

## Ultrasonic cleaning units

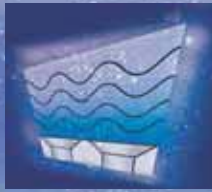
### The sum of all possibilities Elmasonic S



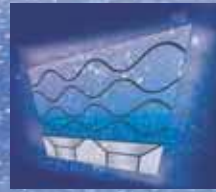
- Electronic time and temperature control
- Autostart temperature-controlled / temperature pre-selection
- High-performance transducer systems
- Dry run proof ceramic heating
- Quick degassing with Autodegas / Degas
- Improved cleaning performance with Sweep
- Safety switch-off



# Ultrasonic cleaning with state-of-the-art technology



*Ultrasonic transducer systems*



*Sweep*



*Degas and Autodegas*

The Elmasonic S ultrasonic units offer practically every available technical feature. Now the units of the new series increase the ultrasonic effect further to obtain even better results.

The materials used and the reliable technology prolong the service life of the units. The new design combines more functionality with modern looks.

The basis of nearly perfect cleaning processes with ultrasound is the Elma high-performance transducer system with 37 kHz.

The Sweep function, developed in the Elma laboratories, guarantees a homogeneous sound field distribution by way of continuous shifting of the sound field maxima.

The Degas function available on the new units accelerates very efficiently the degassing process in the cleaning liquid, particularly in freshly mixed baths. Autodegas is recommended before starting the cleaning process, Degas for special tasks. Both can be switched on by hand.

When used in tough permanent operation you will find that the new units with their functional design fully meet the demands of any cleaning task.

## The Elmasonic S series



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# Elmasonic S ultrasonic units: specific features for all business sectors



*Cleaning, degassing and dispersing in the lab*



*Cleaning in the dental and medical sectors*



*Ultrasound for ophthalmology and opticians*



*Cleaning of items in industry, workshops and service*



*Ultrasonic cleaning in the jewellery branch*



*Ultrasound in the watchmaker branch*

■ **Laboratory:** Ultrasound cleans wherever the cleaning liquid can go. It is particularly suitable for the cleaning of laboratory instruments made of glass, plastic or metal. Elmasonic S units degass HPLC solutions, mix, disperse, emulsify and dissolve specimens.

■ **Medical sector:** Thorough cleaning of surgical, medical and of micro-instruments without damaging the material, or cleaning of rigid endoscopes and flexible endoscopic accessories.

■ **Dental laboratory:** Cleaning of instruments, removal of cement and plaster; cleaning of dental mould spoons, drills and prostheses. Cleaning of dentures, crowns and other prosthetic materials.

■ **Jewellery:** Cleaning and brightening up of gold, silver, platinum and fancy jewellery. Cleaning of precious, semiprecious and set stones.

■ **Watch sector:** Cleaning of watch cases, mechanical parts and metal bracelets. Cleaning of clockworks.

■ **Optician:** Cleaning of complete glasses and optics. Intensive cleaning of spectacle pads and joints.

■ **Workshop and service:** Intensive cleaning with alkaline, acid and neutral elma clean products in the workshop, for service works, for the final cleaning and ready for coating.

■ **Industry:** Cleaning in the mechanics, electronics and glass industries, automobile parts production and plating or other surface refinement processes. Gentle and intensive cleaning of items made of steel, light and non-ferrous metals, plastics and glass.



All unit sizes available without heating (except S 450H and S 900H).

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# The special functions, features and advantages

The Elmasonic S units are available in 13 different sizes, ranging from 0.5 liter (approx. 0.1 gal or 0.5 quart) up to 90 liter (approx. 24 gal). They are equipped with efficient 37 kHz ultrasonic high-performance transducers of the latest generation.



Knob for drain on side



Positioned drain duct



Handy cover



Filling line

■ The optional dry run proof heating supports the cleaning process.

■ The operating panel is user-friendly and arranged so that no liquid can enter the electronics.

■ The newly developed cover reduces the noise and accelerates the heating-up process.

When turned over, the cover can be used as drip-off basin. The collected cleaning liquid can be emptied back into the tank.

■ The cleaning tanks are made of cavitation-resistant stainless steel.

■ The optional Sweep function guarantees an optimum sound field distribution in the cleaning bath due to a modulation of the frequencies.

■ The set cleaning period and the remaining cleaning time are both indicated by LED display. (excl. S 10 / H).

■ The turning knob for the pre-selection of the cleaning period can be turned to permanent operation or short-time operation.

■ Marking for filling line.

■ The carrying handles are made of ergonomically shaped plastic.\*

■ The turning knob on the side allows an easy draining of the cleaning liquid through the drain duct on the back of the unit.\*



\*see table for deviations

■ The Degas function allows a quicker degassing of the cleaning liquid. Another advantage is the time-controlled „Autodegas“ function for the efficient degassing of freshly mixed cleaning liquids.

■ For safety reasons, the unit automatically switches off after 12 hours.

■ The cleaning process can be switched on by hand or automatically (temperature-controlled).

■ The removable mains cable with mains plug allows easy and safe transportation. (except S 450H & S 900H).

■ With the temperature turning knob the temperature can be set between 30° and 80°C in steps of 5°. Both set and actual temperature of the liquid are indicated by LED display. (excl. S 10 / H).

■ Elmasonic S ultrasonic units in proven Elma quality „Made in Germany“

## Practical accessory equipment

The true value of carefully developed products will be appreciated as soon as they are used. We have expanded the well-known range of accessory equipment for the Elmasonic S series. Baskets with plastic coated handles, jewellery rack with 10 adjustable hooks, cooling coil, clasps for Erlenmeyer flasks or the new cover are practical little helpers.

- Baskets for all unit sizes
- Plastic cover, except S 450H & S 900H
- Stainless-steel insert cover for 1 or 2 beakers
- Beakers
- Acid-proof tanks or Hostalen tanks
- Immersion baskets made of Hostalen or stainless steel
- Instrument holder or test tube rack
- Electric hot air dryer
- Instrument holder for 1 liter solvent flasks HPLC

After more than 50 years, cleaning by ultrasound in all its complexity has now obtained a new meaning.

The Elma range of standard ultrasonic cleaning equipment is the largest in the world. Based on longterm experience, innovative development and specific know-how Elma produces state-of-the-art technology for all kinds of cleaning tasks. Elma is well known as solutions provider for even the most complicated applications. And our reputation is not only based on the development and manufacturing of the equipment, but also on our service and support. We also develop and produce a wide range of special machinery for the watchmaker and jewellery sector. Today, Elma has over 200 employees. The company has been certified to DIN EN 9001 standard and represents a business which operates customer-oriented and guarantees product-reliability on a very high level. "Made by Elma Germany" – this is the motor of our motivation, precision, quality and our engineers' continued enthusiasm for new concepts.

Please contact IMLAB for the list of accessory equipment.



# Technical details

		S 10 / H	S 15 / H	S 30 / H	S 40 / H	S 60 / H	S 70 / H	S 80 / H	S 100 / H	S 120 / H	S 180 / H	S 300 / H	S 450H	S 900H
Tank volume max.	liter	0,8	1,75	2,75	4,25	5,75	6,9	9,4	9,5	12,75	18	28	45	90
Tank volume max.	gal (approx.)	0,2	0,5	0,7	1,0	1,5	1,8	2,4	2,5	3,4	4,7	7,4	11,9	23,8
Tank internal dimensions	W x D x H mm	190x85x60	151x137x100	240x137x100	240x137x150	300x151x150	505x137x100	505x137x150	300x240x150	300x240x200	327x300x200	505x300x200	500x300x300	600x500x300
Tank external dimensions	W x D x H mm	206x116x178	175x180x212	300x179x214	300x179x264	365x186x264	568x179x214	568x179x264	365x278x264	365x278x321	390x340x321	568x340x321	615x370x467	715x570x467
Weight	kg (ca.)	2,0	2,1	3,3	4,0	5,1	5,6	6,4	5,9	7,5	8,5	11,0	on request	on request
Ultrasonic frequency	kHz	37	37	37	37	37	37	37	37	37	37	37	37	37
Ultrasonic peak max. * <sup>1)</sup>	W	240 * <sup>2)</sup>	280 * <sup>2)</sup>	320 * <sup>3)</sup>	560 * <sup>3)</sup>	600 * <sup>3)</sup>	600 * <sup>3)</sup>	600 * <sup>3)</sup>	600 * <sup>3)</sup>	800 * <sup>3)</sup>	800 * <sup>3)</sup>	1200 * <sup>3)</sup>	1600 * <sup>3)</sup>	3200 * <sup>3)</sup>
Heating power	W	0 / 60	0 / 60	0 / 200	0 / 200	0 / 400	0 / 600	0 / 600	0 / 400	0 / 800	0 / 800	0 / 1200	1600	2000
Power consumption total	W	30 / 90	35 / 95	80 / 280	140 / 340	150 / 550	150 / 750	150 / 750	150 / 550	200 / 1000	200 / 1000	300 / 1500	2000	2800
Sweep		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Degas / Autodegas		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carrying handles		no	no	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drain duct / diameter	inch	no	no	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"
Order number														
with heating * <sup>4)</sup>	220-240 Vac	100 1214	100 2060	100 1955	100 2006	100 2238	100 2140	100 2170	100 2279	100 2825	100 2877	100 3033	100 3908	100 3946
without heating * <sup>4)</sup>	220-240 Vac	100 5507	100 4626	100 4631	100 4635	100 4643	100 4650	100 4652	100 4655	100 4658	100 4662	100 4669	-	-
Accessories:														
Basket internal dimensions	W x D x H mm	177x73x35	112x103x55	198x106x55	190x105x80	255x115x80	465x106x55	455x106x80	255x200x80	250x190x120	280x250x120	455x250x120	455x270x194	545x450x250
Basket mesh size	mm	7x1	7x1	7x1	7x1	9x1	9x1	9x1	9x1	9x1	9x1	9x1	9x1	16x1,2
Basket load	kg	1	1	1	3	5	5	5	6	7	8	10	20	30

\*<sup>1)</sup> The choice of th orm has been matched to the relevant tank size.

\*<sup>2)</sup> Impulse waveform

\*<sup>3)</sup> Standard sine-wave modulation

\*<sup>4)</sup> Units also available with 100-120 Vac (except S 450H & S 900H).

## Cleaning chemicals and ultrasonic technology all from one source

For more than 50 years, Elma has been manufacturers of ultrasonic cleaning systems for a large number of different applications. The perfect solution, however, can be found only with the suitable cleaning chemical.

Elma started the development and production of cleaning chemicals in 1975. The Elma cleaners have been specially designed for the use in an ultrasonic bath. The range of products is adjusted to the various cleaning tasks of the different business branches.

We invite you to profit from the long-term experience of Elma, the manufacturer and supplier of complete cleaning systems.