



# Elmasolvex

Micro parts cleaning with certified Ex-protection



Elmasolvex® VA  
elma wf pro · elma suprol pro

[www.elma-ultrasonic.com](http://www.elma-ultrasonic.com)

# Elmasolvex® VA

Single-chamber ultrasonic vacuum technology for cleaning with solvents.  
TÜV-certified safety due to intrinsic Ex-protection.



*Micromechanics  
Precision parts*



*Microoptics*



*Basket holder with baskets*



*Pager, portable signalling  
device, indicates when the set  
programme is finished*

The new standard for the use of flammable solvents in industrial production and assembly

- of precision turning parts
- of microoptics
- Ex-certified solvent-based cleaning (TÜV Rheinland)
- protection against solvent vapours and odours using extraction or self-contained filter system
- vacuum technology also reaches difficult-to-access places and removes gas bubbles from the parts
- cleaning and rinsing using multi-frequency ultrasound in rotation or oscillation process
- machine can be completely rotated, media containers and connections are very easily accessible
- media containers are easy to replace and rinse out; integrated particle filter for increasing the service life of the cleaning and rinsing solutions
- wide range of practical accessories; see accessories catalogue

Ultrasonic and vacuum technology guarantee

- maximum cleanliness due to removal of interfering gas bubbles
- explosion safety due to the Ex-protection measures integrated in the machine

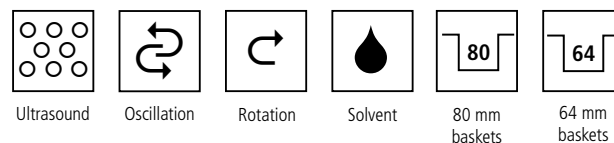
Process:

Ultrasonic / vacuum process for solvents in the rotation or oscillation mode

Solvent cleaning:

Ex-certified for flammable solvents with  
flashpoint  $\geq 12$  °C; e.g. elma wf pro, 3 x elma suprol pro, drying

Processes and media



*Filling cleaning and  
rinsing solution*



*Installing media containers*



*Connecting media containers*



*Controlled exhaust air routing*



The quality of the micromechanics and thus the requirements for cleaning in production and service have increased continuously. Complex design of the precision engineering and continually increasing requirements for materials and surfaces require a cleaning process which satisfies these most exacting demands. Ultrasound achieves excellent cleaning results requiring only very short process times. However, technically, ultrasound must be considered as a heater which makes explosion protection a difficult technical requirement.

Elmasolvex VA has its own self-contained intrinsic Ex-protection due to the vacuum technology used and all the measures required by TÜV and the applicable technical regulations for explosion safety. This means that the explosion protection measures integrated in the machine already rule out any fire hazard in the primary zone, operation in compliance with the manual provided. The use of ultrasound is thus legally possible and permitted. The TÜV test performed confirms the requirements for the use of the prescribed CE mark.



*Filling baskets with watch parts*



*Selecting and starting program*



*Vacuum is established*



*Removing cleaned and dried baskets*

# elma wf pro and elma suprol pro

Cleaning and rinsing solutions. Reformulated, optimised for watch movement cleaning with ultrasound.

In addition to the requirements for optimum cleaning, the cleaning and rinsing solutions must also satisfy the requirements for environmental compatibility and proper disposal. The reformulated "elma wf pro" and "elma suprol pro" characteristics for cleaning, deoxidation, rinsing and fast redrying have been optimised and thus have improved action and stability.

## Elma wf pro cleaning solution

- Stable microemulsion, particularly with regard to heating caused by ultrasound, entrainment of moisture and effects caused by vacuum.  
No milky or unwanted precipitation even after long usage.
- Optimised for ultrasonic cleaning.
- Tried and tested in vacuum cleaning.
- Strong deoxidising action and clear brightening for non-ferrous and precious metal alloys.
- Removes even highly resinified oils.
- Very high stability for water absorption with respect to humidity in tropical and subtropical climates or in the case of moisture traces on the parts to be cleaned.
- The moisture is removed from the workpieces. They are absolutely free of water after the cleaning and rinsing.

## Elma suprol pro rinsing solution

- New formula.
- Rinses off all residues of cleaning solution and removed contamination.

Container sizes: 2.5 L, 10 L, 25 L • Refer to the safety data sheet for transport specifications and disposal instructions.



Technical Data	Elmasolvex VA
<b>Dimensions and weights</b>	
Machine external dimensions (mm)	Ø 600 mm, H 610 mm
Weight including media containers (kg)	39
Media container capacity / number of media containers	2.5 litre x 4
Cleaning basket diameter (mm)	80 oder 64
Exhaust air connection	DN 6mm (active)
Operating noise sound pressure level (LpAU)	< 70 dB
<b>Electrical Data</b>	
Mains voltage variant (V AC / Hz)	
Total maximum power consumption (W)	220
Power consumption in standby (W)	20
Ambient temperature max. (°C)	30
<b>Operation</b>	
Number of programs	6 fixed, 12 freely definable
<b>Ultrasound</b>	
Switchable ultrasound frequencies (kHz)	40 / 80
Effective ultrasound power (W)	50 can be regulated 30% to 100%
Usable ultrasound	all process steps (cleaning, rinsing)
Cleaning media	Solvent
Rotation speed range in cleaning / rinsing mode (rpm)	1 to 20
Oscillation, deflection in cleaning / rinsing mode (1/s) (°)	20 - 60
Spinning speed range freely adjustable up to max. (rpm)	1400
Drying process	Vacuum, heater-supported
<b>Accessories</b>	
Individual basket external dimensions D/H (mm)	80 / 10 and 64 / 12
Number of individual baskets in the basket holder	5
Cleaning basket load capacity (all individual baskets together) max. (g)	100
Movement holder for partially dismantled movements max. capacity	12
Activated carbons unit	passive



Video: Operation of Elmasolvex@VA



Contact: +49 7731 882-0 or interactive contact for determination of the cleaning problem; Link:

<http://www.elma-ultrasonic.com/en/questionnaire-parts-contamination/>

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