

Is there a modular ultrasonic system which produces cleaning results that allow a subsequent coating of optical lenses?

Is it possible to design a combined system for cleaning before inspection and coating?

Is a fine cleaning system composed of serial units flexible enough to adjust to changing processes?

Elmasonic X-tra line precision

Ultrasonic cleaning before coating

Modular system for the industrial ultrasonic fine cleaning of optical lenses, precision optics and glass substrates

Plug & Clean



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Elmasonic X-tra line precision offers specific advantages



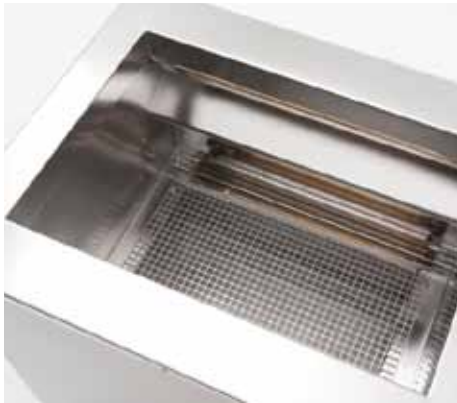
Round tank corners



Various cleaning programs



Hot air dryer WLT with filter



IR dryer



Bath care system



IPC control with operating screen

The fine cleaning of optical products before the further processing of surfaces, such as coating, requires an optimized ultrasonic cleaning process which is economical and environment-friendly at the same time.

The basis of this cleaning process is the modular arrangement with Elmasonic X-tra line precision.

Ultrasonic cleaning units are equipped with multi-frequency technology, round tank corners and electro-polished surfaces. They can be operated either by hand via operating panel with LCD display, or by external control via IPC.

For the drying of the cleaned items the cleaning system can be equipped with a Lift-Out device for pre-cleaning, a hot air dryer with clean room filter or an infrared dryer.

The Elmasonic X-tra line precision allows the individual arrangement and combination of various units and equipment for cleaning, rinsing and drying.

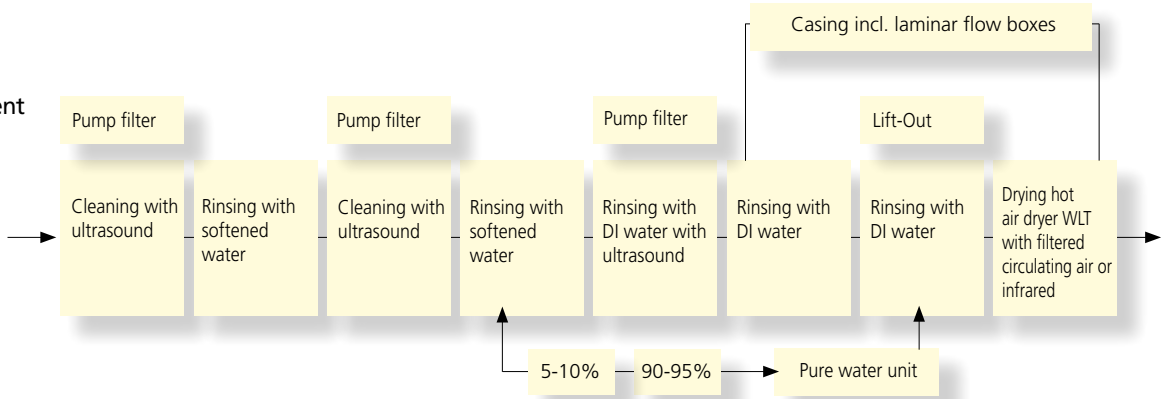
The flexible modular design allows an expansion or modification of the existing cleaning system to answer for changed requirements at any later time.

Cleaning before coating, or cleaning for both inspection and before coating. Depending on the throughput requirements the cleaning system can be operated by hand or automatically by adding a transport robot device.

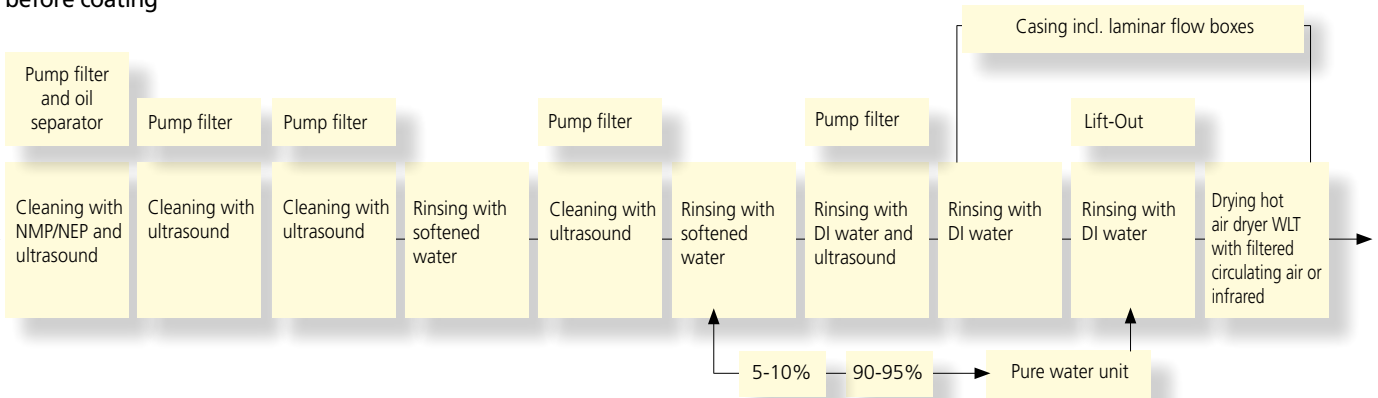
- modular design of units and equipment for fine cleaning
- available in two unit sizes for cleaning, rinsing and drying
- wide range of optional and peripheric equipment from the single unit up to the fully automatic cleaning line
- high flexibility of design and process sequence
- adjustable to additional or changed cleaning requirements
- various cleaning programs can be determined and selected, in combination with transport robot and IPC control
- reproducible cleaning results due to uniform and repeatable processes
- operating screen with visualization for control and monitoring of process and transport system
- data logger can be integrated to the IPC control for quality assurance purposes
- machine availability according to SEMI 10 norm available as software package
- low investment costs by standardized serial products
- short delivery time
- Plug & Clean

Modular arrangements for various cleaning tasks

Modular arrangement for cleaning before coating



Combined modular arrangement for cleaning for inspection purposes and before coating



The two modular arrangements described above are based on the Elmasonic X-tra line precision. The individual modular units can be rearranged and combined in different ways.



Technical data Elmasonic X-tra line precision

| Units | X-tra 300 precision | X-tra 550 precision | X-tra 300 WLT | X-tra 550 WLT | X-tra 300 IR | X-tra 550 IR |
|--|---------------------|---------------------|-------------------|-------------------|-------------------|-------------------|
| Tank capacity up to overflow edge (l) | 30 | 55 | – | – | – | – |
| Service dimensions W/D/H (mm) | 285/330/250 | 285/500/300 | 346/330/250 | 346/500/300 | 328/330/300 | 328/500/300 |
| Unit dimensions W/D/H (mm) | 497/522/568 | 497/691/568 | 497/825/750 | 497/1300/750 | 497/522/568 | 497/691/568 |
| Feed duct (*) | R ½ | R ½ | – | – | – | – |
| Drain duct (*) | R 1 | R 1 | – | – | – | – |
| Basket dimensions W/D/H | 248/258/164 | 244/424/205 | – | – | – | – |
| Connecting voltage (V) | 230 | 3 x 400 / 3 x 208 | 3 x 400 / 3 x 208 | 3 x 400 / 3 x 208 | 3 x 400 / 3 x 208 | 3 x 400 / 3 x 208 |
| Connecting power (KW) | 2.3 | 4 | 5 | 8 | 3.2 | 7 |
| Frequency (Hz) | 50/60 | 50/60 | 50/60 | 50/60 | 50/60 | 50/60 |
| Ultrasonic frequencies (kHz) | 25/45 – 35/130 | 25/45 – 35/130 | – | – | – | – |
| Ultrasonic permanent power (eff.) (W) | 600 | 1000 | – | – | – | – |
| Ultrasonic peak power (W) | 1200 | 2000 | – | – | – | – |
| Degas | activatable | activatable | – | – | – | – |
| Sweep | activatable | activatable | – | – | – | – |
| Pulse | activatable | activatable | – | – | – | – |
| Heating type | tube element | tube element | tube element | tube element | IR beamer | IR beamer |
| Heating power (W) | 1700 | 2900 | 4000 | 7000 | 2800 | 6400 |
| Temperature (° C) | 20–70° regelbar | 20–70° regelbar | 20–80° regelbar | 20–80° regelbar | Leistung regelbar | Leistung regelbar |
| Operating panel for settings on unit | √ | √ | √ | √ | √ | √ |
| Dimensions of modules | | | | | | |
| Supporting frame W/D/H (mm) | 500/740/800 | 500/900/800 | | | | |
| Loading/Unloading module W/D/H (mm) | 625/563/534 | 625/773/534 | | | | |
| Movement and Transport Devices | | | | | | |
| Oscillation device (charge weight per module kg) | max. 15 | max. 15 | | | | |
| Lift-Out (charge weight kg) | max. 15 | max. 15 | | | | |
| Robot (charge weight kg) | 4 (8)* | 4 (8)* | | | | |

* Maximum charge weight indicated applies only for secured system or encased system



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