

Perfection in Liquid Handling

HIGHEST RELIABILITY IN DISPENSING



VITLAB 
Competence in Labware

VITLAB® Dispenser line: genius², simplex², and TA²

VITLAB® genius² and simplex² bottle-top dispensers are a family of instruments with proven precision that offer many advantages in routine liquid-handling operations. VITLAB® genius² and simplex² instruments can be used for practically any task and are suitable for organic and inorganic solutions, while VITLAB® TA² dispensers have been specially developed for use in trace analysis and with highly concentrated media. As they are produced from materials with extremely high chemical resistance (e.g. PTFE, PFA, FEP, borosilicate glass and platinum-iridium), VITLAB® bottle-top dispensers are very robust and reliable and resistant against most acids, bases and organic solvents.



	VITLAB® genius ² / simplex ² / simplex ² _{fix}	VITLAB® TA ²
Applications	Salt solutions, acids, bases, and many organic solvents	Specially for use in trace analysis for dispensing high-purity and highly concentrated acids and alkalis, as well as hydrogen peroxide, bromine and HF
Components in contact with media	Borosilicate glass, Al ₂ O ₃ -ceramic, FEP, ETFE, PFA, PTFE, platinum-iridium, PP (screw cap)	Various fluoroplastics (e.g., ETFE, FEP, PFA, PCTFE, PTFE), Al ₂ O ₃ -sapphire, platinum-iridium or tantalum (depending on the model)
Operating limits	Temperature: +15 °C to +40 °C Steam pressure: max. 600 mbar Viscosity: max. 500 mm ² /s Density: max. 2.2 g/cm ³	Temperature: +15 °C to +40 °C Steam pressure: max. 600 mbar Viscosity: max. 500 mm ² /s Density: max. 3.8 g/cm ³

* Dynamic viscosity [mPas] = kinematic viscosity [mm²/s] x density [g/cm³]

General guide for dispenser selection (for the classification of dispenser media, see page 18).

Salt solutions	Acids and bases	Solvents	High-purity and highly concentrated acids and bases	Hydrofluoric acid (HF), bromine, hydrogen peroxide
VITLAB® genius ² /simplex ²				
	VITLAB® genius ² /simplex ²			
			VITLAB® TA ²	

Dosing with precision and comfort

Drawing quantities of liquids from large supply bottles is a daily routine in the lab. This manual task must be carried out quickly, accurately, reproducibly, simply and safely.

The bottle-top dispensers VITLAB® genius² and simplex² are equipped with a positive displacement piston and a fluoroplastic (PFA) sealing lip on the cylinder wall. The latter acts as a “wind-screen wiper” to prevent crystal build-up on the

cylinder wall from readily crystallisable media. The telescopic filling tube can be adjusted smoothly to different bottle heights.

VITLAB® genius² and simplex² can both be calibrated within the scope of test equipment monitoring according to ISO 9001 and GLP guidelines (a change to the factory settings is indicated), and are autoclavable according to DIN EN 285 at 121 °C (2 bar) and DE-M marked.



NEW!

Improved volume adjustment for variable Dispensers VITLAB® genius² and simplex². Due to an interior scalloped track, changing the volume setting is now even faster. The volume selector locks in place and the volume is securely fixed.



NEW!

Also new is the screwable discharge valve that is equipped with an additional safety ball. If the discharge tube is not mounted, the safety ball closes the dispensing channel.



NEW!

The standard threading for every dispenser is GL 45. The dispensers can be screwed directly or with the help of the supplied adapters on all common lab bottles.

Bottle-top dispensers



NEW!

New is the discharge tube, which is available with (genius²) or without (simplex²) recirculation valve and can be easily exchanged, if required.

NEW!

The hinged closure cap is positioned in a way that it can swing completely out of the work area.



NEW!

Starting immediately, the ventilation plug is screwable. Therefore, a drying tube can be even more easily connected.

An extensive range of accessories allows the operator to use the dispensers for a variety of special applications.

- Serial Dispensing:

The flexible discharge tube facilitates the dosing of longer series. It can be used to fill narrow reaction vessels quickly and precisely.

- Dispensing sterile media:

The dispensers VITLAB® simplex² and genius² are completely autoclavable at 121 °C. A microfilter can be connected in order to filter the indrawn air flow.

- Dispensing of sensitive media:

The drying tube can protect sensitive media against humidity and CO₂.

Recommended usage ranges for VITLAB® genius² and VITLAB® simplex²:

Medium	Medium	Medium
O Acetaldehyde	O Cresol	O Methyl ethyl ketone
O Acetic acid, ≤ 96%	O Cumene (Isopropylbenzene)	O Methyl formate
O Acetone	O Cyclohexanone	O Methyl propyl ketone
O Acetonitrile	O Decane	O Mineral oil (Motor oil)
O Acetylacetone	O 1-Decanol	O Monochloroacetic acid, ≤ 50%
O Acrylic acid	O Diethylene glycol	I Nitric acid, ≤ 60%*/**
O Acrylonitrile	O Dibenzyl ether	O Nitrobenzene
O Adipic acid	O Dichlorobenzene	O Octane
O Allyl alcohol	O Dichloroethane	O Oleic acid
I Aluminium chloride	O Diethanolamine	O Oxalic acid
O Amino acid	O Diethyl ether	I Perchloric acid
I Ammonium chloride	O Diethylamine	O Petroleum
I Ammonium fluoride	O 1,2 Diethylbenzene	O Phenol
I Ammonium hydroxide, ≤ 20%	O Dimethyl sulphoxide (DMSO)	O Phenylethanol
I Ammonium sulphate	O Dimethylaniline	O Phenylhydrazine
O Amyl acetate	O Dimethylformamide (DMF)	I Phosphoric acid, ≤ 85%
O Amyl alcohol (Pentanol)	O 1,4 Dioxane	I Phosphoric acid, 85% + sulphuric acid, 98%, 1:1
O Amyl chloride (Chloropentane)	O Diphenyl ether	O Piperidine
O Aniline	O Ethanol	I Potassium chloride
I Barium chloride	O Ethanolamine	I Potassium dichromate
O Benzaldehyde	O Ethyl acetate	I Potassium hydroxide
O Benzene	O Formaldehyde, ≤ 40%	I Potassium permanganate
O Benzoyl chloride	O Formamide	O Propanol
O Benzyl alcohol	O Formic acid	O Propionic acid
O Benzyl chloride	O Gasoline	O Propylene glycol (Propanediol)
O Benzylamine	O Glacial acetic acid	O Propylene oxide
I Boric acid, ≤ 10%	O Glycerine	O Pyridine
O Bromobenzene	O Glycol (Ethylene glycol)	O Pyruvic acid
O Bromonaphthalene	O Glycolic acid, 50%	O Salicylaldehyde
O Butanediol	O Heating oil (Diesel oil)	O Salicylic acid
O 1-Butanol	O Hexane	O Silver acetate
O n-Butyl acetate	O Hexanoic acid	I Silver nitrate
O Butyl methyl ether	O Hexanol	O Sodium acetate
O Butylamine	I Hydrochloric acid, ≤ 37% **	I Sodium chloride
O Butyric acid	I Hydroiodic acid, ≤ 57% **	I Sodium dichromate
I Calcium carbonate	I Iodine / potassium iodide solution	I Sodium fluoride
I Calcium chloride	O Isoamyl alcohol	I Sodium hydroxide, ≤ 30%
I Calcium hydroxide	O Isobutanol	I Sodium hypochlorite
I Calcium hypochlorite	O Isopropanol (2-propanol)	I Sulphuric acid, ≤ 98%
O Chloroacetaldehyde, ≤ 45%	O Isopropyl ether	O Tartaric acid
O Chloroacetic acid	O Lactic acid	O Tetramethylammonium hydroxide
O Chloroacetone	I Magnesium chloride	O Toluene
O Chlorobenzene	I Mercury chloride	O Turpentine
O Chlorobutane	O Methanol	O Urea
O Chloronaphthalene	O Methoxybenzene	O Xylene
I Chromic acid, ≤ 50%	O Methyl benzoate	I Zinc chloride, ≤ 10%
I Chromic-sulphuric acid	O Methyl butyl ether	I Zinc sulphate, ≤ 10%
I Copper sulphate		

The above data have been carefully checked and reflect the current state of knowledge. Always follow the instructions for use that accompany the instrument as well as the reagent manufacturer's instruction manual. In addition to the chemicals listed above, solutions of a wide variety of organic or inorganic salts (e.g., biological buffers), biological detergents, and cell culture media can be dispensed. Should you require information on chemicals not listed, please do not hesitate to contact us. Last updated: 10/15.

* Use ETFE/PTFE bottle adapter

** Use drying tube

I Inorganic media

O Organic media

Bottle-top dispensers

VITLAB® genius²



Bottle-top dispenser with variable volume and recirculation system. DE-M marked.

Included in delivery: VITLAB® genius², 3 respectively 5 threaded adapters* made of PP, telescopic filling tube, recirculation tube, mounting tool, instruction manual, quality certificate.

Volume ml	Graduation ml	A** ≤ ± %	A** ≤ ± µl	CV** ≤ %	CV** ≤ µl	PU	Cat. No.
0.2 - 2.0	0.05	0.5	10	0.1	2	1	1625503
0.5 - 5.0	0.10	0.5	25	0.1	5	1	1625504
1.0 - 10.0	0.20	0.5	50	0.1	10	1	1625505
2.5 - 25.0	0.50	0.5	125	0.1	25	1	1625506
5.0 - 50.0	1.00	0.5	250	0.1	50	1	1625507
10.0 - 100.0	1.00	0.5	500	0.1	100	1	1625508



VITLAB® simplex²



Bottle-top dispenser with variable volume. DE-M marked.

Included in delivery: VITLAB® simplex², 3 respectively 5 threaded adapters* made of PP, telescopic filling tube, mounting tool, instruction manual, quality certificate.

Volume ml	Graduation ml	A** ≤ ± %	A** ≤ ± µl	CV** ≤ %	CV** ≤ µl	PU	Cat. No.
0.2 - 2.0	0.05	0.5	10	0.1	2	1	1621503
0.5 - 5.0	0.10	0.5	25	0.1	5	1	1621504
1.0 - 10.0	0.20	0.5	50	0.1	10	1	1621505
2.5 - 25.0	0.50	0.5	125	0.1	25	1	1621506
5.0 - 50.0	1.00	0.5	250	0.1	50	1	1621507
10.0 - 100.0	1.00	0.5	500	0.1	100	1	1621508



VITLAB® simplex²_{fix}



Bottle-top dispenser with fixed volume. DE-M marked.

Included in delivery: VITLAB® simplex²_{fix}, 5 threaded adapters* made of PP, telescopic filling tube, mounting tool, instruction manual, quality certificate.

Volume ml	Graduation ml	A** ≤ ± %	A** ≤ ± µl	CV** ≤ %	CV** ≤ µl	PU	Cat. No.
1.0	-	1.0	10	0.2	2	1	1622502
5.0	-	0.5	25	0.1	5	1	1622504
10.0	-	0.5	50	0.1	10	1	1622505

* Nominal volume 1 - 10 ml: with adapters GL 25, GL 28, GL 32, GL 38, S 40 and telescopic intake tube (length 125 - 240 mm).

Nominal volume 25 - 100 ml: with adapters GL 32, GL 38, S 40 and telescopic intake tube (length 170 - 330 mm).

** Accuracy and Coefficient of variation according to DIN EN ISO 8655-5





Bottles for VITLAB® genius² and simplex²

Reagent bottles made of Polypropylene. Transparent.
With screw cap made of PP.
Good chemical resistance, ideal for long-term storage of liquids.
Autoclavable at 121 °C (2 bar) according to DIN EN 285.
Food-safe products according to EU directive No. 10/2011.

Volume ml	Thread GL	Height mm	Ø mm	PU	Cat. No.
500	25	165	87	10	100589
500	45	172	87	10	101789
1000	32	202	108	10	100689
1000	45	197	105	10	102089
2000	32	245	131	6	100789
2000	45	241	131	6	102189



Threaded brown glass (soda lime glass) bottles with an ethylene acrylate coating for increased safety, and a screw cap. The plastic coating significantly reduces hazardous glass splintering during breakage. The maximum working temperature for coated bottles is 80 °C. To preserve the coating, do not clean at temperatures exceeding 60 °C.

Volume	Form	Bottle neck threads GL	PU	Cat. No.
100	round	GL 28	1	1671505
100	square	GL 32	1	1671506
250	square	GL 32	1	1671515
500	square	GL 32	1	1671520
1000	square	GL 45	1	1671500
2500	round	GL 45	1	1671510



Plastic stand for VITLAB® dispensers

For secure anchoring, made entirely of polypropylene for contamination-free operation (no metal).
Suitable for VITLAB® dispensers with screw coupling GL 45.
Stand rod: 300 mm; base: 220 x 160 mm; weight: 1,130 g.

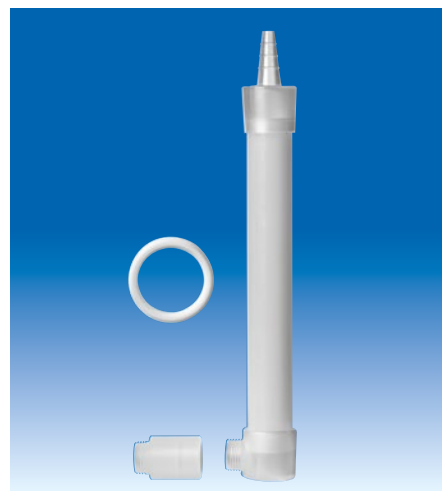
Description	PU	Cat. No.
Plastic stand	1	1671116

Bottle-top dispensers

Drying tube for VITLAB® genius² and simplex²

PP, transparent, unfilled, with sealing ring (PTFE).
Can directly be connected to every dispenser.

Description	PU	Cat. No.
Drying tube, PP, unfilled	1	1671090



Flexible discharge tube for VITLAB® genius² and simplex²

Coiled, made of FEP, approx. 80 cm length, with handle and recirculation valve made of PTFE. Includes handle and assembly instructions.

Description	PU	Cat. No.
Flexible discharge tube for simplex ² / genius ² 2, 5 and 10 ml	1	1678132
Flexible discharge tube for simplex ² / genius ² 25, 50 and 100 ml	1	1678134



Adapter for VITLAB® genius² and simplex²

For securely screwing the dispenser onto the reagent bottles with an NS neck, GL screw threading or an S buttress thread.

Description	External thread	Bottle neck threads	PU	Cat. No.
NS-adapter, PP	GL 32	NS 19/26	1	1670066
NS-adapter, PP	GL 32	NS 24/29	1	1670067
NS-adapter, PP	GL 32	NS 29/32	1	1670068
Thread adapter, PP	GL 32	GL 25	1	1670150
Thread adapter, PP	GL 32	GL 28	1	1670155
Thread adapter, PP	GL 32	GL 38	1	1670165
Thread adapter, PP	GL 32	GL 45	1	1670175
Thread adapter, PP	GL 32	S 40	1	1670170
Thread adapter, PP	GL 45	GL 32	1	1670180
Thread adapter, PP	GL 45	GL 38	1	1670110
Thread adapter, PP	GL 45	S 40	1	1670120





Telescopic filling tube for VITLAB® genius² and simplex²

Telescopic filling tube made of FEP, ETFE and PTFE.

Suitable for dispenser with nominal volume	Outer-Ø mm	Length mm	PU	Cat. No.
2/5/10 ml	6.0	70-140	1	1678210
2/5/10 ml	6.0	125-240	1	1678212
2/5/10 ml	6.0	195-350	1	1678214
2/5/10 ml	6.0	250-480	1	1678216
25/50/100 ml	7.6	170-330	1	1678218
25/50/100 ml	7.6	250-480	1	1678220



Sealing ring for the valve block for VITLAB® genius² and simplex²

Sealing ring for valve block made of PTFE for dosing highly volatile media.

Description	PU	Cat. No.
Sealing ring for valve block	1	1671683



Ventilation plug for micro filter for VITLAB® genius² and simplex²

PP, with Luer-cone and sealing ring (PTFE).

Description	PU	Cat. No.
Ventilation plug for micro filter	1	1671682

Bottle-top dispensers

VITLAB® TA²

DE-M

The VITLAB® TA² dispenser is the dosing device of choice to meet the demanding purity standards required in trace analysis. The high quality parts that come exclusively in contact with the medium and the specially developed and proven cleaning process to be done before use results in **a reduced release of trace metal ions to the low ppb range, or, depending on the application, even the ppt range**. The parts that are in contact with media are made of various fluoroplastics (e.g. ETFE, FEP, PFA, PTFE, PCTFE), Al₂O₃-sapphire, platinum-iridium or tantalum (depending on model).

Thanks to the excellent chemical resistance of the materials used, the new dispenser can also be deployed with **highly concentrated acids and bases**, such as perchloric, sulphuric and nitric acid. Depending on the application, there is a choice of two different valve spring systems: the VITLAB® TA² with tantalum spring is recommended for dosing of hydrogen peroxide (H₂O₂). For applications using sodium hydroxide (up to a max. concentration of 30%) or hydrogen fluoride (HF) the platinum-iridium spring is recommended. In order to minimize the loss of valuable reagents or sample solutions, VITLAB offers the dispenser with the optional recirculation valve. Also available with DAKKS calibration certificate.

Included in delivery:

VITLAB® TA² dispenser (screw thread GL 45) with adjustable variable volumes, DE-M marked, with quality certificate, telescopic filling tube, mounting tool, GL 28/S 28 (ETFE), GL 32 (ETFE), and S 40 (PTFE) bottle adapters, and instruction manual. Optionally with or without recirculation valve.

Volume ml	Valve spring	Recircu- lation	Graduation ml	A* ≤ ± %	CV* ≤ %	PU	Cat. No.
1.0 - 10.0	Pt-Ir	no	0.2	0.5	0.1	1	1627515
1.0 - 10.0	Pt-Ir	yes	0.2	0.5	0.1	1	1627525
1.0 - 10.0	Ta	no	0.2	0.5	0.1	1	1627535
1.0 - 10.0	Ta	yes	0.2	0.5	0.1	1	1627545

Error tolerance conforming to DIN EN ISO 8655-5, related to the nominal (maximum) volume marked on the device where the device, environment and distilled H₂O are at the same temperature (20 °C). Checks are done in accordance with DIN EN ISO 8655-6 with the device filled to capacity and with uniform and jolt-free dosing. Certified as conforming to DIN 12 600.



Recommended dispensing media for VITLAB® TA²

Dispensing medium	Valve spring: Pt-Ir	Valve spring: Ta
Acetic acid	+	+
Ammonia solution	+	+
Bromine	+	+
Hydrochloric acid	+	+
Hydrofluoric acid*)	+	-
Hydrogen peroxide	-	+
Nitric acid	+	+
Perchloric acid	+	+
Phosphoric acid	+	+
Sodium hydroxide, 30%	+	-
Sulphuric acid	+	+
Water	+	+

+ suitable / - unsuitable

*) Note: Hydrofluoric acid reacts slightly with sapphire resulting in slightly increased aluminium levels. To reduce these values we recommend discarding 3-5 dosings of 2 ml each before performing analysis.

Calibration mechanism for adjustment within the scope of test equipment monitoring

Fast, precise volume setting with practical screw mechanism

Easy handling using positive displacement plunger with PFA seal to prevent crystallisation

No loss of medium due to recirculation valve (optional)

Easy detachment and replacement of dosing unit due to modular design

Rotates freely 360° on bottle to align the label of the bottle with the touch panel

Extremely low release of trace metal content (in the ppb – ppt range) through use of high-purity contact parts

No dripping through use of discharge tube

Usable with a variety of bottle sizes using different adapters

Suitable for a variety of bottle heights using extendable telescopic intake tube

Bottle-top dispensers

Wide-mouth bottles, PFA



Transparent.

With screw cap made of PFA with buttress threads. Ideal for long-term storage of high-purity oxidants, acids, alkalis, as well as hydrocarbons, trace analysis solvents and standards.

Volume ml	Thread	Height mm	Ø mm	PU	Cat. No.
500	S 40	179	76	1	109597
1000	S 40	217	96	1	109697
2000	S 40	245	130	1	109797



Dispensing cartridge for VITLAB® TA²

Calibrated, including safety ring, with quality certificate. Nominal volume 10 ml.

Description	PU	Cat. No.
Dispensing cartridge	1	1670702



Plastic stand for VITLAB® TA²

For secure anchoring, made entirely of polypropylene for contamination-free operation (no metal). Stand rod: 300 mm; base: 220 x 160 mm; weight: 1,130 g.

Description	PU	Cat. No.
Plastic stand	1	1671116





Telescopic filling tube for VITLAB® TA²

Individually adjustable lengths.

Description	Length mm	PU	Cat. No.
Telescopic filling tube, FEP, PTFE	70 – 140	1	1678210
Telescopic filling tube, FEP, PTFE	125 – 240	1	1678212
Telescopic filling tube, FEP, PTFE	195 – 350	1	1678214
Telescopic filling tube, FEP, PTFE	250 – 480	1	1678216



Adapter for VITLAB® TA²

For securely screwing the dispenser onto reagent bottles with GL screw threading or an S buttress thread.

Description	External thread	Bottle neck threads	PU	Cat. No.
Thread adapter, ETFE	GL 32	GL 25	1	1670072
Thread adapter, ETFE	GL 32	GL 28	1	1670080
Thread adapter, ETFE	GL 32	GL 45	1	1670105
Thread adapter, ETFE	GL 45	GL 32	1	1670100
Thread adapter, ETFE	GL 45	GL 38	1	1670115
Thread adapter, PTFE	GL 45	S 40	1	1670125



Flexible discharge tube for VITLAB® TA²

Coiled, made of FEP, length approx. 80 cm, including collection tube and assembly instructions.

Not suitable for hydrofluoric acid (HF)!

Description	PU	Cat. No.
Flexible discharge tube for VITLAB® TA²	1	1678136

Bottle-top dispensers

VITLAB® piccolo

For dispensing tiny quantities of liquids in all areas of biochemical and medical research.

Even the **smallest quantities can be dispensed directly from the bottle** with the VITLAB® piccolo - a big help, particularly for serial dispensing operations. Special advantage: Disposable tips are unnecessary. This reduces costs.

The ergonomic design makes dispensing effortless and stress-free. The VITLAB® piccolo **can be operated with only one hand**. Use the thumb to depress the volume dispensing button, just as with a pipette, and a reset mechanism refills the volume automatically.

The discharge tube can be rotated over 360° so that it is always optimally situated with respect to the bottle label.

The VITLAB® bottletop dispensers piccolo 1 and piccolo 2 are used mainly in connection with aqueous and highly diluted agents. Only high-quality materials, such as PTFE, PFA, ETFE, FEP, borosilicate glass, and platinum-iridium come in contact with the media.

VITLAB® piccolo 1 with a fixed volume

VITLAB® piccolo 2 with two fixed volumes

Included in delivery:

VITLAB® piccolo 1 or 2 with GL 28 connecting threads, mounting tool, and instruction manual.



Type	Volume μl	A* ≤ ± %	CV* ≤ %	PU	Cat. No.
piccolo 1	100	3.0	0.4	1	1610501
piccolo 1	200	2.5	0.4	1	1610502
piccolo 1	250	2.0	0.4	1	1610503
piccolo 1	500	1.5	0.3	1	1610504
piccolo 1	1000	1.0	0.2	1	1610506
piccolo 2	100 / 250	2.0	0.4	1	1611503
piccolo 2	500 / 1000	1.0	0.2	1	1611506
piccolo 2	1000 / 2000	1.0	0.2	1	1611508

* Accuracy and coefficient of variation according to DIN EN ISO 8655-5

Other volumes available upon request.



Adapter for VITLAB® piccolo

For securely screwing the dispenser onto reagent bottles with GL screw threading.

Description	External thread	Bottle neck threads	PU	Cat. No.
Thread adapter, PP	GL 28	GL 32	1	1670145



Bottles for VITLAB® piccolo, PE-HD

Transparent. With screw cap made of PP. Space-saving due to the square cross-section and the high shoulders.

Volume ml	Thread	Height mm	Dimension mm	PU	Cat. No.
100	GL 32	78	46 X 46	24	92489
250	GL 28	80	80 X 80	24	91989
500	GL 32	106	90 X 90	12	92089
1000	GL 32	187	80 X 80	12	92189