



Ultrasonics.Steam.Ultraclean.



Dental

## Cleaning solutions for dental practice and dental laboratories

Perfect cleaning results with ultrasonic and steam jet cleaning technology

- Elmasteam steam jet technology with 4.5 to 8 bar in different versions
- Efficient ultrasonic cleaning technology with proven cleaning modes and programmes
- Suitable ultrasonic devices for cleaning dental trays
- Elma Dent & Med Clean cleaning agents for ultrasonic applications and for disinfection of instruments

[www.elma-ultrasonic.com](http://www.elma-ultrasonic.com)

# Professional cleaning techniques in dental practice and laboratories



Cleaning tasks in the dental field are highly varied and may vary considerably between dental surgeries and dental labs. Assisting users here in their typical operations are Elma ultrasonic and Elma steam jet devices as well as Elma Dent & Med Clean cleaning and disinfectant agents. Applications with ultrasonic and steam jet appliances can therefore be defined and laid down in the hygiene plan.

Elma ultrasonic cleaning devices are mainly deployed for pre-cleaning used instruments, bonding plaster/cement removal and for intensive or revitalised cleaning of worn prostheses. In combination with the Elma Dent & Med Clean product series, the Elma ultrasonic cleaning devices come up with first-rate cleaning results. Moreover, this goes easy on the cleaned instruments and materials. This is due to the cleaning and dis-

infectant agents being adapted to the various applications and materials.

User safety is very much to the fore with the enzymatically acting EC 15 cleaning agent. With a view to personnel protection, the cleaning agent is also a pre-disinfectant agent for contaminated instruments. Moreover, assured, simple and rapid dosing is possible thanks to the sachets.

Elma steam jet devices are used in the intermediate cleaning steps in the production of prostheses, bridges and inlays. The tools are intensively cleaned for protective and effective removal of residues such as aluminium oxide from the sand jets, oxide residues from soldering/spot welding as well as waxes, abrasives and polishing agents. No chemistry is needed in the process.

## Straightforward dosing of the Elma Dent & Med Clean cleaning products

The dosing charts of the Elma Dent & Med Clean cleaning and disinfectant agents provide an overview of the scope of application, dosing and application parameters of the cleaning and disinfectant products.

This enables users to specifically deploy the cleaning products and to correctly dose them.



## Operations in the Dental Surgery

In the dental surgery instruments need to be both pre-disinfected and reliably cleaned. This is where the ultrasonic devices together with their adapted cleaning products are made use of.

The devices and chemistry allow pre-disinfection, plaster removal/ simultaneous cleaning and cement applicator pre-cleaning to be quickly and easily undertaken.

### Application example in the dental surgery

#### Cleaning instruments with

- Elmasonic S 30H or Elmasonic Denta Pro H and
- EC 15 as the combined disinfectant/cleaning agent (enzymatic cleaning agent) or cleaning with the EC 10 alkaline cleaning agent.
- **Cleaning the instruments in the basket and with one cleaning solution**



*Denta Pro H with basket on cover*

- **Cleaning the instruments in glass beakers and with several cleaning solutions.**

The glass beakers allow incidental parts to be pre-treated and cleaned with various cleaning agents. As such, impression trays, cement/plaster-covered instruments and drills are simultaneously cleaned in their specific solutions.



## Operations in the Dental Lab

Multiple and varied working steps are involved in the dental lab where, for instance, prosthetic materials, bridges and crowns are made for the patients.

Ultrasonic cleaning mainly concerns precision and final cleaning before the above are sent to the surgery. The delivered impression trays can be cleaned with the EC 25 Elma alginate remover. In so doing, the sonic together with the cleaning product infiltrate the bonding points. Alginates and hydrocolloids can then be removed from the tray.



*Elmasonic S ultrasonic device in the dental lab*

Use of the Elmasteam steam jet cleaner is indispensable here. The steam cleaning devices are used during the entire prosthetic materials process chain.



*Elmasteam 8 basic steam jet cleaning unit with evaporating dish and further accessories*

*Denta Pro H with 2 glass beakers*



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# Elmasteam 4<sup>5</sup> basic and Elmasteam 8 basic

## Absolutely indispensable steam cleaning devices in the dental lab

The tools used in the production of prostheses, bridges and inlays are always intensively cleaned at every intermediate step. The high steam and high temperature ensure that residues such as aluminium oxide from sand jets, oxide residues from soldering and spot welding as well as waxes, abrasives and polishing agents are rapidly and gently removed.

A particular problem is associated, for example, with dewaxing. Fine wax residues necessitate the tool being heated up that much more to enable the wax melting point to be exceeded and for the wax to be removed. That is why both the Elmasteam 4<sup>5</sup> basic and the Elmasteam 8 basic have a wet steam function as an option. A rotary regulator at the device alters the steam/water mixture.

Concentrating the steam with water heats up the device that much more. The effect is for the wax to melt and to be blasted off with no residues left behind.

The two Elmasteam steam cleaning devices are extremely powerful and have either a 4.5 steam pressure or one extending up to 8 bar. Both Elmasteam 4<sup>5</sup> basic and Elmasteam 8 basic are available in various designs.

For continuous use, integrated pumps for automatically filling the boiler with water are available as an option. This does away with any refilling by hand and the resulting waiting time. As an option, compressed air can be attached for rapid tool drying.



### Functions and advantages of Elmasteam 4<sup>5</sup> basic:

- 4.5 bar steam pressure with high user safety
- constant steam pressure due to high heating power
- compact design - space saving tabletop model or with wall brackets
- ergonomic designed hand piece with mounting
- easy-to-clean surfaces

### Elmasteam 4<sup>5</sup> basic is available in two versions:

- **Elmasteam 4<sup>5</sup> basic HP**
  - with flexible hand piece Handstück
  - for manual filling
  - with 1.3 m hose
  - positioning independent of water supply
- **Elmasteam 4<sup>5</sup> basic HPW**
  - automatic filling with water for working without interruptions (integrated save-to-run-dry pump)
  - wet steam function for the efficient removal of wax

### Technical data

Mains voltage (V)	220 - 240
Mains frequency (Hz)	50 / 60
Max. power consumption (W)	2800 or 2850
Steam temperature in the tank (°C)	155
Steam temperature at the nozzle (°C)	135

Operating pressure (bar)	4.5
Pressure tank capacity (l)	4.0
Max. tank capacity (l)	3.3
Dimensions W/D/H (mm)	290 / 320 / 420
Weight empty (kg)	6.75 or 8.05

More information on Elmasteam 4<sup>5</sup>



# Elmasteam 8 basic

## Powerful steam jet cleaning units

### Functions and advantages of Elmasteam 8 basic:

- from 4.5 to 8 bar steam pressure with high steam availability
- individual adjustable pressure modes „soft“ and „strong“ for different cleaning tasks
- automatic „Eco“-mode: environment friendly and saves energy and costs
- optional compressed air function for drying the cleaned parts and instruments
- smart decalcification programme with defined cycles. The device automatically calculates the right time for decalcification and implements the decalcification programme item by item.
- flexible hand piece with 1.4 m hose (optional also with 2.3 m)

### Elmasteam 8 basic is available in the following versions:

#### Elmasteam 8 basic HS

- for manual filling with water
- with hand piece

#### Elmasteam 8 basic P-HS-DL

- automatic filling with water,
- with hand piece and
- connection for compressed air

#### Elmasteam 8 basic HS P-HS-DL-ND

- automatic filling with water,
- with hand piece,
- connection for compressed air and
- additionally with wet-steam function

A fixed water connection or an optionally available storage canister can be used for running automatically filled models.



More information on Elmasteam 8

### Technical data

Mains voltage (V)	220 - 240	Operating pressure (bar)	8.0
Mains frequency (Hz)	50 / 60	Pressure tank capacity (l)	5.0
Max. power consumption (W)	3120	Max. tank capacity (l)	3.8
Steam temperature in the tank (°C)	185	Dimensions W/D/H (mm)	285 / 350 / 520
Steam temperature at the nozzle (°C)	160	Weight empty (kg)	20.0

# Elmasonic Denta Pro H

Programme-controlled and optimized for the needs of dentist and dental lab alike



Elmasonic Denta Pro H with Elma Dent & Med Clean cleaning chemistry and suitable accessories

Sweep, Degas and Boost function? The right time and temperature setting? Operating a state-of-the-art ultrasonic device is often complex. But that belongs to the past

Elmasonic Denta Pro H has cleaning programmes covering all the customary applications in the dental field. All the parameters required such as cleaning time, ultrasonic frequency, temperature and optimum use of Sweep, Degas and Boost functions are saved in these cleaning programmes. This enormously facilitates the user's everyday work.

At the same time, the programmes ensure that the optimum cleaning process has been used. This also ensures constantly good cleaning results.



Elmasonic Denta Pro H

## Advantages of Elmasonic Denta Pro H:

- optimum adaptation of all cleaning parameters
- safe-to-run-dry heating with LED-display of the actual and specified temperature
- in the instrument cleaning programme, the safety shut-down mechanism stops any hardening of the blood proteins on the instrument should the critical temperature (55°C) be exceeded.
- the entire tank and enclosure are made of easy-to-care-for stainless steel
- convenient drain



Elmasonic Denta pro H  
with glass beakers and stainless steel cover with holes

## Technical data

Tank operating capacity (l)	1.9	Tank internal dimensions W/D/H (mm)	240 / 137 / 100
Volumen max. (l)	2.75	Weight (kg)	3.3
Unit external dimensions W/D/H (mm)	300 / 179 / 214	Basket internal dimensions W/D/H (mm)	198 / 106 / 50

# EC 15 - Enzymatic Cleaning and Pre-Disinfection Granulate

The highly effective, alkaline enzymatic cleaning and pre-disinfection granulate for treating dental instruments is admirably suited for intensive, material-protective cleaning and pre-disinfection in the ultrasonic bath, immersion bath and thermal disinfectant (CDD). It reliably removes proteins, tissue residues and bio-films.

The content of the sachet is adapted to the operating capacity of the Elmasonic Denta Pro H (or alternatively the Elmasonic P 30(H) / S 30(H)). The pre-programmed, enzymatic cleaning programme in the Elmasonic Denta pro H simplifies the cleaning operation for the user.

The blue colouring of the granulate makes it easy to check on complete flushing of the solution from the instruments. Moreover, the solution has a fresh and hygienic appearance.



Elma Dent & Med Clean EC 15 Enzymatic Cleaning and Pre-Disinfection



Dosing EC 15 in Elmasonic Denta pro H

The virucidal properties ensure a high degree of individual protection. Sequential use of EC 15 and EC 55 will bring about a comprehensively bactericidal and virucidal effectiveness (high-level disinfection chain).

## Studies:

- SMP, Tübingen, Reinigungsleistung nach ISO/TC 198/WG13, Kap. 6.2, 2016-06
- HygCen Germany GmbH, Schwerin, Prof. Dr. H.-P. Werner, high level virucid gemäß DVV-Leitlinie 2012, 2016-06
- HygCen Germany GmbH, Schwerin, Prof. Dr. H.-P. Werner, Viruzidietest im Ultraschall, 2016-06

## Smart accessories - The Convenience Set

Appropriate accessories facilitate the work with ultrasonic devices on a daily basis. Dosing beakers are thus available for dosing the cleaning agents quickly and with every precision. This saves money and brings about reproducible findings!

The polypropylene beakers as an alternative to those of glass can be screwed on. As such, the cleaning agents can be used that much longer.

The beakers are hung into the ultrasonic bath by means of a perforated cover and mountable rubber rings. The ultrasound is now transported via the contact liquid into the beaker. Drills, prostheses and impression trays can be cleaned at the same time with the special-purpose solutions.

The wet beakers can be securely deposited on the tray which also keeps the work station dry.

The beakers can be easily cleaned and sterilised (at 121° C).



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# Elmasonic S

Reliable ultrasonic technology for the effective cleaning of instruments



Elmasonic S 60H with cover and basket



Elmasonic S 30 with cover

Elmasonic S units are available in 13 different sizes and have all technical features that are indispensable for dental applications.

## 37kHz ultrasonic frequency

Typical industrial cleaning applications are carried out reliably and thoroughly in the powerful units.

## Degas-function for quick degassing

The special Degas mode allows quick degassing of the cleaning liquid, particularly in freshly mixed ultrasonic baths.

## Sweep-function for sound field distribution

In Sweep mode the "electronic oscillation" cleans the immersed items independent of the filling level, and the ultrasonic power is the same throughout the tank.

The basis for the optimised ultrasonic performance are the transducer systems. An intelligent generator automatically adjusts itself to the filling level and transmits the required ultrasonic power safely into the liquid.

Elmasonic S ultrasonic units have also

- electronic time and temperature control,
- performance transducer,
- heating safe to run-dry and
- temperature-controlled auto-start function.

Elmasonic S units are thus reliable and cost-saving in daily use. The Elmasonic S 90 H is used for the optimal cleaning of norm tray cassettes with half DIN-norm size. Alternatively, a beaker glass and an instrument basket can also be simultaneously cleaned in the S 90 H.



Elmasonic S 90H with cover

## Technical data

	S 30 / H	S 60 / H	S 90 H
Tank operating capacity (l)	1.9	4.3	7.3
Volumen max. (l)	2.75	5.75	9.4
Unit external dimensions W/D/H (mm)	300 / 179 / 214	365 / 186 / 264	568 / 179 / 264
Tank internal dimensions W/D/H (mm)	240 / 137 / 100	300 / 151 / 150	505 / 137 / 150
Weight (kg)	3.3	5.1	6.4
Basket internal dimensions W/D/H (mm)	198 / 106 / 50	255 / 115 / 75	455 / 106 / 75



# Elmasonic S 130 H

## The spatial miracle under the ultrasonic devices

Tray cassette systems are becoming ever more popular in dental clinics and with the orthodontist. For that reason, the Elmasonic S device series also incorporates a version in which a number of standard tray cassettes can be simultaneously cleaned.

Elmasonic S130H is a special-purpose ultrasonic device for cleaning entire trays. Up to 3 standard tray cassettes or up to 2 glass beakers and an instrument basket can be simultaneously cleaned. As a result, 3 different liquids can be used at the same time e.g. for instruments, prostheses and drills.

The Elmasonic S 130H is an ultrasonic cleaning device that caters for every requirement.



Elmasonic S 130H with cover



Cleaning (and, if necessary, disinfecting) individual instruments in the stainless steel basket



Simultaneous cleaning (and if necessary disinfecting) instruments and drills as well as prostheses in the basket and two glass beakers and perforated lid



Cleaning (and if necessary disinfecting) in up to 4 beaker glasses simultaneously



Cleaning (and if necessary disinfecting) instruments in dental trays in the tray holder

- with up to 3 x 1/1 DIN trays (surgery) and
- with up to 6 1/2 DIN trays (prophylaxis)

### Technical data

Tank operating capacity (l)	11.3
Volumen max. (l)	13.6
Unit external dimensions W/D/H (mm)	400 / 275 / 295

Tank internal dimensions W/D/H (mm)	325 / 225 / 175
Weight (kg)	8.0
Basket internal dimensions W/D/H (mm)	296 / 200 / 75

# Elma Dent & Med Clean

Cleaning chemistry specially formulated for ultrasonic cleaning in the dental field

The Elma Clean cleaning concept in association with the Elmasonic ultrasonic cleaning devices ensure first-rate cleaning results and long service lives of the materials used.

Here you can find the Elma Clean product that has been specially developed and adapted for any of the usual applications and materials.



Here you find more information about Elma Dent & Med Clean cleaning agents.

	Application	pH-value	Dosage	Application parameters
<b>EC 10</b> <b>Universal</b>	Universal cleaning agent for instruments, lab appliances, crowns and prostheses made of stainless steel, ceramic, plastic, glass or rubber. Removes proteins, blood, secretions, tissue/bone residues, greases as well as grinding and polishing pastes.	10	5 % vol. (Given pronounced contamination up to 10 % vol. possible)	4 - 10 min, 60 - 80°C In the immersion bath: 15 - 30 min, 60 - 80°C Fresh blood/protein residues: <55°C
<b>EC 15</b> <b>Enzymatic Cleaning</b> <b>Pre-Disinfection</b>	Granulate for cleaning and pre-disinfecting instruments, rotating precision instruments and endoscopes made of stainless steel, steel, ceramic, plastic, glass and rubber. Removes blood, saliva, proteins, tissue residues and bio-films. EC 15 represents high-level viruzide in keeping with DVV 2012 in the carrier test.	11	0,5 - 1 % vol.	5 - 15 min, 20 - 40°C In the immersion bath: 60 min, 20 - 40°C
<b>EC 25</b> <b>Alginate &amp; Plasters</b>	Ready-to-use cleaning agent for instruments and impression trays made of stainless steel, ceramic, plastic and glass. Removes alginate, dental plasters and casting masses e.g. silicon.	12	Unverdünnt	Dental plasters: 1 - 3 min, 40 - 70°C Alginates: 15 - 45 min, 60 - 70°C
<b>EC 35</b> <b>Prosthesis</b> <b>Daily</b>	Concentrate for the daily cleaning of dentures made of metal, ceramic and plastic. Removes organic contaminations, food left-overs, deposits and bio-films.	7	2 % vol.	3 min at room temperature
<b>EC 40</b> <b>Prosthesis &amp; Cements</b> <b>Intense</b>	For basic prosthesis cleaning and cleaning instruments, crowns and bridges made of stainless steel, ceramic, plastic and rubber. Removes scale, cement, lime, soldering flux and metal oxides.	1	5 % vol. (Given pronounced contamination up to 10 % vol. possible)	5 - 10 min at room temperature
<b>EC 55</b> <b>Instruments &amp; Burrs</b> <b>Disinfection</b>	For cleaning and disinfecting instruments, rotating precision instruments and endoscopes made of stainless steel, steel, plastic and ceramic. Removes blood, saliva, proteins, protein and bone residues. EC 55 is bacterizide and - to a limited extent - viruzide.	10	2 % vol.	Disinfection: 15 min, 20 - 70°C Fresh blood/protein residues: <55°C
<b>EC 60</b> <b>Acidic</b> <b>Intense</b>	For acidic basic cleaning of instruments, laboratory appliances and tools of stainless steel, metals, plastic and glass. Removes rust, lime, grease, oils and dark stains of disinfectant agents and autoclaving.	1	1 - 10 % vol. Immersion bath: >3 % vol.	1 - 5 min, 40 - 70°C

# Adapted in the Elma Process Laboratory

## Cleaning agents - Contamination - Material compatibility



In the Elma process lab our process engineers in collaboration with the customers prepare process solutions for individual cleaning assignments. What arises from this is a concept inclusive of cleaning operations and cleaning chemistry proposals.

Our process lab carries out cleaning tests on a daily basis and examines the findings on the required degree of cleaning. At the same time, our cleaning chemistry is optimized in the adjacent application lab and new cleaning agents are developed.

### Ecologically and economically optimized

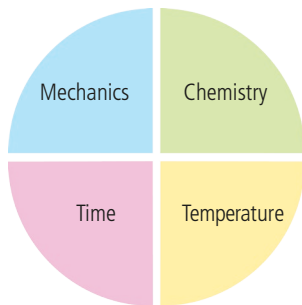
The various cleaning agents for instruments, lab appliances, prostheses and bridges can remove contaminations such as cement, lime, oxides, protein and bone residues as well as grease, oils and rust. EC 55 Instruments & Burrs Disinfection and EC 15 Enzymatic Cleaning and Pre-Disinfection can also be used for (pre-)disinfection.



Ultrasonic and Chemistry.  
The ECOlogical Solution.

In particular, EC 15 – Enzymatic Cleaning and Pre-Disinfection - is a highly effective alkaline enzymatic cleaning and pre-disinfection granulate for treating dental instruments, rotating precision instruments and endoscope accessories. It is for intensive and material-protective cleaning and/or pre-disinfection in the ultrasonic bath, immersion bath or thermal disinfectant (CDD) and removes proteins, tissue residues and bio-films.

### The Sinner's Circle



### The Sinner's Circle and its consistent implementation

The Sinner's Circle stipulates that four parameters - Mechanics, Temperature, Time and Chemistry - are responsible for the effectiveness of a cleaning process. All four factors are, however, conditional one to the other.

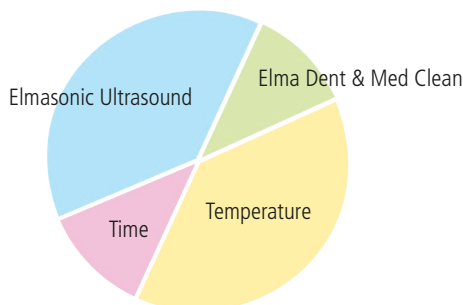
Should, for instance, the physical effect (mechanics) proportion be markedly raised - as in the second Sinner's Circle - then the chemically effective amount can be simultaneously reduced.

Deploying the ultrasonic at a high temperature results in the cleaning chemistry amount being reduced and the cleaning time shortened.

Thus two effects are achieved simultaneously:

- sustained environmental compatibility and
- economically for the user (less cost)

### Sinner's Circle with Elmasonic Ultrasound and Elma Dent & Med Clean cleaning agents



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# About Elma

Ultrasonic and Steam Jet Cleaning Technology · Cleaning Chemistry



Perfect cleaning results and high quality products are the measure of all things. With the large and thought-out product range, Elma is offering sophisticated solutions for dental cleaning tasks.

With our core competencies ultrasonic and steam cleaning technologies and our process laboratory with its own cleaning agent development behind us, we provide competent and reliable advice and tailor-cut cleaning solution for our customers for even the most difficult cleaning tasks. We provide top quality in all manufacturing stages from design an development to service and after-sales-service.

Our process laboratory develops our own, for dental applications optimized, cleaning agents which are produced in our plant.

Years of experience, innovative research and development as well as our industry-specific know-how make us the partner of choice for you. A worldwide network of partners and distributors ensures high availability of devices and equipment with short response times.

Knowing the needs of our customers are our basis for innovation and efficient cooperation. Furthermore we consider trust and reliability to be the foundation of a sustainable partnership.

By providing you with Elma products and services, we want to contribute to your success as reliable, competent partner!

