

Perfect Liquid Handling

PIPETTING WITH PRECISION AND COMFORT



Efficiency in variable pipetting

Microliter pipettes with variable volumes VITLAB® micropipette

VITLAB specialises in accurate dispensing, titration and pipetting, and offers a variety of highly developed precision instruments for Liquid Handling applications.

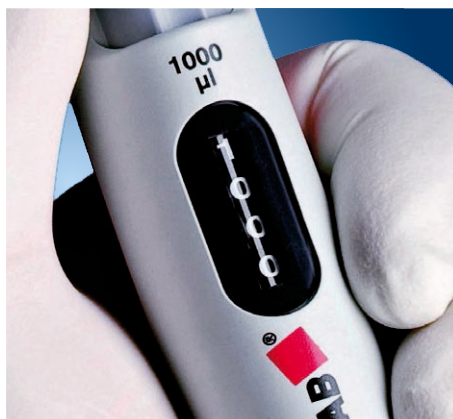
The VITLAB® -8 and -12 multichannel pipettes complete the line of VITLAB® piston-operated pipettes. They are characterized by their espe-

cially user-friendly operation while pipetting long series and are suitable for beginners as well as advanced users. Our single- and multichannel pipettes include all features requested by the user: robustness, simple operation, complete autoclavability and ergonomic design, as well as highest accuracy and easy calibration for long lasting reliability.



Calibration function

The integrated calibration function allows an adjustment without tools. A change to the factory settings is indicated by the red adjustment slider which becomes visible.



Volume setting

The desired volume can be set exactly by rotating the volume-setting wheel. The 4-digit volume display with zoom function ensures optimal readability.



Tip cone

The streamlined shaft allows the pipette to be used in narrow vessels. The fit of the tip cone is optimal for use with VITLAB® pipette tips.

Air-interface and positive displacement principle



There are two different types of pipettes: air interface and positive displacement. Air-interface pipettes are usually used for the exact pipetting of aqueous solutions in the ml and μ l range. For media with high vapor pressure or high viscosity, positive displacement pipettes are used. The

positive displacement piston is in direct contact with the pipette liquid. In contrast, the piston (1) of air-interface pipettes has no direct contact with the pipetted liquid (2). Instead, an air-interface (3) keeps the liquid separated from the piston.

Advantages of air-interface pipettes

In contamination-free environments or applications where sterile conditions are required, it is of major importance that the device not be in contact

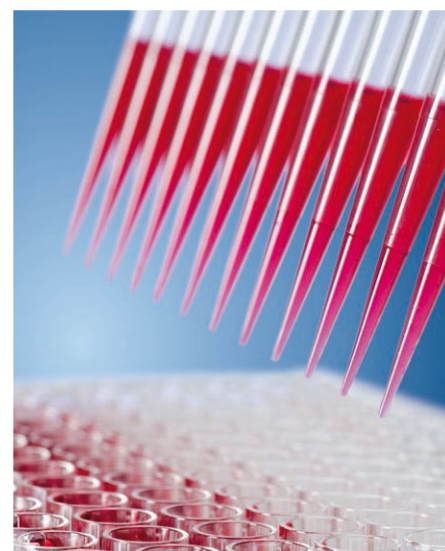
with the pipetted liquid. Only the pipette tips come in contact with the aspirated liquid and are for single-use only; therefore, cross-contamination can be pre-

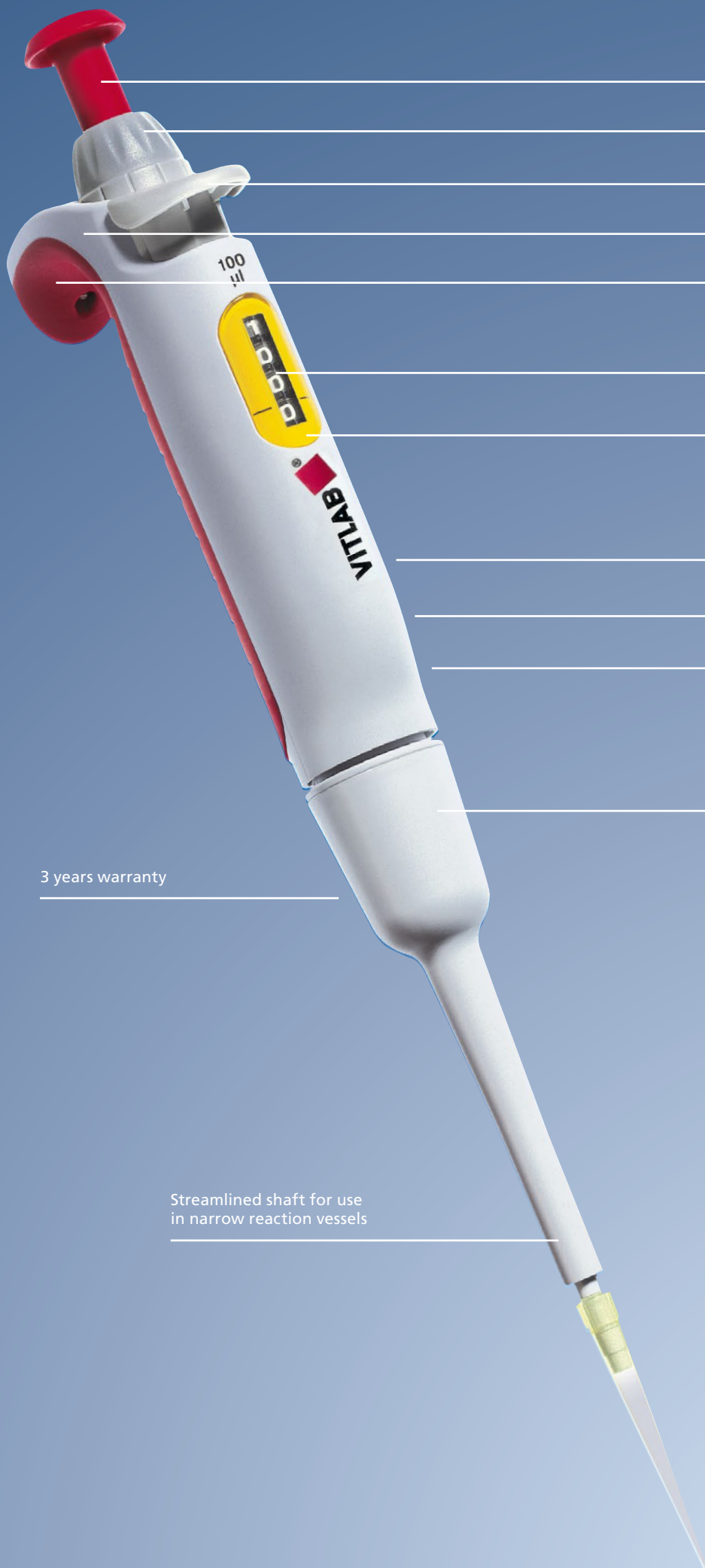
vented. The pipette tips can be rapidly replaced making the air-interface pipettes ideally suited for the fast pipetting required in longer test series.

Fields of application

Due to their great versatility and broad volume range, variable air-interface pipettes have become an essential tool for routine lab-work. Regardless of whether your work involves analytical chemistry, biochemistry or microbiology, the VITLAB[®] micropipette is suitable for a variety of

different applications. Multichannel pipettes can be used for 8 or 12 pipetting operations at the same time. They are designed for work with microtiter plates that have standardized 8x12 cavities and are used, for example, for cell culture dilution techniques, enzyme or radio immunoassays.





Central, large pipetting button

Simple volume adjustment

Large, ergonomic ejector button

Integrated calibration function

Ergonomic finger rest

Precise, 4-digit volume display

Color-coded

Leightweight but still robust

Completely autoclavable at 121 °C

CE-marked

Corrosion-resistant piston and ejector

3 years warranty

Streamlined shaft for use
in narrow reaction vessels

for smooth movement of the piston

for left- and right-handers

for rapid replacement of the tips

for easy calibration without the need for tools

that allows comfortable handling

with integrated zoom function for optimal readability

for easy tip selection

through the use of innovative plastic materials

as per DIN EN 285

according to IVD-directive 98/79 EG

for extended durability

VITLAB®

Manifold with 360° free rotation
in either direction to offer
optimal working positions

Especially service-friendly: Single shafts and
seals can be easily removed, and thus can be
directly cleaned or replaced in the laboratory

The combination of the stepped design of the
ejector and special rings made of FKM reduces
the effort needed for ejecting the tips

Efficiency in variable pipetting

Handling of air-interface pipettes



Aspirate sample

- Adjust volume
- Use the correct tip(s) according to the volume range (Color-Code)
- Press the pipetting button to the first stop and keep the button pressed
- Immerse the pipette tip(s) 2 to 6 mm into the liquid (depending on volume)
- Let the pipetting button slide back slowly while holding the pipette in an upright position (the liquid will be aspirated)



Discharge sample

- Place the pipette tip(s) against the wall of the receiving vessel
- Press the pipetting button slowly and evenly down to the second stop (over-stroke) to empty the tip(s) completely
- Ensure while discharging the sample that the tip(s) are not immersed into the liquid that might be in the receiving vessel
- Wipe the pipette tip(s) against the receiving vessel wall over a distance of approx. 10 mm



Ejecting the tip(s)

- Keep the pipetting button pressed while removing the pipette from the receiving vessel
- Let the pipetting button slide back slowly
- Press the tip ejection key to remove the tip(s)
- Correctly dispose of pipette tip(s)
- Store the pipette in an upright position when not in use (VITLAB® bench top rack/ shelf mount)



Optimal pipetting

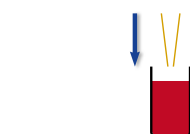
For exact and precise analytical results, the following points should be considered, independent of the pipetting technique:

- The best results are obtained with pipette tips that are recommended by the manufacturer, since only they have been checked for an optimal fit with the pipette.
- A second important factor that can influence the analytical result is the quality of the tip material. VITLAB® pipette tips are manufactured from high quality polypropylene.
- Pipette tips are intended for single-use only. Re-use and cleaning of used pipette tips should be avoided because it can influence accuracy and lead to cross-contamination of samples.

- The pipette should be held vertically while aspirating the sample because an increase in the angle of inclination can result in volume errors.
- To obtain optimal results, the immersion depth of the tip should only be a few millimetres (depending on volume).
- The air-interface between piston and sample should be kept as small as possible. The smaller the air-interface the higher is the accuracy of the result. The color-code helps with the selection of the fitting pipette tip.

Forward pipetting

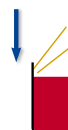
Starting position	1	2	3	4
First stop				
Second stop				



Press the pipetting button to the first stop and keep the button pressed. Immerse the tip 2 - 6 mm into the liquid.



Let the pipetting button slide back slowly. The liquid is aspirated.



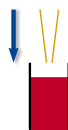
Press the pipetting button slowly to the first stop; then press to the second stop to empty the tip completely.

Reverse pipetting

The reverse pipetting technique should be used to pipet viscous solutions, wetting solvents or media with high vapour pressure with air-interface

pipettes. In contrast to forward pipetting, the reverse pipetting technique is as follows:

Starting position	1	2	3	4
First stop				
Second stop				



Press the pipetting button to the second stop and keep the button pressed. Immerse the tip 2 - 6 mm into the liquid.



Let the pipetting button slide back slowly. The liquid is aspirated.



Press the pipetting button slowly to the first stop; some liquid will remain in the tip.



VITLAB® micropipette Starter Sets

Our VITLAB® micropipette Starter Sets offer you the possibility to get to know our singlechannel pipettes and are solid basic equipment for beginners – You can choose between 3 Starter Sets with different volume ranges, depending on your application.

Each VITLAB® Starter Set includes 3 variable VITLAB® micropipettes with different volumes and associated, color-coded tip boxes, as well as 3 rack mounts for appropriate storage of your new VITLAB® micropipettes.

Our micropipettes are conformity certified to DIN 12600, are CE-IVD compliant and are completely autoclavable at 121 °C (2 bar) acc. DIN EN 285.

Let yourself be convinced by the quality and comfort of our pipettes at an attractive introductory price.

Starter Set "Mini"

Scope of delivery:

- VITLAB® micropipette 0.5 - 10 µl
- VITLAB® micropipette 10 - 100 µl
- VITLAB® micropipette 100 - 1000 µl
- Tip-Box 0.5 - 20 µl
- Tip-Box 2 - 200 µl
- Tip-Box 50 - 1000 µl
- Rack mount (3x)
- Product & application brochure

Cat. No.: 33331

Starter Set "Classic"

Scope of delivery:

- VITLAB® micropipette 2 - 20 µl
- VITLAB® micropipette 20 - 200 µl
- VITLAB® micropipette 100 - 1000 µl
- Tip-Box 2 - 200 µl (2x)
- Tip-Box 50 - 1000 µl
- Rack mount (3x)
- Product & application brochure

Cat. No.: 33332

Starter Set "Maxi"

Scope of delivery:

- VITLAB® micropipette 100 - 1000 µl
- VITLAB® micropipette 500 - 5000 µl
- VITLAB® micropipette 1000 - 10000 µl
- Tip-Box 50 - 1000 µl
- Tip-Box 0.5 - 5 ml
- Tip-Box 1 - 10 ml
- Rack mount (3x)
- Product & application brochure

Cat. No.: 33333



VITLAB® micropipette

The micropipettes are conformity certified to DIN 12600, are CE-IVD compliant and are completely autoclavable at 121 °C (2 bar) acc. DIN EN 285.

Scope of delivery: VITLAB® micropipette, quality certificate, and instruction manual.

Volume µl	A* ≤ ± %	CV* ≤ %	Tip µl	PU	Cat. No.
0.5 - 10	1.0	0.5	20	1	1641000
2 - 20	0.8	0.4	200	1	1641002
10 - 100	0.6	0.2	200/300	1	1641004
20 - 200	0.6	0.2	200/300	1	1641006
100 - 1000	0.6	0.2	1000	1	1641008
500 - 5000	0.6	0.2	5000	1	1641010
1000 - 10000	0.6	0.2	10000	1	1641012

* Calibrated to deliver „Ex‘. * Accuracy and coefficient of variation based on the nominal volume (= maximum volume) printed on the instrument at the same temperature (20 °C) of instrument, environment, and distilled water, as well as uniform, jerk-free handling. The error limits in DIN EN ISO 8655-2 are satisfied.



VITLAB® micropipette -8/-12

The multichannel pipettes are conformity certified to DIN 12600, are CE-IVD compliant and are completely autoclavable at 121 °C (2 bar) acc. DIN EN 285.

Scope of delivery: VITLAB® micropipette -8 or -12, mounting tool for nose cones, silicone grease, 8 or 12 V-rings including instructions and mounting plus demounting tool, quality certificate and instruction manual.

Volume µl	A* ≤ ± %	CV* ≤ %	Tip µl	PU	Cat. No.
micropipette -8					
0.5 - 10	1.6	1.0	20	1	1608000
5 - 50	0.8	0.4	200	1	1608002
10 - 100	0.8	0.3	200/300	1	1608004
20 - 200	0.8	0.3	200/300	1	1608006
30 - 300	0.6	0.3	300	1	1608008
micropipette -12					
0.5 - 10	1.6	1.0	20	1	1612000
5 - 50	0.8	0.4	200	1	1612002
10 - 100	0.8	0.3	200/300	1	1612004
20 - 200	0.8	0.3	200/300	1	1612006
30 - 300	0.6	0.3	300	1	1612008

* Calibrated to deliver „Ex‘. * Accuracy and coefficient of variation based on the nominal volume (= maximum volume) printed on the instrument at the same temperature (20 °C) of instrument, environment, and distilled water, as well as uniform, jerk-free handling. The error limits in DIN EN ISO 8655-2 are satisfied.



Accessories for VITLAB® micropipettes

With the practical rack mount and freely rotatable bench-top stand, VITLAB® micropipettes can be stored safely and ready to use.

Description	PU	Cat. No.
Wall mount for 1 pipette	1	1672000
Bench-top stand for 6 singlechannel pipettes or 6 multichannel pipettes	1	1672002
Filter for pipette, 5 ml	25	1672010
Filter for pipette, 10 ml	25	1672012
Silicone oil for pipettes, up to 1000 µl	1	1672015
Silicone grease for pipettes, 5 ml / 10 ml and multichannel pipettes	1	1672016
Fluorostatic grease for multichannel pipettes	1	1670050

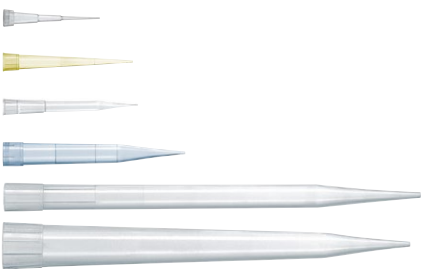


Reagent reservoir, non-sterile, PP

Transparent, with lid to guard against contamination and spilling out of contents during movement. Optimally suited for working with multichannel pipettes. Autoclavable at 121 °C (2 bar) according to DIN EN 285.

Volume ml	PU	Cat. No.
60	10	319099

Pipette tip selection guide
Which pipette tip will fit my VITLAB® micropipette?



Tip volume	Nominal volume VITLAB® micropipettes							Nominal volume VITLAB® micropipette -8/-12				
	10 µl	20 µl	100 µl	200 µl	1000 µl	5 ml	10 ml	10 µl	50 µl	100 µl	200 µl	300 µl
0.5 - 20 µl	◆							◆				
2 - 200 µl		◆	◆	◆					◆	◆	◆	
5 - 300 µl			◆	◆					◆	◆	◆	◆
50 - 1000 µl					◆							
0.5 - 5 ml						◆						
1 - 10 ml							◆					

NEW: Pipette tips free of DNA and RNase

VITLAB® pipette tips are manufactured in a state-of-the-art cleanroom and are automatically palletized and packaged. This ensures a high level of quality, so that all tips up to 1000 µl are **free of DNA (< 40 fg), RNase (< 8.6 fg) endotoxins (< 1 pg) and ATP (< 1 fg)**.

Only pure, high quality polypropylene, that is free of DiHEMA and oleamide, is used for the production of our tips. The tips are **manufactured without addition of plasticizers**. Coloured tips (e.g. yellow and blue, in bags) are, of course, only treated with cadmium-free colour pigments.

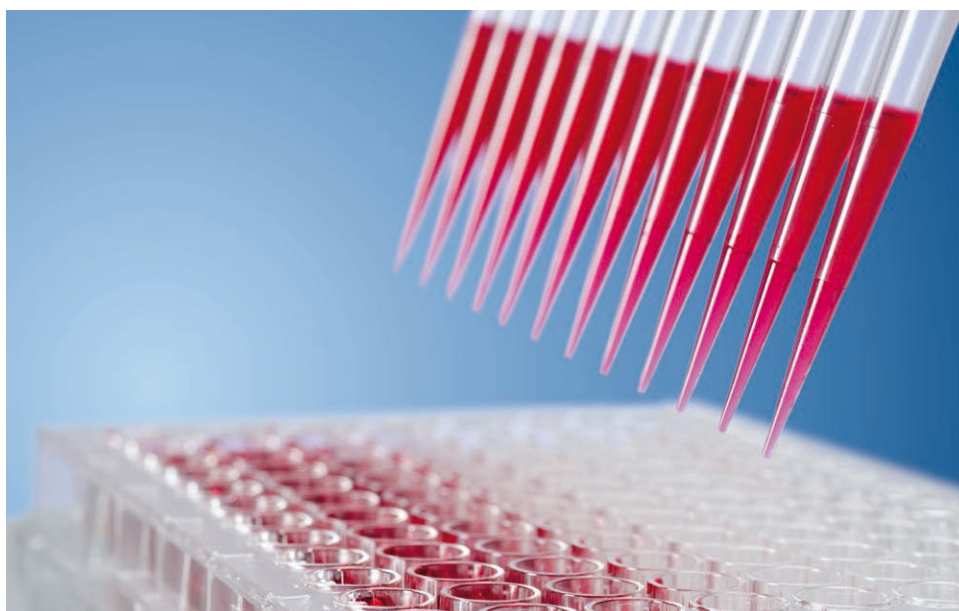
All tips up to 1000 µl are graduated and are autoclavable at 121 °C (2 bar) according to DIN EN 285.

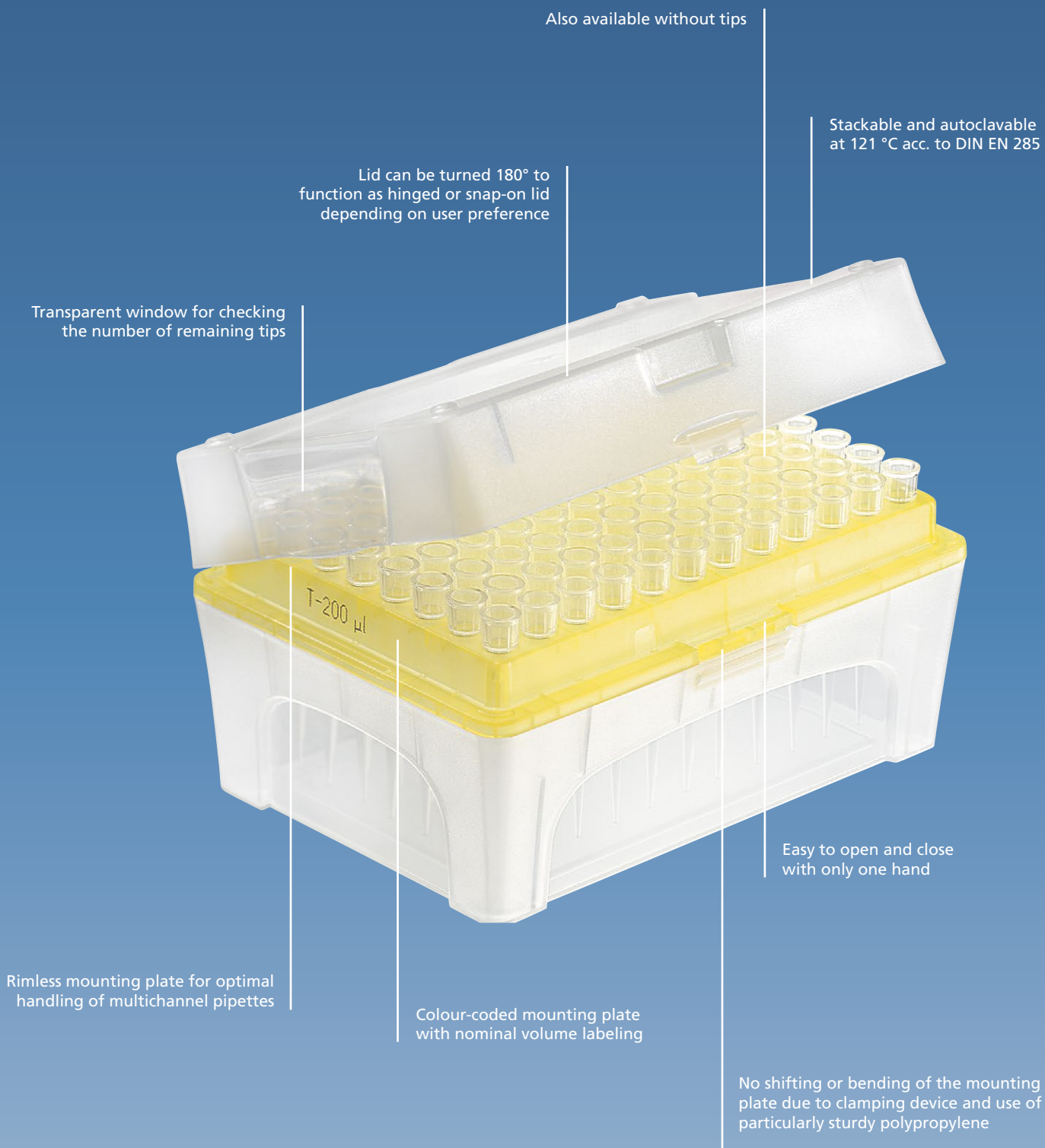
Optimised packaging system

To match the high quality of our pipette tips, the packaging system for the tips was also optimized and is now even more user-friendly. All components are produced in a cleanroom.

The new Tip-Box now has **two opening functions**: standard delivery is with a hinged lid which can be turned 180° and then used as a snap-on lid according to user preference. The box can be easily opened and closed with only one hand. New to the range are empty boxes that can be filled with VITLAB® tips by the user.

Bulk tips are now delivered in **resealable bags** to minimize the risk of contamination in the lab.





High purity

Applications in molecular biology and biochemical analysis require a high level of purity in order not to adulterate results of experiments. Molecules and enzymes such as DNA, RNases and endotoxins are very stable and cannot be completely inactivated or destroyed by sterilization procedures. RNases may even fold back after denaturation. When working with microorganisms and nucleic acids a common difficulty is their ubiquitous occurrence (on hands, in saliva); therefore, for example, it is essential to wear gloves. To avoid contamination with nucleic acids, proteins and microorganisms from human contact,

the production process of our pipette tips is largely automated in a cleanroom.

ATP is a good indicator for the presence or absence of biological contamination. It is a high-energy molecule that is produced by all living cells. Because of their ability to cut DNA or RNA, contamination with DNA, DNases and RNases can, for example, manipulate biomolecular amplification techniques such as PCR. To prevent enzymatic degradation, it is of major importance, that pipette tips are free of RNases.

Packaging variations

VITLAB® pipette tips remain available in the variations palletized in the Tip-Box and packed in bags. Additionally, empty Tip-Boxes for self-filling are available. Due to the new design and functionality, Tip-Boxes up to 1000 µl are stackable and their format now conforms to the common 96 (8x12) unit format.



NEW: Resealable bags

All tips up to 1000 µl are produced under cleanroom conditions, automatically shrink-wrapped in reclosable bags and packaged in cartons. The article number, volume range and lot number of the tips are printed on every bag.



NEW: Tip-Box (up to 1000 µl)

PP box with functional hinged and snap-on lid. For all volume ranges up to 1000 µl in practical 8x12 format. Stackable and autoclavable at 121 °C according to DIN EN 285.



Tip-Box 5/10 ml

PP box with fitted lid. Filled with 5 ml (28 pcs.) or 10 ml (18 pcs.) tips. The box is autoclavable at 121 °C according to DIN EN 285.

Pipette tips

VITLAB® pipette tips are made from high-quality polypropylene and are autoclavable at 121 °C (2 bar) according to DIN EN 285. The raw material used is free from additives such as DiHEMA (di(2-hydroxyethyl) methyl dodecyl ammonium) and oleamide (9-octadecenamide) that often cause interference, particularly in biological labs. All pipette tips up to 1000 µl in any packaging variation are from now on **free of DNA (< 40 fg), RNase (< 8.6 fg), endotoxins (< 1 pg) and ATP (< 1 fg)**.

The pipette tips are **conformity certified, CE marked according to the IVD guideline 98/79 EC** and optimally suited for VITLAB® micropipettes.

Furthermore, the tips are compatible with most pipette models from BRAND, GILSON®, Thermo Fisher Scientific FINNPIPETTE®, Eppendorf® and sartorius® Biohit®. The 5 ml tip is only tested for VITLAB, BRAND and Thermo Fisher Scientific FINNPIPETTE®. The 10 ml tip is only tested for VITLAB, BRAND, Eppendorf® and GILSON®. Note: Pipette shafts are subject to modification and should be checked before use. The fit depends on the manufacturer, pipette type, serial number, and date of manufacture, among other things.

Pipette tips, 0.5 – 20 µl



PP, non-sterile with graduation at 2 and 10 µl. Length: 46 mm. Slim tip for contact-free pipetting into microtiter plates. Tip-Box with gray mounting plate for easy identification; palletized tips are colourless.

Variation	Packaging	PU	Cat. No.
Bag, Standard	2 bags with 1000 tips	2000	148894
Bag, Maxi	10 bags with 1000 tips	10000	155494
Tip-Box, filled	Box with 96 tips on gray mounting plate	5	149794
Tip-Box, empty	Box with gray mounting plate, without tips	1	155400



Pipette tips, 2 – 200 µl



PP, non-sterile with graduation at 20 and 100 µl. Length: 50 mm. Tip-Box with yellow mounting plate for easy identification; palletized tips are colourless. Tips in bags are coloured yellow.

Variation	Packaging	PU	Cat. No.
Bag, Standard	1 bag with 1000 tips	1000	148994
Bag, Maxi	10 bags with with 1000 tips	10000	155694
Tip-Box, filled	Box with 96 tips on yellow mounting plate	5	149994
Tip-Box, empty	Box with yellow mounting plate, without tips	1	155600



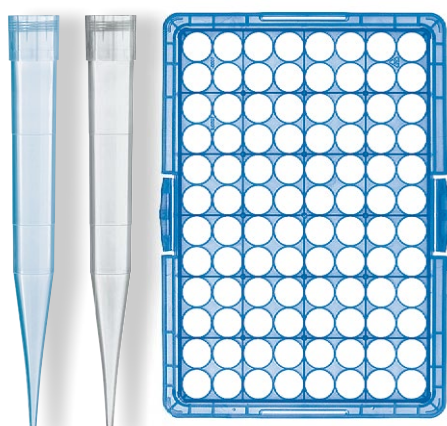


Pipette tips, 5 - 300 µl



PP, non-sterile with graduation at 50, 100 and 300 µl. Length: 53 mm. Also suitable for pipettes with yellow colour-code (see selection guide p. 10). Tip-Box with green mounting plate for easy identification; palletized tips are colorless. Tips in bags are also colorless.

Variation	Packaging	PU	Cat. No.
Bag, Standard	1 bag with 1000 tips	1000	149094
Bags, Maxi	10 bags with 1000 tips	10000	155894
Tip-Box, filled	Box with 96 tips on green mounting plate	5	150094
Tip-Box, empty	Box with green mounting plate, without tips	1	155800



Pipette tips, 50 - 1000 µl



PP, non-sterile with graduation at 250, 500 and 1000 µl. Length: 70 mm. Tip-Box with blue mounting plate; palletized tips are colorless. Tips in bags are coloured blue.

Variation	Packaging	PU	Cat. No.
Bags, Standard	2 bags with 500 tips	1000	149194
Bags, Maxi	10 bags with 500 tips	5000	155994
Tip-Box, filled	Box with 96 tips on blue mounting plate	5	150194
Tip-Box, empty	Box with blue mounting plate, without tips	1	155900



Pipette tips, 0.5 - 5 ml



PP, non-sterile. Length: 160 mm. Diameter: approx. 9.6 mm. Slim shape for pipetting into narrow vessels such as measuring flasks with NS 12/21.

Variation	Packaging	PU	Cat. No.
Bag, Standard	1 bag with 200 tips	200	146294
Tip-Box, filled	Box with 28 tips	1	150294



Pipette tips, 1 -10 ml



PP, non-sterile. Length: 156.5 mm. Diameter: approx. 15 mm.

Variation	Packaging	PU	Cat. No.
Bag, Standard	2 bags with 100 tips	200	146494
Tip-Box, filled	Box with 18 tips	1	150394

More information about VITLAB®?

We will be happy to send you
more information about

- VITLAB® laboratory products for volume measurement
 - VITLAB® laboratory products for saving and storing
 - VITLAB® catalogue with complete product range
- or
- the options for customized imprints on
VITLAB® laboratory products.

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