

Dispensers

LabMax Bottle Top Dispenser

The first patented Bottle Top Dispenser that can be air purged without any loss of reagents. Three models are available, **LabMax** Standard for most acids, **LabMax S** for solvents, PTFE-swelling medias, and **LabMax HF** for hydrofluoric acid. Each unit is supplied with standard accessories for immediate mounting on bottles with a discharge tube. A range of additional accessories is available for both LabMax and Titrex 2000.



The "360 degree-turn" is already integrated.

No matter how tight you secure the LabMax – with or without the adapter – you can direct the discharge tube with 1 simple turn, wherever you wish to direct it, for example: above the label of the bottle which should always be visible when working with a dispenser.

The use of adapters for different bottle threads does not limit this function!



"Air purging" without problems or loss of reagents.

Turn the operation mode selector to the right at a 90° angle. A marker and the discharge tube will indicate the right position. Remove (purge) the air by several pumping actions. No reagent is lost as pumping is done in a closed loop.

If you do not wish to air exchange between reagent and room air, the LabMax is equipped with a bushing which allows the simple attachment of different filters as well as calcium chloride tubes or a check valve.

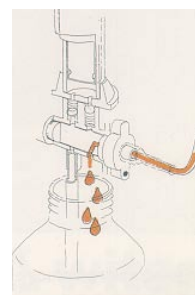
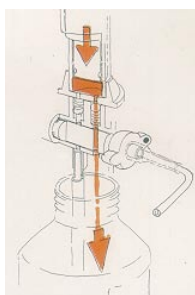
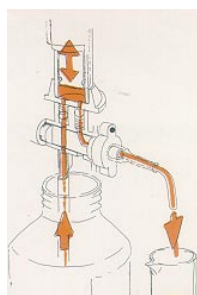


Easy and fastest possible volume selection.

A quick-adjust knob does volume adjustment. A sprocket sets the desired volume. Just push the knob, move to the desired volume and release.

If LabMax has to be disassembled for cleaning, it does not need to be re-adjusted after re-assembly; the zero point is part of the construction and is automatically calibrated.

Dispensers and Bottle-Top Titrators



Patented piston completely displaces the reagents with each stroke, smoothly and fatigue-free. The dispensing glass cylinder is protected by a transparent plastic coating, which allows the user to view and control the liquid in the glass cylinder. This protective cover also reduces the possibility of injury.

For environmental and cost factors, reagents can be transferred easily without loss. Turn the operation mode selector 90° to the right and the residual amount inside the cylinder will be pumped back into the bottle or container.

This also works well even if you have made a mistake in selecting the volume.

By turning the operation mode selector by 80°, all liquid in the discharge tube flows back into the bottle. It is almost impossible for any leakage to occur when it is in this position.

LabMax is completely shut down and no accidental discharge will occur by inadvertently moving the piston. This is clearly indicated by the position of the tube and the setting of the operation mode.



With calcium chloride and syringe filter

Number	Volume (ml)	Selection (ml)	Tolerance (ml)	V (ml)	Thread Size (mm)	Price
LabMax Standard						
5 370 001	0.3 – 2.5	0.05	±0.02	0.002	GL 32/33	290.00
5 370 002	1.0 – 5.0	0.10	±0.04	0.005	GL 32/33	290.00
5 370 003	2.0 – 10.0	0.20	±0.08	0.010	GL 32/33	290.00
5 370 004	5.0 – 25.0	0.50	±0.15	0.025	GL 45	399.00
5 370 005	10.0 – 50.0	1.00	±0.40	0.050	GL 45	535.00
5 370 006	25.0 – 100.0	2.00	±0.80	0.100	GL 45	635.00
LabMax S for Solvents and PTFE-Swelling Liquids						
5 370 013	2.0 – 10.0	0.20	±0.08	0.010	GL 32	290.00
5 370 014	5.0 – 25.0	0.50	±0.15	0.025	GL 45	425.00
5 370 015	10.0 – 50.0	1.00	±0.40	0.050	GL 45	535.00
LabMax HF						
5 370 023	2.0 – 10.0	0.20	±0.08	0.010	GL 32	795.00
5 370 024	5.0 – 25.0	0.50	±0.15	0.025	GL 45	1,095.00
Accessories for LabMax Dispensers and Titrex 2000						
5 377 310	Calcium Chloride Tube made of Borosilicate Glass for Moisture Protection					25.00
5 377 300	Check Valve made of Borosilicate Glass to protect the environment.					23.40
8 212 001	One-way Filter against Dust and Bacteria; ideal for microbiology.					5.50
5 375 002	Flexible Discharge PTFE Tube, 80 cm, for 2.5 – 10.0ml LabMax					30.56
5 375 012	Flexible Discharge PTFE Tube, 80 cm, for 25 – 100ml LabMax					53.07
5 497 300	Flexible Discharge PTFE Tube, 80 cm, for Titrex 2000					54.70

Bottle-Top Dispensers

Socorex® Digital Dispensers. The volume setting is 100% reliable. The fixed selector steps have been permanently calibrated at the factory. Unlike units with a sliding stop, where precision depends on operator skill, this dispenser will automatically deliver the volume within the tightest tolerances.

Features:

- Teflon coated plunger prevents plunger “freezing” when alkaline solutions are dispensed
- No risk of setting errors with the digital volume display. Volume selection is fast and easy: turn hand piece and vernier ring until desired volume appears
- The serial number on the dispenser indicates that each unit has been carefully assembled and individually tested for quality and performance
- Can be autoclaved at 121°C
- Calibrex® 520-002, 005 and 010 are user-calibratable



Number	Description	Price
501.02025	0.2-2ml Dispenser with 250ml amber glass reservoir	395.00
501.021	0.2-2ml Dispenser with 1000ml amber glass reservoir	410.00
501.022	0.2-2ml Dispenser with 2000ml amber glass reservoir	445.00
501.0505	0.4-5ml Dispenser with 500ml amber glass reservoir	395.00
501.051	0.4-5ml Dispenser with 1000ml amber glass reservoir	410.00
501.052	0.4-5ml Dispenser with 2000ml amber glass reservoir	445.00
501.101	1-10ml Dispenser with 1000ml amber glass reservoir	410.00
501.102	1-10ml Dispenser with 2000ml amber glass reservoir	445.00
501.302	1-30ml Dispenser with 2000ml amber glass reservoir	445.00
Calibrex® User Calibratable, Autoclavable Dispensers		
520.002	0-2ml Bottle Top Dispenser with 28, 40, 45mm adapters	365.00
520.005	0-5ml Bottle Top Dispenser with 28, 40, 45mm adapters	365.00
520.010	1-10ml Bottle Top Dispenser with 28,40, 45mm adapters	365.00
521.020	2-20.9ml Bottle Top Dispenser with 38, 40, 45mm adapters	625.00
521.050	5-59ml Bottle Top Dispenser with 38, 40, 45mm adapters	715.00
521.100	10-109ml Bottle Top Dispenser with 38, 40, 45mm adapters	880.00
Accessories:		
1.512	Luer delivery jet for 501 dispensers	25.73
1.523	Delivery extension tube for 501 series	55.50
1.524	Delivery extension tube for 511, 520 and 521 series	61.56
314.2500	*250ml Amber Glass bottle for 520 & 521 bottle top dispensers	15.00
314.0500PE	*500ml Amber Glass bottle for 520 & 521 bottle top dispensers (shatterproof)	18.00
314.1000C	*1000ml bottle for 520 & 521 bottle top dispensers, clear Duran glass	30.00
314.2500H	*2500ml Glass bottle with handle for 520 & 521 bottle top dispensers	35.00
314.0500P	500ml Flask for filter, Pyrex	60.00
320.SB050	*Workstation for 520 and 521 dispensers (for <50ml bottles)	120.00
GLPxx	Polypropylene adapter for use with 511, 520 or 521 dispenser, xx = size in mm	25.00
GLTxx	Teflon adapter for use with 511, 520 or 521 dispenser, xx = size in mm	75.00

*** Inquire about other sizes and styles**

Bottle-Top Dispensers

Optifix® Bottle-Top Dispensers. Precision instruments that offer problem free metering of the most aggressive liquids, with varying viscosity and density (even hydrofluoric acid). Select from 4 types for best results.

Features:

- Clear-AS-glass, vacuum calibrated precision cylinders.
- Easy to read distinct graduation and lettering.
- Valve block of pure PTFE with sapphire ball valves, thermally fitted in.
- Volume setting system provides microliter accuracy for precision metering.
- Chromium plated and PTFE-coated scale and thread spindle is protected against acid fumes and other aggressive media.



Number	Description	Price
Basic Dispenser, for Aqueous Solutions, Acids and Crystallizing Liquids.		
101080-20	Optifix Dispenser, 0.2 - 1.0 ml	365.00
101080-27	Optifix Dispenser, 0.4 - 2.0 ml	365.00
101080-33	Optifix Dispenser, 1.0 - 5.0 ml	365.00
101080-38	Optifix Dispenser, 2 - 10.0 ml	365.00
101080-44	Optifix Dispenser, 6 - 30.0 ml	545.00
101080-48	Optifix Dispenser, 10 - 50.0 ml	585.00
101080-51	Optifix Dispenser, 20 - 100.0 ml	775.00
101080-53	Optifix Dispenser, 40 - 200.0 ml	1,215.00
101080-56	Optifix Dispenser, 60 - 300.0 ml	1,485.00
101080-58	Optifix Dispenser, 100 - 500 ml	1,935.00
Solvent Dispenser, for Organic Solvents and PTFE Attacking Liquids		
101081-20	Optifix Dispenser, 0.2 - 1.0 ml	365.00
101081-27	Optifix Dispenser, 0.4 - 2.0 ml	365.00
101081-33	Optifix Dispenser, 1.0 - 5.0 ml	365.00
101081-38	Optifix Dispenser, 2 - 10.0 ml	365.00
101081-44	Optifix Dispenser, 6 - 30.0 ml	545.00
101081-48	Optifix Dispenser, 10 - 50.0 ml	585.00
101081-51	Optifix Dispenser, 20 - 100.0 ml	775.00
101081-53	Optifix Dispenser, 40 - 200.0 ml	1,215.00
101081-56	Optifix Dispenser, 60 - 300.0 ml	1,485.00
101081-58	Optifix Dispenser, 100 - 500 ml	1,935.00
Safety Dispenser for Strong Fuming Acids and Highly Odorous Liquids		
101107-27	Optifix Dispenser, 0.4 - 2.0 ml	495.00
101107-38	Optifix Dispenser, 2 - 10.0 ml	495.00
101107-48	Optifix Dispenser, 10 - 30.0 ml	795.00

Optifix® Hydrofluoric Acid Dispensers: Each dispenser is supplied with 3 polypropylene adapters (25mm, 38mm and 45mm), two PTFE intake tubes and 1 discharge set. A wide selection of adapters is available to enable the use of dispensers with a variety of containers.

Number	Description	Price
101106-38	Optifix HF Dispenser, 2 – 10ml	803.26
101106-44	Optifix HF Dispenser, 6 – 30ml	1,050.41

Number	Poly-P Adapters	Price
101090-25	25mm	17.00
101090-28	28mm	18.00
101090-30	30mm	28.00
101090-33	33mm	28.00
101090-36	36mm	30.00
101090-38	38mm	30.00
101090-40	40mm	34.00
101090-45	45mm	36.00
101090-55	55mm	40.00

Number	Teflon Adapter	Price
101091-25	25mm	75.00
101091-28	28mm	75.00
101091-30	30mm	75.00
101091-33	33mm	75.00
101091-36	36mm	75.00
101091-38	38mm	75.00
101091-40	40mm	75.00
101091-45	45mm	75.00
101091-55	55mm	75.00

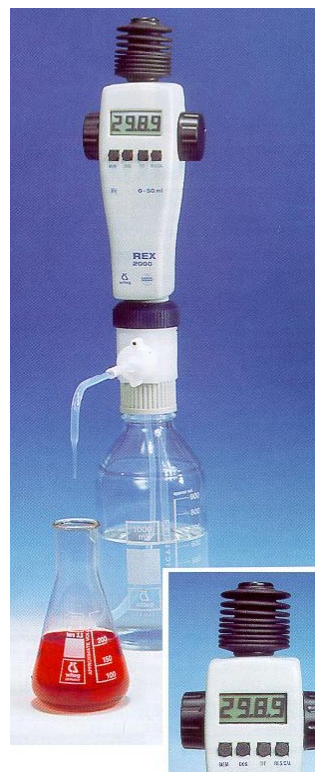
Dispensers: Dilutor/Dispensers and Macro Dispensers

Titrex 2000 Digital Burette

1 instrument covers a range from 0 – 50ml!

In using the Titrex 2000 you will recognize the changing point faster than with common glass burettes, and the Titrex 2000 is more sensitive and much less costly than motorized burettes. The dosing speed is adjusted when turning the hand-wheels step-less from fast to drop by drop.

- “Air Purging” without loss of reagent or contamination, as pumping can be performed in a closed circuit
- No more spills or reagent loss – with a turn of the operation mode selector the cylinder contents will be pumped back into the container
- A flashing indicator in the display warns when the battery must be re-charged, allowing remaining titrations to be unaffected
- Automatic power cut-off after 3 minutes
- Calibration is permanently adjusted to water at 20°C, yet the Titrex 2000 can be easily recalibrated for different viscosities/densities by pushing the “O/CAL” button & following the simple instructions in the manual
- Operating temperature: 0 to 40°C
- Standard or fine adjustment models available
- “Mem” key helps to avoid repeating complicated calculations



Number	Description	Volume range ml	Resolution	R <±%	V <±%	Price
5 497 050	Titrex, Buret Digital, Standard	0-50	0.01ml	0.2	0.1	856.76
5 497 150	Titrex, Buret Digital, Fine Adjustment	0-50	0.01ml	0.2	0.1	914.09
5 497 200	Titrex-Suction Tube, PTFE					11.94
5 497 300	Titrex-Flexible Discharge Tubing, PTFE					50.96
5 497 400	Titrex- Discharge Tube, PTFE					11.47
5 497 600	Titrex-Thread Adapter (reducing adapter GL45/GL32)					11.55

Several other fine liquid handling products are available for selection or purchase, including Bottle Top Burettes, Dispenser/Diluters and Liquid Processor. We also have Tips and Tubes for almost every application.

See our Contributtes™, Manual and Motorized Units as well as our Liquid Processor LIQ-PROC.

Contributtes™ is a Trade mark of M.Zipperer GmbH

Manually Operated Units:

Contiburette® μ 10 C / Contiburette® μ 20 C

These bottle top digital burettes are hand operated. Turning the hand wheel affect the delivery of liquid, the dispensed amount is shown on the display. Small dimensions and a low weight prevent a top-heavy system.

ISO 9001 and the GLP guidelines require routine regular checking (approx. every 3-12 months) and recalibration of measuring instruments. In order to facilitate and simplify this task, the Contiburettes® μ 10 C and μ 20 C are equipped with a calibration function.



	μ10C	μ20C
Sub-division:	20ul	20ul
Accuracy:	<= 0.1%	<= 0.1%
CV:	<= 0.1%	<= 0.1%
Calibration Function:	Yes	Yes
Temp. Range:	10-40°C	10-40°C
Power Supply:	2 AA Battery	2 AA Battery
Dimensions(mm):	135 x 23 x 60	135 x 23 x 60
Number	61791-01	61794-01
Price	\$931.80	\$931.80

Rotating the hand wheel enables these Contiburettes® to deliver dispensed liquid with an accuracy of 0.1%. The volume is displayed in the LCD with a resolution of 10 μ l for the Contiburette® μ 10 C and 20 μ l for the Contiburette® μ 20 C. The instruments work without any valves. They are powered by two 1.5 volt AA batteries, which give more than 500 hours continuous operation. Rechargeable batteries may also be used.

Small dimensions and a low weight prevent a top-heavy system. A variety of reservoir adaptors allow for mounting to every laboratory bottle.

All wetted parts are made of Al₂O₃ and ETFE (Tefzel), both provided with an excellent chemical resistance to almost all liquids in the lab. ISO 9001 and the GLP guidelines require regular checking (approx. every 3-12 months) and recalibration of measuring instruments. In order to facilitate and simplify this task, the Contiburettes® μ 10 C and μ 20 C are equipped with a calibration function.

Motor-driven Contiburettes

Contiburette® μ 1 MC / Contiburette® μ 10 MC Contiburette® μ 20 MC / Contiburette® μ 10 MCR / Contiburette® μ 20 MCR / Contiburette® μ 10 M0

These bottle-top digital burettes are motor-driven and are – like all CAT Liquid-handling systems – valveless.

The models MC and MCR are equipped with the calibration function just as the hand operated versions of the Contiburettes®. The models MCR additionally have a system to rinse the piston to avoid sticking.

All these motor driven bottle top burettes work without valves. The great advantage of this construction is that it results in minimum dead volume and negates the tendency to jam or leak. Small dimensions and a low weight prevent a top-heavy system. Wetted parts are all Al2O3 and Teflon plastics. They have an excellent chemical resistance to almost all liquids used in the lab.

ISO 9001 and the GLP guidelines require regular checking (approx. every 3-12 months) and recalibration of measuring instruments. In order to facilitate and simplify this task, the Contiburettes® of type MC and MCR have a calibration function. The Contiburette® is operated by means of front panel push levers:

- RUN (continuous run)
- STEP (dispenses a step volume of liquid with each activation of the lever)
- RESET (returns count on LCD to "0")
- RECALL (Shows the last value)
- UP / DOWN (Changes the displayed value in the calibration mode)
- A RS232 interface (1200-4800,8,N,1) is standard for the motorized Contiburettes® to operate them via PC.
- Alternatively the Remote controllers C2 und C4 are connected to this socket with two TTL inputs and a TTL output:
- “run” – gives a continuous flow
- “step” – dispenses the minimum step volume per keystroke
- “count” – on this pin a pulse is emitted per step volume

The models MCR additionally have a system to rinse the piston with a rinsing solution to avoid sticking. A variety of reservoir adaptors and other accessories are available.



Technical Specifications:

Models	μ 1MC	μ 10MC	μ 20MC	μ 1MCR	μ 10MCR	μ 10M0
Sub-division:	1.0ul	10ul	20ul	10ul	10ul	10ul
Accuracy:	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$
CV:	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$	$\leq 0.1\%$
Flow Rate Range:	1.8 ml/min	1.8 ml/min	35 ml/min	18 ml/min	35 ml/min	18 ml/min
Calibration Function:	Yes	Yes	Yes	Yes	Yes	Yes
Temp. Range:	10-40°C	10-40°C	10-40°C	10-40°C	10-40°C	10-40°C
Control Button:	Yes	Yes	Yes	Yes	Yes	
Cal. Button:	Yes	Yes	Yes	Yes	Yes	
RS-232:	Yes	Yes	Yes	Yes	Yes	
TTL Input	Yes	Yes	Yes	Yes	Yes	Yes
Integrated Rinsing:				Yes	Yes	
Power Supply:	9V DC	9V DC	9V DC	9V DC	9V DC	9V DC
Dimensions(mm):	Same	Same	Same	Same	Same	Same
Number:	61790-01	61792-01	61795-01	61793-01	61796-01	60293-01
Price:	\$1,291.50	\$1,275.00	\$1,462.00	\$1,351.00	\$1,351.00	\$1,078.00

Dispensers and Bottle-Top Titrators

Applications

Precise dosing of a set volume
Manual dispensing
Time-controlled dispensing
Titrating
Diluting
Regulated drop-dispensing
Sampling with and without an air-segment

The Liquid-processor® has incorporated software programs for many applications:

- * STANDARD DISPENSE – dosing of a preset volume
- * DILUTOR – diluting of a solution
- * PIPETTE - simulation of a pipette
- * DELAYED DISPENSE - an electronic dropping funnel



For high precision liquid dispensing straight from a bottle
Liquid-Processor LIQPROC

The system consists of a dispensing unit similar to the motorized Contiburette® in addition to a detachable microprocessor controlled programming and operating key-pad. The keypad has a 16-digit, 2-line backlit alphanumeric LCD display, showing both the set and actual volumes. There are 3 functions and 2 hot-keys, plus an analogue encoder-wheel, enabling fast data entry and intuitive adjustment of the set values. All relevant parameters, e.g. volume, flow-rate, flow direction, are input via the keypad, which can operate remotely when detached from the Liquid-processor®

A choice of units of volume and flow-rate can be pre-programmed, e.g. μl , ml, mg, g, $\mu\text{l/s}$, ml/min... . Wetted parts are all Al₂O₃ and Teflon plastics. They have an excellent chemical resistance to almost all liquids used in the lab. An ergonomically designed handset "Hand manipulator" enables one-handed remote sampling and dispensing of liquids. The 'Manual' function key is used to fill and empty the system. It also controls interactive dispensing, such as when finding a titration endpoint. In 'Manual' mode, the encoder-wheel is used to dispense the liquid, whilst the display shows the actual volume delivered. Initiation of the programs controlling applications such as diluting, dispensing and pipetting is done through the 'Program Select' key.

The Liquid-processor® has a RS232 interface as standard (1200-4800,8,N,1) and enables the remote control of all functions. via an exclusive In this configuration, a PC can access the Liquid-processor® address (daisy chain). This address is programmable for each unit. For quick and easy programming a Windows® Software program is available as an optional extra, to give the user instant PC control (CAT LabControl for Windows®, see Accessories).

Technical Specifications:

Subdivision	10ml
Max. Step Volume:	100 l
Min. Delay Time – in delay mode	1 s
Max. Delay Time – in delay mode	100 hrs
Min. Continuous Flow Rate:	0.113 ml/min
Min. Flow Rate Delay Mode:	10 ml/100 hr
Max. Flow Rate:	30 ml/min
Accuracy:	EV \leq 0.1%
Precision:	CV \leq 0.1%
Counter Pressure:	Up to 3 bar, depending on flow rate and viscosity
Time Programming:	1 sec to 100 hr
Inputs	1 digital input, TTL, 1 analog input (0.5v)
Outputs	1 digital TTL, 1 analog output (0.5v)
Serial Interface:	RS-232
Power Supply:	12 V, DC
Permissible Ambient Temp:	5-40°C within operating area, eg fume hood
Permissible Humidity:	80 % RH
Dimensions:	135 x 114 x 60 (mm, H x W x D)



Dispensers and Bottle-Top Titrators

Number	Description	Price
61790-01	μ1MC Contriburette Motorized Burette	1,291.50
61792-01	μ10MC Contriburette Motorized Burette	1,275.00
60298-01	μ20MC Contriburette Motorized Burette	1,350.00
61793-01	μ1MCR Contriburette Motorized Burette with Piston Rinse Device	1,351.00
61796-01	μ10MCR Contriburette Motorized Burette with Piston Rinse Device	1,351.00
60293-01	μ10MO Contriburette Motorized with Remote Controller	1,078.00
LIQ-PROC	LIQ-PROC Liquid Processor	1,835.75
60731-01	Power Supply, 9V for Manual Burette	69.00
60733-01	Power Supply 12 V for Liquid Processor	69.00
60721-01	Connecting Cable for direct connection of MC and MCR to a serial port	201.25
60728-01	Connecting Cable for direct connection of LIQ-PROC to a serial port	201.25
60642-01	RS232 Cable for Liquid Processor	17.50
60719-01	TTL Connecting Cable for Motorized Burette	30.65
60718-01	Connecting Cable with Software for U10MO for PC Remote Use	201.25
60729-01	Y-Cable	76.30
60709-01	LabControl Software for Windows	540.75
60715-01	Hand Manipulator with Mounting Device for Liquid processor	148.75