



Ultrasonics.Steam.Ultraclean.



Ultrasonic cleaning devices

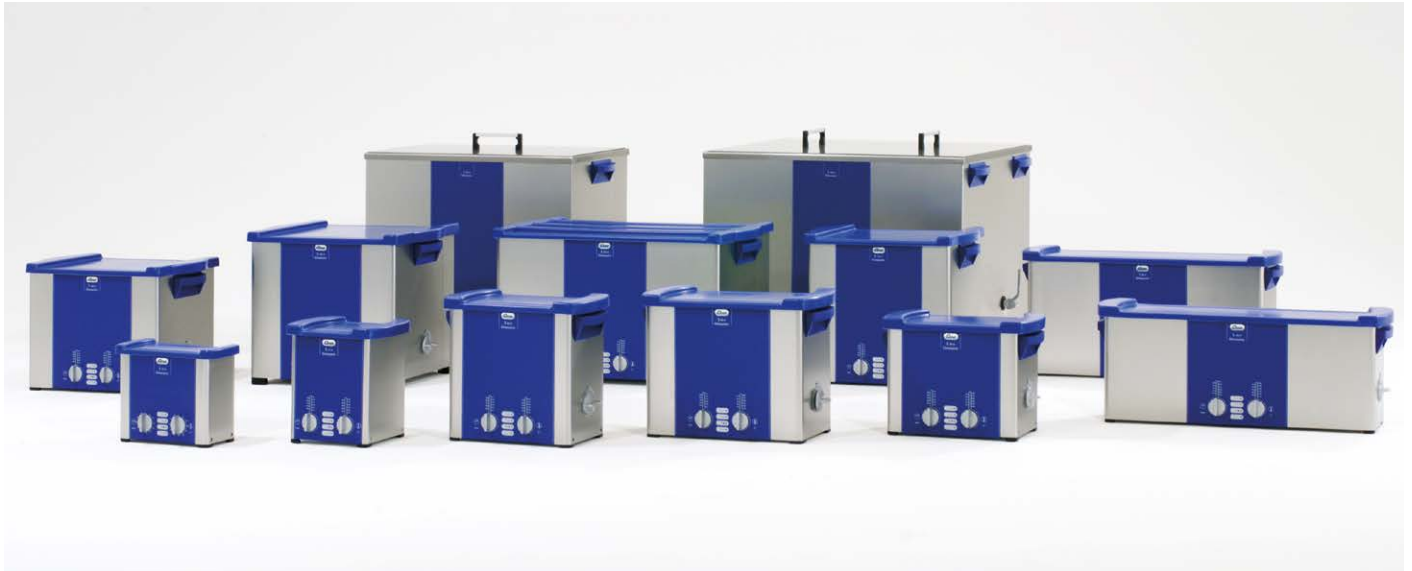
Elmasonic S

The sum of all possibilities.

- Powerful and highly versatile ultrasonic cleaning devices with 37 kHz ultrasonic frequency
- Switchable Sweep-function for an even distribution of the ultrasonic power and effect
- Degas-function for quick degassing
- Temperature-controlled Auto-Start
- Registered as Medical Device Class I*

Elmasonic S

Ultrasonic cleaning units with specific features for different business sectors



Equipped with an ultrasonic frequency of 37 kHz, the functions Sweep and Degas and much more, Elmasonic S devices are ready for different tasks and applications in various business sectors.



Healthcare - CSSD or doctor's office

Intensive pre-cleaning of surgical and medical instruments and endoscopes with Elmasonic S and *Elma Dent & Med Clean* cleaning agents.

Dental practice and dental lab

Cleaning of dental instruments, impression trays, drills as well as dental prostheses (crowns, bridges, etc.) with cleaning agent of the *Elma Dent & Med Clean* series.



Cleaning of jewellery

Jewellery made of gold, silver, platinum as well as costume jewellery with or without gem stone or semi-precious stones will shine as new after being cleaned with Elmasonic S and a cleaning agent of the *Elma Luxury Clean* series.

Watches and watch parts

Elmasonic S and cleaning agents of the *Elma Luxury Clean* series are also used to clean watch cases, mechanical watch parts and metal straps.



Laboratory

In combination with cleaning agents of the *Elma Lab Clean* series, lab instruments made of glass, plastic or metal can be cleaned with Elmasonic S. It is also possible to degas, dissolve, disperse, homogenise, emulsify or disagglomerate with Elmasonic S.

Optics

Glasses and other optics are cleaned with an Elmasonic S and a cleaning agent of the *Elma Optics Clean* series.



Industrial parts cleaning in workshops and service

Pre-, intermediate and final cleaning of mechanical and electronical parts and components with Elmasonic S ultrasonic cleaning devices and *Elma Tec Clean* cleaning agents.

Elmasonic S

Thoughtout functions and useful features

Elmasonic S ultrasonic devices are available in 16 different sizes ranging from 0.8 to 90.0 litres maximum filling volume. They are equipped with an ultrasonic frequency of 37 kHz, functions like Sweep, Degas and Auto-Start and thus very versatile.

The clearly arranged control panel is user friendly designed and splash-water-protected. The cleaning process can be supported by an optional selectable, run-dry-proven heating. Furthermore Elmasonic S devices are very user-safe and shut down after 12 h of operation.

The cleaning tanks are made of stainless-steel and have round corners. Therefore they are easy to clean when the cleaning bath

has to be changed. From Elmasonic S 30/H on all devices have an useful drain for the cleaning liquid on their backside. The drain can be opened and closed via the knob at the side.

Elmasonic S units are covered by the „Elma Commitment to Quality“ with 2 years warranty and replacement guarantee for the first year following date of purchase.

Additionally Elmasonic S devices are registered as Medical Devices Class I.*



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- **Sound-absorbing plastic lid** accelerates - when placed on the device - the heating. Upside down, the lid can be used as a **drip tray** for baskets and cleaned parts.
 - **Fill level marking**
 - **LED display** of the set and the remaining cleaning time
 - **Pre-selection of cleaning time** with continuous operation or individually adjustable from 1 to 30 min
 - **Sweep-function** for an optimum sound field distribution in the cleaning bath and even ultrasonic effect (not with Elmasonic S 10/H)
 - **Pause-function** to interrupt an application
 - **Auto-Start-function:** When the preselected temperature is reached, the device starts in normal ultrasound mode.
 - **Drain:** Easy emptying on the back of the device (from Elmasonic S 30)
 - **LED display** of the set and actual values of the liquid temperature
 - **Adjustable temperature** from 30° to 80°C (not with Elmasonic S 10/H)
 - **Degas-function** for quick degassing of cleaning liquids and for special applications in the laboratory



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Ultrasonic technology, accessories and cleaning chemicals all from one source

In practice, you quickly learn to appreciate the value of well thought-out products.

Matching baskets with plastic-covered handles, jewelry holders, cooling coils, Erlenmeyer flask holders or plastic lids serving when turned over as a drip trays, are useful helpers in everyday cleaning tasks.

After being cleaned in the Elmasonic S ultrasonic device, the parts can be conveniently and quickly dried with the Elmadyr TD hot air dryer.

All Elma Clean cleaning agent series are specially designed for the use in the ultrasonic bath and tailored to perform different cleaning tasks .



Technical data

	S 10 / H	S 15 / H	S 30 / H	S 40 / H	S 60 / H	S 70 / H	S 80 / H	S 90 H
Max. tank capacity (l)	0.8	1.75	2.75	4.25	5.75	6.9	9.4	7.4
Tank operating capacity (l)	0.7	1.2	1.9	3.2	4.3	5.2	7.3	7.0
Ultrasonic power effective (W)	30	35	80	140	150	150	150	150
Heating power (W)	60	60	200	200	400	600	600	400
Unit ext. dimensions W/D/H (mm)	206/133/182	176/189/218	301/189/218	301/189/268	362/201/269	568/188/222	568/188/272	403/197/298
Tank int. dimensions W/D/H (mm)	188/83/59	141/127/97	222/122/99	217/117/149	275/125/149	488/120/99	480/112/149	328/134/179
Basket int. dimensions W/D/H (mm)	177/73/30	112/103/49	198/106/49	190/105/74	255/115/74	465/106/49	455/106/74	289/123/74
Weight (kg)	2.0	2.1	3.3	4.0	5.1	5.6	6.4	5.5

	S 100 / H	S 120 / H	S 130 H	S 150	S 180 / H	S 300 / H	S 450 H	S 900 H
Max. tank capacity (l)	9.5	12.75	12.5	14.0	18.0	28.0	45.0	90.0
Tank operating capacity (l)	7.5	9.0	11.3	10.0	12.9	20.6	35.0	75.0
Ultrasonic power effective (W)	150	200	300	300	200	300	400	800
Heating power (W)	400	800	800	0	800	1200	1600	2000
Unit ext. dimensions W/D/H (mm)	363/289/272	363/289/272	403/282/301	566/352/222	393/352/322	566/352/322	605/388/466	710/588/466
Tank int. dimensions W/D/H (mm)	282/222/149	276/216/199	328/226/179	487/285/99	304/274/199	480/275/199	502/302/303	600/500/298
Basket int. dimensions W/D/H (mm)	255/200/73	250/190/113	296/200/73	455/250/47	280/250/113	455/250/112	452/264/192	544/460/190
Weight (kg)	5.9	7.5	8.0	14.0	8.5	11.0	25.0	42.0



Laboratory

Elmasonic S 50 R and Elmasonic S 350 R

Test sieve cleaning, quick degasification and sample preparation with ultrasound

- Effective cleaning of test sieves acc. DIN ISO 3310 and up to max. 500 mm
- Special programs for sieve cleaning and easy sample preparation
- Simple fast degassing of gaseous samples and HPLC solvents

Program-controlled fast degasification and sample preparation for reproducible results



Elmasonic S 50 R during a lab application

Fast degassing of HPLC solvents and gaseous, liquid samples

The special Degas function switches back and forth between maximum power and a mode that drives out the now macroscopic bubbles upwards via a lift-out effect. Degassing in the Elmasonic S 50 R is performed very effectively and with reduced noise.

The laboratory glassware can be fixed using the optionally connected laboratory stand so that the laboratory glassware does not rattle unnecessarily loudly on the basket base.

Sample preparation the easy way

Focus points of the Elmasonic S 50 R and S 350 R devices are the test sieve cleaning, HPLC-solvent degassing and laboratory applications such as the removal of difficult to dissolve substances, emulsion manufacture and the reaction acceleration.

For the different applications like sieve cleaning, degassing, sample preparation and treatment, specially adapted ultrasonic programs were furnished.

The user can activate the correct ultrasound parameters using "sieve cleaning", "degas" or "sample preparation" easily and quickly by pressing a button and the machine operates in the respective stored ultrasonic mode.

Correct filling of the machines is simplified thanks to filling level marks in the bath. The S 50 R has three different filling level marks for 3, 4 and 5 litres. The filling level mark in the Elmasonic S 350 R is for 57 litres.

The Elmasonic S 350 R has an outlet for bath draining that also enables particularly even sound field distribution due to its central arrangement.



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Elmasonic S 50 R

Elmasonic S 50 R and Elmasonic S 350 R

Only really clean sieves lead to reliable analysis results

The sieve analysis, a standard process in analytical, food and environment laboratories, functions perfectly if the last grain residues have been removed from the mesh. Elma has particular competence here, both for the intensive cleaning of individual sieves as well as for the preparation of up to 4 test sieves simultaneously.

The Elmasonic S 50 R and S 350 R with round designs have high ultrasound power that can be evenly distributed both horizontally as well as vertically. The machines thus provide optimum energy input. With its size, the Elmasonic S 350 R completes the Elma product range in the laboratory area.

Previously, the focus was on sieves from 7 up to 200 mm diameter; very large sieves up to 500 mm diameter can now also be cleaned in the new Elmasonic S 350 R.

The test sieve is loaded with the sieve holder for sieve cleaning. The special "sieve cleaning" function enables a effective and fast cleaning with ultrasonic shock waves.

This function switches back and forth between two ultrasound modes and causes active strong impulses with simultaneous independence from the fill level. The process is standardised, that is why it is repeatable and massively facilitates the daily work in the laboratory.



Elmasonic S 300H with sieve cleaning module SRH 4/200

Elma provides an electrically-operated rotation basket (SRH 4/200 sieve cleaning module) that can be inserted in the Elmasonic S 300(H) ultrasonic cleaner for cleaning a larger number of test sieves. By using Elma rotation equipment the throughput can be significantly increased.

Up to four sieves can be intensively cleaned of sieved product residues simultaneously in the SRH 4/200 sieve cleaning module.

Sieves from different manufacturers can be cleaned simultaneously in the universal adapter.

The baskets rotate during the cleaning. The adjusted angle ensures that the cleaned grains fall out automatically. The use of a residue-free rinsing cleaning agent afterwards can be required for cleaning in food laboratories. Elma lab clean N10 (not a hazardous product) is tried and tested for this.



The advantages at a glance

- Time- and cost-saving intensive cleaning of up to 4 test sieves simultaneous, diameter 200 / 203 mm, 8"
- Sieves from different manufacturers can be cleaned at the same time
- Gentle ultrasonic cleaning (in contrast to manual cleaning): does not change the fabric tension or the mesh size and the dimensional accuracy is still 100 %
- Thought-out and extensive range of accessories
- Environmentally-friendly cleaning in combination with Elma Lab Clean

Elmasonic S 350 R

Technical data

of the presented devices for sieve cleaning, sample preparation and degassing



Elmasonic S 50 R



Elmasonic S 350 R

	Elmasonic S 50 R	Elmasonic S 350 R	Elmasonic S 300 H	Elmasonic SRH 4/200
Max. tank capacity (l)	5.0	70.0	28.0	-
Filling level marks (l)	3 / 4 / 5	57	-	-
Ultrasonic frequency (kHz)	37	37	37	-
Power consumption total (W)	150	600	1500	-
Unit ext. dimensions D/H resp. W/D/H (mm)	304 / 335	650 / 455	568 / 340 / 321	580 / 260 / 300
Tank int. dimensions D/H resp. W/D/H (mm)	240 / 140	600 / 245	505 / 300 / 200	-
Basket internal dimensions D/H (mm)	220 / 70	545 / 70	-	-
For sieves up to (mm)	200	500	200	200 / 203
Weight (kg)	5.0	21.0	11.0	6.8



Elmasonic S 300 H



Sieve cleaning module SRH 4/200



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Ultrasonic Cleaning Units

Elmasonic P

The most professional way to use ultrasound

- Multi-frequency units with 37 kHz and 80 kHz, available in 6 different sizes for typical and difficult analysing and cleaning applications
- 7 special ultrasonic features and intuitive, user-friendly operation display
- power-controlled ultrasound with high energy density for difficult applications (low frequency) or gentle and quiet for the cleaning of capillaries and small items (high frequency)

Elmasonic P with multi-frequency

The units of the Elmasonic P ultrasonic series are ideal helpers for all applications in analytical and medical laboratories as well as for applications in the industrial production. 6 different unit sizes are available. The practical units are easy to operate with a clearly arranged display showing all set and actual parameters. Several special features make the units perfect for intensive cleaning applications and for laboratory jobs.

Multi-frequency

- Standard applications are carried out at **37 kHz**. All units are considerably more powerful than conventional ultrasonic units. If the high energy density should prove too strong for individual cleaning jobs, it can be reduced electronically.
- Operating the unit at **80 kHz** prolongs the cleaning time and is ideal for the treatment of very small and sensitive items. Even tiny capillaries are reached by the imploding microscopic cavitation bubbles. A positive side effect is the comfortably low noise level at this frequency

Unit Features

- Normal:
for laboratory applications, e.g. mixing, dissolving and dispersing
- Pulse-function:
activatable additional power through increased peak performance
- Sweep:
for a uniform distribution of the ultrasonic power throughout the tank
- Degas:
for the quick degassing of samples and HPLC solvents.
- Power control:
optimised power regulation for special cleaning and laboratory applications
- Pause:
interrupts the operation
- Auto-Start:
automatic start when set temperature is reached

Technical Data

	P 30 H	P 60 H	P 70 H	P 120 H	P 180 H	P 300 H
Ultrasonic frequency (kHz)	37 / 80	37 / 80	37 / 80	37 / 80	37 / 80	37 / 80
Ultrasonic power effective (W)	120 / 100	180 / 150	220	330	330	380
Ultrasonic peak power (W)	480 / 400	720 / 600	880	1320	1320	1520
Heating power (W)	250	500	750	1000	1000	1250
Power consumption total (W)	370 / 350	680 / 650	970	1330	1330	1630
Voltage (V)	115–120 or 220–240	115–120 or 220–240	115–120 or 220–240	220–240	220–240	220–240
Volume (l)	2.75	5.75	6.9	12.75	18.0	28.0
Unit external dimensions W/H/D (mm)	300 / 179 / 221	365 / 186 / 271	568 / 179 / 221	365 / 278 / 321	390 / 340 / 321	568 / 340 / 321
Tank internal dimensions W/H/D (mm)	240 / 137 / 100	300 / 151 / 150	505 / 137 / 100	300 / 240 / 200	327 / 300 / 200	505 / 300 / 200
Basket internal dimensions W/H/D (mm)	198 / 106 / 50	255 / 115 / 75	465 / 106 / 50	250 / 190 / 115	280 / 250 / 115	455 / 250 / 115
Drain duct V4A	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"



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