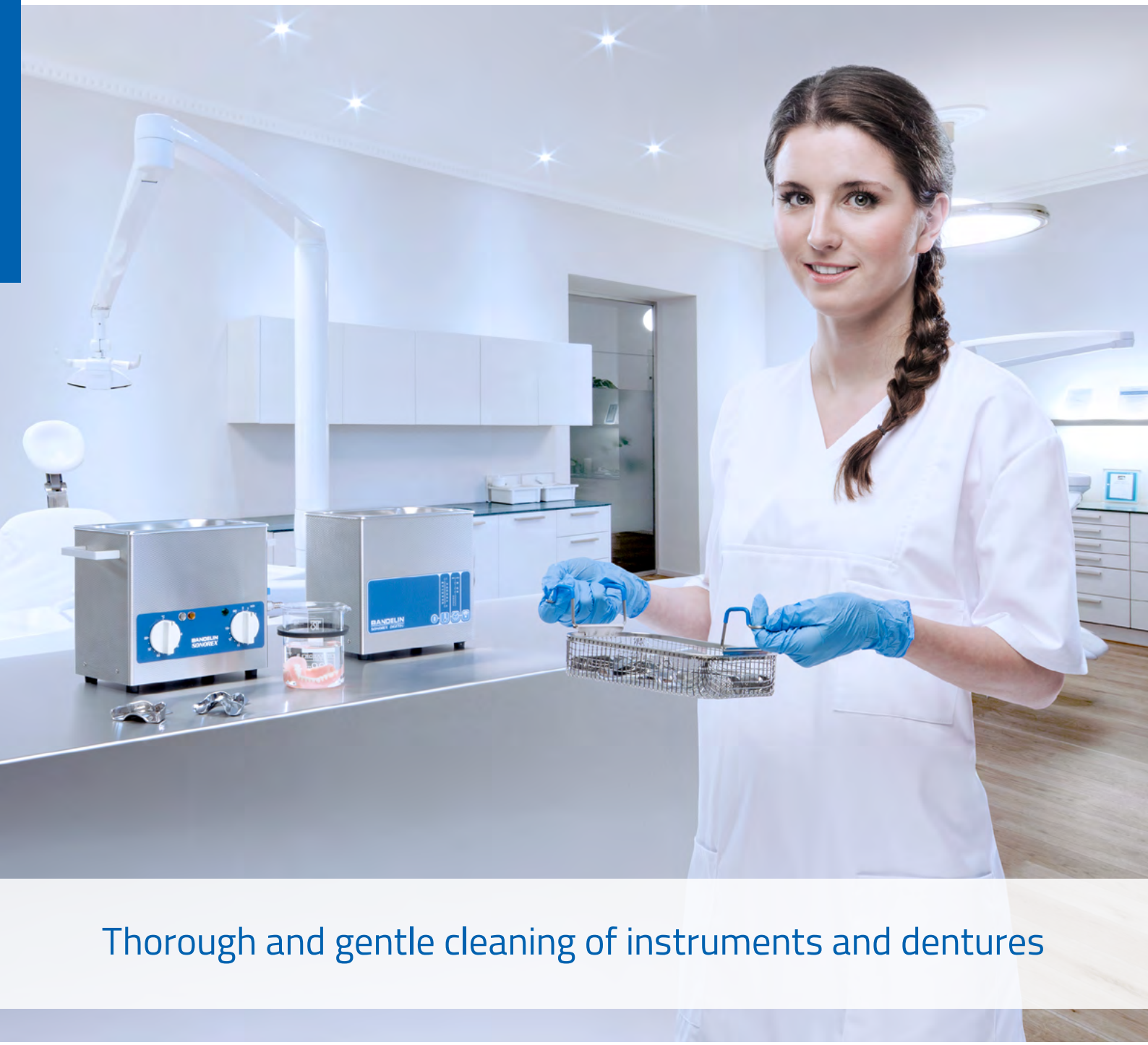
BANDELIN
Ultraschall seit 1955

High-power ultrasound
for dental practice and laboratory



Thorough and gentle cleaning of instruments and dentures

2019

Content

BANDELIN – Ultraschall seit 1955

Company profile

We are a family-owned company located in Berlin and meanwhile run in the third generation, specialised in development, manufacturing and sales of ultrasonic devices, the corresponding accessories and application-specific disinfectants and cleaning agents.

A wide vertical range of manufacture, modern production lines and a motivated staff guarantee a high quality of the products. Our devices contribute to the success of our customers in the laboratory, medical, dental, pharmaceutical, industrial, craft as well as service.

As early as 1955, our company began developing and manufacturing high-performance ultrasonic devices. The constant expansion of the product range and a sharp rise in sales led to an expansion of the production area in 1985. In 1992, ultrasonic homogenisers and controllable, power-constant ultrasonic generators were introduced to the market.
The period from 1996 to 2004 was characterised by the development and production of innovative ultrasonic baths and immersible transducers as well as tube reactors for industrial applications. In the following years, BANDELIN's product range was expanded by new laboratory ultrasonic devices.

After the introduction of the ultrasonic bath for simultaneous cleaning and rinsing of MIC instruments, a further development was launched in 2016 for robotic instruments.

Today, the reputation of our brands SONOREX, SONOPULS, SONOMIC and TRISON stand for the high quality awareness of our employees and is equated in expert circles with ultrasound.
The most important product groups include:

SONOREX	– ultrasonic baths and reactors
SONOPULS	– ultrasonic homogenisers
SONOMIC	– ultrasonic baths for rinsable MIC and standard instruments
TRISON	– ultrasonic baths for robotic-, rinsable MIS and standard instruments
TICKOPUR	– cleaning agents
STAMMOPUR	– disinfectants and cleaning agents

We are innovation leaders in the development of ultrasonic devices and new areas of application. In the past we have registered 79 patents / utility models as well as 68 trade brands. Our participation in various committees in the development of new standards and guidelines serve to ensure the highest standards for ultrasonic applications.
As the only complete supplier of ultrasonic devices, accessories, disinfectants and cleaning agents with approvals and certifications according to ISO 9001 and ISO 13485, BANDELIN is the market leader.
Over one million units have already been delivered to our customers.

More information about our company you will find in this Company history for download:
bandelin.com/prospekte/Company_history_GB.pdf

Ultrasonic baths for cleaning of dental instruments

Fast cleaning results with ultrasound

Start | 3 seconds | 5 seconds | 8 seconds | 10 seconds

Sonication of a dental forceps contaminated with blood residues, in an ultrasonic bath SONOREX DIGITEC DT 102 H with intensive cleaner STAMMOPUR R.
The contamination is detached from the instrument after few seconds.

Advantages of ultrasound to the cleaning

- Rapid cleaning of places difficult to reach such as cavities, holes etc. without mechanical damage.
- gentle intensive cleaning
- fast instrument circulation
- Reduction of chemical disinfection (time) by catalytic effect when using suitable preparations (e.g. STAMMOPUR DR 8).
- Economical use of resources as water, chemicals and electricity.

Recommended liquids

- Only water with appropriate additives do clean or disinfect properly. Ultrasound alone will not disinfect.
- The STAMMOPUR concentrates have been especially developed for cleaning and disinfection in ultrasonic baths.

When is a heater recommended

Ultrasonic baths without heater:

- For cleaning after dry deposit as the protein starts to coagulate at a temperature of 40 °C (104 °F).
- Disinfection solutions may not be warmed up.

Ultrasonic baths with heater:

- For cleaning after wet deposit or for basic cleaning.
- Contaminations like fats and waxes are removed faster.

What kind of accessories should be used

- Parts to be cleaned must not be placed on the tank bottom.
- Instruments are not to be stapled and baskets are not to be overloaded.
- Instruments like forceps and scissors must be opened completely or detached, if necessary.
- Instruments must be covered completely with liquid.

Digital or analogue?
Your Choice!

	High-power ultrasonic baths with digital operation	High-power ultrasonic baths with easy-to-operate turning knobs
		
	SONOREX DIGITEC DT	**SONOREX SUPER RK**
Capacity [l]	0.9 – 5.5	0.9 – 5.5
Sweep (SweepTec)	✓	✓
Rapid degassing DEGAS	✓	–
Timer [min]	1, 2, 3, 4, 5, 10, 15, 30, ∞	1 – 15, ∞
Safety shut-down	after 12 hours	–
Heating	optional, version "H"	optional, version "H"
Degree of protection	IP 33– splash-proof	IP 32 – drip-proof

Our favorite!

SONOREX DIGITEC DT 102 H
The most powerful 3-litres ultrasonic bath

▪ 50 % more ultrasound ▪ hard chromium plated oscillating tank ▪ 3 years long-term warranty ▪

hygienic
– the flat front allows optimal disinfection and cleaning of the surface – no space for hidden germ accumulation

easy to clean
splash-proof
stainless steel housing

strong cleaning power
by 50 % more ultrasound

ON / OFF function

temperature display
with excess temperature signal

fill level mark
for safe filling

hard chromium plated oscillating tank
especially durable

drain
one-piece drain,
welded with ball valve

DEGAS function
+ ON / OFF ultrasound

programming
– saves the last setting time after switching off

SONOREX DIGITEC

Ultrasonic baths with digital operation and rapid degassing

Front to rear: DT 31 H, DT 100 H, DT 102 H and DT 255 H

Product features:

- stainless steel oscillating tank with high-performance oscillating systems, ultrasonic frequency 35 kHz
- **digital timer** for 1, 2, 3, 4, 5, 10, 15, 30 min and continuous operation
- rapid degassing DEGAS
- fill level mark for safe filling
- compact, easy to clean stainless steel housing
- rubber feet for safe positioning
- as of type DT 102 H, outlet with ball valve for easy emptining of bath liquid
- depending on type, comes with heating and handles

Type	Internal tank dimensions l × w × d [mm]	Capa-city [l]	Code no.	External dimensions l × w × h [mm]	Ultrasonic peak output [W]	Ultrasonic nominal output [W]	Heating power [W]	Features
DT 31	190 × 85 × 60	0.9	3200	205 × 100 × 180	160	40	–	–
DT 31 H	190 × 85 × 60	0.9	3220	205 × 100 × 180	160	40	70	heating
DT 100	240 × 140 × 100	3.0	3210	260 × 160 × 250	320	80	–	–
DT 100 H	240 × 140 × 100	3.0	3230	260 × 160 × 250	320	80	140	heating
DT 102 H	240 × 140 × 100	3.0	3235	260 × 160 × 250	480	120	140	heating, drain with ball valve G ¼, handles
DT 255	300 × 150 × 150	5.5	3215	325 × 175 × 295	640	160	–	drain with ball valve G ¼, handles
DT 255 H	300 × 150 × 150	5.5	3240	325 × 175 × 295	640	160	280	heating, drain with ball valve G ¼, handles

SONOREX SUPER

Ultrasonic baths with easy-to-operate turning knobs

Front to rear: RK 31 H, RK 100 H, RK 102 H and RK 255 H

Product features:

- stainless steel oscillating tank with high-performance oscillating systems, ultrasonic frequency 35 kHz
- **analogue timer** for 1 – 15 min and continuous operation
- fill level mark for safe filling
- compact, easy to clean stainless steel housing
- rubber feet for safe positioning
- as of type RK 102 H, drain outlet with ball valve for easy discharge of bath liquid
- depending on type, comes with heating and handles

Type	Internal tank dimensions l × w × d [mm]	Capa-city [l]	Code no.	External dimensions l × w × h [mm]	Ultrasonic peak output [W]	Ultrasonic nominal output [W]	Heating power [W]	Features
RK 31	190 × 85 × 60	0.9	329	205 × 100 × 180	160	40	–	–
RK 31 H	190 × 85 × 60	0.9	044	205 × 100 × 180	160	40	70	heating 65 °C fixed setting
RK 100	240 × 140 × 100	3.0	301	260 × 160 × 250	320	80	–	–
RK 100 H	240 × 140 × 100	3.0	312	260 × 160 × 250	320	80	140	heating
RK 102 H	240 × 140 × 100	3.0	303	260 × 160 × 250	480	120	140	heating,drain with ball valve G ¼, handles
RK 255	300 × 150 × 150	5.5	3066	325 × 175 × 295	640	160	–	drain with ball valve G ¼, handles
RK 255 H	300 × 150 × 150	5.5	316	325 × 175 × 295	640	160	280	heating, drain with ball valve G ¼, handles

SONOREX

Cleaning in cassettes

Or another application? Everything is possible!

DT 514 H (left) and RK 514 H (right)

Cleaning of instruments, loaded in cassettes, in the cassette holder KAH 14.1 and using TICKOMED 1

- up to 2 × 1/1 DIN cassettes, for surgery.
- up to 4 × 1/2 DIN cassettes, for prophylaxis.
- up to 8 × 1/4 DIN cassettes, for diagnostics and prophylaxis.

Cleaning and chemical disinfection of instruments placed in the insert basket K 14 with STAMMOPUR DR 8.

Cleaning and chemical disinfection of burs in insert beaker SD 06 to be placed into positioning lid DE 255 with STAMMOPUR DB and cement removal of dental prosthetics with STAMMOPUR Z.

Cleaning and chemical disinfection of instruments in two insert baskets K 5 C with STAMMOPUR DR 8, in TICKOMED 1 or STAMMOPUR RD 5.

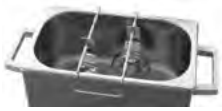
Treatment of instruments, burs and prosthetics in the basket and with the support of a positioning lid in two insert beakers:

- Cleaning and chemical disinfection of instruments in the K 5 C basket with STAMMOPUR DR 8.
- Removing of cement residues from prosthetics in insert beaker SD 06 with STAMMOPUR Z.
- Cleaning and chemical disinfection of burs in a second SD 06 insert beaker in the KD 0 basket in STAMMOPUR DB.

Type	DT 514 H	RK 514 H
Internal tank dimensions l × w × d [mm]	325 × 300 × 150	
Capacity [l]	13.5	
Code no.	3211	207
External dimensions l × w × h [mm]	355 × 325 × 305	
Ultrasonic peak output [W]	860	
Ultrasonic nominal output [W]	215	
Heating power [W]	600	
Features	with heating, drain with ball valve G ½, handles	

SONOREX
Accessories

Appropriate accessories facilitate ultrasonic application and simultaneously protect oscillating tank and parts to be cleaned.
Objects to be cleaned or vessels must not be placed on the bottom of the ultrasonic tank!

Accessories	Material	Function	
Lid D	stainless steel	To cover the oscillating tank. Protects the bath fluid from external contamination. Condensation water is discharged into the tank. Recommended for TRBA 250.	 D 100
Insert basket K	stainless steel	For direct cleaning of instruments (probes, pressers, syringes) in the oscillating tank. Optimum permeability of ultrasound.	 K 3 C
Insert basket K	plastic	For cleaning of sensitive surfaces. The basket is perforated.	 PK 2 C
Insert tub KW	plastic	For cleaning in aggressive liquids. Tank with lid, temperature resistant up to 60 °C.	 KW 3
Cassette holder KAH	stainless steel	For simultaneous sonication of up to 2 cassettes (1/1 DIN).	 KAH 14.1
Rack for cleaning of impression trays LT	stainless steel	With silicone spacer for save fixing of up to 8 impression trays.	 LT 102
Frame for foil test FT	stainless steel	The foil test is a simple procedure to demonstrate the intensity and distribution of cavitation in an ultrasonic bath (see also page 12).	 FT 1

Accessories for indirect cleaning

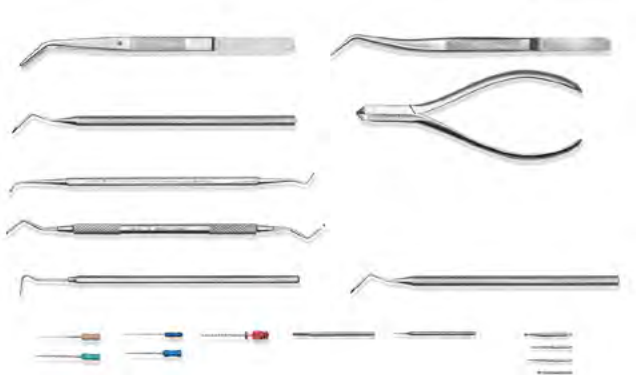
Positioning lid DE	stainless steel	For fixing the insert beakers.	 DE 255
Insert beakers EB, PD, SD	stainless steel (EB) plastic (PD) glass (SD)	Indirect cleaning of small parts in aggressive liquids or solvents.	 EB 05 PD 06 SD 06
Inset baskets KD, PD	stainless steel (KD) plastic (PD)	For insertion in the insert beakers of very small parts, e.g. burs and very sensitive surfaces.	 KD 0 PD 04

	RK 31 / H DT 31 / H	RK 100 / H DT 100 / H RK 102 H DT 102 H	RK 255 / H DT 255 / H	RK 514 / H DT 514 / H	
Lid Code no.	**D 08** 218	**D 100** 3003	**D 255** 3007	**D 514** 3010	
Insert basket l × w × d [mm] Code no.	**K 08** 170 × 65 × 50 209	**K 3 C** 200 × 110 × 40 3025	**K 5 C** 260 × 110 × 40 3027	**K 14** 275 × 245 × 50 354	**K 5 C (2 pcs.)** 260 × 110 × 40 302
Insert basket l × w × d [mm] Code no.	– 	**PK 2 C** 187 × 90 × 56 3082	**K 5 P** 254 × 96 × 130 113	–	
Insert tub l × w × d [mm] Code no.	– 	**KW 3** 195 × 115 × 88 715	**KW 5** 254 × 96 × 130 240	**KW 14** 280 × 215 × 145 613	
Cassette holder l × w [mm] Code no.	– 	– 	– 	KAH 14.1 305 × 208 × 52 7501	
Rack for cleaning of impression trays Code no.	– 	**LT 102** 371	– 	– 	
Foil test frame Code no.	**FT 1** 3190	**FT 4** 3074	**FT 4** 3074	**FT 14** 3084	

Positioning lid Code no.	**DE 08** 278			**DE 100** 3017			**DE 255** 3028			**DE 255** (2 pcs.) 3028		**DE 514** 3039
Insert beakers Capacity (ml) Code no.	**SD 04** 400 168	**KB 04** 400 3000	**SD 05** 600 575	**SD 06** 600 330	**PD 06** 600 299	**EB 05** 600 340	**SD 06** 600 330	**PD 06** 600 299	**EB 05** 600 340	**SD 06** 600 330	**PD 06** 600 299	**EB 05** 600 340
Inset baskets Code no.	**PD 4** 126			**KD 0** 370	**PD 4** 126		**KD 0** 370	**PD 4** **126**		**KD 0** 370	**PD 4** 126	

Recommendations for use

BANDELIN ultrasonic baths enable a fast and thorough cleaning of dental instruments, if using the right accessories and agents made especially for use with ultrasonic baths.
Ultrasound removes impurities from the deepest pores. Even hard-to-access spots, surfaces, corners and openings can be reached by ultrasound ("electronic brushing"). It is important to consider that all cleaning objects must be thoroughly rinsed under running water after use in the ultrasonic bath.



Objective	Objects to be cleaned	Agent	Instructions for use
Cleaning and chemical disinfection	metal instruments e.g. forceps, matrices, cofferdam clamps, root canal instruments (with anodised handle), syringes, glass parts e.g. dappen dishes with/ without lid, petri dishes, prostheses dishes, bur boxes	STAMMOPUR DR 8	Place in the stainless steel or plastic insert basket, hang the basket in the oscillating tank.
	rotating instruments e.g. burs and cutters, root canal instruments (with plastic handle)	STAMMOPUR DB	Place in the inset basket and set the basket in the insert beaker. Place the positioning lid on top of the oscillating tank, hang the insert beaker into the positioning lid.
Cleaning	instruments made of stainless steel, syringes, glass parts, prostheses (new manufacture) e.g.abutments, crowns, bars and bridges	STAMMOPUR RD 5	Place in the stainless steel or plastic insert basket, hang the basket in the oscillating tank.
	instruments made of stainless steel in cassettes	STAMMOPUR RD 5	Cleaning is only possible in the SONOREX DIGITEC DT 514 H or SONOREX SUPER RK 514 H ultrasonic bath. Hang a maximum of two cassettes in the oscillating tank using the stainless steel KAH 14.1 cassette holder.
	instruments made of light metals e.g. model analogs, root canal instruments	TICKOMED 1	Place in the stainless steel or plastic insert basket, hang the basket in the oscillating tank.
Removal of cement residues and tartar from dental prostheses	instruments made of stainless steel, glass parts e.g. mixing glass plates and cement spatulas, prostheses (tartar) e.g. metal denture, orthodontic appliances and retainers	STAMMOPUR Z	Place objects in the plastic insert tub with the polluted side downwards and hang the tub in the oscillating tank, or place the positioning lid on top of the oscillating tank and hang the insert beaker in the positioning lid.
Removal of alginate deposits	instruments made of stainless steel, glass parts	STAMMOPUR AG	Place instruments in the insert basket, hang the basket in the oscillating tank. Some alginates swell during sonication and form a gelatin-like mass that absorbs the ultrasound. They are pre-soaked by the sonication and can be removed with a strong water jet.
	impression trays	STAMMOPUR AG	Slide them over the impression tray holder and hang in the oscillating tank. Some alginates swell during sonication and form a gelatin-like mass that absorbs the ultrasound. They are pre-soaked by the sonication and can be removed with a strong water jet.
Removal of dental plaster	instruments made of stainless steel, glass parts, prostheses (new manufacture)	STAMMOPUR AG	Place in the stainless steel and hang the basket in the oscillating tank.

Cleaning and disinfection agents

Optimum cleaning results require the application of appropriate cleaning and disinfection agents. Many cleaning and disinfection agents contain substances that can attack the stainless steel oscillating tank.

STAMMOPUR and TICKOMED have been especially developed for ultrasonic application. All agents are environmentally friendly and biodegradable.

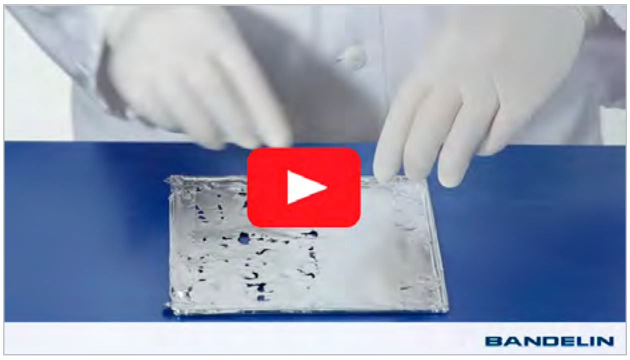
Agents	Description	Application with ultrasound (time)	Litres	Code no.
STAMMOPUR DR 8 – VAH-certified – Simultaneous instrument disinfection and intensive cleaning CE 0124	Disinfection and intensive cleaning of instruments after dry deposit. High blood dissolution, for instruments heavily contaminated with incrustations of blood and secretions. Short irradiation time. Solution applicable under strain for 3 sequent days. Very high material compatibility. **Concentrate**. Non-odiferous. Without aldehydes, chlorine, phenols. Bactericidal, yeasticidal, virucidal against Vaccinia, BVDV, Papova, Adeno, HBV, HCV, HIV, H5N1, mildly alkaline pH 9.4 at 1 %. Labelling in accordance with CLP. Signal word: Danger, GHS05-GHS07-GHS08-GHS09 100 g contain: 9.9 g bis(3-aminopropyl)dodecylamine, 8.4 g didecylmethylpolyoxyethylammoniumpropionate, 5 - 10 % non-ionic tensides, 30 - 50 % solvents, complexing agents, pH-regulators, Expertises: Bacteria, fungi: Dr. F.-A. Pitten, Gießen 11/05, Prof. Dr. Werner, Schwerin 10/08; HBV/ HIV: Prof. Dr. Frösner, München 08/99; Time durability: Prof. Dr. Werner, Schwerin 10/99; Ultrasound time reduction: Dr. Färber, Gießen 08/02; Vaccinia, BVDV, H5N1: Prof. Dr. L. Döhner, Dr. D. Becher, Greifswald 08/06; Papova: Prof. Dr. L. Döhner, Dr. D. Becher, Greifswald 01/07. Adeno: Dr. M. Büttner, Dr. D. Becher, Greifswald 11/08.	**2 %, – 5 min** Papova with high protein burden: 2 %, – 10 min Adeno with high protein burden: 3 %, – 15 min application without ultrasound: 1 %, – 60 min 2 %, – 30 min 3 %, – 15 min	 2 5 25	 972 974 936
STAMMOPUR RD 5 Intensive cleaner for instruments CE	Removes obstinate, encrusted contaminations like blood, secretions, sputum, grinding and polishing residues, fat, wax, tissue residues, filling materials from instruments, devices, dentures, crowns. **Concentrate**. High material compatibility, with corrosion protection. Not for light metals. Alkaline, pH 10.9 bei 1 %. Labelling in accordance with CLP. Signal word: Danger, GHS05	 3 %, 2 – 10 min	2 5 25	827 901 902
TICKOMED 1 Universal cleaner for instruments CE	Removes blood, secretions, sputum, grinding and polishing paste, fat, wax, tissue residues, filling materials, dentinal splinters from instruments, devices, dentures, burs. **Concentrate**. Very high material compatibility, with corrosion protection. Also for use on light metals. Applicable as contact liquid. Mildly alkaline, pH 9.0 at 1 %. Labelling in accordance with CLP. Signal word: Danger, GHS05	 3 %, 2 – 10 min	2 5 25	904 949 961
STAMMOPUR Z Cement remover and denture cleaner CE	Removes dental cements (except some glasionomer cements), tartar, provisional filling materials, embedding materials, oxides and fluxes from instruments and dentures. **Concentrate**. For stainless steel, precious metals, plastics, ceramics. Not for use on light metals. Caution with damaged chrome-plated material. Application only in insert beakers (indirect sonication, contact liquid STAMMOPUR DR 8 or TICKOMED 1). Acid, pH 1.9 at 1 %. Labelling in accordance with CLP. Signal word: Danger, GHS05	 5 %, 2 – 10 min	2 5 25	822 928 929
STAMMOPUR AG Plaster and alginat remover CE	Removes plasters, alginates, impressing and embedding materials from impression trays, dental tools and accessories. **Ready for use**. Very high material compatibility. For all materials, also for light metals. Also applicable without ultrasound e.g.: plaster traps, vacuum mixing devices undiluted for 15–120 min. Mildly alkaline, pH 8.0 Labelling in accordance with CLP. Signal word: Danger, GHS05	 undiluted, 3 – 10 min	2 5 25	825 906 907
STAMMOPUR DB – VAH-certified – Bur disinfection and cleaning CE 0124	Simultaneous disinfection and cleaning of rotating dental instruments like burs, cutters and files. **Ready for use**. With corrosion protection. High material compatibility. Caution with light metals. Not for alkali- and alcohol-sensitive materials. Application only in insert beakers (indirect sonication, contact liquid STAMMOPUR DR 8 or TICKOMED 1). Active against bacteria (incl. Tb.-B.), mycobactericide, fungi, viruses (according to EN 14476 with high protein burden). Alkaline, pH 13.0. Labelling in accordance with CLP. Signal word: Warning, GHS02-GHS07 100 g contain: 30 g 2-Ppropanol, 0,1 g didecyldimethylammononiumchloride, sodium hydroxide, inhibitors, inorganic salts. Expertises: Bacteria, fungi: Prof. Dr. Wille, 06/04 Gießen; Dipl. Biol. T. Koburger, 07/11 and 12/16 Greifswald; PD Dr. med. F. A. Pitten, Gießen 09/11; Viruses according to EN 14476: Dr. D. Becher, 12/16 Greifswald; Ultrasound time reduction: Prof. Dr. Hartmann, 03/94 Berlin.	 undiluted, 5 min	2 5 25	821 984 933

Practical work aids

Foil test – Testing of ultrasonic baths

A foil test (Investigations on test procedures for ultrasonic cleaners, IEC/TR 60886: 1987-03) is recommended for testing ultrasonic baths. It is to be conducted upon initial startup, and at regular intervals thereafter (e.g. every 3 months). The frequency of testing is the responsibility of the user.
The foil test is a simple procedure to demonstrate the intensity and distribution of cavitation in an ultrasonic bath. To do so, aluminium foil is stretched over a foil test frame. It is perforated or destroyed to a certain degree by cavitation, dependingon the duration.
For purposes of reproducibility, it is important that the test conditions remain constant:

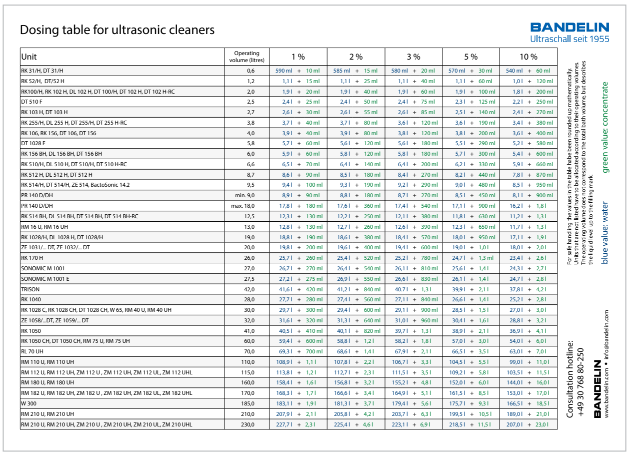
- fill level in the oscillating tank (⅔)
- temperature of tank contents
- degassing time, if needed (degassing 5 to 30 min. before the test, depending on the tank contents)
- frame positioning
- foil properties (thickness, surface)
- sonication time
- concentration and type of ultrasound preparation



http://bandelin.com/foil_test/

Foils can be archived in a suitable way (scanning, photos, etc.) This allows the foils to be compared at any time. The perforated areas of all foils should have approx. the same dimensions and distribution – the results are never identical.
A process validation, e.g. for the treatment of medical products,can only be achieved by conducting regular foil tests.
To execute the foil test, different foil test frames FT can be ordered from the manufacturer (subject to charge, see page 9). The foil test frames are suitable for a wide range of tank dimensions.
Aluminium household foil is also required to conduct the test and is not included in the delivery.

Dosing of agents



Dosing table for ultrasonic cleaners

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Unit	Operating volume (litres)	1 %	2 %	3 %	5 %	10 %
RK 31/H, DT 31/H	0,6	590 ml + 10 ml	585 ml + 15 ml	580 ml + 20 ml	570 ml + 30 ml	540 ml + 60 ml
RK 52/H, DT/52 H	1,2	1,1 l + 15 ml	1,1 l + 25 ml	1,1 l + 40 ml	1,1 l + 60 ml	1,0 l + 120 ml
RK100/H, RK 102 H, DL 102 H, DT 100/H, DT 102 H, DT 102 H-RC	2,0	1,9 l + 20 ml	1,9 l + 40 ml	1,9 l + 60 ml	1,9 l + 100 ml	1,8 l + 200 ml
DT 510 F	2,5	2,4 l + 25 ml	2,4 l + 50 ml	2,4 l + 75 ml	2,3 l + 125 ml	2,2 l + 250 ml
RK 103 H, DT 103 H	2,7	2,6 l + 30 ml	2,6 l + 55 ml	2,6 l + 85 ml	2,5 l + 140 ml	2,4 l + 270 ml
RK 255/H, DL 255 H, DT 255/H, DT 255 H-RC	3,8	3,7 l + 40 ml	3,7 l + 80 ml	3,6 l + 120 ml	3,6 l + 190 ml	3,4 l + 380 ml
RK 106, RK 156, DT 106, DT 156	4,0	3,9 l + 40 ml	3,9 l + 80 ml	3,8 l + 120 ml	3,8 l + 200 ml	3,6 l + 400 ml
DT 1028 F	5,8	5,7 l + 60 ml	5,6 l + 120 ml	5,6 l + 180 ml	5,5 l + 290 ml	5,2 l + 580 ml
RK 156 BH, DL 156 BH, DT 156 BH	6,0	5,9 l + 60 ml	5,8 l + 120 ml	5,8 l + 180 ml	5,7 l + 300 ml	5,4 l + 600 ml
RK 510/H, DL 510 H, DT 510/H, DT 510 H-RC	6,6	6,5 l + 70 ml	6,4 l + 140 ml	6,4 l + 200 ml	6,2 l + 330 ml	5,9 l + 660 ml
RK 512 H, DL 512 H, DT 512 H	8,7	8,6 l + 90 ml	8,5 l + 180 ml	8,4 l + 270 ml	8,2 l + 440 ml	7,8 l + 870 ml
RK 514/H, DT 514/H, ZE 514, BactoSonic 14.2	9,5	9,4 l + 100 ml	9,3 l + 190 ml	9,2 l + 290 ml	9,0 l + 480 ml	8,5 l + 950 ml
PR 140 D/DH	min. 9,0	8,9 l + 90 ml	8,8 l + 180 ml	8,7 l + 270 ml	8,5 l + 450 ml	8,1 l + 900 ml
PR 140 D/DH	max. 18,0	17,8 l + 180 ml	17,6 l + 360 ml	17,4 l + 540 ml	17,1 l + 900 ml	16,2 l + 1,8 l
RK 514 BH, DL 514 BH, DT 514 BH, DT 514 BH-RC	12,5	12,3 l + 130 ml	12,2 l + 250 ml	12,1 l + 380 ml	11,8 l + 630 ml	11,2 l + 1,3 l
RM 16 U, RM 16 UH	13,0	12,8 l + 130 ml	12,7 l + 260 ml	12,6 l + 390 ml	12,3 l + 650 ml	11,7 l + 1,3 l
RK 1028/H, DL 1028 H, DT 1028/H	19,0	18,8 l + 190 ml	18,6 l + 380 ml	18,4 l + 570 ml	18,0 l + 950 ml	17,1 l + 1,9 l
ZE 1031/... DT, ZE 1032/... DT	20,0	19,8 l + 200 ml	19,6 l + 400 ml	19,4 l + 600 ml	19,0 l + 1,0 l	18,0 l + 2,0 l
RK 170 H	26,0	25,7 l + 260 ml	25,4 l + 520 ml	25,2 l + 780 ml	24,7 l + 1,3 ml	23,4 l + 2,6 l
SONOMIC M 1001	27,0	26,7 l + 270 ml	26,4 l + 540 ml	26,1 l + 810 ml	25,6 l + 1,4 l	24,3 l + 2,7 l
SONOMIC M 1001 E	27,5	27,2 l + 275 ml	26,9 l + 550 ml	26,6 l + 830 ml	26,1 l + 1,4 l	24,7 l + 2,8 l
TRISON	42,0	41,6 l + 420 ml	41,2 l + 840 ml	40.7 l + 1,3 l	39,9 l + 2,1 l	37,8 l + 4,2 l
RK 1040	28,0	27,7 l + 280 ml	27,4 l + 560 ml	27,1 l + 840 ml	26,6 l + 1,4 l	25,2 l + 2,8 l
RK 1028 C, RK 1028 CH, DT 1028 CH, W 65, RM 40 U, RM 40 UH	30,0	29,7 l + 300 ml	29,4 l + 600 ml	29,1 l + 900 ml	28,5 l + 1,5 l	27,0 l + 3,0 l
ZE 1058/...DT, ZE 1059/... DT	32,0	31,6 l + 320 ml	31,3 l + 640 ml	31,0 l + 960 ml	30,4 l + 1,6 l	28,8 l + 3,2 l
RK 1050	41,0	40,5 l + 410 ml	40,1 l + 820 ml	39,7 l + 1,3 l	38,9 l + 2,1 l	36,9 l + 4,1 l
RK 1050 CH, DT 1050 CH, RM 75 U, RM 75 UH	60,0	59,4 l + 600 ml	58,8 l + 1,2 l	58,2 l + 1,8 l	57,0 l + 3,0 l	54,0 l + 6,0 l
RL 70 UH	70,0	69,3 l + 700 ml	68,6 l + 1,4 l	67,9 l + 2,1 l	66,5 l + 3,5 l	63,0 l + 7,0 l
RM 110 U, RM 110 UH	110,0	108,9 l + 1,1 l	107,8 l + 2,2 l	106,7 l + 3,3 l	104,5 l + 5,5 l	99,0 l + 11,0 l
RM 112 U, RM 112 UH, ZM 112 U , ZM 112 UH, ZM 112 UL, ZM 112 UHL	115,0	113,8 l + 1,2 l	112,7 l + 2,3 l	111,5 l + 3,5 l	109,2 l + 5,8 l	103,5 l + 11,5 l
RM 180 U, RM 180 UH	160,0	158,4 l + 1,6 l	156,8 l + 3,2 l	155,2 l + 4,8 l	152,0 l + 6,0 l	144,0 l + 16,0 l
RM 182 U, RM 182 UH, ZM 182 U , ZM 182 UH, ZM 182 UL, ZM 182 UHL	170,0	168,3 l + 1,7 l	166,6 l + 3,4 l	164,9 l + 5,1 l	161,5 l + 8,5 l	153,0 l + 17,0 l
W 300	185,0	183,1 l + 1,9 l	181,3 l + 3,7 l	179,4 l + 5,6 l	175,7 l + 9,3 l	166,5 l + 18,5 l
RM 210 U, RM 210 UH	210,0	207,9 l + 2,1 l	205,8 l + 4,2 l	203,7 l + 6,3 l	199,5 l + 10,5 l	189,0 l + 21,0 l
RM 210 U, RM 210 UH, ZM 210 U , ZM 210 UH, ZM 210 UL, ZM 210 UHL	230,0	227,7 l + 2,3 l	225,4 l + 4,6 l	223,1 l + 6,9 l	218,5 l + 11,5 l	207,0 l + 23,0 l

For safe handling the values in the table habe been rounded up mathematically. Units that are not listed have to be allocated according to their operating volumes. The operating volume does not correspond to the total bath volume, but describes the liquid level up to the filling mark.

blue value: water green value: concentrate

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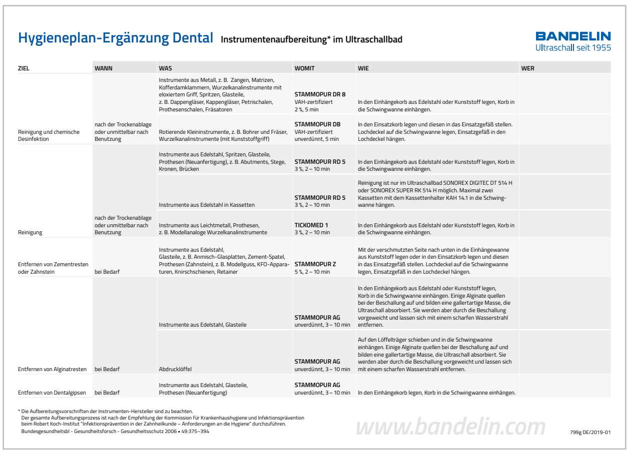
For optimum cleaning results in the ultrasonic bath, specially formulated cleaning and disinfection agents are required alongside ultrasound performance, temperature and time.
To facilitate dosing, we provide a dosing table available that is only suitable for our ultrasonic baths. The dosage table is available online: dosingtable.bandelin.com

The complement to hygiene plan



Hygieneplan-Ergänzung Dental Instrumentenaufbereitung* im Ultraschallbad

BANDELIN
Ultraschall seit 1955

ZIEL	WANN	WAS	WOMIT	WIE	WER
		Instrumente aus Metall, z. B. Zangen, Matrizen, Kofferdamklammern, Wurzelkanalinstrumente mit eloxiertem Griff, Spritzen, Glasteile, z. B. Dappengläser, Kappengläser, Petrischalen, Prothesenschalen, Fräsatoren	**STAMMOPUR DR 8** VAH-zertifiziert 2 %, 5 min	In den Einhängekorb aus Edelstahl oder Kunststoff legen, Korb in die Schwingwanne einhängen.	
Reinigung und chemische Desinfektion	nach der Trockenablage oder unmittelbar nach Benutzung	Rotierende Kleininstrumente, z. B. Bohrer und Fräser, Wurzelkanalinstrumente (mit Kunststoffgriff)	**STAMMOPUR DB** VAH-zertifiziert unverdünnt, 5 min	In den Einsatzkorb legen und diesen in das Einsatzgefäß stellen. Lochdeckel auf die Schwingwanne legen, Einsatzgefäß in den Lochdeckel hängen.	
		Instrumente aus Edelstahl, Spritzen, Glasteile, Prothesen (Neuanfertigung), z. B. Abutments, Stege, Kronen, Brücken	**STAMMOPUR RD 5** 3 %, 2 – 10 min	In den Einhängekorb aus Edelstahl oder Kunststoff legen, Korb in die Schwingwanne einhängen.	
		Instrumente aus Edelstahl in Kassetten	**STAMMOPUR RD 5** 3 %, 2 – 10 min	Reinigung ist nur im Ultraschallbad SONOREX DIGITEC DT 514 H oder SONOREX SUPER RK 514 H möglich. Maximal zwei Kassetten mit dem Kassettenhalter KAH 14.1 in die Schwingwanne hängen.	
Reinigung	nach der Trockenablage oder unmittelbar nach Benutzung	Instrumente aus Leichtmetall, Prothesen, z. B. Modellanaloge Wurzelkanalinstrumente	**TICKOMED 1** 3 %, 2 – 10 min	In den Einhängekorb aus Edelstahl oder Kunststoff legen, Korb in die Schwingwanne einhängen.	
Entfernen von Zementresten oder Zahnstein	bei Bedarf	Instrumente aus Edelstahl, Glasteile, z. B. Anmisch-Glasplatten, Zement-Spatel, Prothesen (Zahnstein), z. B. Modellguss, KFO-Apparaturen, Knirschschienen, Retainer	**STAMMOPUR Z** 5 %, 2 – 10 min	Mit der verschmutzten Seite nach unten in die Einhängewanne aus Kunststoff legen oder in den Einsatzkorb legen und diesen in das Einsatzgefäß stellen. Lochdeckel auf die Schwingwanne legen, Einsatzgefäß in den Lochdeckel hängen.	
		Instrumente aus Edelstahl, Glasteile	**STAMMOPUR AG** unverdünnt, 3 – 10 min	In den Einhängekorb aus Edelstahl oder Kunststoff legen, Korb in die Schwingwanne einhängen. Einige Alginate quellen bei der Beschallung auf und bilden eine gallertartige Masse, die Ultraschall absorbiert. Sie werden aber durch die Beschallung vorgeweicht und lassen sich mit einem scharfen Wasserstrahl entfernen.	
Entfernen von Alginatresten	bei Bedarf	Abdrucklöffel	**STAMMOPUR AG** unverdünnt, 3 – 10 min	Auf den Löffelträger schieben und in die Schwingwanne einhängen. Einige Alginate quellen bei der Beschallung auf und bilden eine gallertartige Masse, die Ultraschall absorbiert. Sie werden aber durch die Beschallung vorgeweicht und lassen sich mit einem scharfen Wasserstrahl entfernen.	
Entfernen von Dentalgipsen	bei Bedarf	Instrumente aus Edelstahl, Glasteile, Prothesen (Neuanfertigung)	**STAMMOPUR AG** unverdünnt, 3 – 10 min	In den Einhängekorb legen, Korb in die Schwingwanne einhängen.	

* Die Aufbereitungsvorschriften der Instrumenten-Hersteller sind zu beachten.
Der gesamte Aufbereitungsprozess ist nach der Empfehlung der Kommission für Krankenhaushygiene und Infektionsprävention beim Robert Koch-Institut "Infektionsprävention in der Zahnheilkunde – Anforderungen an die Hygiene" durchzuführen.
Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz 2006 • 49:375–394

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As an addition to the hygiene plan of the practice or the laboratory, we provide the complement to hygiene plan as a working aid as a template.
The hygiene plan supplement can be found under hygieneplanergaenzung.bandelin.com but it is only available in German.

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