NEW

01010001

Perfect control of the cavitation fields

Elmasonic IG

Ultrasonic Industrial Generators

- Variation of the required ultrasonic power between 200 W and 8000 W with modular plug-in design (single or double 19 inch plug-in box)
- Uniform sound field distribution due to control of the cavitation fields (on models with 2-side sound) applied for patent -
- High flexibility for fine and coarse cleaning jobs due to powerful ultrasound in multi-frequency design 25 / 45 or 35 / 130 kHz
- Very easy and self-explanatory operation by plastic-foil keyboard with graphic display
- Complete with Sweep, Degas, Pulse and ultrasonic power regulation
- Control via SPC or PC



F 35/130

MF 35/130 kHz 1000 W



www.elma-germany.com



How does ultrasound work?

Specially designed ultrasonic transducer systems transform electric energy into mechanical vibration. The vibration is then transmitted into the cleaning liquid through the stainless-steel tank bottom. In the process, tiny vacuum bubbles of dimensions in the micrometer range are created which implode at very high speed (cavitation). The highly energetic jets produced by the cavitation process remove efficiently all kinds of contamination from the surfaces of the immersed cleaning items.

Control of the cavitation fields

There are special cleaning jobs that require a uniform sound field distribution in the cleaning bath, such as metal-coated glass or metal surfaces. For these jobs, the ultrasonic power must be the same all over the cleaning bath. On units with 2-side sound (mounted to opposing sides) the generator controls the cavitation field. A "migrating wave" is created which moves continuously through the bath, so that the temporally averaged ultrasonic power is the same throughout the bath volume. There are no local sound field maxima or minima. There are also no cavitational damages or "surface shadows" on extremely sensitive surfaces. The surfaces are treated very gently and thoroughly.

Power regulation

A gentle cleaning is not only the result of higher ultrasonic frequencies, but also of the intelligent power regulation by the generator control (between 10 and 100 %).

Multi-frequency

The new Elma technology allows the choice between two operating frequencies in one ultrasonic unit.The lower frequencies are usually applied for the removal of coarse and tenacious contaminations. The higher frequencies are perfect for sensitive surfaces.



They clean very gently and take the ultrasonic power even into very small grooves and bore holes.

Degas

Fresh mixed cleaning liquid is saturated with air. In order to optimize the effect of the ultrasonic activity in the bath, the liquid must be degassed. This process is accelerated with the Degas operating mode. The pulse breaks produced in this operating mode take the macroscopic gas bubbles up to the surface. The cavitation which is crucial for the cleaning process can take its full effect only in a completely degassed bath.

Sweep

The Sweep operating mode provides the continued shifting of sound pressure maxima, which guarantees a homogeneous sound field distribution within the bath. This leads to an optimized distribution of the cleaning power throughout the bath so that the immersed items are cleaned equally.

Pulse

If the cleaning job requires a stronger ultrasonic power, the Pulse mode can be switched on. The Pulse mode produces high ultrasonic peaks through quick changes of the ultrasonic frequency.

Designation	Frequency combination1	Frequency combination2	Voltage USA/Japan	Voltage variant 2	Power per module	Power total
MF200	25/45 kHz	35/130kHz	200/208V	230V	200	200
MF400	25/45 kHz	35/130kHz	200/208V	230V	400	400
MF600	25/45 kHz	35/130kHz	200/208V	230V	600	600
MF1000	25/45 kHz	35/130kHz	200/208V	230V	1000	1000
MF2000	25/45 kHz	35/130kHz	200/208V	230V	1000	2000
MF3000	25/45 kHz	35/130kHz	200/208V	230V	1000	3000
MF4000	25/45 kHz	35/130kHz	200/208V	400V	1000	4000

Elma GmbH & Co KG · Kolpingstr. 1-7 · D-78224 Singen · Tel. +49 (0) 7731 / 882-0 · Fax +49 (0) 7731 / 882-266 · info@elma-germany.com · www.elma-germany.com