



*SURFACE FINISHING TECHNOLOGIES*  
**INDUSTRIAL CLEANING TECHNOLOGIES**



# *Product catalogue*



## Good reasons for ...



### Functional cleaning systems with aqueous media / Electroplating systems and systems for surface treatment



- + Experience in the development, design and manufacture of ultrasonic cleaning systems **since 1945**
- + **Individual test cleaning**
- + **Manual, semi- or fully automatic system solutions**
- + Specialist company in accordance with **§19 WHG**
- + **Service and remote maintenance**
- + **Synergy effects** (assembly, construction, software, start-up) through integration into the PÜTZ GROUP



- + Established in 1988, approximately 90 employees
- + Many years of industrial experience
- + Central capital base / local flexibility with the greatest degree of freedom and responsibility

**Micro + Hega Surfaces GmbH**  
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## Cleaning and electroplating systems

We manufacture your individual cleaning machine, specially developed to meet your specific requirements, using quality materials such as high-grade steel, titanium, or plastic.



**Individual.  
Modular design.  
For all surfaces.**

Our systems achieve durable and sustainably excellent cleaning results.

### Your benefits:

- + **Fully automatic converter systems** for cleaning and electroplating processes with freely programmable or microcomputer controls
- + **Revolving machines** for cleaning and electroplating processes
- + **Fully automatic and manual ultrasonic cleaning systems** for aqueous media
- + **Special systems for semi-conductor technology** for use in super-clean rooms
- + **Circulating-air drying systems** completely made of high-grade steel in fully automatic and manual designs
- + **Special systems and lab equipment** in stainless steel or plastic designs
- + **Ultrasonic appliances** for cleaning purposes
- + **Filtering units** in stainless steel or plastic designs

## Cleaning and electroplating systems

**Our fully automatic ultrasonic immersion cleaning system has been designed using a modular concept for cleaning with aqueous media.**

Transport of goods and products through the system is carried out in detachable pivot mountings so that bulk goods and delicate goods may be cleaned individually. Furthermore, there is the possibility of inserting a spray pre-washing at any time.

The system is controlled by a PLC with a superposed main computer via a touchscreen where several treatment programmes can be freely chosen. For maintenance purposes it is possible to manually carry out all the functions of the system using a wireless remote control.



## Everything from a single source

Take advantage of the **synergy effects** that result from our integration into the **Pütz Group!**

In addition to surfaces finishing technologies as well as industrial cleaning technologies, we can also offer you the right testing technology to test surfaces and dimensional accuracy.

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## Converter for automation of your cleaning process

A solution for all those who want to save on personnel and thus costs.  
And a solution for all those whose parts to clean are too big or too heavy  
for manual handling.



**We offer a combination  
of customised systems  
and standard devices –  
adapted to your  
individual requirements.**

### Your benefits:

- + The process will be **individually adjusted to your specific problems**
- + **The system is specially designed to meet the requirements of your goods to clean** (geometry, contamination, weight)
- + **Cost-effective** by use of standard components
- + **Integration of existing devices is possible**
- + **Operating personnel and lifting aids can be reduced**
- + **Increased process reliability** due to exactly defined staying times for the individual baths when compared to manual goods transport
- + Downtimes are minimized in comparison with a standard system because **defective standard devices can be replaced at any time without any problems. Assignments of technicians can be omitted.**
- + Flexibility, as far as, the manufacturer of the standard devices is concerned. **Devices from different manufacturers can be combined.**
- + **Individual devices can also be used in other ways during part-time operation** (e.g. as stand alone solution in production). Hence, efficiency is increased.
- + **Several programmes for different types of goods to clean are possible**
- + **Later extensions are possible at any time – quickly and cost-effectively**

## Converter for automation of your cleaning process

**Naturally, existing devices have the potential of being integrated. We will then build the converter to match the chosen devices and customize it to your needs.**

The converter consists of a level-adjusting rack for the standard devices and their generators – and when needed a dryer and/or a spill sump – as well as the actual converter including the controls. This guarantees fully automatic movement and conveying of goods through the baths.



*Converter with integrated dryer, without standard ultrasonic devices and mounted generators.*

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## Inline-capable cleaning systems

The flexible solution for effective cleaning of components, high-quality parts in goods trays or bulk goods.

Micro + Hega Surfaces manufactures inline-capable cleaning systems made of high-grade steel for integration in production lines or for direct incorporation into a stage of production, customized according to your individual requirements and needs.



*Example for an inline-capable cleaning system with linear arrangement of baths, ultrasonic cleaning, and preparation unit.*

### Your benefits:

- + Specific planning of the system
- + Optimal utilization of space and cleaning media
- + Easy maintenance
- + Long system durability
- + High-quality materials
- + Spare parts even years later
- + Inexpensive backfitting or extension of your system by modular design

## Inline-capable cleaning systems

**Inline-capable cleaning systems are characterized by a compact, space-saving design.**

The arrangement of the baths is linear or circular, special solutions for limited set-up space are possible.

The basic module comprises of an ultrasonic cleaning bath and/or spray washing, as well as a rinsing bath. When needed it can be expanded to feature prewashing, one or more rinsing baths, and a dryer module.

According to usage the cleaning system can be fully encapsulated (vaporization, contamination, noise, heat). When desired the system can be adapted for usage in clean and super-clean rooms.

### Options:

- Cleaning processes
- Cycle times
- Number and size of the baths required
- Handling system
- Degree of automation
- Pre-production or subsequent production processes, component or goods tray and their size and weight (no size or weight limit)
- Requested purity and surface quality
- Single components (Bunching before and separation after the cleaning need not take place), frame goods, or bulk goods
- Central or local preparation unit

**Systems by Micro + Hega Surfaces can achieve durable and sustainably excellent cleaning results.**

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## Mobile pump filter unit

Micro + Hega Surfaces develops and manufactures mobile filter units for cleaning systems which enable you to increase the (aqueous) medium change intervals, thus reducing costs as well as wear in the tube systems and valves.



Separation of smallest, magnetic residues and filtration of aqueous cleaning media.

**Perfect for the upgrade of older systems!**

### Your benefits:

- + **Extension of medium change intervals**  
(Increase of the bath lifetime)
- + **Improvement of the purity of the cleaning medium and the cleaning quality**
- + **Electrical connection is not required**  
the unit works only in pneumatic mode
- + **Reduction of wear in the tube systems and valves**  
Frame, separator, filter and tubes are made of stainless steel, so they are suitable for high temperatures
- + **No complicated connections necessary**  
thanks to the use of (injection) lances for suction and re-circulation
- + **The volume flow is adjustable**  
by a pressure control valve and a manually operating diaphragm valve
- + **Different filters available**  
for coarse and fine filters
- + **Time and cost saving**

## Mobile pump filter unit

### Technical details:

Feed rate / feed pressure	approx. 50 l/min at approx. 6 bar
Temperature of the medium	max. 70°C
Optional	Modification for rough shavings

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