



## Explosion-proof ultrasonic cleaning and immersion lines for the operation with flammable solvents

Complete lines designed for parts cleaning or for rinsing and drying for the following processes:

- cleaning with and without ultrasound
- rinsing
- condensate rinsing in solvent vapour
- drying

suitable also for extraction and hydration processes

*good for the final cleaning of  
medical-technical implants*

# Ultrasonic lines in explosion-proof design in compliance with the ATEX directives

Elma has been a specialist for ultrasonic cleaning systems for various applications since 1965.

ATEX cleaning lines made by Elma are available for numerous tasks:

- one-chamber compact unit for small throughput quantities
- multiple-chamber lines with transport robot for larger throughput quantities
- modular units to be used as rinsing and drying unit for hybrid lines
- lines for immersion processes, e.g. for extraction and hydration



ELMA/ATEX 32 – 5-LRS 1 as multiple-chamber line with transport robot, e.g. for ethanol



Basic chamber design with integrated process tanks, freeboard cooling system and technical extraction arranged above

The Elma product range for industrial cleaning contains cleaning lines and equipment in explosion-proof design which allows the application of flammable solvents, such as acetone, IPA, ethanol, for the cleaning, rinsing and drying of most differing components. Elma ATEX systems all comply with the relevant norms and standards which apply for CE, NFPA and FM Global approval.

The following features and components guarantee safe and monitored operation of the Elma cleaning lines:

- monitored technical extraction
- freeboard cooling system
- indirect heating or cooling of the process chambers
- gas monitoring system (20 % lower explosion limit or 40 % lower explosion limit)
- extinguishing device
- nitrogen rinsing of ultrasonic systems
- intrinsically safe circuits

Number of process steps  
and chamber size can  
be arranged individually

### **One-chamber compact units for small throughput quantities with or without lift system**

Process: cleaning with ultrasound in heated solvent  
condensate rinsing  
evaporating

### **Multiple-chamber lines with transport robot for larger throughput quantities**

Process: cleaning with ultrasound in heated solvent\*  
rinsing in cooled solvent  
condensate rinsing in solvent vapours  
evaporating

\* additional cleaning chamber available for another solvent for precleaning with or without ultrasound

### **Modular units to be used as rinsing and drying unit for hybrid lines**

Process: cleaning with ultrasound in heated solvent  
rinsing in cooled solvent  
condensate rinsing in solvent vapours  
evaporating

### **Lines for immersion processes with transport robot for larger throughput quantities**

for extraction and hydration processes



ELMA/ATEX 50-6-2-LRS 1 designed as multiple-chamber line for extraction and hydration

# About us

**Elma cleaning technology and equipment: more than 60 years of perfection and quality!**



Perfect cleaning results and the safety of operating staff and equipment even in processes that use flammable media are highly important. To meet the high ATEX standards we provide top quality in all manufacturing stages from design and development to service and after sales service for our customers.

With our core competencies ultrasonic and steam cleaning technologies and our proprietary cleaning agents behind us we provide competent and reliable advice and tailor-cut cleaning solutions to our customers for even the most difficult cleaning tasks.

Our highly motivated international team of experts offers competent, solution-focused advice. For us, customer contact

does not depend on physical proximity. It is an attitude. A worldwide network of partners and distributors ensures high availability of equipment and systems with short response times.

Years of experience, innovative research and development and industry-specific know-how make us the partner of choice for you. Customer focus and understanding the needs of our clients are our basis for good and effective cooperation. We consider trust and reliability to be the foundation of a sustainable partnership.

We are hoping that by providing you with Elma products and services we are contributing to your success as reliable, competent partners.

