

Liquid Handling catalog



Liquid Handling

 made
in
Germany

DIN EN ISO
DE-M



Witeg Labortechnik GmbH is one of the **leading manufacturers** and suppliers of **laboratory glassware, custom-built glassware, liquid handling articles, electronic witeg instruments and equipment.**

Witeg Labortechnik GmbH was founded in the year 1960 to develop glass devices. Nowadays, we can offer beside glass articles almost everything for the laboratories. The products fulfil the very high demands in the chemical, pharmaceutical and medical sectors and are delivered to **more than 100 countries worldwide.** Our actual product range covers **more than 30.000 products** which are **mostly ex stock** available.



Our company`s philosophy is preliminary **quality for the customer.** The **quality management system** of witeg Labortechnik has been officially **certified** already in 1994 by the **DIN EN ISO 9001** to guarantee the highest international quality standards. We permanently perform investment in qualified and engaged employees to reach the optimum level of quality. Furthermore, we emphasize to make use of latest computer-aided equipment and technique which is necessary to obtain best performance and utmost quality.



Bottle-top dispenser

Choose the right dispenser for your application

		LABmax premium	LABmax eco	LABmax airless	LABmax airless HF	MINISPENSOR	TITREX
Suitability	Aqueous solutions	X	X	X	X	X	X
	Crystalline solutions	X	X			X	X
	Solvents	X*	X*	X	X	X*	X*
	HF				X		
Volume setting	Quick-lock knob	X	X			X	
	Adjustment screw			X	X		
Special features	Air-purging	X	X	X	X		X
	180° drip-free system	X	X	X	X		X
	Zero loss of reagent	X	X				X
	360° safety turn	X	X	X	X		X
	Built-in recalibration	X					X
Autoclavable	at 121°C	X	X	X	X	X	X**
Dispensing system	Direct displacement	X	X			X	X
	Contactless piston			X	X		
Certifications	Individual certificate	X	X	X	X	X	X
	DE-M marked	X	X	X	X	X	X

*For detailed information regarding the chemical resistance of the dispenser, please see page 16.

**Only valve block autoclavable.



LABmax premium

The universal dispenser **LABMAX premium** has a sophisticated system which allows air purging and draining without any loss of reagent! Due to the direct displacement system **LABMAX premium** is ideal for crystalline solutions. We improved the adjust knob for a quick and precise volume setting. In addition, we added the built-in recalibration mechanism.

Screw mechanism for easy recalibration of the piston

Quick-adjust knob for precise and fast volume setting

Piston with PTFE protected Viton O-ring completely displaces the liquid during dispensing

Glass cylinder with protective plastic coating for clear view of the liquid

Screw cap for complete disassembly and easy cleansing of the piston and cylinder

Rotatable discharge tube with protective sleeve

0° Dosing mode
90° Air-purging mechanism
180° Drip-free rest position
ZERO LOSS OF REAGENT

Liquid Handling



360° rotatable valve block
- the label of the reagent bottle is always visible



Premium Design - Premium Performance - Premium Quality

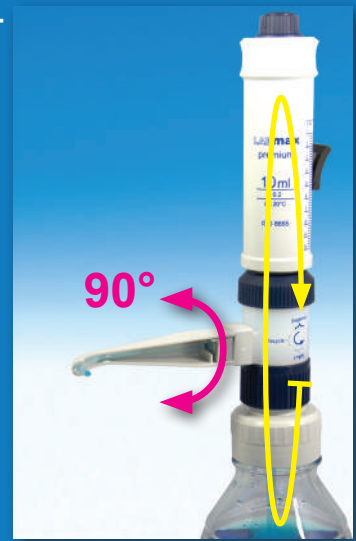


Quick and precise volume setting

Adjusting the volume of **LABMAX premium** is now even simpler: Just push the re-designed quick-adjust knob – slide to the desired volume– release – that’s all! Moreover, two scales are printed on the dispenser for adjustments in milliliter or ounces.

Perfect air-purging mechanism for 0% reagent loss

Turn the discharge tube at 90°. Remove (purge) trapped air without reagent loss by pumping in a closed circuit: The reagent flows back into the bottle! After pumping 2 - 3 times the dispenser is free of air and ready to use. This special feature helps not only to save residual reagent but also when accidentally setting the wrong volume!



Easy and fatigue-proof dispensing

Turn the discharge tube into the dosing mode and enjoy dispensing with **LABMAX premium**. The piston of **LABMAX premium** completely discharges the reagent with each stroke. The dispensing glass cylinder is protected with a transparent plastic coating which allows the user to view the liquid in the glass cylinder. The protective coating also reduces the risk of breakage!

100% drip-free system for your safety

By turning the discharge tube at 180° all liquid flows back into the bottle. **LABMAX premium** is completely closed and no accidental discharge can occur by inadvertently moving the piston. There is absolutely no dripping possible!



360°-turn for your added safety

No matter how much you tighten **LABMAX premium**, you can always redirect the discharge tube by simply turning the valve block to the desired position. This way the label of the bottle is always visible. This feature works for all our adapters. Adapters for different bottle threads can remain on the bottle.

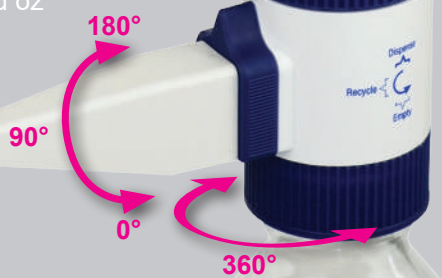
“Do-it-yourself” recalibration for a long life time

If you use **LABMAX premium** as a measuring device in conformity to ISO 9001 and GLP, you may also want to control and monitor its accuracy and reliability. The piston can easily be recalibrated by turning an internal screw!



Liquid Handling
made
in
Germany**NEW****Built-in recalibration****Zero loss of reagent**

scale for ml and oz



6 sizes: 0.25-100ml

Your advantage at a glance:

- high-quality precision instrument, made in Germany
- **best in its class performance, most competitive pricing**
- highest accuracy and precision, our error ranges are better than the DIN EN ISO 8655-5 requirements
- **all-purpose dispenser, universal chemical compatibility**
- direct displacement piston system, ideal for crystalline solutions
- **built-in recalibration mechanism including calibration tool**
- robust and stable, made of high quality materials e.g. platinum springs
- 0% loss of reagent by pumping in a closed circuit
- 100% drip-free due to our unique anti-drip system
- 360° rotatable valve block for added safety
- with 2 scales - for measurements in millilitre and ounces
- one handed operation
- flexible by using different bottle adapters
- easy to clean, completely autoclavable at 121°C
- telescopic suction tube included in scope of supply
- individual certificate and serial number
- DE-M marked according to the German calibration law

LABmax premium

Volume ml	Division ml	Systematic errors ± ml	Random errors ≤ ml	Thread GL	Order number
0.25 - 2.5	0.05	0.012	0.002	32	5 370 901
0.5 - 5.0	0.10	0.03	0.005	32	5 370 902
1.0 - 10.0	0.20	0.06	0.01	32	5 370 903
2.5 - 25.0	0.50	0.15	0.025	45	5 370 904
5.0 - 50.0	1.00	0.3	0.05	45	5 370 905
10.0 - 100.0*	2.00	0.5	0.1	45	5 370 906

Scope of supply

LABmax premium, telescopic suction tube, discharge tube, instruction manual, calibration tool, individual certificate, serial number, thread adapter (2.5/5.0/10.0 ml: A25, A28, A45, S40 | 25.0/50.0/100.0 ml: A25, A28, A32/45, S40)

Parts in contact with reagent:

The components having direct contact with the reagent are made of chemical resistant materials: platinum spring, ceramic valve balls, PTFE piston, borosilicate glass 3.3 cylinder, borosilicate glass 3.3 valve

* 100 ml version with adjustment screw for volume setting

The economical and ecological way to dispense

Dispensing with **LABMAX eco** is both economic and ecologically friendly. This standard-dispenser is usable for nearly all liquid dispensing applications in the lab and is especially **ECO**nomically priced. Use the “recycling mode” for an **ECO**logical air-purging and draining without any loss of reagent!

Quick and precise volume setting

Adjusting the volume of **LABMAX eco** is very simple: Just push the quick-adjust knob – slide to the desired volume– release – that’s all!



Perfect air-purging mechanism for 0% reagent loss

Turn the discharge tube at 90°. Remove (purge) trapped air without reagent loss by pumping in a closed circuit: The reagent flows back into the bottle!

After pumping 2 - 3 times the dispenser is free of air and ready to use.

This special feature helps not only to save residual reagent but also when accidentally setting the wrong volume!



360°-turn for your added safety

No matter how much you tighten **LABMAX eco**, you can always redirect the discharge tube by simply turning the valve block to the desired position. This way the label of the bottle is always visible.

This feature works for all our adapters. Adapters for different bottle threads can remain on the bottle.



100% drip-free system for your safety

By turning the discharge tube at 180° all liquid flows back into the bottle. **LABMAX eco** is completely closed and no accidental discharge can occur by inadvertently moving the piston.

There is absolutely no dripping possible!



Liquid Handling
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in
Germany

7 sizes: 0.25-250ml

Your advantage at a glance:

- high quality precision instrument, made in Germany
- **all-purpose dispenser, universal chemical compatibility**
- highest accuracy and precision, our error ranges are better than the DIN EN ISO 8655-5 requirements
- most affordable price in its class
- direct displacement piston system, ideal for crystalline solutions
- robust and stable, made of high quality materials e.g. platinum springs
- **0% loss of reagent by pumping in a closed circuit**
- **100% drip-free due to our unique anti-drip system**
- 360° rotatable valve block for added safety
- one handed operation
- flexible by using different bottle adapters
- easy to clean, completely autoclavable at 121°C
- 250ml dispenser available
- individual certificate and serial number
- DE-M marked according to the German calibration law

LABmax eco

Volume ml	Division ml	Systematic errors ± ml	Random errors ≤ ml	Thread GL	Order number
0.25 - 2.5	0.05	0.012	0.002	32	5 370 001
0.5 - 5.0	0.10	0.03	0.005	32	5 370 002
1.0 - 10.0	0.20	0.06	0.01	32	5 370 003
2.5 - 25.0	0.50	0.15	0.025	45	5 370 004
5.0 - 50.0	1.00	0.3	0.05	45	5 370 005
10.0 - 100.0*	2.00	0.5	0.1	45	5 370 006
25.0 - 250.0**	5.00	1.2	0.25	45	5 370 007

Scope of supply

LABmax eco, suction tube, discharge tube, instruction manual, individual certificate, serial number, thread adapter (2.5/5.0/10.0 ml: A25, A28, A45, S40 | 25.0/50.0/100.0 ml: A25, A28, A32/45, S40 | 250 ml: A25, A28, A32/45, A38, S40)

Parts in contact with reagent:

The components having direct contact with the reagent are made of chemical resistant materials: platinum spring, ceramic valve balls, PTFE piston, borosilicate glass 3.3 cylinder, borosilicate glass 3.3 valve

* 100 ml version with adjustment screw

** 250 ml version with adjustment screw and **no** air-purging mechanism

The specialist for solvents with automatic air-purging

The universal-dispenser **LABMAX airless** is equipped with an automatic air-purging system: your dispenser is ready to use after no more than two dosings. The contact-less piston system allows smooth and easy dispensing and makes this dispenser ideal for solvents.



360°-turn for your added safety

No matter how much you tighten **LABMAX airless**, you can always redirect the discharge tube by simply turning the valve block to the desired position. This way the label of the bottle is always visible.

This feature works for all our adapters. Adapters for different bottle threads can stay on the bottle!

100% drip-free system for your safety

By turning the discharge tube at 180° all liquid flows back into the bottle.

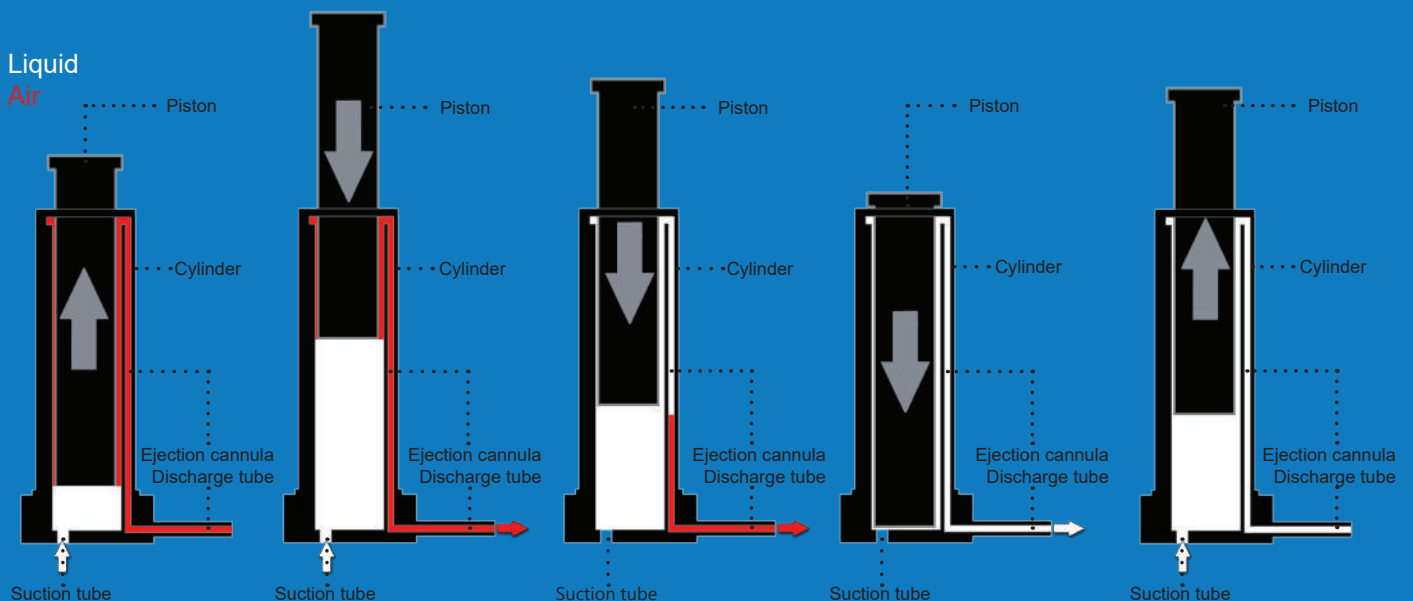
LABMAX airless is completely closed and no accidental discharge can occur by inadvertently moving the piston.

There is absolutely no dripping possible!



Automatic air-purging

To ensure accurate volume it is necessary that the device is free from air before dispensing. All **LABMAX airless** models have an automatic air purging system. Air, lighter than liquid, passes off the device automatically through the special ejection channel and discharge tube. A contamination of the bottle content is not possible.





Specialist for solvents



6 sizes: 0.25-100ml

Your advantage at a glance:

- high quality precision instrument, made in Germany
- all-purpose dispenser with automatic air-purging, ideal for solvents
- **contactless piston system, ideal for PTFE swelling solvents**
- highest accuracy and precision, our error ranges are better than the DIN EN ISO 8655-5 requirements
- robust and stable, made of high quality materials e.g. platinum springs
- **100% drip-free due to our unique anti-drip system**
- 360° rotatable valve block for added safety
- one handed operation
- flexible by using different bottle adapters
- easy to clean, completely autoclavable at 121°C
- individual certificate and serial number
- DE-M marked according to the German calibration law

LABmax airless

Volume ml	Division ml	Systematic errors ± ml	Random errors ≤ ml	Thread GL	Order number
0.25 - 2.5	0.05	0.012	0.002	32	5 370 801
0.5 - 5.0	0.10	0.03	0.005	32	5 370 802
1.0 - 10.0	0.20	0.06	0.01	32	5 370 803
2.5 - 25.0	0.50	0.15	0.025	45	5 370 804
5.0 - 50.0	1.00	0.3	0.05	45	5 370 805
10.0 - 100.0	2.00	0.5	0.1	45	5 370 806

Scope of supply

LABmax airless, suction tube, discharge tube, instruction manual, individual certificate, serial number, thread adapter (2.5/5.0/10.0 ml: A25, A28, A45, S40 | 25.0/50.0/100.0 ml: A25, A28, A32/45, S40)

Parts in contact with reagent:

The components having direct contact with the reagent are made of chemical resistant materials: platinum spring, ceramic valve balls, PTFE cylinder, borosilicate glass 3.3 piston, borosilicate glass 3.3 valve

The specialist for hydrofluoric acid with automatic air-purging

LABMAX airless HF is a special dispenser for hydrofluoric acid (HF). The components which have direct contact with the acid are made of HF-resistant materials. **LABMAX airless HF** is equipped with an automatic air-purging system: Your dispenser is ready to use after no more than two dosings.



360°-turn for your added safety

No matter how much you tighten **LABMAX airless HF**, you can always redirect the discharge tube by simply turning the valve block to the desired position. This way the label of the bottle is always visible. This feature works for all our adapters. Adapters for different bottle threads can stay on the bottle!

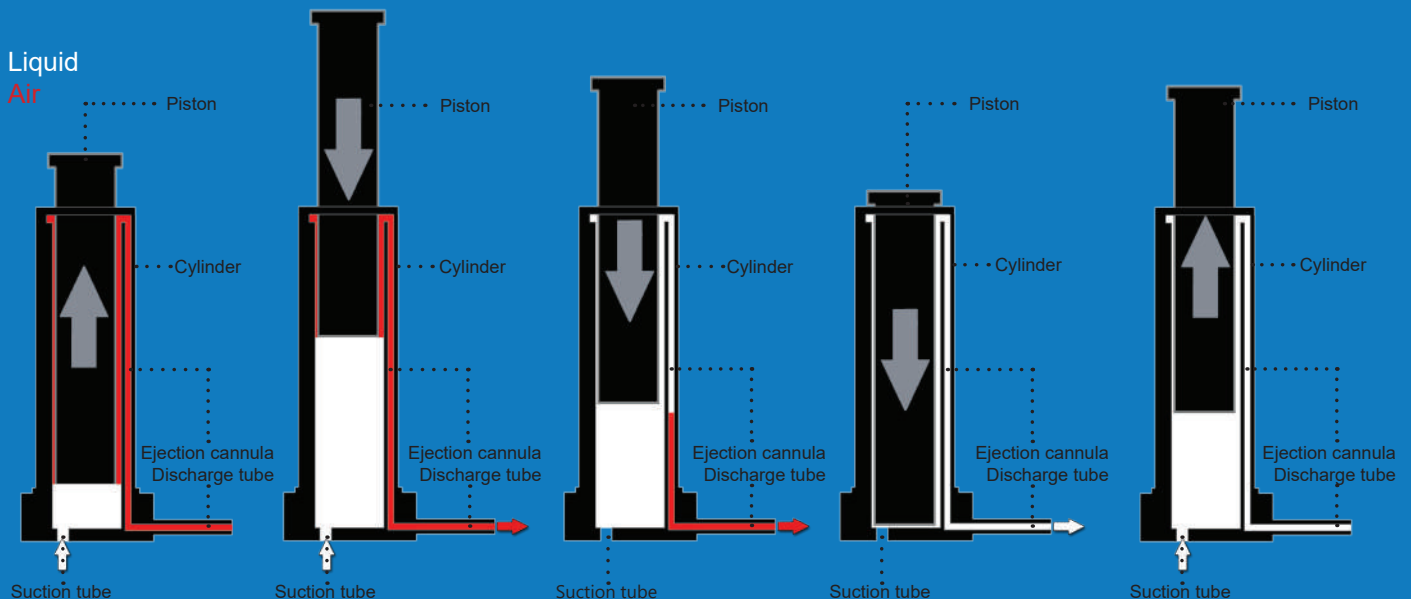
100% drip-free system for your safety

By turning the discharge tube at 180° all liquid flows back into the bottle. **LABMAX airless HF** is completely closed and no accidental discharge can occur by inadvertently moving the piston. There is absolutely no dripping possible!



Automatic air-purging

To ensure accurate volume, it is necessary that the device is free from air before dispensing. All **LABMAX airless HF** models have an automatic air purging system. Air, lighter than liquid, passes off the device automatically through the special ejection channel and discharge tube. A contamination of the bottle content is not possible.





3 sizes: 1-50ml

Your advantage at a glance:

- high quality precision instrument, made in Germany
- **special dispenser, ideal for hydrofluoric acid**
- highest accuracy and precision, our error ranges are better than the DIN EN ISO 8655-5 requirements
- **robust and stable, made of high quality materials e.g. platinum spring, ruby valve balls, sapphire valve, PTFE**
- 100% drip-free due to our unique anti-drip system
- 360° rotatable valve block for added safety
- one handed operation
- flexible by using different bottle adapters
- easy to clean, completely autoclavable at 121°C
- individual certificate and serial number
- DE-M marked according to the German calibration law

LABmax airless HF suitable for hydrofluoric acid

Volume ml	Division ml	Systematic errors ± ml	Random errors ≤ ml	Thread GL	Order number
1.0 - 10.0	0.20	0.06	0.01	32	5 370 823
2.5 - 25.0	0.50	0.15	0.025	45	5 370 824
5.0 - 50.0	1.00	0.3	0.05	45	5 370 825

Scope of supply

LABmax airless HF, suction tube, discharge tube, instruction manual, individual certificate, serial number, thread adapter (10.0 ml: A25, A28, A45, S40 | 25.0/50.0 ml: A25, A28, A32/45, S40)

Parts in contact with reagent:

The components having direct contact with the reagent are made of chemical resistant materials: platinum spring, ruby valve balls, sapphire valve, PTFE cylinder, PTFE piston

The economical and ecological alternative to microliter pipettes

The **MINISPENSOR** is ideal for long pipetting series where you need a fixed micro-volume. In contrast to fixed volume microliter pipettes, no pipette tips are required. There are four color-coded models available, with two definite volumes in a range of 50 μ l to 2000 μ l. You can simply change the dispensing volume to 50% by turning the push button.

Volume setting



Each **MINISPENSOR** is able to dispense two definite volumes. They are easy to set: Just push and turn the button at 180°.

Dispensing system



The direct displacement system of the **MINISPENSOR** is for universal use and ideal for crystalline solutions.

One handed dispensing



The **MINISPENSOR** can easily be used with just one hand.

“Pipetting” without tips

Liquid Handling
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in
Germany



4x2 Fix-volumina

Your advantage at a glance:

- high quality precision instrument, made in Germany
- **alternative to microliter pipettes - no tips required!**
- suitable for most liquids, ideal for crystalline solutions
- highest accuracy and precision according DIN EN ISO 8655-5 requirements
- direct displacement piston system
- comfortable handling for larger pipetting series
- four color-coded models available
- easy volume setting, two definite volumes each dispenser
- easy to clean, autoclavable at 121°C
- suitable for safe storage in a fridge
- automatic refilling, one handed operation
- individual certificate and serial number
- DE-M marked according to the German calibration law

MINISPENSOR

Volume µl	Systematic errors ± µl	Random errors ≤ µl	Color	Thread GL	Order number
50 + 100	1.5	0.3	yellow	32	5 371 101
250 + 500	5	1	red	32	5 371 525
500 + 1000	6	2	blue	32	5 371 950
1000 + 2000	12	4	green	32	5 371 990

Scope of supply

MINISPENSOR, 100ml bottle with safety coating (GL 28), instruction manual, individual certificate, serial number, thread adapter (GL 28/GL 32)

Parts in contact with reagent:

The components having direct contact with the reagent are made of chemical resistant materials: ceramic valve balls, PTFE piston, borosilicate glass 3.3 cylinder, borosilicate glass 3.3 valve

DISPENSER LABMAX

Areas of application / chemical compatibility list

Reagent	Premium	Airless	ECO Minisensor
Acetaldehyde	*	*	*
Acetic acid 100%	*	*	*
Acetic acid 96%	*	*	*
Acetic anhydride	*	*	*
Acetone	*	*	*
Acetonitrile	*	*	*
Acetophenone	*	*	*
Acetylacetone	*	*	*
Acetyl chloride	*	*	*
Acrylic acid	*	*	*
Acrylonitrile	*	*	*
Adipic acid	*	*	*
Allyl alcohol	*	*	*
Aluminium chloride	*	*	*
Amino acids	*	*	*
Ammonia 20%	*	*	*
Ammonia 20-30%	*	*	*
Ammonium chloride	*	*	*
Ammonium fluoride	*	*	*
Ammonium sulfate	*	*	*
n-Amyl acetate	*	*	*
Amyl alcohol	*	*	*
Amyl chloride	*	*	*
Aniline	*	*	*
Barium chloride	*	*	*
Benzaldehyde	*	*	*
Benzol	*	*	*
Benzene	*	*	*
Benzoyl chloride	*	*	*
Benzyl alcohol	*	*	*
Benzylamine	*	*	*
Benzylchloride	*	*	*
Boric acid 10%	*	*	*
Bromobenzene	*	*	*
Bromonaphthalene	*	*	*
Butanediol	*	*	*
1-Butanol	*	*	*
n-Butyl acetate	*	*	*
Butyl methyl ether	*	*	*
Butylamine	*	*	*
Butyric acid	*	*	*
Calcium carbonate	*	*	*
Calcium chloride	*	*	*
Calcium hydroxide	*	*	*
Calcium hypochlorite	*	*	*
Carbon tetrachloride	*	*	*
Chloro naphthalene	*	*	*
Chloroacetaldehyde 45%	*	*	*
Chloroacetic acid	*	*	*
Chloroacetone	*	*	*
Chlorobenzene	*	*	*
Chlorobutane	*	*	*
Chloroform	*	*	*
Chlorosulfonic acid	*	*	*
Chromic acid 50%	*	*	*
Chromosulfuric acid	*	*	*
Copper sulfate	*	*	*
Cresol	*	*	*
Cumene	*	*	*

Reagent	Premium	Airless	ECO Minisensor
Cyclohexane	*	*	*
Cyclohexanone	*	*	*
Cyclopentane	*	*	*
Decane	*	*	*
1-Decanol	*	*	*
Dibenzyl ether	*	*	*
Dichlorobenzene	*	*	*
Dichloromethane	*	*	*
Dichloroacetic acid	*	*	*
Dichloroethane	*	*	*
Dichloroethylene	*	*	*
Diesel oil	*	*	*
Diethanolamine	*	*	*
Diethyl ether	*	*	*
Diethylamine	*	*	*
1,2 Diethylbenzene	*	*	*
Diethylene glycol	*	*	*
Dimethyl sulfoxide	*	*	*
Dimethylaniline	*	*	*
Dimethylformamide	*	*	*
1,4 Dioxane	*	*	*
Diphenyl ether	*	*	*
Ethanolamine	*	*	*
Ethyl acetate	*	*	*
Ethyl alcohol	*	*	*
Ethylbenzene	*	*	*
Ethylene chloride	*	*	*
Fluoroacetic acid	*	*	*
Formaldehyde 40%	*	*	*
Formamide	*	*	*
Formic acid 100%	*	*	*
Glycerol	*	*	*
Glycol	*	*	*
Glycolic acid 50%	*	*	*
Heating oil	*	*	*
Heptane	*	*	*
Hexane	*	*	*
Hexanoic acid	*	*	*
Hexanol	*	*	*
Hydriodic acid 57%	*	*	*
Hydrobromic acid	*	*	*
Hydrochloric acid 20%	*	*	*
Hydrochloric acid 20-37%	*	*	*
Hydrogen peroxide 35%	*	*	*
Isocotane	*	*	*
Isoamyl alcohol	*	*	*
Isobutanol	*	*	*
Isopropanol	*	*	*
Isopropyl ether	*	*	*
Lactic acid	*	*	*
Methoxybenzene	*	*	*
Methyl alcohol	*	*	*
Methyl benzoate	*	*	*
Methyl butyl ether	*	*	*
Methyl ethyl ketone	*	*	*
Methyl formate	*	*	*
Methyl propyl ketone	*	*	*
Methylene chloride	*	*	*
Mineral oil	*	*	*

Reagent	Premium	Airless	ECO Minisensor
Monochloroacetic acid	*	*	*
Nitric acid 30%	*	*	*
Nitric acid 30-70%	*	*	*
Nitrobenzene	*	*	*
Oleic acid	*	*	*
Oxalic acid	*	*	*
n-Pentane	*	*	*
Peracetic acid	*	*	*
Perchloric acid	*	*	*
Perchloroethylene	*	*	*
Petroleum	*	*	*
Petroleum ether	*	*	*
Phenol	*	*	*
Phenylethanol	*	*	*
Phenylhydrazine	*	*	*
Phosphoric acid 85%	*	*	*
Phosphoric acid 85 % +Sulfuric acid 98 %, 1:1	*	*	*
Piperidine	*	*	*
Potassium chloride	*	*	*
Potassium dichromate	*	*	*
Potassium hydroxide	*	*	*
Potassium permanganate	*	*	*
Propionic acid	*	*	*
Propylene glycol	*	*	*
Pyridine	*	*	*
Pyruvic acid	*	*	*
Salicylaldehyde	*	*	*
Silver acetate	*	*	*
Silver nitrate	*	*	*
Sodium acetate	*	*	*
Sodium chloride	*	*	*
Sodium dichromate	*	*	*
Sodium fluoride	*	*	*
Sodium hydroxide 30%	*	*	*
Sodium hypochlorite	*	*	*
Sulfuric acid 98%	*	*	*
Tartaric acid	*	*	*
Tetrachloroethylene	*	*	*
Tetrahydrofuran	*	*	*
Tetramethylammonium hydroxide	*	*	*
Toluene	*	*	*
Trichloroacetic acid	*	*	*
Trichlorobenzene	*	*	*
Trichloroethane	*	*	*
Trichloroethylene	*	*	*
Trichlorotrifluoro ethane	*	*	*
Triethanolamine	*	*	*
Triethylene glycol	*	*	*
Trifluoro ethane	*	*	*
Trifluoroacetic acid	*	*	*
Turpentine	*	*	*
Urea	*	*	*
Xylene	*	*	*
Zinc chloride 10%	*	*	*
Zinc sulfate 10%	*	*	*

Only the Dispenser Labmax "HF" is specifically designed to dispense hydrofluoric acid (HF).

For your own safety: please observe the general regulations for handling chemicals (e.g. protective clothing and goggles). Read the manual of the dispenser carefully and follow the instructions. Use the dispenser only with regard to its chemical resistance according to this table (status 2017).

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