channel Discovery Pro Pipettor provides all the benefits of the single-channel pipettor and more. A lightweight design, contoured handle and excellent accuracy and precision combined with a revolutionary multi-channel manifold set a new standard for work with microplates. The pipettor is available in a wide range of volumes and in an 8- and 12-channel version – designed to make daily work in laboratories easier.



- ▶ 4-digit counter
- ▶ Low pipetting forces eliminate fatigue and improve test results
- ▶ Highest standards of accuracy and precision
- ▶ Robust design
- ▶ User-friendly calibration system
- ▶ Tip loading mechanism for perfect tip sealing



- ▶ 360° rotating manifold for optimal comfort while working
- ▶ Curved ejector bar – sequential tip ejection with minimal effort

# Discovery Comfort

## Single- and Multi-channel Pipettors

Discovery Comfort Pipettors combine optimal levels of accuracy and precision with traditional design to provide a comfortable and safe pipetting experience. The pipettors are available in a single- and multi-channel version.

- ▶ Low pipetting forces and ergonomic design to prevent RSI
- ▶ Easy volume setting with volume locking
- ▶ Robust design
- ▶ Excellent precision in long pipetting series

fully <b>121°C</b> autoclavable	<b>UV</b> resistant	years <b>3</b> warranty
---------------------------------------	------------------------	-------------------------------



Color coding

- ▶ Perfect tip sealing with minimal effort
- ▶ 5 and 10 mL shafts protected by a filter



Easy disassembly and adjustment of the tip ejector



- ▶ Curved ejector bar – sequential tip ejection with minimal effort
- ▶ 360° rotating manifold for optimal comfort while working
- ▶ Tip loading mechanism for perfect tip sealing

### Easy user calibration



Remove the pushbutton set.



Insert the calibration key into the calibration knob. The calibration key is supplied with the pipettor.



Turn the key to increase or decrease the volume. See the user manual for details.



Replace the pushbutton set. The procedure is complete.

Discovery Comfort Single-channel Pipettors are available in two versions:

- ▶ DV – All volumes of pipettors come with light gray shafts.
- ▶ D – Shafts come in red, yellow, green, blue, or white depending on the volume range of the pipettor and the corresponding tip size.



DV – gray shaft

D – colored shaft

### Discovery Comfort Single-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips
DV2 D2	4041-DV 4051-D	●	0.1 1.0 Max. 2.0	±40.0 ± 2.7 ± 1.5	≤ 12.0 ≤ 1.3 ≤ 0.7	10 µL
DV10 D10	4042-DV 4052-D	●	Min. 0.5 5.0 Max. 10.0	± 4.0 ± 1.0 ± 0.5	≤ 2.8 ≤ 0.6 ≤ 0.4	
DV20 D20	4043-DV 4053-D	●	Min. 2 10 Max. 20	± 3.0 ± 1.0 ± 0.8	≤ 1.5 ≤ 0.5 ≤ 0.3	200 µL
DV50 D50	4047-DV 4057-D	●	Min. 5 25 Max. 50	± 2.5 ± 1.0 ± 0.8	≤ 2.0 ≤ 0.6 ≤ 0.4	
DV100 D100	4044-DV 4054-D	●	Min. 10 50 Max. 100	± 1.6 ± 0.8 ± 0.8	≤ 0.8 ≤ 0.24 ≤ 0.2	300 µL
DV200 D200	4045-DV 4055-D	●	Min. 20 100 Max. 200	± 1.2 ± 0.8 ± 0.6	≤ 0.6 ≤ 0.25 ≤ 0.2	
DV250 D250	4040-DV 4050-D	●	Min. 50 125 Max. 250	± 1.0 ± 0.8 ± 0.6	≤ 0.4 ≤ 0.3 ≤ 0.3	1,000 µL
DV1000 D1000	4046-DV 4056-D	●	Min. 100 500 Max. 1,000	± 1.6 ± 0.7 ± 0.6	≤ 0.4 ≤ 0.2 ≤ 0.15	
DV5000 D5000	4048-DV 4058-D	○	Min. 500 2,500 Max. 5,000	± 1.2 ± 0.6 ± 0.5	≤ 0.5 ≤ 0.2 ≤ 0.15	10,000 µL
DV10000 D10000	4049-DV 4059-D	○	Min. 1,000 5,000 Max. 10,000	± 2.5 ± 0.8 ± 0.5	≤ 0.6 ≤ 0.3 ≤ 0.2	



### Discovery Comfort Multi-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips
DV8-10 DV12-10	5121 5125	●	Min. 0.5 5 Max. 10	±10.0 ± 4.0 ± 2.0	≤ 8.0 ≤ 2.0 ≤ 1.2	10 µL
DV8-50 DV12-50	5122 5126	●	Min. 5 25 Max. 50	± 4.0 ± 3.0 ± 1.6	≤ 2.5 ≤ 1.2 ≤ 0.6	
DV8-200 DV12-200	5123 5127	●	Min. 20 100 Max. 200	± 3.0 ± 1.5 ± 1.0	≤ 1.5 ≤ 0.8 ≤ 0.6	200 µL
DV8-300 DV12-300	5124 5128	●	Min. 50 150 Max. 300	± 1.6 ± 1.2 ± 1.0	≤ 1.5 ≤ 1.0 ≤ 0.6	





Plexi 4-position stand  
(Cat. No. 5480)

Plexi 1-position stand  
(Cat. No. 5479)

Carousel stand  
(Cat. No. 5484)

Multiple stand  
(Cat. No. 5449)

### Discovery Comfort Starter Packs

Economy set of 3 or 4 pipettors and accessories.

Product	Cat. No.	Models	Accessories
	7901	DV10 DV20 DV200 DV1000	<ul style="list-style-type: none"> <li>▶ Plexi 4-position stand</li> <li>▶ Tips (10 µL/96 pcs, 200 µL/96 pcs, 1,000 µL/100 pcs)</li> <li>▶ Calibration tool x 4</li> <li>▶ Shelf clip x 4</li> <li>▶ Instruction manual</li> </ul>
	7904	D10 D20 D200 D1000	
	7924	DV20 DV200 DV1000	<ul style="list-style-type: none"> <li>▶ Tips (200 µL/96 pcs, 1,000 µL/100 pcs)</li> <li>▶ Calibration tool x 3</li> <li>▶ Shelf clip x 3</li> <li>▶ Instruction manual</li> </ul>
	7926	D20 D200 D1000	
	7923	DV10 DV100 DV1000	<ul style="list-style-type: none"> <li>▶ Tips (10 µL/96 pcs, 200 µL/96 pcs, 1,000 µL/100 pcs)</li> <li>▶ Calibration tool x 3</li> <li>▶ Shelf clip x 3</li> <li>▶ Instruction manual</li> </ul>
	7925	D10 D100 D1000	

# Labmate Pro

## Single- and Multi-channel Pipettors

The Labmate Pro Pipettor family contains models with a wide variety of volumes for different laboratory applications. A durable, UV-resistant and autoclavable body is combined with high accuracy and precision performance to ensure many years of reliable service in laboratories all over the world.

- ▶ Contoured handle shape and lightweight design
- ▶ Proven accuracy and precision
- ▶ 5 and 10 mL shafts protected by a filter
- ▶ Color-coded shafts for easy volume identification

fully <b>121°C</b> autoclavable	<b>UV</b> resistant	years <b>3</b> warranty
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### Available in an 8- and 12-channel version

A suspension system allows the shafts to retract slightly when pressed against a row of pipet tips. Each shaft moves independently, resulting in an even sealing force being applied to all 8 or 12 tips.

The suspension system not only ensures secure tip sealing, but eliminates the common issue of tips becoming jammed. The 360° rotating manifold guarantees optimal comfort while working.



- ▶ Soft spring system for smooth, effortless pipetting



Easy user calibration



Dual volume setting using the pushbutton or the thumbwheel



Adjustable ejector height system – to accommodate all brands of tips



Plexi 4-position stand  
(Cat. No. 5480)



Plexi 1-position stand  
(Cat. No. 5479)



Carousel stand  
(Cat. No. 5484)



Multiple stand  
(Cat. No. 5449)

## Labmate Pro Single-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips		
LMP2	5661	●	0.1	±40.0	≤ 12.0	10 µL		
			1.0	± 2.7	≤ 1.3			
			Max. 2.0	± 1.5	≤ 0.7			
LMP10	5662	●	Min. 0.5	± 4.0	≤ 2.8			
			5.0	± 1.0	≤ 0.6			
			Max. 10.0	± 0.5	≤ 0.4			
LMP20	5663	●	Min. 2	± 3.0	≤ 1.5			
			10	± 1.0	≤ 0.5			
			Max. 20	± 0.8	≤ 0.3			
LMP50	5667	●	Min. 5	± 2.5	≤ 2.0		200 µL	
			25	± 1.0	≤ 0.6			
			Max. 50	± 0.8	≤ 0.4			
LMP100	5664	●	Min. 10	± 1.6	≤ 0.80			
			50	± 0.8	≤ 0.24			
			Max. 100	± 0.8	≤ 0.20			
LMP200	5665	●	Min. 20	± 1.2	≤ 0.60			
			100	± 0.8	≤ 0.25			
			Max. 200	± 0.6	≤ 0.20			
LMP250	5660	●	Min. 50	± 1.0	≤ 0.4	300 µL		
			125	± 0.8	≤ 0.3			
			Max. 250	± 0.6	≤ 0.3			
LMP1000	5666	●	Min. 100	± 1.6	≤ 0.40		1,000 µL	
			500	± 0.7	≤ 0.20			
			Max. 1,000	± 0.6	≤ 0.15			
LMP5000	5668	○	Min. 500	± 1.2	≤ 0.5			5,000 µL
			2,500	± 0.6	≤ 0.20			
			Max. 5,000	± 0.5	≤ 0.15			
LMP10000	5669	○	Min. 1,000	± 2.5	≤ 0.6			
			5,000	± 0.8	≤ 0.3			
			Max. 10,000	± 0.5	≤ 0.2			



## Labmate Pro Multi-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips
LMP8-10	6281	●	Min. 0.5	± 10	≤ 8.0	10 µL
LMP12-10	6285		5	± 4.0	≤ 2.0	
			Max. 10	± 2.0	≤ 1.2	
LMP8-50	6282	●	Min. 5	± 4.0	≤ 2.5	200 µL
LMP12-50	6286		25	± 3.0	≤ 1.2	
			Max. 50	± 1.6	≤ 0.6	
LMP8-200	6283	●	Min. 20	± 3.0	≤ 1.5	
LMP12-200	6287		100	± 1.5	≤ 0.8	
			Max. 200	± 1.0	≤ 0.6	
LMP8-300	6284	●	Min. 50	± 1.6	≤ 1.5	300 µL
LMP12-300	6288		150	± 1.2	≤ 1.0	
			Max. 300	± 1.0	≤ 0.6	



## Discovery Pro Starter 4-pack

Product	Cat. No.	Models	Accessories
	7905	LMP10 LMP20 LMP200 LMP1000	<ul style="list-style-type: none"> <li>▶ Plexi 4-position stand</li> <li>▶ Tips (10 µL/96 pcs, 200 µL/96 pcs, 1,000 µL/100 pcs)</li> <li>▶ Calibration tool x 4</li> <li>▶ Shelf clip x 4</li> <li>▶ Instruction manual</li> </ul>

# Optipette

## Single- and Multi-channel Pipettors

The Optipette Pipettor Series features a slim handle, high accuracy and precision rates and impressive robustness. It is designed to guarantee excellent ergonomics and safety for the user.



- ▶ Ergonomic handle design
- ▶ Excellent accuracy and precision
- ▶ Soft spring system to reduce pipetting forces
- ▶ Color-coded rings for volume identification
- ▶ Available in an 8- and 12-channel version



fully  
**121°C**  
autoclavable

**UV**  
resistant

years  
**3**  
warranty



Rotating pipetting pushbutton prevents accidental volume change



Additional spacers enable ejector height adjustment



A calibration key is provided with each pipettor to enable user calibration



Plexi 4-position stand  
(Cat. No. 5480)

Plexi 1-position stand  
(Cat. No. 5479)

Carousel stand  
(Cat. No. 5484)

Multiple stand  
(Cat. No. 5449)

## Optipette Single-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips		
OP2	5601	●	0.1	±40.0	≤ 12.0	10 µL		
			1.0	± 2.7	≤ 1.3			
			Max. 2.0	± 1.5	≤ 0.7			
OP10	5602	●	Min. 0.5	± 4.0	≤ 2.8			
			5.0	± 1.0	≤ 0.6			
			Max. 10.0	± 0.5	≤ 0.4			
OP20	5603	●	Min. 2	± 3.0	≤ 1.5			
			10	± 1.0	≤ 0.5			
			Max. 20	± 0.8	≤ 0.3			
OP50	5607	●	Min. 2	± 2.5	≤ 2.0		200 µL	
			10	± 1.0	≤ 0.6			
			Max. 20	± 0.8	≤ 0.4			
OP100	5604	●	Min. 10	± 1.6	≤ 0.80			
			50	± 0.8	≤ 0.24			
			Max. 100	± 0.8	≤ 0.20			
OP200	5605	●	Min. 20	± 1.2	≤ 0.60			
			100	± 0.8	≤ 0.25			
			Max. 200	± 0.6	≤ 0.20			
OP250	5600	●	Min. 50	± 1.0	≤ 0.4	300 µL		
			125	± 0.8	≤ 0.3			
			Max. 250	± 0.6	≤ 0.3			
OP1000	5606	●	Min. 50	± 1.6	≤ 0.40		1,000 µL	
			125	± 0.7	≤ 0.20			
			Max. 250	± 0.6	≤ 0.15			
OP5000	5608	○	Min. 500	± 1.2	≤ 0.50			5,000 µL
			2,500	± 0.6	≤ 0.20			
			Max. 5,000	± 0.5	≤ 0.15			
OP10000	5609	○	Min. 1,000	± 2.5	≤ 0.6			
			5,000	± 0.8	≤ 0.3			
			Max. 10,000	± 0.5	≤ 0.2			



## Optipette Pro Multi-channel Pipettors

Model	Cat. No.	Color Code	Volume (µL)	A (%)	P (%)	Non-filter Tips		
OP8-10	5141	●	Min. 0.5	±10.0	≤ 8.0	10 µL		
			5	± 4.0	≤ 2.0			
			Max. 10	± 2.0	≤ 1.2			
OP8-50	5141	●	Min. 5	± 4.0	≤ 2.5		200 µL	
			25	± 3.0	≤ 1.2			
			Max. 50	± 1.6	≤ 0.6			
OP8-200	5143	●	Min. 20	± 3.0	≤ 1.5			300 µL
			100	± 1.5	≤ 0.8			
			Max. 200	± 1.0	≤ 0.6			
OP8-300	5144	●	Min. 20	± 1.6	≤ 1.5			
			100	± 1.2	≤ 1.0			
			Max. 200	± 1.0	≤ 0.6			



## Optipette Starter 4-packs

Product	Models	Accessories
 <p><b>Optipette Starter 4-pack</b> Cat. No. 7902</p>	<p>OP10 OP20 OP200 OP1000</p>	<ul style="list-style-type: none"> <li>▶ Plexi 4-position stand</li> <li>▶ Tips (10 µL/96 pcs, 200 µL/96 pcs, 1,000 µL/100 pcs)</li> <li>▶ Calibration tool x 4</li> <li>▶ Instruction manual</li> </ul>
 <p><b>Optipette Color Starter 4-pack</b> Cat. No. 7912</p>		

# Clinipet<sup>+</sup>

## Fixed Volume Pipettors

Clinipet+ Fixed Volume Pipettors are available in 17 models ranging from 5 µL up to 1,000 µL. The handle and mechanism are specially designed for fixed volume pipettors. The pipettors offer reduced pipetting forces, excellent accuracy and precision and a highly durable, UV-resistant and fully autoclavable body.



- Recalibration system allows for quick and accurate pipettor calibration

fully  
**121°C**  
autoclavable

**UV**  
resistant

years  
**3**  
warranty

- Low pipetting forces prevent RSI
- Highly durable PVDF shafts guarantee optimal mechanical and chemical resistance



- Unique tip sealing system



Sliding tip ejector button – ideal for both right- and left-handed users.

Unique design to reduce tip ejection forces.



Easy removable tip ejector enables easy work with narrow tubes.

## Clinipet+ Fixed Volume Pipettors

Model	Cat. No.	Color Code	Volume (μL)	A (%)	P (%)	Non-filter Tips
CP5	2204-CP	●	5	±2.0	≤1.0	
CP10	2208-CP	●	10	±1.2	≤0.5	
CP20	2212-CP	●	20	±0.9	≤0.4	
CP25	2214-CP	●	25	±0.9	≤0.4	
CP30*	2216-CP	●	30	±0.9	≤0.3	
CP50	2222-CP	●	50	±0.9	≤0.3	200 μL
CP75*	2228-CP	●	75	±0.9	≤0.3	
CP100	2234-CP	●	100	±0.8	≤0.3	
CP150*	2238-CP	●	150	±0.7	≤0.3	
CP200	2240-CP	●	200	±0.6	≤0.2	
CP200A*	2242-CP	●	200	±0.6	≤0.2	
CP220*	2244-CP	●	220	±0.6	≤0.2	
CP250	2246-CP	●	250	±0.6	≤0.2	
CP300	2248-CP	●	300	±0.6	≤0.2	1,000 μL
CP500	2254-CP	●	500	±0.6	≤0.2	
CP750*	2260-CP	●	750	±0.6	≤0.2	
CP1000	2266-CP	●	1,000	±0.6	≤0.2	

\*Special version upon request.



Plexi 4-position stand  
(Cat. No. 5480)

Carousel stand  
(Cat. No. 5484)

Multiple stand  
(Cat. No. 5449)

Shelf clip  
(Cat. No. SP19451)

# Pipettor Comparison

## By product feature

Perhaps surprisingly, the purchase of an automatic pipettor can be a complex task. When making the choice, you should consider both the parameters of the product and the skills of the pipettor user. In research, where precision is particularly important, it is the 4-digit counter and volume lock that are the most important decision-making factors. By contrast, for those who are just learning to work with a pipettor, it is important to select a pipettor with perceptible pipetting steps to minimize the risk of error. The following table compares the features of all variants and volumes of pipettors currently offered by Corning HTL.

	Optipette	Labmate Pro	Discovery Comfort	Discovery Pro
<b>Volume Range (µL) for Single-channel Models</b>	0.1 - 10,000	0.1 - 10,000	0.1 - 10,000	0.1 - 1,000
<b>Volume Range (µL) for Multi-channel Models</b>	0.5 - 300	0.5 - 300	0.5 - 300	0.5 - 300
<b>Counter Type</b>	3-digits	3-digits	3-digits	4-digits
<b>Pipetting Forces</b>	Easily- perceptible pipetting steps	Reduced pipetting forces, soft spring system	Reduced pipetting forces, soft spring system	Ultra-low pipetting forces
<b>Autoclavability*</b>	Full	Full	Full	Full
<b>UV Resistance*</b>	Yes	Yes	Yes	Yes
<b>User Calibration</b>	Yes	Yes	Yes	Yes
<b>Volume Setting System</b>	Volume setting knob	Volume setting knob or pipetting pushbutton	Volume setting knob or pipetting pushbutton	Volume setting knob
<b>Volume Lock</b>	No	No	Yes	Yes (auto-lock)
<b>Tip Ejector Height Adjustment</b>	Yes, additional spacers	Yes, 'turn-to-fix' system	Yes, 'turn-to-fix' system	No, long ejector stroke
<b>Universal Shafts</b>	Yes	Yes	Yes	Yes
<b>Thermal Insulation</b>	No	No	No	Yes
<b>Color Coding</b>	Yes, identification rings	Yes, pipetting pushbuttons and shafts	Yes, pipetting pushbuttons and/or shafts	Yes, pipetting pushbutton and calibration switch
<b>Filters in 0.5-5 and 1-10 mL Models</b>	Yes	Yes	Yes	N/A
<b>Starter sets</b>	<ul style="list-style-type: none"> <li>▶ Optipette Starter 4-pack</li> <li>▶ Optipette Color Starter 4-pack</li> </ul>	<ul style="list-style-type: none"> <li>▶ Labmate Pro Starter 4-pack</li> </ul>	<ul style="list-style-type: none"> <li>▶ Discovery Comfort Starter 4-pack</li> <li>▶ Discovery Comfort Starter Kit</li> <li>▶ Discovery Comfort Starter Kit Bio</li> </ul>	<ul style="list-style-type: none"> <li>▶ Discovery Pro Starter 4-pack</li> </ul>

\* For detailed information on autoclaving conditions and UV sterilization please refer to the product instruction manual.

# Pipettor Stands and Accessories

For pipettor storage, protection, and identification

Cat. No.	Product	For Pipettors
5484	Carousel stand	Single-channel pipettors (0.1 – 1,000 µL): <ul style="list-style-type: none"> <li>▶ Discovery Comfort</li> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> <li>▶ Clinipet<sup>+</sup></li> </ul>
5449	Multiple stand	Single- and multi-channel pipettors: <ul style="list-style-type: none"> <li>▶ Discovery Pro</li> <li>▶ Discovery Comfort</li> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> <li>▶ Clinipet<sup>+</sup></li> </ul>
5479	Plexi 1-position stand	Single- and multi-channel pipettors: <ul style="list-style-type: none"> <li>▶ Discovery Pro</li> <li>▶ Discovery Comfort</li> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> <li>▶ Clinipet<sup>+</sup></li> </ul>
5480	Plexi 4-position stand, transparent	Single- and multi-channel pipettors: <ul style="list-style-type: none"> <li>▶ Discovery Pro</li> <li>▶ Discovery Comfort</li> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> <li>▶ Clinipet<sup>+</sup></li> </ul>
5461	Plexi 4-position stand, red transparent	
5462	Plexi 4-position stand, yellow transparent	
5463	Plexi 4-position stand, blue transparent	
5464	Plexi 4-position stand, white	
5465	Plexi 4-position stand, green	
5466	Plexi 4-position stand, pink	
5469	Plexi 6-position stand, transparent	
SP19451	Shelf clip	Single- and multi-channel pipettors: <ul style="list-style-type: none"> <li>▶ Discovery Comfort</li> <li>▶ Clinipet<sup>+</sup></li> </ul>
SP19630	Color-coded rings	Single-channel pipettors (2 – 1,000 µL): <ul style="list-style-type: none"> <li>▶ Discovery Comfort</li> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> </ul>
SP19476	Protective filter for pipettors, set of 10 pcs	Single-channel pipettors (5 and 10 mL): <ul style="list-style-type: none"> <li>▶ Discovery Comfort</li> </ul>
SP19477	Protective filter for pipettors, set of 50 pcs	<ul style="list-style-type: none"> <li>▶ Labmate Pro</li> <li>▶ Optipette</li> </ul>



# Pipet Tips

## Standard and filtered

Pipet tips are integral components of any pipetting system. Their shape, material properties and purity have an influence on the pipetting results. These pipet tips are manufactured from virgin polypropylene in clean room conditions and are certified free from bio-contaminants. The range includes standard, sterile, and filtered versions in all standard packaging formats.

### Bulk Packs

Pipet tips available in bulks – resealable plastic bags – keeping them safe from contamination. One bag contains 200, 250 or 1,000 tips depending on the tip volume.



### Racks

Racked pipet tips delivered in a durable polypropylene box for good stability on the lab bench. One rack contains 96 or 100 tips depending on the tip volume.



### Refill system

One refill contains 10 trays with 96 tips each plus an empty rack box. Available only for 10 µL and 200 µL tips with graduation marks.



- ▶ Perfect for use with HTL pipettors for optimal accuracy and precision
- ▶ Compatible with many pipettor brands
- ▶ Strict quality standards (pursuant to ISO 9001) followed from R&D to production and delivery
- ▶ Premium quality virgin polypropylene used as raw material
- ▶ Suitable for sterilization with autoclave (121°C, 15 minutes, w/o dry cycle)

## Standard Tips

Cat. No.	Volume (µL)	Pipettor volume range (µL)	Sterile	Packaging	Qty.
301-03-052			No	Bulk	1,000 tips/bag
301-03-102			No	Rack	96 tips/box, 10 boxes
301-03-152	0.1 - 10 (short)	0.1 - 2 0.5 - 10	Yes	Rack	96 tips/box, 10 boxes
301-79-102			No	Refill	96 tips/tray, 10 removable trays*
301-22-052			No	Bulk	1,000 tips/bag
301-22-102	0.1 - 10 (extended)	0.1 - 2 0.5 - 10	No	Rack	96 tips/box, 10 boxes
301-22-152			Yes	Rack	96 tips/box, 10 boxes
301-02-052			No	Bulk	1,000 tips/bag
301-02-152	1 - 200 (without graduation marks)	2 - 20 5 - 50 10 - 100	No	Rack	96 tips/box, 10 boxes
301-02-202		20 - 200	Yes	Rack	96 tips/box, 10 boxes
301-06-052	1 - 200 (graduation marks at 10, 50 and 100 µL)	2 - 20 5 - 50 10 - 100 20 - 200	No	Bulk	1,000 tips / bag
301-06-352			Yes	Rack	100 tips/box, 10 boxes
301-79-052			No	Refill	10 removable trays of 96 tips*
301-16-052	1 - 300 (fine-point)	50 - 250 50 - 300	No	Bulk	1,000 tips/bag
301-16-102			No	Rack	96 tips/box, 10 boxes
301-01-202			No	Bulk	1,000 tips/bag
301-01-302	100 - 1,000 (bevelled)	100 - 1,000	No	Rack	100 tips/box, 10 boxes
301-01-352			Yes	Rack	100 tips/box, 10 boxes
301-71-052	500 - 5,000	500 - 5,000	No	Bulk	250 tips/bag
301-75-052	1,000 - 10,000	1,000 - 10,000	No	Bulk	200 tips/bag

\*Refill contains 10 trays with tips plus 2 racks.

## Filtered Tips, Rack

Cat. No.	Volume (µL)	Pipettor volume range (µL)	Sterile	Qty.
302-05-102	0.1 - 10 (short)	0.1 - 2 0.5 - 10	Yes	96 tips/box, 10 boxes
302-26-152	0.1 - 10 (extended)	0.1 - 2 0.5 - 10	Yes	96 tips/box, 10 boxes
302-03-102	0.1 - 20 (graduation marks)	2 - 20	Yes	96 tips/box, 10 boxes
302-08-102	1 - 100 (graduation marks)	10 - 100	Yes	96 tips/box, 10 boxes
302-04-102	1 - 200 (graduation marks)	20 - 200	Yes	96 tips/box, 10 boxes
302-12-102	1 - 300 (fine-point)	50 - 250 50 - 300	Yes	96 tips/box, 10 boxes
302-01-102	100 - 1,000 (bevelled)	100 - 1,000	Yes	100 tips/box, 10 boxes



# Swiftpet Pro

## Pipet Controller

Pipetting using glass and plastic volumetric pipets has never been easier than with the Swiftpet Pro Pipet Controller. An ergonomically shaped handle along with optimally located, smooth pushbuttons and switches guarantee effortless pipetting even during periods of extended use. A convenient charging stand allows the pipet controller to be stored when not in use. Easily accessible switches on the Swiftpet Pro allow the user to select different operation modes depending on the volume of pipet and viscosity of liquid. The Swiftpet Pro is an excellent tool for pipetting in tissue culture laboratories, water treatment facilities, academic labs, and more.

### Safe and efficient work

- ▶ Protected by a PTFE filter that blocks liquids from entering the unit
- ▶ Autoclavable filter, pipet holder and nosepiece
- ▶ UV-resistant body for safe sterilization
- ▶ Powerful, environmentally friendly 3 Ni-MH batteries enable many hours of continuous work



### Comfort while working

- ▶ Suitable for glass and plastic volumetric pipets 0.5 - 100 mL
- ▶ Ergonomically shaped handle
- ▶ Optimally located function buttons
- ▶ Convenient charging stand for bench/wall mounting
- ▶ Easy access to batteries



- ▶ LCD display showing battery charge level



### Adjustment of speed and working mode

- ▶ Easily accessible function buttons for control of speed and working mode
- ▶ Additional speed adjustment via the pressure applied to the trigger buttons



Product	Cat. No.
Swiftpet Pro with charging stand	0390
Charging stand	SP29056
Pipettor holder	SP29054
Nosepiece	SP29053
Battery cover with "wings"	SP29064
Micro filter 0.20 µm, pack of 5	SP9143
Micro filter 0.45 µm, pack of 5	SP9144
Universal charger 9V type: EU, US, UK, AU	SP29100
Hanger	SP9029

# Mini Microcentrifuge

## Compact Laboratory Centrifuge

The HTL Mini Microcentrifuge is designed for a wide range of applications in medical, veterinary, biochemical and other laboratories where constituents of investigated materials are to be separated under the effect of centrifugal force. The product is simple and easy to operate. It is equipped with a quick-release rotor system and an electronic brake. Once samples are loaded and the lid is closed, the rotor rapidly accelerates to 6,000 rpm, making it ideal for spin down of small droplets to the bottom of tubes for micro-filtrations or basic separation processes.

- ▶ Accommodates up to 8 microcentrifuge tubes or 4 PCR strip tubes
- ▶ Comes with adapters for smaller tubes such as 0.2, 0.25, and 0.5 mL
- ▶ Quick release rotor system – no tools required to change rotors
- ▶ Electronic braking allows for more rapid deceleration
- ▶ Dual lid switch
- ▶ Compact, robust design
- ▶ 2-year warranty



### Parameters:

- ▶ Maximum capacity: 8 x 1.5/2.0 mL or 4 x 0.2 mL strips
- ▶ Maximum speed: 6,000 rpm
- ▶ RCF: 2,000 x g
- ▶ Dimensions (L x W x H): 5.9 x 5.9 x 4.6 in. (15 x 15 x 11.6 cm)
- ▶ Weight: 2.65 lbs. / 1.2 kg
- ▶ Electrical: Universal 100-240 V
- ▶ Compliance: CE/TUV/CSA

Product	Cat. No.
HTL Mini Microcentrifuge	8000
Rotor for 8 x 1.5/2.0 mL tubes	6770-RT
Rotor for 4 x 0.2 mL strip tubes	6770-RT
Individual adapters for 0.2mL tubes, fits in rotor 6770-RT, pack of 8	6770-RTA.20
Individual adapters for 0.25mL tubes, fits in rotor 6770-RT, pack of 8	6770-RTA.25
Individual adapters for 0.5mL tubes, fits in rotor 6770-RT, pack of 8	6770-RTA.5
Power adapter, 24V	401025

# Minilab 201

## Repeating Pipettor and Syringe Tips

The Minilab 201 Repeating Pipettor was engineered to revolutionize serial dispensing. Its 'positive displacement' working principle guarantees the superior accuracy and precision of the dispenser, no matter how dense or viscous the substances being dispensed. Its precise stepping mechanism ensures the repeatability of dispensed doses. The Minilab 201 Repeating Pipettor offers as many as 48 dispensing steps from one filling of the syringe. Samples can be dosed at intervals as fast as one second. Disposable syringe tips prevent the cross-contamination of samples.



### Easy dispensing of long series

- ▶ Lightweight – 100 g
- ▶ Maintenance free
- ▶ Ideal for viscous samples
- ▶ Compatible with a range of syringe tips available on the market
- ▶ Supplied with adapter for 50 mL syringe tips



Adapter 25  
(Cat. No. 5710)



Adapter 50  
(Cat. No. 5709)

## Syringe Tips

The Minilab 201 works with eight sizes of disposable syringe tips ranging from 0.05 mL to 50 mL. HTL Syringe Tips provide the most accurate pipetting when used with the Minilab 201 Repeating Pipettor. Each syringe tip is marked to indicate the total capacity and the volumes it can dispense. Volumes from 1 µL to 5 mL can be dispensed, depending upon the syringe tip size selected.

Dial setting	1	2	3	4	5		
Number of doses	48	23	15	11	8		
Syringe tip volume* (mL)	Sample volume (µL)					A%	P%
0.05	1	2	3	4	5	± 6.0	± 9.0
0.50	10	20	30	40	50	± 1.0	± 1.5
1.25	25	50	75	100	125	± 0.9	± 0.9
2.50	50	100	150	200	250	± 0.7	± 0.9
5.0	100	200	300	400	500	± 0.3	± 0.8
12.50	250	500	750	1,000	1,250	± 0.3	± 0.7
25.00	500	1,000	1,500	2,000	2,500	± 0.5	± 0.6
50.00	1,000	2,000	3,000	4,000	5,000	± 0.5	± 0.6

\*Please use the 0.05 mL syringe with a 10 µL pipet tip. Values for the 0.5 mL, 1.25 mL and 2.5 mL syringe tips were measured with a 200 µL pipet tip. Values for the 0.05 mL syringe tip were measured with a 10 µL pipet tip.

## Ordering information

Product	Cat. No.
Minilab 201 with adapter for 50 mL syringe tips	0020
Adapter for 50 mL syringe tips	5709
Adapter for 25 mL syringe tips	5710
Plexi 1-position stand	5479

Syringe (mL)	Cat. No. Non-Sterile	Cat. No. Sterile	Qty.
0.05	5701	—	100
0.50	5702	5752	100
1.25	5703	5753	100
2.50	5704	5754	100
5.00	5705	5755	100
12.50	5706	5756	100
25.00	5707	5757	25
50.00	5708	5758	25

The syringes are compatible with dispensers\*\*:

- ▶ Ripette®
- ▶ Multipette® 4780
- ▶ Minilab 100/101
- ▶ Distriman® - EasyStep
- ▶ HandyStep®
- ▶ HandyStep electronic

\*\* Multipette® is a registered trademark of Eppendorf AG. HandyStep® is a registered trademark of Brand GmbH + Co. KG. Distriman® is a registered trademark of Gilson Inc.; ripette® is a registered trademark of Ritter Medical Care.



# Service and Calibration

## Factory-authorized repair and calibration services

All HTL products are designed and operate according to the ISO 8655 standard. Each pipettor is calibrated and supplied with a unique individual certificate of accuracy and precision. This confirms that it meets the standard.

### Calibration and pipettor service

HTL liquid handling products are very precise measurement devices and may be affected by a range of unnoticed and unintended interactions, even under ideal laboratory conditions. It is strongly recommended for laboratory equipment to be inspected and maintained at least once a year by an authorized service provider. This will ensure its correct and precise operation during the lifespan of the product. Corning HTL offers services including maintenance, calibration and repairs. These services are available for a wide range of current and previously manufactured HTL products.

Procedure\Service*	Basic Calibration	Advanced Calibration	Repair	Additional Description of the Procedure
Preliminary assessment of the product	+	+	+	Mechanical work, leaks
Cleaning, decontamination	+	+	+	The customer is obliged to provide a Decontamination Form with the product
Disassembly and checking	+	+	+	Evaluation of wear to parts
Replacement of sealing parts	*	+	+	Replacement of worn parts
Lubrication of parts	+	+	+	Cleansing and lubrication of the piston surface
Replacement of damaged parts	–	–	+	Based on evaluation
As found test	–	–	+	Examination of pipettor as received
Pipettor modernization	*	*	*	Installation of the most up-to-date parts
2-point calibration	+	–	+	Gravimetric test based on ISO 8655
3-point calibration	–	+	*	Gravimetric test according to ISO 8655/ ISO 17025 (two calibration levels available)

\*If required/requested by the user.

NOTE: Corning HTL SA reserves the right to change the range of services without prior notice.

### Pipettor maintenance

HTL pipettors are designed to the highest standard. The combination of high-quality design and regular maintenance and calibration is your guarantee for long and reliable operation. To ensure hassle-free maintenance, each pipettor is supplied with a set of accessories including a calibration key and a piston lubricant. All necessary maintenance instructions can be found in the user manual. For more detailed information, please see our website: [www.htl.com.pl](http://www.htl.com.pl).

# ISO 17025 Calibration

## Calibration according to the EN ISO 8655-6 standard

Since December 2016, HTL Laboratory has been accredited to carry out piston pipettor calibration by the Polish Centre of Accreditation (PCA). The certificate confirms HTL's technical competences and fulfillment of quality management system requirements according to PN-EN ISO/IEC 17025:2018-02 (accreditation number: AP169). Detailed information and the scope of accreditation can be viewed on the PCA website. The HTL Laboratory calibrates single-channel and multi-channel pipettors using a gravimetric method according to the EN ISO 8655-6 standard. The range of measured volumes is given in the table below:

from	0,2 µL	to	20 µL
above	20 µL	to	50 µL
above	50 µL	to	250 µL
above	250 µL	to	1,000 µL
above	1,000 µL	to	5,000 µL
above	1,000 µL	to	10,000 µL

All laboratories should have their equipment checked regularly by an accredited calibration laboratory.

A calibrated pipettor is returned with a calibration certificate confirming the metrological parameters and the measurement reliability of the equipment. The calibration duty is defined by the medical standards, ISO management systems, regulations and Good Laboratory Practice (GLP) principles used in the pharmaceutical, medical and food industries; these are published by the Food and Drug Administration (FDA), Health Canada and World Health Organization (WHO).

Regular pipettor calibration reduces the number of errors during research and analysis, decreases control costs, and enables the implementation of innovative solutions. Thanks to the practice of regular calibration, a laboratory receives reliable and accurate results that are accepted all over the world. Consequently, it becomes a trustworthy business partner.

# Good pipetting practice

The achievement of reliable results when pipetting depends largely on the user's skills. Errors resulting from poor pipetting techniques can significantly affect test results, since proper pipetting plays an important role in obtaining accurate and repeatable measurements. Below are some tips on how to pipette properly.

## 1 Select the right pipetting technique

There are two pipetting techniques: standard pipetting, for the pipetting of water, aqueous solutions, buffers, diluted acids and bases; and reverse pipetting, for liquids of high density and viscosity as well for those that foam easily.

## 2 Pay attention to the environmental conditions

The volume of liquid measured using a pipettor varies with the temperature. For this reason, the room temperature during pipetting, the pipet tip and the liquid should be constantly in the range of 20-25°C.

## 3 Store the pipettor on the stand

Warmth from a user's hand during pipetting can have an impact on the thermal equilibrium and may influence the volume of sample dispensed. For this reason, do not hold the pipettor continuously in your hand between pipetting cycles.

After pipetting, always put the pipettor back on its stand.

## 4 Use the right tip

The tip should be flexible, thin-walled and must fit well on the pipettor shaft. The use of inadequate quality tips may result in an errors of up to 10%.

## 5 Always rinse the tip

It is especially important when pipetting volatile, dense or viscous liquids, or if the temperature of the liquid is different than the ambient temperature.



**6 Hold the pipettor vertically when aspirating the liquid**

Leaving the pipettor on the bench, especially with liquid in the tip, could cause the liquid to enter the shaft and piston area. This may eventually result in the corrosion of internal parts.



**7 Immerse the tip into the liquid correctly**

The tip immersion depth depends on the volume range of the pipettor in use:

Pipettor volume range (µL)	Tip immersion depth (mm)
2-20	≤1
20-100	2-3
200-1,000	2-4
5,000	3-6
10,000	5-7



**8 Operate the pipetting button slowly and smoothly. After aspirating, wait 1 second before removing the tip from the liquid**

Rapid aspiration can result in liquid entering the pipettor shaft or the formation of air bubbles in the tip. Gently pull out the tip from the liquid to prevent liquid remaining on the outer surface of the tip.



**9 Change the tip**

Always change the tip for a new one when changing the dispensed liquid or if visible liquid droplets remain inside the tip. Using the same tip repeatedly may result in errors of approximately 4%.



**10 Clean your pipettor regularly and often check its calibration**

The pipettor should be cleaned daily to ensure that there is no shaft damage and that the pipettor does not cross-contaminate the samples. The pipettor should be sterilized if necessary.

# Troubleshooting

Is your product not working properly?

Did you know that in many cases, the issue can be solved by you? Remember to always follow the user manual during any maintenance or repair work. Depending on the nature of the problem, you may find adequate information in the chapters on:

- ▶ Recommendations
- ▶ Troubleshooting
- ▶ Cleaning and sterilization

## Liquid aspiration/dispensing / pipettor tightness

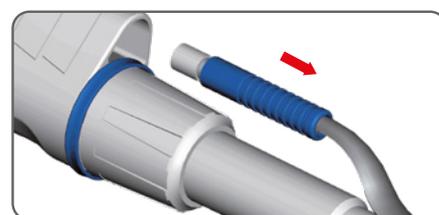
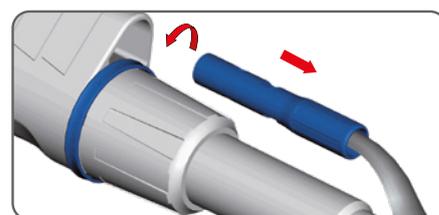
Problem	Possible Cause	Solution
Liquid aspiration not possible or only possible at reduced speed	Contamination inside the shaft (shaft opening blocked)	<ul style="list-style-type: none"> <li>▶ Remove the shaft and clean or replace it</li> <li>▶ Check the condition of the piston and sealing parts</li> </ul>
	Contaminated shaft filter (5 mL and 10 mL models)	Replace with a new one
Liquid aspiration not possible / amount of aspirated liquid incorrect (too low) / liquid leaking out of the tip	Incomplete or improperly fixed sealing parts	<ul style="list-style-type: none"> <li>▶ Remove the shaft, check the condition of the parts (replace damaged items)</li> <li>▶ Fix the parts in the correct order, following the user manual*</li> </ul>
	Damaged or stained shaft (tip sealing surface)	Clean or replace with a new shaft



## Tip ejector removing and adjustment

### Discovery Comfort, Labmate Pro (models 2 µL to 1,000 µL)

- ▶ **Tip ejector removing**  
Turn the colored ejector bush to the left by 1/3 of a turn. The ejector can be released after a “click”.
- ▶ **Tip ejector height adjustment**  
When the ejector button is removed, turn the colored bush to the left (to increase the length of the tip ejector) or the right (to decrease the length of the tip ejector).



### Optipette, older models of the Discovery and Labmate (models 2 µL to 1,000 µL)

- ▶ **Tip ejector removing**  
Press the ejector button and pull down the tip ejector by the ejector bush (gray or colored).
- ▶ **Tip ejector height adjustment**  
When the tip ejector is removed, take off the spacer or replace with a different one (2 sizes available).



### Macro pipettors – all pipettor lines (models 5,000 µL and 10,000 µL)

- ▶ **Tip ejector removing**  
When the ejector button is removed, turn the arbor (using the screwdriver) to the left until the ejector is released.
- ▶ **Tip ejector height adjustment**
  - When the ejector button is removed, turn the arbor to the left to increase the length of the tip ejector
  - Use a tip ejector cap

### Discovery Pro (no height adjustment)

- ▶ **Tip ejector removing**  
Unscrew the lower part of the pipettor. Hold the shaft nut and unscrew the tip ejector.

\*Looking for more information? Visit our website, where you'll find all the manuals and other instructions you need for product use and maintenance. [www.htl.com.pl](http://www.htl.com.pl), *Service & Support*.





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