

Catalog | www.bdt-dental.de

WHEN QUALITY HAS TRADITION AND **OUTSTANDING SERVICE IS,** WHAT MAKES US SUCCESSFUL

How do you go from a small company in Offenburg to a globally successful manufacturer?

Ditmar Stemmer, Anton Prinzbach und Klaus Bruder founded BDT GmbH on the 1st January 1983, carrying on the dental technology division as a separate business when Bregler KG ended equipment manufacturing in 1982. Ditmar Stemmer continues as a Managing Director to this day following the retirement of the other founders.

The mission was clear: Improve work in dental laboratories by simplifying and optimizing processes and end products. In order to achieve this, we developed our own tool molds and had the necessary components manufactured by renowned, regional companies, which were then assembled in our facilities in Offenburg. This way, we could ensure the highest quality and efficiency for the production of larger quantities in a shorter period of time – in those days as well as today.

Today, with Jessica Cooper, Ditmar and Daniel Stemmer as managing directors, we are a family business in the second generation, we sell our sophisticated dental products worldwide and are an international, successful manufacturer with the highest quality "Made in Germany".

As a family business we stand for informative, fast and flexible interaction in all areas. With BDT at your side, you benefit from 40 years of experience and top quality.



now on we are regularly expanding the range of

also been ISO-9001 certified since 2019.

WATER TECHNOLOGY

Plaster separator	6
Plaster separator accessories	7
Plaster separator accessories	
Water exhaust pump	9
DentaFlocTabs	10
DentaFloc	11
Metering device	12
Steam cleaner DR-1	13
Water control system	14
Water control system	15
CLICTION TECHNIQUOCV	
SUCTION TECHNOLOGY	
Extraction cabinet ATEX420	<u> </u>
Extraction cabinet ASOB / ASMB	19
Extraction cabinet accessories	20
Extraction unit	21
Dust-/ Sand pre-separator	22
Cyclone separator	23
LABORATORY TECHNOL	
LABORATORY TECHNOL	UGY
Airly and vature daying	- (
Air hose return device	26
Air hlower	27
Air blower	28
Holder	29
Spiral hose	30
Air hose Air accessories	31
Return device for handpiece cable / holder	32
Gas fitting	33
Gas hose / accessories	34 35
Sus mose / decessories	
LABORATORY REQUIRE	MENTS
TR-Box	
TR-Box mini	
Disinfection bath	
Breglit stainless steel care products	41
POLYMERIZATION TECHN	IOI OGY
I OLIMENIZATION TECHN	OLOGI
Polymerization bath IVO — 2	
Polymerization bath IVO – 4	
Cooling bath	46
SR-IVOCAP accessories	
Wall holder	
Stand holder	49





PLASTER SEPARATOR

with sealed 4-chamber clarification system

- ✓ No unpleasant odors
- ✓ No overflowing
- ✓ Quick and easy to clean due to usage of inlay foil
- ✓ Highly effective in separating solid substances
- ✓ Fill-level-control through to transparent container



PRODUCT INFORMA	TION
Height	320 mm
Diameter	340 mm
Discharge height	245 mm
Discharge connection	Ø 50 mm
Inlet connection	1 ½ inch
Capacity	14 litre
Item no. 10001	

PLASTER SEPARATOR ACCESSORIES

Water supply

Supply pipe straight, length: 500 mm, 1 ½ inch



Supply pipe, 90° angle, length: 500 mm, 1 ½ inch



90° angle for inlet hose



Adapter IKEA Siphon LILLVIKEN to 1 ½ inch



T-connector for double

Discharge connector for double sink, length: 120 - 600 mm, $1\frac{1}{2}$ inch



Discharge connector, length: 80 - 300 mm, 1 ½ inch



PLASTER SEPARATOR ACCESSORIES

Replacement inlay plastic bags / water drainage

Replacement inlay **Connecting pipe for 2 plaster separator** plastic bags, set of 25 pieces

Flexible discharge hose, inlet 50 mm, outlet 40/50 mm, length: 1,000 mm



Flexible discharge hose, inlet 50 mm, outlet 40/50 mm, length: 750 mm



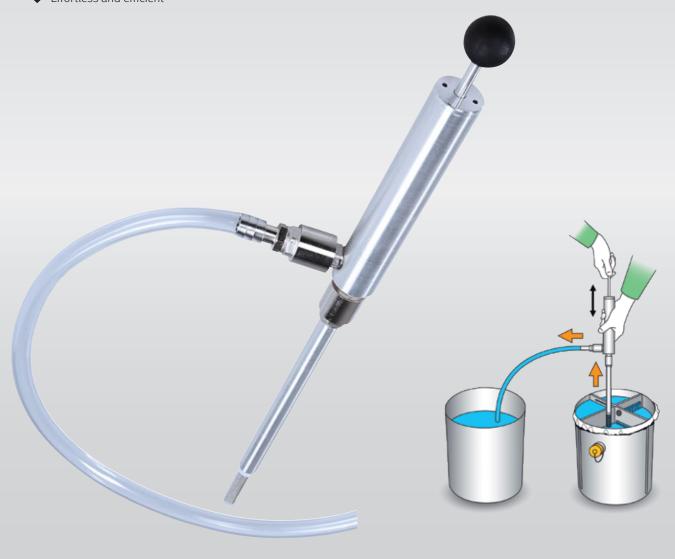
Flexible discharge hose, inlet 50 mm, outlet 40/50 mm, length: 500 mm



WATER EXHAUST PUMP

for plaster separator

- ✓ Practical addition to the plaster separator
- ✓ Simple and quick removal of residual water
- ✓ Effortless and efficient



PRODUCT INFORMA	ATION	-	
Total length	530 mm		
Stroke length	135 mm		
Promotional volume	100 ml		
Hose length	1,000 mm		
Item no. 10027			

DENTAFLOCTABS

Odor-preventing and clotting

- ✓ DentaFloc eliminates 99 % of all bacterias
- ✓ Due to the effective DentaFloc in the tabs, 93 % of the gypsum and embedding material settles in the plaster separator
- ✓ Includes the hanging basket
- ✓ Unpleasant odors are avoided in the first place



PRODUCT INFORMA	ATION	
Content	10 St.	25 St.
Height	100 mm	130 mm
Diameter	100 mm	100 mm
Weight	170 g	350 g
Item no.	21002	21003

INSTRUCTIONS FOR USE

Hang the dosing basket with one DentaFlocTab in the highest chamber of the plaster separator.

Put a new DentaFlocTab at least once a week in the basket, so that the prevention of odor and plaster flocculation are always guaranteed.

DENTAFLOC

Odor-preventing and clotting

- ✓ 93 % of the gypsum and embedding material settles in the plaster separator
- ✓ Reduces bacterial growth
- ✓ Best used with the dosing device TR or IR



PRODUCT INFO	DRMATION	-	
Content	5 litre	10 litre	
Height	260 mm	320 mm	
Width	180 mm	220 mm	
Depth	160 mm	200 mm	
Item no.	20154	20161	

INSTRUCTIONS FOR USE

Dosing of DentaFloc with our dosing device TR and IR. If you use it without a dosing device: Add a couple of drops (approximately 5–10 ml) per work piece to be trimmed into the plaster separator. Flocculants are environmentally friendly.

DOSING DEVICE TR/IR

In connection with a plaster trimmer or infrared sensor

Treatment plant for wastewater containing gypsum

Using our dosing devices ensures simple, effective and practice-oriented use of our DentaFloc.

- ✓ Automatic dosing
- ✓ Adjustable optimal dosage









PRODUCT INFORMA	TION	
TR dosing device		
Dimensions (l x w x h)	70 X 100 X 120 mm	
Electrical values	230 V / 50 Hz	
Load	Min. 300 W / Max. 3,000 W	
ltem no. 20151		

PRODUCT INFORMA	TION
IR dosing device	
Dimensions (l x w x h)	70 X 100 X 120 mm
Electrical values	230 V / 50 Hz
Sensor area	o – 600 mm
Item no. 20153	

STEAM CLEANER DR-1

For cleaning small parts, dental work and instruments, as well as for selective use on larger objects.

- ✓ Removal of grease, adhesive wax, dirt and adhesions
- ✓ Automatic filling
- ✓ Continuously adjustable amount of steam
- ✓ Operation via a foot switch
- Environmentally friendly without any chemical additives
- ✓ Boiler pressure indicator



PRODUCT INFORMATION		
Dimensions $(l x w x h)$	500 X 210 X 410 mm	
Electrical values	230 V / 50 Hz / 2 KW	
Pressure range	o-4.5 bar	
Item no. 10013		

WATER CONTROL

Contactless Water Control System for hands free tap operation

- ✓ For cold and warm water
- ✓ Reducing the water consumption
- ✓ Installation for existing taps
- ✓ Simplified operation

Item no. 10047

Item no. 10026

ltem no. 20179

Water control system with limit switch



Water control system with foot switch



Water control system with sensor









PRODUCT INFORMATION			
	Limit switch	Foot switch	Sensor
Solenoid valve connections	ø 10 mm	ø 10 mm	ø 10 mm
Electrical values	230 V / 50 Hz / 20 W	230 V / 50 Hz / 20 W	230 V / 50 Hz / 20 W
Sensor range	-	-	o – 600 mm
Item no.	10047	10026	20179

WATER CONTROL

Contactless Water Control System for hands free tap operation

- ✓ For cold water
- ✓ Reducing the water consumption
- ✓ Installation for existing taps
- ✓ Simplified operation

Item no. 10048

Item no. 10028

ltem no. 20177

Water control system with limit switch



Water control system with foot switch



Water control system with sensor









PRODUCT INFORMATION			
	Limit switch	Foot switch	Sensor
Solenoid valve connections	ø 10 mm	ø 10 mm	ø 10 mm
Electrical values	230 V / 50 Hz / 10 W	230 V/ 50 Hz/ 10 W	230 V / 50 Hz / 10 W
Sensor range	-	_	o – 600 mm
Item no.	10048	10028	20177



SUCTION TECHNOLOGY We breathe in and out every hour, every minute. Our body needs the oxygen in the air we breathe in order to produce energy. If there are fine dust and fumes in it, our lungs can be damaged in the long term. Our suction systems are specially designed to reduce this risk to a minimum. Order and inquieries: +49(0)781 - 5 86 88 | info@bdt-dental.de

EXTRACTION CABINET ASEX420

for extraction of isopropanol fumes to ATEX and IECEx standards

- ✓ Specially developed to avoid contact with dangerous, explosive substances
- ✓ Housing made of acid-resistant PVC

✓ With explosion protection, approved according to ATEX 2014/34/EU Zone 2

✓ With suction openings on the rear wall and also on the bottom





PRODUCT INFORMA	TION
Dimensions (l x w x h)	1,000 X 500 X 1,290 mm
Inner dimensions	990 x 420 x 800 mm
Electrical values	230 V / 50 Hz / 180 W
Promotional volume	420 m³/h
Static pressure (max.)	330 Pa
Item no. 10046	

EXTRACTION CABINET ASOB / ASMB

A extraction cabinet protects you and your employees in the laboratory from exposure to hazardous substances by:

- ✓ Effective withhold of fumes, aerosols and dust
- ✓ Shield against splinter and splashes
- ✔ Prevent a concentration of flammable hazardous substances





PRODUCT INFORMATION			
Тур	ASOM430	ASMB430	
Dimensions (l x w x h)	1,000 X 500 X 1,250 mm	1,000 X 500 X 1,250 MM	
Inner dimensions	990 x 420 x 800 mm	990 x 420 x 800 mm	
Electrical values	230 V / 50 Hz / 180 W	230 V / 50 Hz / 180 W	
Promotional volume	430 m³/h	430 m³/h	
Static pressure (max.)	340 Pa	340 Pa	
Washbasin	_	Χ	
Item no.	10032	10022	

EXTRACTION CABINETS ACCESSORIES

Sub-frame

- Optimum working height
- **✓** Rust-protected



Item no. 50135

Exhaust hose

- ✓ Hazardous areas in which electrically conductive hoses are required
- ✓ Approved according to TRGS 727 and ATEX 2014/34 EU
- ✓ Good flexibility
- ✓ Minimal bending radii
- ✓ Optimum aerodynamics



Hose connector

- ✓ Lengthen, connect and joining of hoses
- ✓ Installation-friendly
- ✓ Rust-protected

✓ Lightweight



Hose clamps (Set of 4)

- ✓ Special clamp for attaching the exhaust hose
- ✓ Installation-friendly
- **✓** Robust
- ✓ Rust-protected
- ✓ Almost fully leak proof and tensile strength connection due to bridge profiles



PRODUCT INFORMATION					
	Sub-frame	Exhaust hose	Hose connector	Hose clamps	
Dimensions (l x w x h)	1,000 X 500 X 750 mm	_	_	_	
Licensing	_	ATEX	_	_	
Diameter	_	DN 100	DN 100	DN 100	
Material	Aluminium	PUR L-EL	Galvanized sheet steel	Galvanized sheet steel	
Item no.	20098	50134	50135	50136	

EXTRACTION UNIT

with activated carbon filter

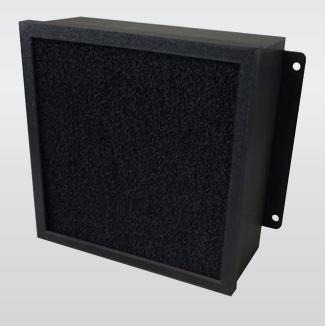
Extraction unit

- ✓ Protects against harmful vapors
- ✓ Tabletop unit
- ✓ Automatic power-on through a light barrier
- ✓ 89 % of separation efficiency when used with monomer
- ✓ 84 % of separation efficiency when used with insulating liquid



Filter cartridge

- ✓ Filter change once a year
- ✓ Filter change after 50 hours of operation



PRODUCT INFORMA	TION	
Extraction unit		
Dimensions (l x w x h)	260 X 220 X 260 mm	
Electrical values	230 V / 50 Hz / 100 W	
Item no.	20192	

PRODUCT INFORMATION	
Filter cartridge	
tem no. 20206	

DUST / SAND PRE-SEPARATOR

- ✓ Perfect for separating blasting sand
- Easy integration into an existing system
- ✓ Increasing the filter lifespan
- ✓ Prevention of the destruction or deterioration of the piping system
- ✓ Easy disposal of the separated waste



PRODUCT INFORMATION						
	Dust / sand pre-separator	Replacement inlay plastic bags (without illustration)				
Height	350 mm	_				
Diameter	340 mm	_				
Connection	Ø 40 or 50 mm	_				
Item no.	20204	20004				

CYCLONE SEPARATOR

- ✓ Perfect for separating milling dust
- ✓ Easy integration into an existing system
- ✓ Increasing the filter lifespan
- ✓ 99 % degree of separation
- ✓ Easy disposal of the separated waste





PRODUCT INFORMATION						
	Cyclone separator	Replacement inlay plastic bags (without illustration)				
Height	550 mm	_				
Diameter	340 mm	-				
Connection	Ø 40 or 50 mm	-				
Item no.	74001	20004				

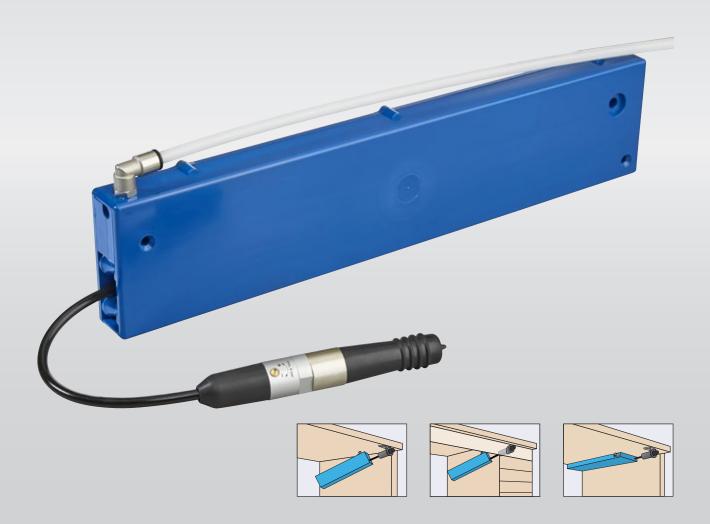


LABORATORY TECHNOLOGY

Particular attention is paid to a clean environment in the laboratory. With our laboratory technology, we support you in keeping your work environment clean. From air blowers to compressed air accessories, from return devices to gas fittings. In our product range you will find the suitable part for your laboratory facilities.

AIR HOSE RETURN DEVICE

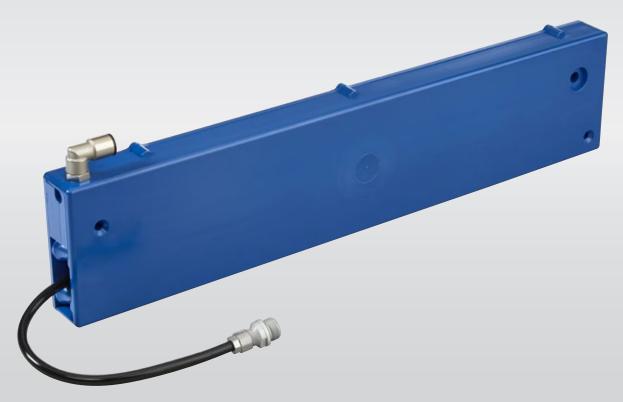
- ✓ Including the air blower silent, 1 m connector hose & plug-in nipple
- ✓ Space-saving, gentle hose guiding
- ✓ Blowing without traction
- Compact unit
- ✓ Can be integrated into laboratory furniture

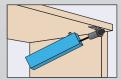


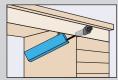
PRODUCT INFORMATION						
Dimensions (l x w x h)	420 x 30 x 90 mm	470 x 30 x 90 mm				
Hose length	550 mm	690 mm				
Connection inlet	8/6 mm	8/6 mm				
Connection outlet	6/3 mm	6/3 mm				
Item no.	20148	20238				

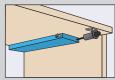
AIR HOSE RETURN DEVICE

- ✓ Space-saving, gentle hose guiding
- ✓ Blowing without traction
- ✓ Compact unit
- ✓ Integrable in laboratory furniture









PRODUCT INFORMATION					
Dimensions (lxwxh)	420 x 30 x 90 mm	470 x 30 x 90 mm			
Hose length	550 mm	690 mm			
Connection inlet	8/6 mm	8/6 mm			
Connection outlet	6/3 mm	6/3 mm			
Item no.	20144	20237			

AIR BLOWER

- ✓ Easy air volume control
- ✓ Rubber grommet to protect the tables
- ✓ 2 versions available
- ✓ Version silent 23 db quieter
- ✓ Up to 6 bar operating pressure

Version Silent





PRODUCT INFORMATION							
Version Silent	X	Х	Х	-	-		
Hose connector	8/6 mm	6/4 & 6/3 mm	4/3 mm	8/6 mm	6/4 & 6/3 mm		
Operating pressure	max. 6 bar	max. 6 bar	max. 6 bar	max. 6 bar	max. 6 bar		
Item no.	50059	50075	50045	50063	50132		

HOLDER

Suitable for air blower

Holder slanted flush mounted



Holder straight flush mounted







ltem no. 70111

Item no. 70110

Holder slanted surface mounted



Holder straight surface mounted







SPIRAL HOSE

including air blower silent and plug-in nipple

- ✓ 2.5 m hose length
- ✓ Easy air volume regulation
- ✓ Air blower silent
- ✓ Up to 6 bar operating pressure



PRODUCT INFORMATION						
Length	2,5 M					
Operating pressure	Max. 6 bar					
Hose diameter	6/4 mm					
Plug-in nipple	NW 7.2					
Item no. 20089	Item no. 20089					

COMPRESSED-AIR HOSE

Item no. 50101 / 50004 / 50033

Compressed-air hose PVC fibre-reinforced



Compressed-air hose PU



Compressed-air hose PUR



PRODUCT INFORMATION						
Material	pvc fibre-reinforced	pvc fibre-reinforced	PU	PU	PU	PUR
Diameter	8/6 mm	6/4 mm	8/6 mm	6/4 mm	4,3/3 mm	6/3 mm
Item no.	50079	50073	50101	50004	50033	50110

COMPRESSED-AIR ACCESSORIES

for hoses





Item no. 50138 / 50102

T-hose connector

✓ To connect PVC hose fiber-reinforced and PU hose



Pressure regulator

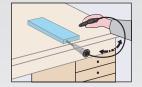


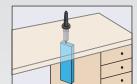
PRODUCT INFORMATION								
	Plug-in	nipple DN 7.2	T-hose co	nnector push-in	T-hos	e connector	Pressu	ıre regulator
Suitable for hose diameter	8/6 mm	6/4 mm	8/6 mm	6/4 mm	8/6 mm	6/4 mm	8/6 mm	6/4 mm
Item no.	50080	50009	70069	50002	70070	70071	50138	50102

RETURN DEVICE FOR HAND-PIECE CABLE / HOLDER

Return device for handpiece cable

- Existing handpiece can be integrated
- ✓ Space-saving, gentle hose guiding
- ✓ Work without traction
- Compact unit
- ✓ Integrable in laboratory furniture







Holder for hand piece

✓ Installation straight or slanted



PRODUCT INFORMATION							
Return device for handpiece cable							
Dimensions (l x w x h)	420 X 30 X 90 mm	470 x 30 x 90 mm					
Extension length	550 mm	690 mm					
Item no.	20178	20239					

PRODUCT INFORMATION				
Holder				
Inner diameter	28 mm	30 mm	32 mm	
Item no.	70113	70116	70112	

GAS FITTINGS

for laboratory benches

- ✓ For combustible gas
- ✓ Up to 7 bar operating pressure
- ✓ Approved acc. to EN 13792

Gas angle tap with 1 gas hose



Gas fitting with 1 gas hose and 1 hose nipple



Gas fitting with 2 gas hoses



Gas angle tap with 1 hose nipple



Gas fitting with 2 hose nipples



PRODUCT INFORMATION			
Gas fitting			
Connection inlet	hose nipple	gas hose ½ inch	gas hose ½ inch
Connection outlet	hose nipple	hose nipple	gas hose ½ inch
Installation dimension	Ø 40 mm	Ø 40 mm	Ø 40 mm
Item no.	30171	30170	30169

PRODUCT INFORMA	TION	To the state of th
Connection inlet	hose nipple	gas hose ½ inch
Installation dimension	Ø 21 mm	Ø 21 mm
Item no.	30161	30172

GAS HOSE / ACCESSORIES





Hose connector cross



Hose connector T-piece



Hose connector straight



Hose clamps



Gas hose



Clamp ring connector

✓ For permanent connection of CU pipes and PE-X pipes



PRODUCT INFORMATION				
	Safety gas	Safety gas hose		
Length	500 mm	1,000 mm	1,500 mm	yard goods
Diameter	18/10 mm	18/10 mm	18/10 mm	14/10 mm
Operating pressure	100 mbar	100 mbar	100 mbar	100 mbar
Item no.	30162	30060	30163	30160

PRODUCT INFORMATION				
Hose connector				
Туре	cross	T-piece	straight	clamps
Diameter	10 mm	10 mm	10 mm	8-12 mm
Item no.	30194	30193	30195	30196
Clamp ring connector				
Diameter	10 mm	12 MM	15 mm	
Item no.	30188	30187	30186	
Biairicter		12		





LABORATORY REQUIREMENTS

The laboratory is an important component of dental technology. This is where models are created, dentures are made or impression materials are mixed. We have the right products from boxes for models, disinfection tubs to professional stainless steel care.

Laboratory requirements | TR-Box

TR-BOX

for articulator

- ✓ Transport and storage
- ✓ Aluminum design
- ✓ Lockable
- ✓ Shock-resistant
- ✓ Lightweight



PRODUCT INFORMATION

Dimensions (lxwxh) 270 x 230 x 210 mm

Inner dimensions 230 X 190 X 160 mm

TR-BOX MINI

for models with or without base

- ✓ Transport and storage
- ✓ Shock-resistant
- ✓ Stackable
- ✓ Lightweight
- ✓ Space for 6 models
- ✓ Interchangeable foam



PRODUCT INFORMATION				
Colour	Light grey RAL 7035	Anthracite RAL 7016		
Dimensions (l x w x h)	265 X 171 X 71 mm	265 X 171 X 71 mm		
Weight	400 g	400 g		
Item no.	20218/7035	20218/7016		

DISINFECTION BATH

- ✓ Including sieve insert, draining equipment and lid
- ✓ Bath made from PP



PRODUCT INFORMATION				
Colour of the lid	Transparent	White		
Dimensions (l x w x h)	340 X 210 X 120 mm	340 X 210 X 120 mm		
Filling volume	4 litre	4 litre		
Item no.	10039	10040		

BREGLIT CLEANING AGENT

500 ml

- ✓ Removes persistent dirt and stains
- Gentle cleaning
- ✓ Suitable for all stainless steel surfaces

- ✓ Antibacterial
- ✓ Biodegradable







Item no. 20008



Stainless steel care

- ✓ Fingerprints, marks, stains and tarnishes disappear
- ✓ Prevents rapid setting of plater and limescale
- ✓ Suitable for all stainless-steel surfaces





POLYMER-IZATION TECHNOLOGY

Good teeth and strong denture are closely related to one's own quality of life. That is why we ensure precise and high-quality prostheses with our polymerisation technology. The focus is always on high wearing comfort and an accurate fit. In our range you will find everything you need to put a radiant smile on your patients — comfortable and radiant.

POLYMERIZATION BATH

for 2 cuvettes

- ✓ Stainless steel bath
- ✓ Stepless continous temperature regulation
- ✓ Indirect heating



IVO-2 special



IVO-2 manual



PRODUCT INFORMATION				
	IV0-2	IVO-2 special	IVO-2 manual	
Dimensions (l x w x h)	350 x 470 x 300 mm	350 x 360 x 260 mm	350 x 360 x 260 mm	
Electrical values	230 V / 50 Hz / 1,500 W	230 V / 50 Hz / 1,500 W	230 V / 50 Hz / 1,500 W	
Compressed air	Х	_	-	
Timer	Х	_	-	
Water level control	Х	Х	_	
Item no.	10002	10004	10005	

POLYMERIZATION BATH

for 4 cuvettes

- ✓ Stainless steel bath
- ✓ Stepless continous temperature regulation
- ✓ Indirect heating



IVO-4 special





IVO-4 manual



PRODUCTINFORMATION			
	IVO-4	IVO-4 special	IVO-4 manual
Dimensions (l x w x h)	530 x 470 x 300 mm	530 x 360 x 260 mm	530 x 360 x 260 mm
Electrical values	230 V / 50 Hz / 2,500 W	230 V / 50 Hz / 2,500 W	230 V / 50 Hz / 2,500 W
Compressed air	Х	-	-
Timer	Х	_	_
Water level control	Х	Х	-
Item no.	10003	10033	10006

COOLING BATHS

- ✓ Stainless steel bath
- ✓ For 2 or 4 cuvettes
- ✓ Perfect for cooling down the cuvettes



PRODUCT INFORMATION				
	KW 2	KW 4		
Dimensions (l x w x h)	350 x 360 x 260 mm	530 x 360 x 260 mm		
Water connection	Χ	Χ		
Item no.	10017	10016		

SR IVOCAP ACCESSORIES

Spring washers for SR Ivocap clamping frame

Regular checking and replacement of the disc springs (approx. every 6 months) guarantees a consistently good work result



Rubber gloves, heat resistant



Floating balls, Ø 20 mm, 1,000 pieces



Item no. 20146

Dur-Fix-Hardener



Stainless steel lid for IVO-2, IVO-2 special, IVO-2 manual



Stainless steel lid for IVO-4, IVO-4 special, IVO-4 manual



Spiral hose with connector for SR Ivocap-cylinder



WALL HOLDER

Wall holder for 2 SR-Ivocap-cylinder



Wall holder for 2 SR-Ivocap-cylinder with 3 air sockets



Wall holder for 4 SR-Ivocap-cylinder

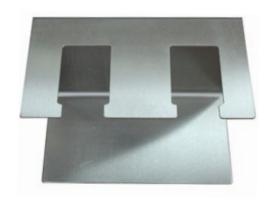


Wall holder for 4 SR-Ivocap-cylinder with 6 air sockets

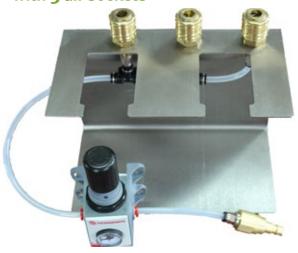


STAND HOLDER

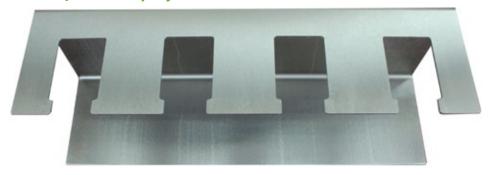
Stand holder for 2 SR-Ivocap-cylinder



Stand holder for 2 SR-Ivocap-cylinder with 3 air sockets



Stand holder for 4 SR-Ivocap-cylinder



Stand holder for 4 SR-Ivocap-cylinder with 6 air sockets





