

# Elma X-tra line



**Elma's new modular cleaning line has arrived**

**The flexible ultrasonic cleaning system for the industry**



# Elma X-tra line – the modular cleaning system for all standard cleaning demands

The basis of the modular cleaning line is ultrasonic cleaning with the latest ultrasonic technology, available in either single or multi-frequency.

- Industrial units in different sizes and options
- From single unit to fully automated cleaning line
- Individually extendable at any time
- Elma X-tra line can be extended step by step – according to your needs and available budget
- Modular cleaning system for different cleaning requirements
- Extensive range of options and peripheral devices
- Short delivery time
- Plug & Clean
- Choice of different cleaning programs in connection with transport system
- Interchangeable units and options for later modification and upgrade of cleaning requirements possible
- Add-on of peripheral devices and units possible at any stage
- Exchange of position of units when process sequence changes
- Reproducible cleaning results through consistent and repeatable processes
- Modular cleaning dependant on your cleaning requirement
- Economical investment costs through standardised serial products
- Process related flexibility



*Single unit with agitation*



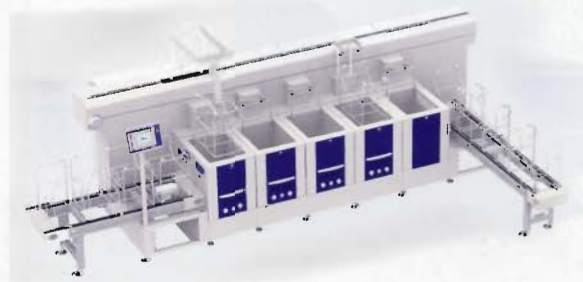
*Manual cleaning line, 3 chambers, with agitation*



*Manual cleaning line, 4 chambers, with dryer and agitation*



*Automated cleaning line, 4 chambers, with dryer and agitation*



*Fully automated cleaning line, with automatic load / unloading station*

# Elma X-tra line – from a single unit in the production process to a fully automated cleaning line.



Basis of this new ultrasonic modular cleaning line are our newly developed Elmasonic X-tra units with multi-frequency technology.

Our new ultrasonic modular cleaning line stems from the latest developed Elmasonic X-tra units, already equipped with multi-frequency technology.

Cleaning with ultrasonics is effective, economical and environment-friendly at the same time.

Each industrial cleaning task requires a flexible and optimised process. The Elma X-tra line allows an individual assembly to achieve the best combination of required units for cleaning, rinsing and drying.

The flexible modular system even allows an extension at a later stage to either change the current constellation or to

improve and advance the cleaning process.

An extensive range of accessories and peripheral devices such as baskets, lids, agitation, filter-pump units, central control and DI-water treatment units are available adding to the flexibility of the modular system of the Elma X-tra line.

For an automatic through-put of volume, the Elma X-tra line can be installed with a single basket transport system or converting transport system (pick and place).

Optional, the PLC touch panel control can be added to control and monitor the Elma X-tra line units and the relevant peripheral devices. A lift-out option can be integrated, for pre-drying of parts to be cleaned.

## Technical Data:

5 unit sizes:

X-tra line 250, 550, 800, 1200 and 1600

Total filling volume: 25l, 55l, 80l, 120l, 160l

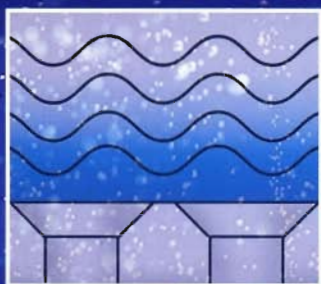
Ultrasonic frequencies:

Single frequency: 35 kHz Multi-frequencies: 25/45 kHz or 35/130 kHz

Robot cleaning line with 2 different weight loads



## Degas- and Sweep-Technology



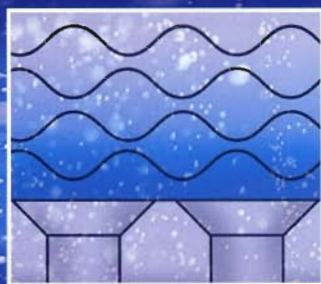
### Ultrasonics

Specially designed ultrasonic vibratory systems convert electrical energy into mechanical vibrations. These vibrations are transferred through the walls of a stainless steel bath and into the cleaning fluid. This creates tiny vacuum bubbles in the micrometer range. These bubbles implode at great speed (called cavitation). The high-energy jets that result can efficiently remove dirt from surfaces placed in the cleaning bath.



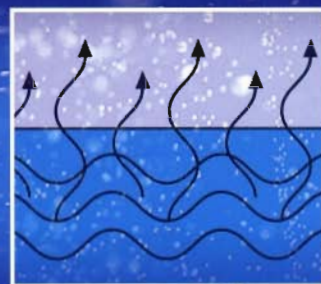
### Multi-frequency

The new Elma technology allows the choice between two working frequencies in one ultrasonic unit. The lower frequency is generally used for removing coarser, more persistent contamination, the higher frequency for careful yet effective cleaning of sensitive parts.



### Sweep

The sweep function enables continuous shifting of the maximum sound pressure levels, thereby creating a uniform sound field distribution. This produces the optimal distribution of cleaning power throughout the entire cleaning bath.



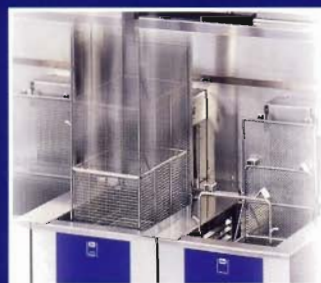
### Degas

Newly prepared cleaning fluid is saturated with air. The gas should be removed from the fluid in order to optimise its effectiveness in an ultrasonic bath. This is easily accomplished with the degassing function. For instance, degassing of HPLC solvents in the laboratory.

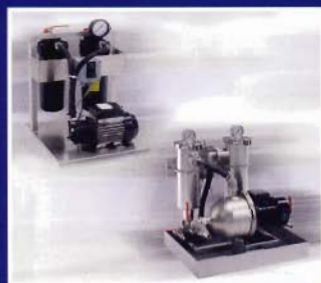
## Optional Accessories



PLC touch panel



Agitation



Filter-pump unit 250A

Filter-pump unit 250C/S



Hot air dryer



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