Range of products 2020 | 2021



VEARS frasaco Dental reality

There's only one thing closer to reality than frasaco's phantom heads, jaw and teeth models and strip crowns,

and that's the real thing itself



www.frasaco.de

Made in Germany

contents

dental models

Standard working model series ANA-4	4 – 16
Standard working model series AG-3	17 - 26
Standard working model series A-3	27 - 31
Preparation training	33
Endodontic exercises	34 - 41
Implantology	42 - 48
Edentulous models and dental laboratory	49 - 50
Dental hygiene and periodontology	51 - 55
X-ray, local anaesthesia and extractions	56 - 58
Oral surgery	59 - 60
Pediatric dentistry	62 - 66
Orthodontics	67
Demonstration models	68 - 69

phantom heads

Characteristics of our phantom heads	
frasaco phantom heads P-6/3 and P-6/5	73 - 74
Accessories for frasaco phantom heads	75 - 76
frasaco phantom heads PK-1 and PK-2	77 - 78
Complete sets	79 - 82
Mounting assemblies	83 - 89
Dental training systems	90 - 91

sundries

Strip crowns	93 - 97
Pedodontal strip crowns	98
Matrix strips and dispensers	99
Certificates	100 – 101
General commercial conditions	102 – 103



dental models working and demonstration models

frasaco offers the most comprehensive range of dental simulators, study models and training models for hands-on practice:

in pre-clinical and post-graduate students' laboratories in preventive and operative dentistry as well as fixed, removable and full prosthodontics, pediatric dentistry and orthodontics, radiology and anesthesia, endodontics, exodontia and oral surgery, oral hygiene, periodontology, gerodontology and implantology, pathology, anatomy and dental technique.

Videos:



On the following pages, we introduce our dental models. Practice the reality with frasaco dental models and watch our application videos.

www.frasaco.de/video

standard working model series ANA-4

Dental model representing typical natural adult dentition:

Model base made from a hard thermosetting plastic material. Upper and lower jaws occlude in a definite central occlusion with natural physiological contact points. 28 model teeth made of hard thermosetting plastic material are securely positioned in the model with Philips head screws. ANA-4 dental models include a threaded metal back plate for screw retention or optional retention with a magnetic mounting plate in frasaco phantom heads.

- · Anatomical crown and occlusal contours based on the function and morphology of natural teeth
- · Natural occlusal contour based on a representative cross section of different distinctive contour characteristics
- Anterior tooth contours are aesthetic and functional
- Natural anatomical cervical root contour
- Neutral intercuspidation according to the international classification of Angle Class I
- · Physiological interproximal space contoured according to the average dentition of a middle-aged adult
- Wilson, Spee and helicoid curves 3 dimensionally reproduced
- Option of performing different dynamic occlusion concepts like canine guidance or unilateral group function
- Replica gingiva with natural palatal folds, buccal and lingual anatomical simulation

Gingiva:

elastic, removable gingiva

Main use:

Universal model for realistic exercises in preventive, conservative and prosthetic dentistry

Contraction of the second seco	ANA-4	upper and lower model jaws in a stable intercuspidation (28 teeth)
	ANKA-4	same upper and lower model jaws in a stable intercuspidation as ANA-4, model teeth however not fixed with screws, but with the frasaco click system (28 click-in teeth)
	ANA-4 V	upper and lower model jaws in a stable intercuspidation like ANA-4 (28 teeth), however contours of the gingivae are simplified for easier preparations. This style is used by most universities for preparation training, while ANA-4 is mainly used in postgraduate education
Castorer	ANKA-4 V	like ANA-4 V, model teeth however not fixed with screws, but with the frasaco click system (28 click-in teeth)
	ANA-4 DAV	upper and lower model jaws with a demonstration articulator of unique design allowing simple functional movements (assembled to the model base with a dovetail joint).
	ANA-4 V DAV	like ANA-4 DAV, however with simplified gingival contours
	ANKA-4 DAV	upper and lower model jaws combined with an adjustable demonstration articulator like ANA-4 DAV, model teeth however not fixed with screws, but with the frasaco click system (28 click-in teeth)
	ANKA-4 V DAV	like ANKA-4 DAV, however with simplified gingival contours

ANA-4 dental models and accessories

ANA-4 DAF ANA-4 V DAF	upper and lower model jaws combined with a demonstration articula- tor allowing simple functional movements (articulator fixed with screws to the model base). like ANA-4 DAF, however with simplified gingival contours		
ANKA-4 DAF	upper and lower model jaws like ANA-4 DAF combined with a demonstration articulator, model teeth however not fixed with screws, but with the frasaco click system		
ANKA-4 V DAF	like ANKA-4 DAF, however with simplified gingival countours		
AN-4 WOK	elastic replacement gingiva for upper jaw, positioned over the model base, held in place by the model teeth, suitable for ANA-4 OK or ANKA-4 OK		
AN-4 WOK KR	as above, however in red-transparent execution		
AN-4 WOKV	as above, however in simplified execution suitable for ANA-4 V OK or ANKA-4 V OK		
AN-4 WUK	elastic replacement gingiva for lower jaw, positioned over the model base, held in place by the model teeth, suitable for ANA-4 UK or ANKA-4 UK		
AN-4 WUK KR	as above, however in red-transparent execution		
AN-4 WUKV	as above, however in simplified execution suitable for ANA-4 V UK or ANKA-4 V UK		
AN-4 WOKV 99-001	hard plastic replacement gingiva with simplified contours suitable for ANA-4 V OK or ANKA-4 V OK		
AN-4 WUKV 99-001	hard plastic replacement gingiva with simplified contours suitable for ANA-4 V UK or ANKA-4 V UK		
AN-4 RM	spare part: threaded metal plate for dental models series ANA-4 (V), ANKA-4 (V), AG-3, A-PB and A-PZ for screw-in or magnetic fixation in frasaco phantom heads		
AN-4 ROK	spare part: back plate for upper jaws of series ANA-4 (V) and ANKA-4 (V) $% \left(V\right) =0$		
AN-4 RUK	spare part: back plate for lower jaws of series ANA-4 (V) and ANKA-4 (V)		











ANA-4 accessories



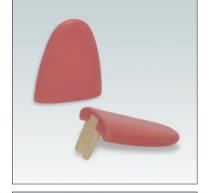
AN-4 KPS	set of click-in plates with locking mechanism for changing over existing ANA-4 (V) models to the frasaco click system
WZ-1	frasaco ANKA-4 (V) models do include this tool which is needed to open the locking plate AN-4 KPS
AN-4 SPS	set of mounting plates for changing over existing models with frasaco click system to the traditional screw retention system e.g. for exam situations



- AN-4 SPE OK 001 mounting plate with screws for changing existing upper models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 21, 24 and 26
- AN-4 SPE UK 001 mounting plate with screws for changing existing lower models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at position 46



- AN-4 SPE OK 003 mounting plate with screws for changing existing upper models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 11, 16, 21, 24 and 26
 - AN-4 SPE UK 003 mounting plate with screws for changing existing lower models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 36, 45 and 46



removable elastic tongue The tongue is fixed to the model with a screw. To retrofit existing models, the tongue must be adhered to the model. We recommend the adhesive A-P K G.

SZ-4

P-Z

screwdriver for Philips head screws as used in frasaco models series ANA-4 (V) and for all frasaco models with multi-head screws

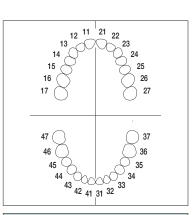
SZ-4 K

SZ-4 K screwdrivers are supplied with a cover to use when pushing the model teeth out of model bases equipped with the click-in system

ANA-4 standard teeth and special teeth

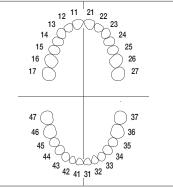
ANA-4 Z	set of 28 model teeth in natural design with screws, execution in hard thermosetting plastic material to fit ANA-4 (V) models		
ANA-4 ZE 010	bag containing 10 individual model teeth of the same position to fit ANA-4 (V) models, with screws		
ANA-4 ZE 100	bag containing 100 individual model teeth of the same position to fit ANA-4 (V) models, with screws		
ANKA-4 Z	set of 28 model teeth in natural design, execution in hard thermo- setting plastic material to fit the frasaco click system models ANKA-4 (V)		
ANKA-4 ZE 010	bag containing 10 individual model teeth of the same position to fit the frasaco click system models ANKA-4 (V)		
ANKA-4 ZE 100	bag containing 100 individual model teeth of the same position to fit the frasaco click system models ANKA-4 (V)		
ANA-4 V CER	upper and lower model jaws type ANA-4 V as shown on page 4, however with teeth made of a special thermosetting material which does allow working with scanners or camera systems without having to use contrast powder or sprays. Especially recommended for Sirona prepCheck and CEREC* with Bluecam *CEREC® is a registered trade mark of Dentsply Sirona		
ANKA-4 V CER	upper and lower model jaws like ANA-4 V CER, model teeth however not fixed with screws, but with the frasaco click system		
ANA-4 Z CER	set of 28 model teeth in natural design with screws, execution in		
ANA-4 ZE CER 010	special thermosetting plastic material to fit ANA-4 V CER models bag containing 10 individual model teeth in natural design with screws, execution in special thermosetting plastic material to fit		
ANA-4 ZE CER 100	ANA-4 V CER models bag containing 100 individual model teeth in natural design with screws, execution in special thermosetting plastic material to fit ANA-V CER models		
	sets of model teeth and bags of individual model teeth are also available for ANKA-4 V CER		
ANA-4 ZEF	For examinations: model teeth made of fluorescent material with screws, optional assort- ment. These patent protected exam teeth can easily be distinguished from standard model teeth while staying fixed in the jaw model by means of an ultraviolet-lamp. Exclusively delivered directly to the insti- tutional examination committees		
ANKA-4 ZEF	like ANA-4 ZEF, however fitting the frasaco click system models		
11V-1	ultraviolet-testing lamp for easy identification of ANA-4 ZEE or		

ultraviolet-testing lamp for easy identification of ANA-4 ZEF or UV-L ANKA-4 ZEF exam teeth











ANA-4 preparations and special teeth

ANA-4 ZP..



ANA-4 ZP	for ANA-4 (V) models frasaco can offer teeth with special preparations according to customers' specification. Please let us know the quantities required and provide a master preparation cut on an ANA-4 ZE standard tooth. Pictures of all currently available teeth with preparations will be supplied upon request

ANKA-4 ZP.. like ANA-4 ZP, however fitting the frasaco click system models



ANA-4 ZP GE	all model teeth with preparations can also be supplied in yellow instead of a tooth shade. This allows templates of optimum prepa- rations to be easily distinguished from the work results of students. Composite restorations can also be clearly demarcated from the tooth structure for training purposes
ANKA-4 ZP GE	like ANA-4 ZP. GE, however fitting the frasaco click system models

the 4 upper anterior preparations ANA-4 ZP12 99-020, ANA-4 ZP11









20, ANA-4 ZP21 99-020 and ANA-4 ZP 22 99-020 for treat- the with veneers should be highlighted among the large number of parations provided. This way identical preparation situations can be le available for all course participants
the 4 upper anterior preparations outlined above, the articles (A-4 ZP12 99-020, ANKA-4 ZP11 99-020, ANKA-4 ZP21 99-020 ANKA-4 ZP22 99-020 are offered fitting the frasaco click system lels
tema: the two model teeth ANA-4 ZP11 99-010 and A-4 ZP21 99-002 together represent a diastema situation
al trauma: the fractured teeth ANA-4 ZP11 99-012 and -4 ZP21 99-008 can be treated with the aid of a frasaco strip /n size 111 and 211
the upper anterior preparations outlined above, the special teeth (A-4 ZP11 99-010, ANKA-4 ZP21 99-002, ANKA-4 ZP11 99-012 ANKA-4 ZP21 99-008 are offered fitting the frasaco click system els
rtially edentulous lower model from the ANA-4 TUKV 201 series page 15) has been used as a base with this model. A standard ant analogue (hexagonal) has been inserted in the alveolus in the ntulous region 36. This already allows implant prosthetic exercises e preclinical level at little cost. Other partial dentitions can be used sired and implant analogues can be fitted in other positions.
e segment to fit in position 36, in which an implant analogue has n fitted. Due to the type of design these bone segments cannot be

- **ANA-4 AE OK** Erosion model consisting of an ANA-4 OK series upper jaw, however, the screwed model teeth of positions 11 to 15 and 21 to 25 show strong erosions and abrasions. Positions 16 and 17 or 26 and 27 are standard ANA-4 ZE model teeth. Thus, the model series ANA-4 is extended for another use. Combinations with standard lower jaws of the same series or variants are possible on request
- model tooth with abrasions and erosions, as used in ANA-4 AE OK ANA-4 ZAE.. 901 and therefore only available for positions 11-15 and 21-25

ANA-4 AW upper and lower model bases and removable gingivae corresponding to ANA-4. Instead of model teeth, only tooth preparations for waxing exercises are mounted. A complete model tooth can be sculpted on each tooth preparation

> standard models ANA-4 V and ANKA-4 (V) are also available with tooth preparations on request

ANA-4 AW Z 901	complete set with 28 model tooth preparations for waxing up exercises, includes screw
ANA-4 ZAW 901	individual model tooth preparation for waxing up exercises, includes screw, optional assortment
	The tooth preparations are also available for the click models in the ANKA-4 (V) series on request
ANA-4 ZP46 99-029	model tooth prepared for an onlay to fit ANA-4 (V) models
ANKA-4 ZP46 99-029	model tooth prepared for an onlay to fit ANKA-4 (V) models
ANA-4 OL46 99-029	onlay exactly fitting to above mentioned teeth made of frasaco plastic material













ANA-4 ZSD.. 300 new version of frasaco 2-layer posterior teeth, enamel made of new frasaco adamant-material with noticeable difference in hardness between enamel and dentine during preparation upper 24, 25, 26, 27 lower 46

ANKA-4 ZSD.. 300 like ANA-4 ZSD.. 300, however fitting the frasaco click system models



ANA-4 ZSD.. 300 new version of frasaco 2-layer anterior teeth, enamel made of new , frasaco translucent adamant-material (suitable for aesthetic dentistry) with noticeable difference in hardness between enamel and dentine during preparation upper 11, 12, 13, 21, 22, 23,

ANKA-4 ZSD.. 300 like ANA-4 ZSD.. 300, however fitting the frasaco click system models

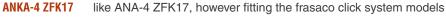


ANA-4 ZSDP 300	new version of frasaco 3-layer teeth simulating enamel, dentine and		
	pulp made of new frasaco adamant-material with noticeable		
	difference in hardness between enamel and dentine during prepara-		
	tion, red pulp tissue-like. Red pulp shining through if approached too		
	closely during preparation		
	upper 21, 24, 26		
	lower	46	

ANKA-4 ZSDP.. 300 like ANA-4 ZSD.. 300, however fitting the frasaco click system models



ANA-4 ZFK17	upper 17 model tooth series ANA-4 ZE with pit and fissures caries.
	Please let us have your inquiry for custom made pit and fissure caries
	positions





ANA-4 ZK.. V1 Matching model ANA-4 (V) we can offer model teeth with undermining caries, which can be recognized in the new, soft version 1 with dental X-ray and treated realistically. This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements and send us an ANA-4 ZE model tooth prepared according to your ideas as a sample

ANKA-4 ZK..V1 like ANA-4 ZK..V1, however fitting the frasaco click system models

ANA-4 ZSDK 300 V1	like ANA-4 ZSD 300 (enamel-dentine), but with undermining caries version 1; available for upper 21 approximal, upper 24 mesial and distal, upper 26 occlusal and lower 46 occlusal and mesial	
ANKA-4 ZSDK 300 V1	like ANA-4 ZSDK 300 V1, however fitting the frasaco click system models	
	This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements	
ANA-4 ZSDPK 300 V1	like ANA-4 ZSDP. 300 (enamel-dentine-pulp), but with undermining caries version 1; available for upper 21 approximal, upper 24 mesial and distal, upper 26 occlusal and lower 46 occlusal und mesial	
ANKA-4 ZSDPK 300 V1	like ANA-4 ZSDK 300 V1, however fitting the frasaco click system models	
	This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements	
ANA-4 ZPUK	model teeth with root canals, fitting ANA-4 (V) models,execution in transparent plastic materialwith red pulpal walls and ivory crowns in hard thermosetting materialupper21, 24, 26lower46	
ANKA-4 ZPUK	model teeth with root canals as above, however fitting the frasacoclick system models ANKA-4 (V)upper21, 24, 26lower46	
ANA-4 ZPUR	model teeth with root canals fitting ANA-4 (V) models, ivory crownsand roots with red pulpal walls for pre-clinical training in root canaltreatment, suitable for x-ray controlupper21, 24, 26lower46	
ANKA-4 ZPUR	model teeth with root canals as above, however fitting the frasacoclick system models ANKA-4 (V)upper21, 24, 26lower46	
ANA-4 ZPUKN 11	training tooth upper 11 with anatomical root, which can be used for simulating all steps of root canal treatment; fits into the locking mecha- nism of AN-4 SPE upper 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canal in the transparent root part can be prepared and filled in the same way as a natural tooth	
	TM version of the oferementioned teeth is prepared according to the	

ANA-4 ZPUKN TM11 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.ANA-4 ZPUKN TT11 TT version of the aforementioned tooth is prepared according to the traditional principles





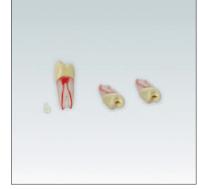
















ANA-4 ZPUKN 16	Training tooth upper 16 with anatomical roots, which can be used for
	simulating all steps of root canal treatment, fixed with screw into
	AN-4 SPE OK 003. A crown part made of the proven frasaco tooth
	material gives a realistic feeling during trepanation exercises. The red
	shaded root canals in the transparent root part can be prepared and
	filled in the same way as a natural tooth.

- ANA-4 ZPUKN TM 16 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 16 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPUKN 21 Training tooth upper 21 with anatomical root, which can be used for simulating all steps of root canal treatment, fits into the locking mechanism of AN-4 SPE OK 001 or 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canal in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 21 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 21 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPUKN 24 Training tooth upper 24 with anatomical roots, which can be used for simulating all steps of root canal treatment, fixed with screw into AN-4 SPE OK 001 or 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 24 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 24 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPUKN 26 Training tooth upper 26 with anatomical roots, which can be used for simulating all steps of root canal treatment, fixed with screw into AN-4 SPE OK 001 or 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 26 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 26 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPUKN 36 Training tooth lower 36 with anatomical roots, which can be used for simulating all steps of root canal treatment, fixed with screw into AN-4 SPE UK 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 36 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 36 TT version of the aforementioned tooth is prepared according to the traditional principles.

- ANA-4 ZPUKN 45 Training tooth lower 45 with anatomical roots, which can be used for simulating all steps of root canal treatment, fixed with screw into AN-4 SPE UK 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 45 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 45 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPUKN 46 Training tooth lower 46 with anatomical roots, which can be used for simulating all steps of root canal treatment, fixed with screw into AN-4 SPE UK 001 or 003. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be prepared and filled in the same way as a natural tooth.
- ANA-4 ZPUKN TM 46 TM version of the aforementioned tooth is prepared according to the principles of minimally invasive technique.
- ANA-4 ZPUKN TT 46 TT version of the aforementioned tooth is prepared according to the traditional principles.
- ANA-4 ZPURN On pages 39 to 40 you will find further variants of endodontic teeth with anatomical roots, which can also be attached to model bases of the ANA-4 series using the screw plate sets shown on page 6. The program of radiolucent model teeth of type ANA-4 ZPURN is shown here as an example.

upper11, 16, 21, 24, 26lower36, 45, 46Our endodontic program is characterized by continuous product improvements and program additions. Please ask us for the current list of available options.

- ANA-4 ZEE model teeth fitting ANA-4 (V) models, with screws, simulating the situation after root canal treatment, holes are sealed with gutta-percha. Suitable for training the making of direct and indirect posts with plastic or non-plastic (metallic) materials upper 14, 21, 24, 26 lower 34
- ANKA-4 ZEE model teeth with root canals as above, however fitting the frasaco click system models ANKA-4 (V) upper 14, 21, 24, 26 lower 34

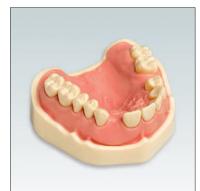








ANA-4 partially dentate upper model jaws



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105

109

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102

108

88

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partially dentate upper model jaw, execution in hard thermosetting plastic material, elastic removable gingiva corresponding to ANA-4 V (corresponding to ANA-4 upon request)

model teeth are securely fastened in the model with Philips head screws

partially dentate upper model jaws ANKA-4 TOKV are accordingly available with model teeth fixed with the frasaco click system

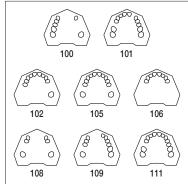
the following models are available ex stock:

ANA-4 TOKV 100 ANA-4 TOKV 101 ANA-4 TOKV 102 ANA-4 TOKV 105 ANA-4 TOKV 106 ANA-4 TOKV 108 ANA-4 TOKV 109 ANA-4 TOKV 111

76543	3	7
76 4321	1 3456	37
54321	1234	7
7 54321	12345	7
4321	1234	
7 43	34	7
7 543	23456	37
76 4321	123456	37

elastic removable gingiva for partially dentate upper model jaws, suitable for ANA-4 $\ensuremath{\mathsf{TOKV}}$





AN-4 TWOKV 100
AN-4 TWOKV 101
AN-4 TWOKV 102
AN-4 TWOKV 105
AN-4 TWOKV 106
AN-4 TWOKV 108
AN-4 TWOKV 109
AN-4 TWOKV 111

765	43	3	7
76	4321	1 3456	7
5 -	4321	1 2 3 4	7
7 5	4321	12345	7
	4321	1234	
7	43	3 4	7
7 5	43	23456	7
76	4321	1 2 3 4 5 6	7

ANA-4 partially dentate lower model jaws

partially dentate lower model jaw, execution in hard thermosetting plastic material, elastic removable gingiva corresponding to ANA-4 V (corresponding to ANA-4 upon request)

model teeth are securely fastened in the model with Philips head screws

partially dentate lower model jaws ANKA-4 TUKV are accordingly available with model teeth fixed with the frasaco click system

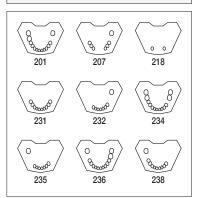
the following models are available ex stock:

ANA-4 TUKV 201	7654321 12345 7
ANA-4 TUKV 207	543 345 7
ANA-4 TUKV 218	3 3
ANA-4 TUKV 231	54321 12345
ANA-4 TUKV 232	321 1234 7
ANA-4 TUKV 234	7654321 1234 67
ANA-4 TUKV 235	7 321 1234
ANA-4 TUKV 236	7 54321 1234567
ANA-4 TUKV 238	7 54321 1234

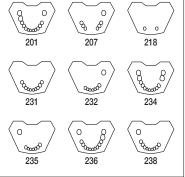
elastic removable gingiva for partially dentate lower model jaws, suitable for ANA-4 $\ensuremath{\mathsf{TUKV}}$

AN-4 TWUKV 201 AN-4 TWUKV 207 AN-4 TWUKV 218 AN-4 TWUKV 231 AN-4 TWUKV 232	7 6 5 4 3 2 1 1 2 3 4 5 7 5 4 3 3 4 5 7 3 3 5 4 3 2 1 1 2 3 4 5 3 2 1 1 2 3 4 5 3 2 1 1 2 3 4 7
AN-4 TWUKV 234 AN-4 TWUKV 235 AN-4 TWUKV 236 AN-4 TWUKV 238	7 6 5 4 3 2 1 1 2 3 4 6 7 7 3 2 1 1 2 3 4 6 7 7 5 4 3 2 1 1 2 3 4 6 7 7 5 4 3 2 1 1 2 3 4 5 6 7 7 5 4 3 2 1 1 2 3 4









ANA-4 rubber moulds

ANA-4 G	rubber moulds for casting plaster study models, suitable for ANA-4 series. Partially dentate models can be created by blocking out segments
ANA-4 V G	rubber moulds for casting plaster study models, suitable for ANA-4 V series
AN-4 ZP AN-4 ZPE	transparent centric plate to be placed upon rubber moulds ANA-4 G and ANA-4 V G with four guidance pins, fixing screw and fixing plate with M6 mounting thread. Models cast from rubber moulds can be mounted in frasaco phantom heads or articulators with screw-in or magnetic fixation (Package containing: 1 centric plate, 1 fixing screw, 5 fixing plates) re-fill pack containing 10 fixing plates

AG-3 standard working model series

Dental model representing typical natural adult dentition:

Model base made from a hard thermosetting plastic material. Upper and lower jaws are occluding in a stable intercuspidation with natural 32 screw-in model teeth made of hard thermosetting plastic material. A threaded metal back plate allows screw fixation or optional fixation with magnetic mounting plates in frasaco phantom heads.

Occlusal anatomy corresponding to an adolescent patient free of any abrasion (15 to 20 years old)

Intercuspidation:

- Anterior relationship: deep overbite, initial anterior and canine guidance
- Premolar to first molar region: tooth relationship = 1 : 2
- Second and third molar region: tooth relationship = 1 : 1 distally

Gingiva:

Elastic, removable gingiva based on the anatomy of a 40-year-old patient.

Main use:

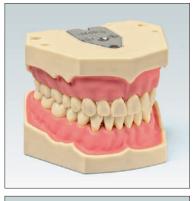
Exercises in preventive and conservative dentistry and prosthodontia emphasizing functional occlusion. For hygiene training please see our model AG-3 H on page 51.

AG-3

upper and lower model jaws in a stable intercuspidation (32 teeth)

AG-3 28 upper and lower model jaws in a stable intercuspidation (28 teeth) Replacement gingivae can be ordered on pages 24 and 25 listed as AG-3 TWOK 103 and AG-3 TWUK 228

AG-3 W 20 this model is similar to the AG-3 however the gingival contour is taller to represent that of a 20-year-old patient.







AG-3 accessories

3

	AG-3 DA	upper and lower model jaws combined in a demonstration articulator allowing simple functional movements
A	AG-3 WOK	elastic removable gingiva for upper jaw, positioned over the model base, held in place by the model teeth suitable for AG-3 OK
	AG-3 WUK	elastic removable gingiva for lower jaw, positioned over the model base, held in place by the model teeth suitable for AG-3 UK
and the second s	AG-3 WOK 20	elastic removable gingiva for upper jaw, similar to AG-3 WOK, however the gingival contour is taller to represent that of a 20-year-old patient
e cororona	AG-3 WUK 20	elastic removable gingiva for lower jaw, similar to AG-3 WUK, however the gingival contour is taller to represent that of a 20-year-old patient
COPPE A		By changing the gingivae, AG-3 models can be transformed into AG-3 H dental hygiene models as shown on page 51. Further accessories can be found there.
	AG-3 WOKH	elastic removable gingiva for oral hygiene model upper jaw, held in place by the model teeth
Conne	AG-3 WUKH	elastic removable gingiva for oral hygiene model lower jaw, held in place by the model teeth

AG-3 accessories and standard teeth

By changing the gingivae, AG-3 models can be transformed into AG-3 H dental hygiene models as shown on page 51. Further accessories can be found there.

- AG-3 WOKH KR like AG-3 WOKH, however in red-transparent execution
- AG-3 WUKH KR like AG-3 WUKH, however in red-transparent execution
- AG-3 R0K1back plate for AG-3 OK model jawAG-3 RUK1back plate for AG-3 UK model jawthe back plates are necessary for installation of the dental model in a
frasaco phantom headAN-4 RMspare part: threaded metal plate for dental models series ANA-4 (V),
ANKA-4 (V), AG-3, A-PB and A-PZ for screw-in or magnetic fixation in
frasaco phantom heads

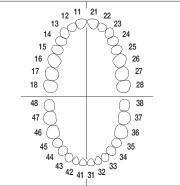
SZ-4 screwdriver for all frasaco models with multi-head screws, as well as for Philips-screws as used in the model range ANA-4 (V)

- AG-3 Z set of 32 gnathologically contoured model teeth in hard thermosetting material with screws, to fit AG-3 models
- AG-3 Z 28 set of 28 gnathologically contoured model teeth in hard thermosetting material with screws, to fit AG-3 models
- AG-3 ZE 010 bag containing 10 individual model teeth of the same position to fit AG-3 models, with screws
- AG-3 ZE 100 bag containing 100 individual model teeth of the same position to fit AG-3 models, with screws













AG-3 /	٩W
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upper and lower model bases and removable gingiva corresponding to AG-3. Instead of model teeth (position 1 -7) only tooth preparations for waxing exercises are mounted.

A complete model tooth can be sculpted on each tooth preparation. Wisdom teeth corresponding to teeth of series AG-3 ZE $\,$

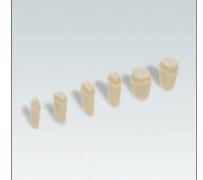
on request standard models AG-3 W 20 and AG-3 28 are also available with tooth stumps

- AG-3 AW Z 901 set with 28 model teeth preparations for waxing up exercises, includes screws
- AG-3 ZAW.. 901 individual model tooth preparation for waxing up exercises, includes screw, optional assortment
- AG-3 ZEG For examinations: model teeth with screws, root part marked for identification optional assortment

exclusively delivered directly to the institutional examinating committees

AG-3 ZEF	For examinations: model teeth made of fluorescent material with screws, optional assortment. These patent protected exam teeth can easily be distinguished from standard model teeth by means of an ultraviolet lamp while staying fixed in the jaw model exclusively delivered directly to the institutional examinating committees
UV-L	ultraviolet testing lamp for easy identification of AG-3 ZEF exam teeth
AG-3 ZSD 300	new version of frasaco 2-layer posterior teeth. Enamel made of new frasaco adamant-material with noticeable difference in hardness between enamel and dentine during preparation upper 24, 25, 26, 27 lower 46













AG-3 ZSD.. 300

AG-3 ZK.. V1

AG-3 ZSDK...

300 V1

new version of frasaco 2-layer anterior teeth, enamel made of new, frasaco translucent adamant-material (suitable for aesthetic dentistry) with noticeable difference in hardness between enamel and dentine during preparation

11, 12, 13, 21, 22, 23, upper



pulp made of new frasaco adamant-material with noticeable difference in hardness between enamel and dentine during preparation, red pulp tissue-like. Red pulp shining through if approached too closely during preparation upper 21, 24, 26 46 lower

AG-3 ZSDP.. 300 new version of frasaco 3-layer teeth simulating enamel, dentine and

Matching model AG-3 we can offer model teeth with undermining caries, which can be recognized in the new, soft version 1 with dental X-ray and treated realistically.

This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements and send us an AG-3 ZE model tooth prepared according to your ideas as a sample.

like AG-3 ZSD.. 300 (enamel-dentine), but with undermining caries version 1; available for upper 21 approximal, upper 24 mesial and distal, upper 26 occlusal and lower 46 occlusal and mesial

This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements.

AG-3 ZSDPK... 300 V1

like AG-3 ZSDP. 300 (enamel-dentine-pulp), but with undermining caries version 1; available for upper 21 approximal, upper 24 mesial and distal, upper 26 occlusal and lower 46 occlusal and mesial

This program is constantly being expanded. Please request a list of the currently available variants. In addition, we also manufacture model teeth according to customer specifications. Please tell us your exact requirements.

AG-3 ZPUK

model teeth with root canals, with screws, fitting AG-3 models, execution in transparent plastic material with red pulpal walls and ivory crowns in hard thermosetting material

for pre-clinical training in root canal treatment and cavity preparation upper 21, 24, 26 lower 46



AG-3 ZPUR model teeth with root canals fitting AG-3 models, with screws, execution in hard thermosetting material, ivory crowns and roots with red pulpal walls for pre-clinical training in root canal treatment and cavity preparation, suitable for x-ray control upper 21, 24, 26 lower 46

*cross-sections of teeth shown for demonstration purposes only

AG-3 ZPURM model teeth with root canals fitting AG-3 model bases, ivory crowns and roots with red pulpal walls for pre-clinical endo training under x-ray control, already accessed. upper 21, 24 and 26

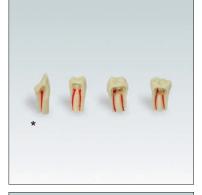
*cross-sections of teeth shown for demonstration purposes only

AG-3 ZPURK model teeth with root canals fitting AG-3 model bases, ivory crowns and roots with red pulpal walls for pre-clinical endo training under x-ray control. In addition to these features, teeth have undermining caries: are available as upper 21 approximal, upper 24 mesial and buccal, upper 26 occlusal and lower 46 occlusal and mesial

*cross-sections of teeth shown for demonstration purposes only

AG-3 ZEE model teeth fitting AG-3 models, with screws, simulating the situation after root canal treatment of incisors, premolars and molars, access holes are sealed with gutta-percha. Suitable for training the fabricating direct and indirect posts with plastic or non-plastic (metallic) materials upper 14, 21, 24, 26

Our range of model teeth series AG-3 for endodontic exercises please find on pages 34 and 35







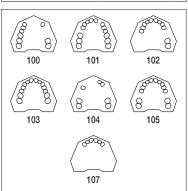


AG-3 partially dentate upper model jaws



partially dentate upper model jaw, execution in hard thermosetting plastic material, elastic removable gingiva

the following models are available ex stock:



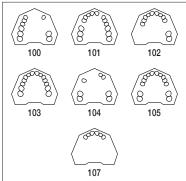
AG-3 TOK 100
AG-3 TOK 101
AG-3 TOK 102
AG-3 TOK 103
AG-3 TOK 104
AG-3 TOK 105
AG-3 TOK 107

01/ 40/

876	543	3	78
876	4321	1 345	678
	54321	1 2 3 4	78
76	54321	12345	67
87	4	23	78
87	54321	1 2 3 4 5	78
	321	123	

elastic removable gingiva for upper jaw, positioned over the model base, held in place by the model teeth suitable for AG-3 TOK





AG-3 TWOK 100
AG-3 TWOK 101
AG-3 TWOK 102
AG-3 TWOK 103
AG-3 TWOK 104
AG-3 TWOK 105
AG-3 TWOK 107

8	В	7	6	5	4	3					3				7	8
8	В	7	6		4	3	2	1	1		3	4	5	6	7	8
				5	4	3	2	1	1	2	3	4			7	8
		7	6	5	4	3	2	1	1	2	3	4	5	6	7	
8	В	7			4					2	3				7	8
8	В	7		5	4	3	2	1	1	2	3	4	5		7	8
						3	2	1	1	2	3					

AG-3 partially dentate lower model jaws

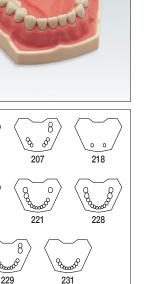
partially dentate lower model jaw, execution in hard thermosetting plastic material, elastic removable gingiva

the following models are available ex stock:

AG-3 TUK 201	87654321	12345 78
AG-3 TUK 207	543	345 78
AG-3 TUK 218	3	3
AG-3 TUK 219	87654321	1234 78
AG-3 TUK 221	7654321	12345 7
AG-3 TUK 228	7654321	1234567
AG-3 TUK 229	87 54321	12345 78
AG-3 TUK 231	54321	12345

elastic removable gingiva for lower jaw, positioned over the model base, held in place by the model teeth suitable for AG-3 TUK

AG-3 TWUK 201	87654321	
AG-3 TWUK 207	543	34578
AG-3 TWUK 218	3	3
AG-3 TWUK 219	87654321	1234 78
AG-3 TWUK 221	7654321	12345 7
AG-3 TWUK 228	7654321	1234567
AG-3 TWUK 229	87 54321	12345 78
AG-3 TWUK 231	54321	12345

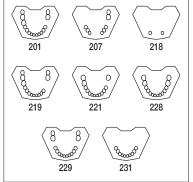


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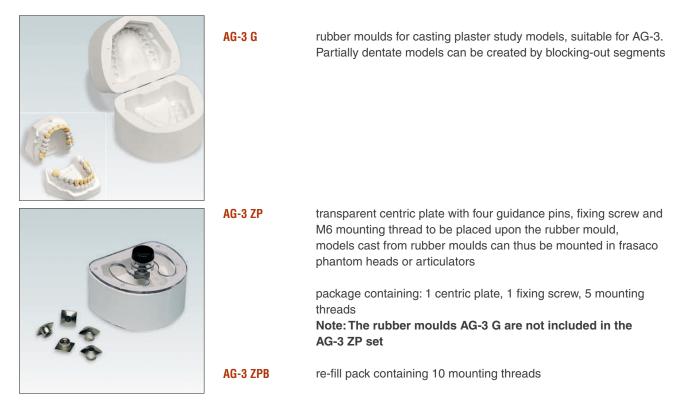
201

219





AG-3 rubber moulds



standard working model series A-3

The working model corresponds to a permanent dentition. The model base is made of hard plastic material, where the upper and lower jaws occlude in a stable intercuspidation with 32 screwable teeth (A-3 Z) made of thermosetting plastic. The socket allows screwing into frasaco phantom heads.

Occlusal anatomy between prosthetic teeth and natural teeth.

Intercuspidation:

- Anterior relationship: minimum vertical overbite, slight canine guidance, dependant upon the inclination of the • effective condylar paths
- Premolar to first molar region: tooth relationship = 1 : 2 •
- Second and third molar region: tooth relationship = 1 : 1 •

Gingiva: Hard gingiva modellation.

Main use: In pre-clinical, prosthetic propaedeutic courses and in dental techniques

upper and lower model jaws in a stable intercuspidation (32 teeth)

A-3 DA

A-3

upper and lower model jaws combined in a demonstration articulator allowing simple functional movements

A-3 DAD 16	dental model A-3 DA with support
A-3 DAD 16 K	dental model A-3 DA with hinged support for different treatment positions
D-16	support
D-16 K	hinged support

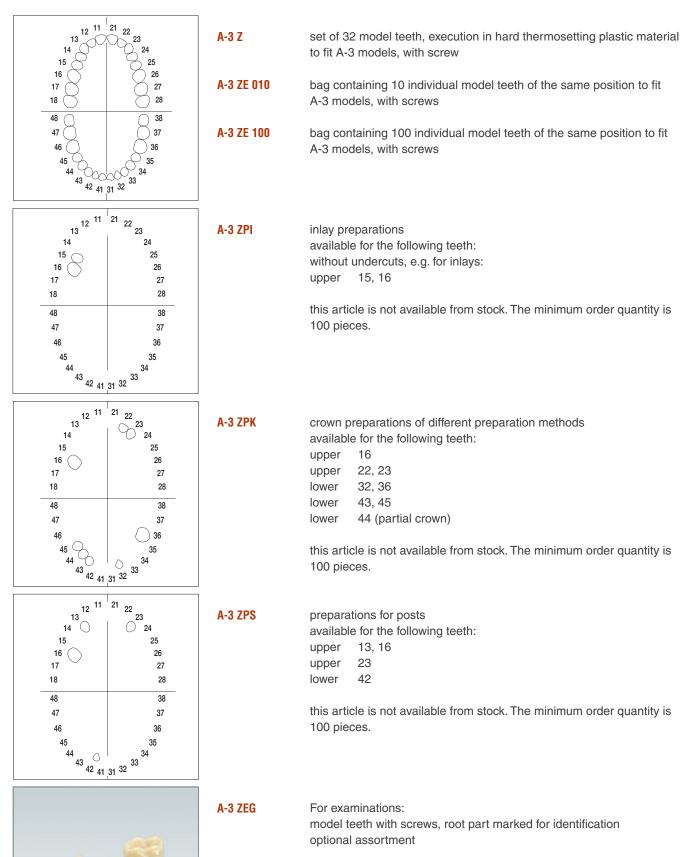
demonstration articulator for fixation to frasaco dental models DA







A-3 standard teeth, preparations and special teeth



exclusively delivered directly to the institutional examinating committees

A-3 accessories and rubber moulds

P-Z

SZ-4

A-3 G

removable elastic tongue

The tongue is fixed to the model with a screw. To retrofit existing models, the tongue must be adhered to the model. We recommend the adhesive A-P K G.

screwdriver for all frasaco models with multi-head screws, as well as for Philips-screws as used in the model range ANA-4 (V)

rubber moulds for casting plaster study models, suitable for A-3 Partially dentate models can be created by blocking out segments

A-3 ZP transparent centric plate with four guidance pins, fixing screw and M6 mounting thread to be placed upon the rubber mould, models cast from rubber moulds can thus be mounted in frasaco phantom heads or articulators

package containing: 1 centric plate, 1 fixing screw, 5 mounting threads

Note: the rubber moulds A-3 G are not included in the A-3 ZP set.

A-3 ZPB re-fill pack containing 10 mounting threads









A-3 partially dentate upper model jaws



partially dentate upper model jaw execution in hard thermosetting plastic material

345678

78

The following models are available ex stock:



2000

140

8

0

A-3 TOK 140

321	123
8 6 5 2 1	12 5678
876543	34
87 43	34 78
543	34 78
4 3	34 7
7 5 4 3 2	456
7 5432 7654321	123/ 7
7 4321	1234 7
7 4321	1 34567
76543 1	
432	1 4 5
876543	345678
87654 21	1 345678
8 543	
07654001	1004 70
87654321	1234 78

0	1	0	0	4	3	2			2	0	4			1	0
8	7	6			3	2	1	1	2	3	4	5	6	7	8
	7	6	5	4	3		1	1			4	5	6	7	
	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		6	5	4			1			3	4	5		7	
					3					3			6		
8	7		5		3			1		3	4			7	8
	7		5	4	3		1			3	4	5	6	7	
				4	3	2	1	1	2	3		5			

	4321	123	
7	43	34567	
8 6 5	4321	12 4567	8
87	4321	1234 7	8
	1	1	
8765	432	123 567	0
	702	120 307	0
		1234567	0

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(4000

139

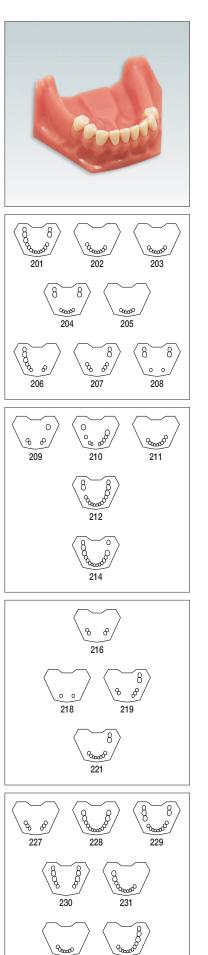
8

A-3 partially dentate lower model jaws

partially dentate lower model jaw execution in hard thermosetting plastic material

The following models are available ex stock:

A-3 TUK 201 A-3 TUK 202 A-3 TUK 203 A-3 TUK 204 A-3 TUK 205 A-3 TUK 206 A-3 TUK 207 A-3 TUK 208	8 7 6 5 4 3 2 1 1 2 3 4 5 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 3 2 1 1 2 3 1 3 4 3 1	
A-3 TUK 209 A-3 TUK 210 A-3 TUK 211 A-3 TUK 212 A-3 TUK 214	43 34 7 7532 23456 4321 12345 8754321 12345678 87654321 1234568	
A-3 TUK 216 A-3 TUK 218 A-3 TUK 219 A-3 TUK 221	54 45 3 3 54 345 78 4321 1234 78	
A-3 TUK 227 A-3 TUK 228 A-3 TUK 229 A-3 TUK 230 A-3 TUK 231 A-3 TUK 232 A-3 TUK 233	5 4 3 3 4 5 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 7 6 4 3 2 1 1 2 3 4 5 6 7 8 7 6 5 4 4 5 6 7 8 7 6 5 4 3 2 1 1 2 3 4 4 3 2 1 1 2 3 4 3 2 1 1 2 3 4 5 6 7 8	



233

232

special models

The frasaco standard model series allow comprehensive pre-clinical training and are suitable for simulation of very different patient cases in phantom courses thanks to a wide range of special teeth. frasaco also provides special models that enable additional applications, particularly in postgraduate courses. These models are mainly designed for multiple use. Accessories and materials required for reprocessing can be found along with the products in this catalogue.



preparation training

A-PTS preparation trainer kit

mounting plate for frasaco phantom heads with clip device for preparation trainers to exercise typical preparations complete with: 2 square transparent plastic blocks printed with 13 different preparation designs in total, millimetric film for threedimensional control and mounting key

A-PT	preparation trainer
	2 square transparent plastic blocks printed with 13 different
	preparation designs in total, millimetric film for three-dimensional
	control

- A-PTM 2 square plastic blocks simulating enamel, dentine and pulp layers made from 3 different layers of hard thermosetting frasaco tooth material, printed with 13 different preparation designs in total, millimetric film for control
- A-PT 99-001 2 square transparent plastic blocks printed with simple geometrical shapes "OSY" for preparation training, millimetric film for threedimensional control
- A-PTM 99-001 2 square plastic blocks simulating enamel, dentine and pulp layers printed with simple geometrical shapes "OSY" for preparation training, millimetric film for control
- A-PTSM enamel, dentine, pulp preparation trainer kit mounting plate for frasaco phantom heads with clip device for preparation trainers made from 3 different layers of hard thermosetting frasaco tooth material complete with: 2 square plastic blocks printed with 13 different preparation designs in total, millimetric film for control and mounting key

1531-SRM mounting plate for screw-in or magnetic fixation of preparation or endodontic trainers in frasaco phantom heads
1534-SRM mounting plate used for fitting 2 frasaco preparation trainers in one of the V-shaped positions left and right, intended to simulate the dental

arch. They enable optional screw-retention or retention using magnetic mounting plates in frasaco phantom heads











endodontic exercises





endo trainer

A-ETE-0

A-ETE-10

A-ETE-20

A-ETE-30

A-ETK-0

A-ETK-10 A-ETK-20

A-ETK-30

A-ETEL-0

A-ETEL-10

A-ETEL-20

A-ETEL-30

1531-SRM

transparent cylinder to practice root canal preparation, round plastic material to magnify the root canal, root canals with curves of 0°, 10°, 20° or 30° canal with red pulpal walls

endo trainer

transparent cylinder to practice root canal preparation, round plastic material to magnify the root canal, root canals with curves of 0°, 10°, 20° or 30° canal with non-coloured pulpal walls

endo trainer with open apex

transparent cylinder to practice root canal preparation, round plastic material to magnify the root canal, root canals with curves of 0°, 10°, 20° or 30° canal with red pulpal walls

In this version of the well-known frasaco endo trainers the apex has been opened, so over-instrumentation can be detected



endo trainer kit mounting plate for frasaco phantom heads with slide device for transparent endo cylinders to practice root canal preparation complete with:
2 endo trainers with root canal with red pulpal walls
2 endo trainers with root canal with non-coloured pulpal walls root canals with curves of 0° and 20°
1 cover hood for blind exercises
cover hood for blind exercises

endodontic trainers in frasaco phantom heads

mounting plate for screw-in or magnetic fixation of preparation or





(model teeth with root canals, with screws, fitting AG-3 models, execution in transparent plastic material with red pulpal walls and ivory crowns in hard thermosetting materia for pre-clinical training in root canal treatment and cavity preparation		
	upper	21, 24, 26	
	lower	46	

endodontic exercises

AG-3 ZPUR

model teeth with root canals fitting AG-3 models, with screws, execution in hard thermosetting material, ivory crowns and roots with red pulpal walls for pre-clinical training in root canal treatment and cavity preparation, suitable for x-ray control 21, 24, 26 upper lower 46

AG-3 ZEE model teeth fitting AG-3 models, with screws, simulating the situation after root canal treatment of incisors, premolars and molars, access holes are sealed with gutta-percha. Suitable for training the making of direct and indirect posts with plastic or non-plastic (metallic) materials 14, 21, 24, 26 upper

ANA-4 ZPUK model teeth with root canals similar to AG-3 ZPUK, with screws, however fitting models ANA-4 (V) upper 21, 24, 26 lower 46

ANKA-4 ZPUK model teeth with root canals as above, however fitting the frasaco click system models ANKA-4 (V) upper 21, 24, 26 lower 46

ANA-4 ZPUR model teeth with root canals similar to AG-3 ZPUR, with screws, however fitting models ANA-4 (V) upper 21, 24, 26 lower 46

ANKA-4 ZPUR model teeth with root canals as above, however fitting the frasaco click system models ANKA-4 (V) upper 21, 24, 26 lower 46

ANA-4 ZEE model teeth with gutta-percha filling similar to AG-3 ZEE, with screws, however fitting models ANA-4 (V) upper 14, 21, 24, 26

ANKA-4 ZEE model teeth with root canals as above, however fitting the frasaco click system models ANKA-4 (V) 14, 21, 24, 26 upper

35





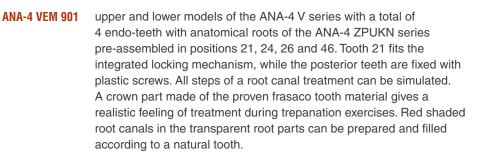






endodontic exercises







- ANA-4 VE OK 901 upper jaw model as described above, but the model jaw is prepared for fitting a total of 3 ANA-4 ZPUKN series endodontic teeth in positions 21, 24 and 26. The endodontic teeth themselves must be ordered separately for this version.
- ANA-4 VE UK 901 lower jaw model as described above, but the model jaw is prepared for fitting one ANA-4 ZPUKN series endodontic tooth in position 46. The endodontic tooth itself must be ordered separately for this version.



- AN-4 SPE OK 001 mounting plate with screws for changing existing upper models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 21, 24 and 26.
 - AN-4 SPE UK 001 mounting plate with screws for changing existing lower models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at position 46.





- ANA-4 VEM 903 upper and lower models of the ANA-4 V series with a total of 8 endo-teeth with anatomical roots of the ANA-4 ZPUKN series pre-assembled in positions 11, 16, 21, 24, 26, 36, 45 and 46. Teeth 11 and 21 fit the integrated locking mechanism, while the posterior teeth are fixed with plastic screws. All steps of a root canal treatment can be simulated. A crown part made of the proven frasaco tooth material gives a realistic feeling of treatment during trepanation exercises. Red shaded root canals in the transparent root parts can be prepared and filled according to a natural tooth.
- ANA-4 VE OK 903 upper jaw model as described above, but the model jaw is prepared for fitting a total of 5 ANA-4 ZPUKN series endodontic teeth in positions 11, 16, 21, 24 and 26. The endodontic teeth themselves must be ordered separately for this version.
- ANA-4 VE UK 903 lower jaw model as described above, but the model jaw is prepared for fitting a total of 3 ANA-4 ZPUKN series endodontic teeth in positions 36, 45 and 46. The endodontic teeth themselves must be ordered separately for this version.

lower

- AN-4 SPE OK 003 mounting plate with screws for changing existing upper models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 11, 16, 21, 24 and 26.
- AN-4 SPE UK 003 mounting plate with screws for changing existing lower models of the ANA-4 (V) series to the new frasaco endo-teeth with whole root, as shown on pages 11 to 13 and 37, to allow fixing at positions 36, 45 and 46.
- ANA-4 ZPUKN training teeth with anatomical roots that simulate all steps of a root canal treatment. Anterior teeth 11 and 21 are supplied without screws, as they are fixed in the model base with an integrated locking mechanism, while posterior teeth are fixed with supplied plastic screws. A crown part made of the proven frasaco tooth material gives a realistic feeling during trepanation exercises. The red shaded root canals in the transparent root part can be treated and filled like a natural tooth. Detailed description on pages 11-13 upper 11, 16, 21, 24, 26
- ANA-4 ZPUKN TM endodontic training teeth with anatomical roots of the ANA-4 ZPUKN series are also available in an prepared version. The TM version is accessed according to the principles of minimally invasive technique. upper 11, 16, 21, 24, 26 lower 36, 45, 46

36, 45, 46

ANA-4 ZPUKN TT endodontic training teeth with anatomical roots of the ANA-4 ZPUKN series are also available in a prepared version. The TT version is accessed according to the traditional principles. upper 11, 16, 21, 24, 26 lower 36, 45, 46

A-REEM 901

X-ray and endometry model with a total of 4 endodontic teeth with anatomical roots of the ANA-4 ZPURN series pre-assembled in positions 21, 24, 26 and 46. All steps of a root canal treatment including an electrometric length determination can be simulated. A crown section made of the proven frasaco tooth material gives a realistic feeling of treatment during trepanation exercises. Root canals and tooth roots are radiolucent and can be examined, prepared and filled like a natural tooth. A conductive medium is additionally required for root canal length measurement. Connections for an endometry measuring device are available as well as recesses for X-ray films or digital sensors.













A-REE OK 901 Upper jaw model as described above, but the X-ray and endometry model is prepared for the acquisition of a total of 3 ANA-4 ZPURN series endodontic teeth in positions 21, 24 and 26. The endodontic teeth themselves must be ordered separately for this version. **A-REE UK 901** Lower jaw model as described above, but the X-ray and endometry model is prepared for the acquisition of an endodontic tooth of the series ANA-4 ZPURN in position 46. The endodontic tooth itself must be ordered separately for this version. **A-REEM 903** X-ray and endometry model with a total of 8 endodontic teeth with anatomic roots of series ANA-4 ZPURN in positions 11, 16, 21, 24, 26, 36, 45 and 46 pre-assembled. All steps of a root canal treatment including an electrometric length determination can be simulated. A crown section made of the proven frasaco tooth material gives a realistic feeling of treatment during trephination exercises. Root canals and roots are radiolucent and can be examined, prepared and filled according to a natural tooth. A conductive medium is also required for root canal length measurement. Connections for an endometrometer are available as well as recesses for X-ray films or digital sensors. **A-REE OK 903** Upper jaw model as described above, but the X-ray and endometry model is prepared for the acquisition of a total of 5 endodontic teeth of the ANA-4 ZPURN series in positions 11, 16, 21, 24 and 26. The endodontic teeth themselves must be ordered separately for this version. Lower jaw model as described above, but the X-ray and endometry **A-REE UK 903** model is prepared for the acquisition of a total of 3 endodontic teeth of the ANA-4 ZPURN series in positions 36, 45 and 46. The endodontic teeth themselves must be ordered separately for this version.

A series A seri

A-REE LG

Conductive medium for root canal length measurement in frasaco endometry models of the A-REE series. With the contents of the bottle, model jaws can be completely filled up to 9 times.



lower

ANA-4 ZPURN

Training teeth with anatomical roots with which all steps of a root canal treatment can be simulated. Anterior teeth 11 and 21 are supplied without screws because they are held in the model base with an integrated locking mechanism, while posterior teeth are fixed with plastic screws supplied. A crown part made of the proven frasaco tooth material gives a realistic feeling of processing during trepanation exercises. Root canals and tooth roots are radiolucent and can be examined, prepared and filled like a natural tooth. upper 11, 16, 21, 24, 26

ANA-4 Z3RN-11 In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth root is made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied without a screw as it is held in the model base with an integrated locking mechanism. upper 11

36, 45, 46

- ANA-4 Z3RN-16 In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth roots are made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is delivered with a plastic screw for fixation in the base of the tooth. upper 16
- ANA-4 Z3RN-21 In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth root is made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied without a screw because it is held in the model base with an integrated locking mechanism. upper 21

ANA-4 Z3RN-24 In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth roots are made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is attached to the root canal with a plastic screw. upper 24





ANA-4 Z3RN-26

In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth roots are made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied with a plastic screw for fixation in the model base. upper 26

ANA-4 Z3RN-36

In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentin for trepanation exercises. The tooth roots are made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied with a plastic screw for fixation in the model base. lower 36

ANA-4 Z3RN-45

In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth root is made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied with a plastic screw for fixation in the model base. lower 45



ANA-4 Z3RN-46

In this further development of our practice teeth with anatomical roots, the enamel consists of a new frasaco adamant material with a noticeable difference in hardness between enamel and dentine for trepanation exercises. The tooth root is made of a material that allows realistic preparation similar to natural root cement. Pulp and root tissue are simulated by soft material. Thus all steps of a root canal treatment can be simulated supported by X-ray and apex length measurement. This tooth is supplied with a plastic screw for fixation in the model base. lower 46

ANA-4 Z3RNK..

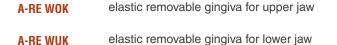
Based on the ANA-4 Z3RN... type endodontic teeth shown above, we can offer model teeth with undermining caries, which can be identified and realistically treated in the new, soft version 1 with dental x-ray.

Notice:

Our endodontic program is characterized by continuous product improvements and program additions. Please ask for the current list of available options.

A-REEM BGR1 The model base A-REEM BGR1 of the X-ray and endometry model shown above can not only be used with frasaco model teeth, but is also suitable for exercises with extracted real teeth. These real teeth can be set up following the dental arch after the user has milled accurately fitting openings into the insertion plate. An additional fixation with cold curing resin is recommended. Model teeth of the ANA-4 ZE series can easily be fixed to the screw plates with Phillips screws between them. Connections for an endometrometer are available as well as recesses for X-ray films or digital sensors. A conductive medium is additionally required for root canal length measurement.

A-RE POK 901	mounting plate with screws for upper jaw with longer support pins compared to earlier versions
A-RE PUK 901	mounting plate with screws for lower jaw with longer support pins compared to earlier versions



A-RE SET OK Upper jaw model completely assembled using the model base A-REEM BGR1 with 14 model teeth type ANA-4 ZE, with modified screw plate A-RE POK 901 and gingiva A-RE WOK. Extracted real teeth can be used as described in A-REEM BGR1 above.

A-RE SET UK 99-001

99-001

Lower jaw model completely assembled using the model base A-REEM BGR1 with 14 model teeth type ANA-4 ZE, with modified screw plate A-RE PUK 901 and gingiva A-RE WUK. Extracted real teeth can be used as described in A-REEM BGR1 above.









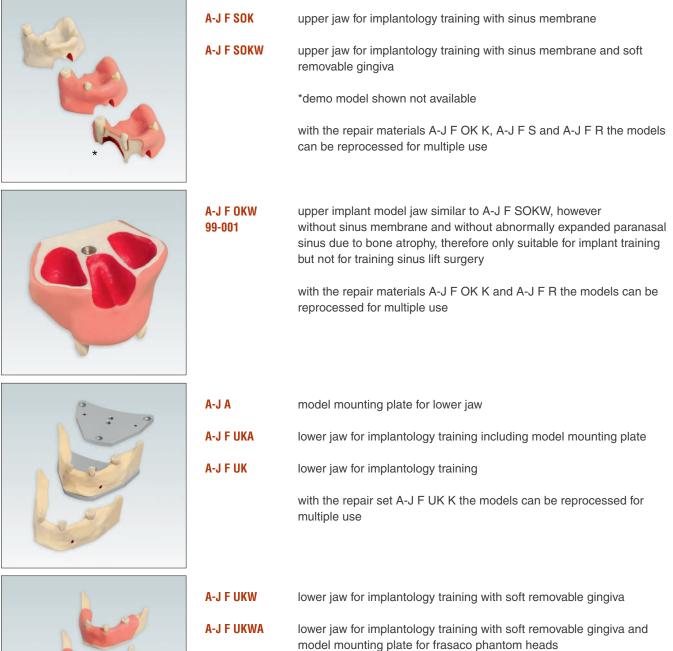


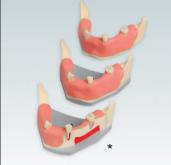
The frasaco A-J F range of upper and lower jaw models can be used for training purposes for all dental implantological surgery procedures under correct anatomical conditions. The models can be displayed on panoramic X-ray and represent the anatomy of an implant patient with a greatly reduced residual dentition.

Upper jaw: paranasal sinus abnormally expanded due to bone atrophy, residual dentition: 13, 23, 27

Lower jaw: 2 canals for simulating the alveolar nerve, residual dentition: 33, 37, 43

The artificial bone material corresponds to the physicomechanical properties of the human jaw bone. There is also the option of an elastic removable gingiva cover. These features not only allow drilling under realistic conditions of resistance and drilling pressure but also ensure that incisions, periostomy and suturing techniques can be practised under as realistic conditions as possible. Simulation of the mucosa of the maxillary sinus and paranasal sinus in the upper jaw even provides the opportunity of training in direct or indirect sinus lift surgery. Fitting the models into frasaco phantom heads (upper jaw with an integrated mounting thread, lower jaw with reusable metal mounting plate) provides even more realistic practice in the restricted working area of the oral cavity.





with the repair out A	I E LIK K the models can be rea

*demo model shown not available

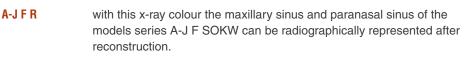
with the repair set A-J F UK K the models can be reprocessed for multiple use

A-J F WOK elastic, exchangeable gingiva for upper jaw model, for surgical exercises

- A-J F WUK elastic, exchangeable gingiva for lower jaw model, for surgical exercises
- A-J F OK K synthetic resin for reconstruction of the model base made from material similar to bone of upper implant model jaw A-J F OKW 99-001 and A-J F SOKW
- A-J F UK K synthetic resin for reconstruction of the model base made from material similar to bone of lower implant model jaw A-J F UK

Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost.

A-JFS using this upgrade set, the sinus mucosa (Schneiderian membrane) can be re-applied following a sinus-lift exercise on the A-J F SOKW model. Damaged bone material can be repaired beforehand using the A-J F OK K bone material set



Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost.

- A-JT set consisting of 3 implant trainer plates, each 100 by 50 mm wide and 17 mm thick, made from special material similar to human bone (corresponding to bone hardness classifications D2, D3 and D4) for first drilling exercises
- A-JT D2 single implant trainer plate as above corresponding to class D2
- A-JT D3 single implant trainer plate as above corresponding to class D3
- A-JT D4 single implant trainer plate as above corresponding to class D4



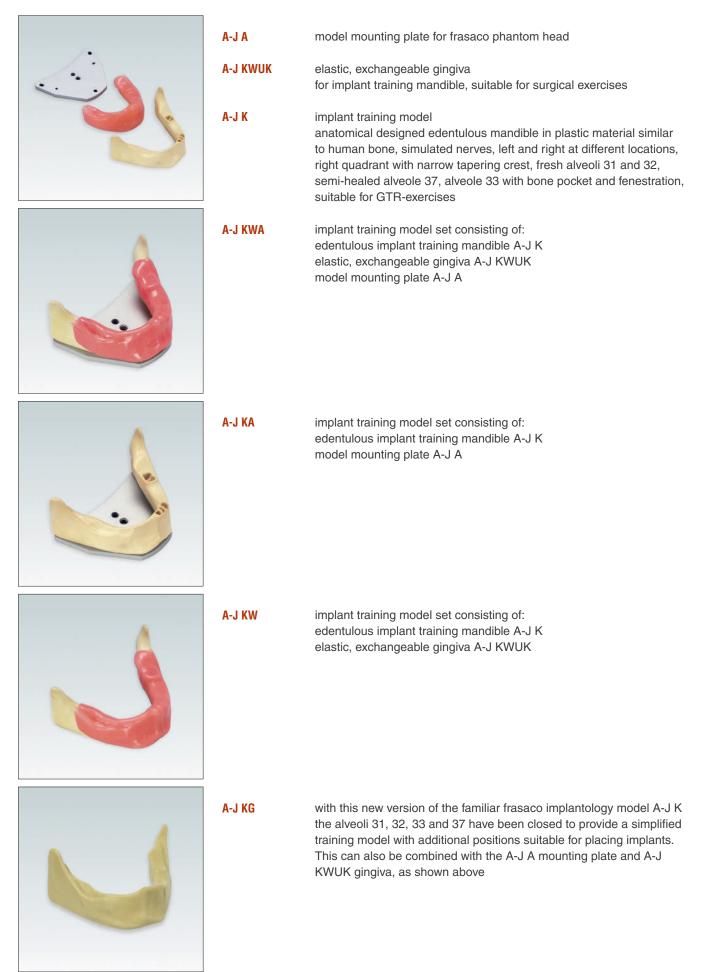


dental models









B-3 CSPJW

JW natural, anatomically contoured upper and lower model corresponding to frasaco model B-3 CSP, but with a softer removable gingiva for even more realistic impression-taking exercises. Under the gingiva is a model base made from bone-like material, which is suitable for implantology exercises. The shape and size perfectly matches the frasaco models of the series ANA-4 (V) and ANKA-4 (V). Metal backplate with thread for optional screw-retention or retention using magnetic mounting plates in frasaco phantom heads

B-3 CSPB	bite block suitable for models B-3 CSPJW and B-3 CSP
B-3 CSPB OK	sectioned upper bite block for models B-3 CSPJW and B-3 CSP coordinated with the fully dentate lower jaw of the model series ANA-4 (V) and ANKA-4 (V)
B-3 CSPB UK	sectioned lower bite block for models B-3 CSPJW and B-3 CSP coordinated with the fully dentate lower jaw of the model series

ANA-4 (V) and ANKA-4 (V)

B-3 CSPJ edentulous upper and lower model corresponding to frasaco model B-3 CSPJW, but without removable gingiva. The model base is manufactured from bone-like material and is ideal for implantology exercises. The shape and size perfectly match frasaco models of the series ANA-4 (V) and ANKA-4 (V). Metal backplate with thread for optional screw-retention or retention

Metal backplate with thread for optional screw-retention or retention using magnetic mounting plates in frasaco phantom heads

- B-3 CSPJ WOK elastic removable gingiva for the upper jaw of the edentulous model B-3 CSPJW
- B-3 CSPJ WUK elastic removable gingiva for the lower jaw of the edentulous model B-3 CSPJW

we recommend fixing the removable gingivae to the model jaw using a few drops of our A-P K G adhesive.

B-3 CSPJW UK this product consists of the lower jaw of the edentulous frasaco model
 B-3 CSPJW described above made from material similar to bone with soft removable gingiva. Implant analogues (hex system) have been placed by us in positions 33 and 43. This allows implant prosthetic treatment of an edentulous jaw to be practiced. Metal back plate with thread for screw retention or optional retention with magnet mounting plates in frasaco phantom heads











implantology and full denture exercises



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implantology and full denture exercises

B-3 NHB bite block suitable for models B-3 NHJW and B-3 NH

B-3 NHJO these edentulous upper and lower jaw models correspond to the frasaco model B-3 NHJW, but without removable gingiva

B-3 NHJ WOK soft removable gingiva for the upper jaw of the edentulous model B-3 NHJW

- B-3 NHJ WUK soft removable gingiva for the lower jaw of the edentulous model B-3 NHJW
- **B-3 LMU** edentulous upper and lower model jaws, execution in hard thermosetting plastic material, normal bite without undercuts. Upper jaw corresponding to B-3 NM (see page 49), however lower jaw with an exchangeable insert made from special material simulating human bone. Thanks to this combination the model can not only be used for full denture exercises in prosthodontics, but also for first implant training in material similar to human bone with correct anatomy. As the insert made from simulated bone material can be changed individually, an economical model combination for multiple usage
- B-3 NMB bite block suitable for B-3 LMU
- **B-3 UK LMU** edentulous lower jaw, execution in hard thermosetting plastic material, normal bite without undercuts with an exchangeable insert made from special material simulating human bone
- B-3 UK LMUE insert made from special material simulating human bone fitting B-3 UK LMU model for repeated implantology training







implantology and full denture exercises



ANA-4 TOKJ VG 901 partially dentate solid-cast upper jaw made from material suitable for placing implants. Implants can be placed in edentulous areas to allow subsequent implant prosthetic treatment to be performed. Model holder MA-1 will also be required with this simple entry-level model for working in the phantom head

ANA-4 TOKJ VG 902 partially dentate solid-cast upper jaw made from material suitable for placing implants. Implant analogues (hex) have already been placed in the edentulous areas to allow training of implant prosthetic treatment. Model holder MA-1 will also be required with this simple entry-level model for working in the phantom head

MA-1

B-3 NH

using model holder MA-1 models, which do not have a back plate for retention in a phantom head, can be fixed with screws on the side and thus inserted in phantom heads. This allows simple models, such as the previously described models of the ANA-4 TOKJ VG series or in-house fabricated dental stone models to be adapted for use with phantom heads



	thermosetting plastic material, normal bite without undercuts. Metal fixing plate with thread to be used for screw-in or magnetic fixation
B-3 NHB	bite block suitable for B-3 NH
B-3 NHG	rubber moulds for casting plaster duplicates of edentulous model B-3 NH, normal bite
B-3 ZP	transparent centric plate with four guidance pins, fixing screw and mounting thread M6 to be placed upon the rubber mould, models cast from rubber moulds can thus be screwed in frasaco phantom heads or articulators package containing 1 centric plate, 1 fixing screw, 5 mounting threads
B-3 ZPB	re-fill pack containing 10 mounting threads

edentulous upper and lower model jaws, execution in hard

48

edentulous models for full denture exercises



edentulous upper and lower model jaws, execution in hard thermosetting plastic material, normal bite with undercuts. Metal fixing plate with thread to be used for screw-in or magnetic fixation

B-3 NMB bite block suitable for B-3 NM

B-3 NMG	rubber moulds for casting plaster duplicates of edentulous model B-3 NM, normal bite, with undercuts
B-3 ZP	transparent centric plate with four guidance pins, fixing screw and mounting thread M6 to be placed upon the rubber mould, models cast from rubber moulds can thus be screwed in frasaco phantom heads or articulators package containing 1 centric plate, 1 fixing screw, 5 mounting threads
B-3 ZPB	re-fill pack containing 10 mounting threads
B-3 CSP	edentulous upper and lower jaws with natural anatomy as found in daily practice. The position of the lowest point of the alveolar ridge in the areas of the first permanent molars can be determined easily and precisely. Ideal for teaching essential, theoretical principles of setting denture teeth as well as for realistic impression taking. Size and shape perfectly fit the frasaco standard model series ANA-4. Execution in hard thermosetting plastic material, metal fixing plate with thread, so it can be used for screw-in or magnetic fixation
B-3 CSPB	bite block suitable for B-3 CSP
B-3 CSP G	rubber moulds for casting plaster duplicates of edentulous model B-3 CSP, normal bite. This mould allows the making of plaster models using the metal fixing plates AN-4 ZPE
AN-4 ZP AN-4 ZPE	transparent centric plate with four guidance pins, fixing screw and metal fixing plate with mounting thread M6 to be placed upon the rubber mould models cast from rubber moulds can thus be mounted in frasaco phantom heads or articulators with screw-in or magnetic fixation package containing 1 centric plate, 1 fixing screw, 5 fixing plates re-fill pack containing 10 fixing plates
B-3 KN	edentulous upper and lower model jaws, execution in hard thermosetting plastic material, cross bite with thread to be used for mounting to frasaco phantom heads
B-3 KNB	bite block suitable for B-3 KN











models for dental technicians

	B-3 D B-3 DB	edentulous upper and lower model jaws, execution in hard thermosetting plastic material, close bite with thread to be used for mounting to frasaco phantom heads bite block suitable for B-3 D
	AG-3 G 28	rubber moulds for dental technicians examinations, for casting completely dentate master models upper and lower model jaw moulds for 28 gnathologically contoured teeth in a stable intercuspidation with canine guidance and functional contact points
		anterior relationship: deep overbite, initial anterior and canine guidance Premolar to first molar region: tooth relationship = 1 : 2 Second and third molar region: tooth relationship = 1 : 1 distally
	AG-3 ZP	transparent centric plate with four guidance pins, fixing screw and mounting thread M6 to be placed upon the rubber mould models cast from rubber moulds can thus be screwed in frasaco phantom heads or articulators package containing: 1 centric plate, 1 fixing screw, 5 mounting threads the rubber moulds AG-3 G 28 are however not included in the AG-3 ZP set
	AG-3 ZPB	re-fill pack containing 10 mounting threads
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	AG-3 Z 28	set of 28 gnathologically shaped frasaco teeth for grinding, suitable for rubber negative mould AG-3 G 28, with screws
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	AG-3 ZE 010	bag containing 10 individual model teeth of the same position to fit AG-3 models, with screws
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	AG-3 ZE 100	bag containing 100 individual model teeth of the same position to fit AG-3 models, with screws
	B-3 NT	edentulous upper and lower model jaws, execution in hard thermo- setting plastic material, with thread to be used for mounting to frasaco phantom heads, upper and lower model jaws perfectly matching each other, ideal distance between models to set up the teeth

B-3 NTB bite block suitable for B-3 NT

dental hygiene training

AG-3 H oral hygiene model

articulating upper and lower model jaws are occluding in a stable intercuspidation, (32 teeth with gnathological fissures, series AG-3 Z), hard thermosetting material, elastic removable gingivae, simulation of periodontosis with pockets, suitable for subgingival removal of calculus

AG-3 H KR oral hygiene model similar to AG-3 H, however with gingivae in red-transparent execution

AG-3 WOKH	elastic removable gingiva for oral hygiene model upper jaw, held in place by the model teeth
AG-3 WOKH KR	as above, however in red-transparent execution

- AG-3 WUKH elastic removable gingiva for oral hygiene model lower jaw, held in place by the model teeth
- AG-3 WUKH KR as above, however in red-transparent execution

A-CK

synthetic calculus for application on roots and crowns of model teeth, roughening of the tooth surface is no longer needed before application of the synthetic calculus packing content is sufficient for approx. 1.800 model teeth

Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost.

AG-3 Z	set of 32 gnathologically contoured model teeth to fit AG-3 models, with screws
AG-3 ZE 010	bag containing 10 individual model teeth of the same position to fit AG-3 models, with screws

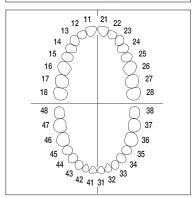
AG-3 ZE 100 bag containing 100 individual model teeth of the same position to fit AG-3 models, with screws











periodontology model A-PZ



A-PZ

periodontal model

upper and lower model jaws with elastic removable gingivae simulation of periodontosis in its early to advanced stages



A-PZ WOK	elastic removable gingiva for upper jaw A-PZ OK suitable for surgical exercises
A-PZ WOK KR	as above, however in red-transparent execution
A-PZ WUK	elastic removable gingiva for lower jaw for A-PZ UK suitable for surgical exercises
A-PZ WUK KR	as above, however in red-transparent execution



	Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost	
	packing content is sufficient for approx. 1.800 model teeth	
A-CK	synthetic calculus for application on roots and crowns of model teeth	
A-PZ WUK KR	as above, however in red-transparent execution	

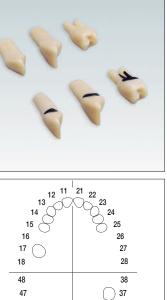


A-P K G

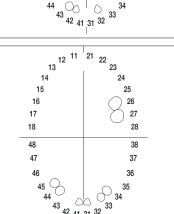
adhesive for gingivae

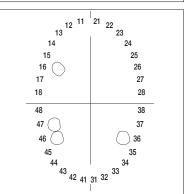
teeth for periodontology model A-PZ

A-PZ Z	with screws, suita	eeth, execution in hard thermosetting plastic material, ble for model A-PZ eeth, as well as special teeth with 1 and 2 roots	
A-PZ ZC	set of 27 model te with calculus	eeth, with screws, suitable for model A-PZ	6
A-PZ ZE	upper 2 lower 3 lower 4	eeth 11, 12, 13, 14, 15, 17 21, 22, 23, 24, 25 32, 37 42, 43 eeth, optional assortment	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
	with calculus		43 42 41 31 32
A-PZ ZE 1	lower 3	th with 1 root 26, 27 31, 33, 34 41, 44, 45	12 ^{11 21} 22 13 ¹⁴ 15 16 17 18 48
A-PZ ZEC 1	special model tee with calculus	th with 1 root, optional assortment	47 46 45 44 43 42 41 31 32
A-PZ ZE 2	lower 3	th with 2 roots 16 36 46, 47	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
A-PZ ZEC 2	special model tee with calculus	th with 2 roots, optional assortment	47 46 45



36 35





periodontology model A-PB

A-PB

bones



periodontal model upper and lower model jaws with elastic removable gingivae simulation of well-advanced periodontosis of gingivae and maxillae



elastic removable gingiva for upper Jaw A-PB OK suitable for surgical exercises
as above, however in red-transparent execution
elastic removable gingiva for lower jaw A-PB UK suitable for surgical exercises
as above, however in red-transparent execution

A-CK synthetic calculus for application on roots and crowns of model teeth

packing content is sufficient for approx. 1.800 model teeth

Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost

The survey of the state





A-PB Z

A-PB ZC

adhesive for gingivae

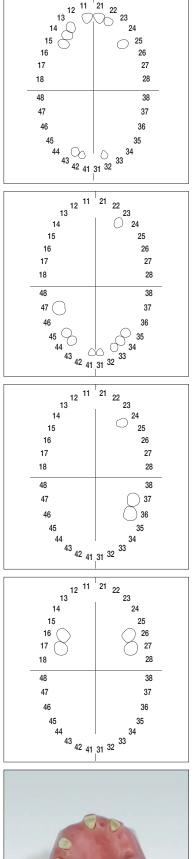
set of 26 model teeth, in hard thermosetting plastic material with screws, suitable for model A-PB standard model teeth as well as special teeth with 1, 2 and 3 roots without calculus

set of 26 model teeth, execution in hard thermosetting plastic material, with screws, suitable for model A-PB with calculus

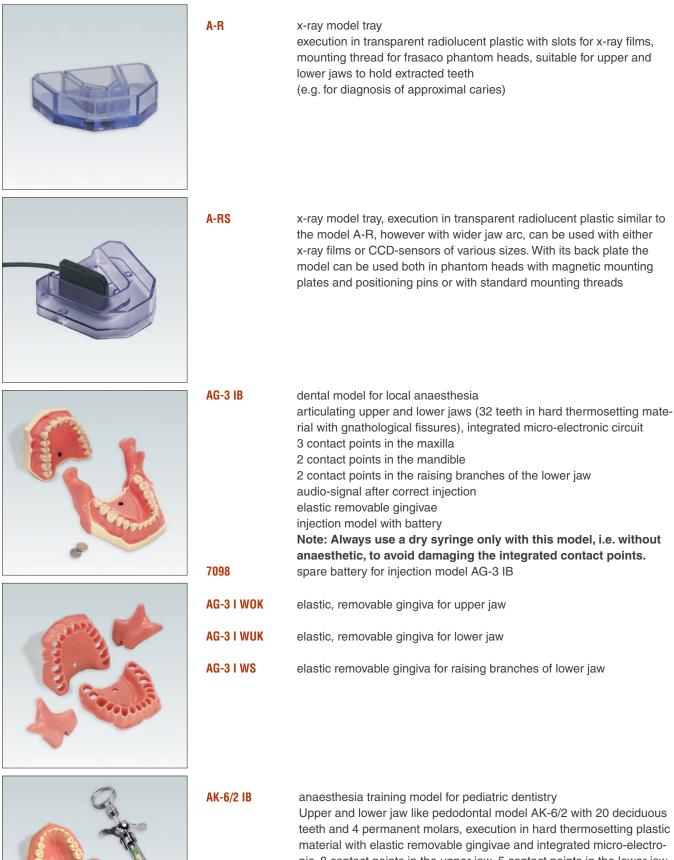
A-PB model teeth and peri-implantitis model

A-PB ZE	standard model without calculus	
	upper	11, 13, 14, 15
	upper	21, 22, 25
	lower	32
	lower	42, 43
A-PB ZEC	standard model with calculus	teeth, optional assortment
	with calculus	
A-PB ZE 1	special model te	
	without calculus	
	upper lower	23 31, 33, 34, 35
	lower	41, 44, 45, 47
A-PB ZEC 1	special model te	eeth with 1 root, optional assortment
	with calculus	
A-PB ZE 2	special model te	eeth with 2 roots
	without calculus	
	upper	24
	lower	36, 37
A-PB ZEC 2	special model te	eeth with 2 roots, optional assortment
	with calculus	
		L
A-PB ZE 3	special model te	
	without calculus	
	upper upper	16, 17 26, 27
A-PB ZEC 3	special model te	eeth with 3 roots, optional assortment
AT D 2LO O	with calculus	seur with 5 roots, optional assortment

- A-PB PI OK the upper jaw model A-PB PI consists of a base made from material suitable for placing implants, and gingiva suitable for suturing. Implants can be placed at areas already marked with slight indents. The gingiva and the bone surrounding the implant have the characteristics of peri-implantitis, allowing simulation of treatment. For mounting in the phantom head the model holder MA-1 (page 48) is required.
- A-PB PI WOK Removable gingiva for upper jaw model A-PB PI for peri-implantitis exercises



x-ray diagnosis and local anaesthesia



material with elastic removable gingivae and integrated micro-electronic. 8 contact points in the upper jaw, 5 contact points in the lower jaw and 2 contact points in its raising branches for training infiltration and intra-ligamentous techniques of anaesthesia.

Audio signal after correct injection.

Syringe included in the kit.

Note: Accessories for this model can be found on page 66



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A-E M

extraction model for basic exercises execution in cast aluminium, 32 metal teeth in CrNi-Steel, embedded in resistent plastic resin, with back plate

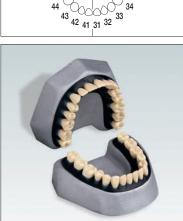
set of 32 metallic model teeth in CrNi-Steel for extraction A-E ZM model A-E M

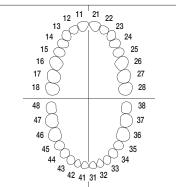
A-E ZME individual metallic model teeth in CrNi-Steel optional assortment

A-E K extraction model for advanced exercises execution in cast aluminium, 32 plastic teeth embedded in resistent plastic resin, with back plate

plastic teeth roots will fracture in case of incorrect luxation

- A-E ZK set of 32 plastic model teeth in hard thermosetting material, for extraction model A-E K
- individual plastic model teeth in hard thermosetting material, A-E ZKE optional assortment
- A-E MK extraction model, execution in cast aluminium, 16 model teeth in CrNi-Steel and 16 plastic teeth, embedded in resistant plastic resin, with back plate









21 22

28

38 37

36

35

12 11

13

14

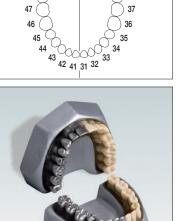
15 16

17 18

48

47

46





oral surgery

- A-J OP OK surgical training model, upper jaw (can be reconstructed and reused again) with vestibular and palatal impacted canines and partial dentition, some teeth with apex areas affected by granuloma. 11, 12, 14, 16 and 21, 22, 24 and 26 with granuloma prepared for apicectomy. 21 with transparent root for root filling control the elastic removable gingiva allows for realistic surgical exercise and suturing *demo model shown not available
- A-J A model mounting plate for phantom head needed for model A-J OP UK
- A-J OP UK surgical training model (can be reconstructed and reused again) anatomical designed mandible in special plastic material similar to human bone, simulated nerves left and right at different locations, exchangeable teeth no. 31, 32, 33, 34, 37 with granuloma prepared for apicectomy. The completely impacted and partially rotated wisdom teeth are prepared for surgical extraction (Alveole 33 with bone pocket and fenestration, suitable for GTR-application). The elastic removable gingiva allows for realistic surgical exercises and suturing *demo model shown not available
- A-J OP WOK soft removable gingiva for upper jaw, suitable for A-J OP OK
- A-J OP WUK soft removable gingiva for lower jaw, suitable for A-J OP UK

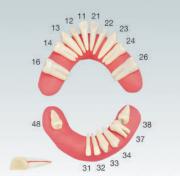
A-J OP ZE	individu	al teeth for replacement for models A-J OP:
	upper	11, 12, 14, 16 teeth with root for resection
	upper	13 tooth with root for embedding
	upper	21 tooth with root for resection
	upper	22, 24, 26 teeth with root for resection
	upper	23 tooth with root for embedding
	lower	31, 32, 33, 34, 37, 38 teeth with root resection
	lower	48 tooth with root for embedding
A-J OP ZET	upper 21 transparent tooth with root and complete root can endo-surgical training	

- A-J OP OK K synthetic resin with a consistency similar to bone for embedding teeth into upper jaw A-J OP OK
- A-J OP UK K synthetic resin with a consistency similar to bone for embedding teeth into lower jaw A-J OP UK

Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost.









59

oral surgery



surgical model, upper model jaw with displaced canine 23 resection openings around the central incisor 11 and premolar 24 all teeth with exception of 23 are screwed-in and can be replaced soft removable gingiva for surgical exercises

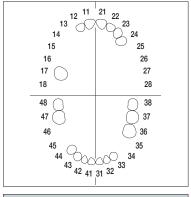
A-OP UK

A-OP OK

surgical model, lower model jaw with displaced wisdom tooth 38 resection opening around the canine 33, all teeth with exception of 38 are screwed-in and can be replaced soft removable gingiva for surgical exercises



A-OP WOK	soft removable gingiva for upper jaw to be adhered to A-OP OK models
A-OP WUK	soft removable gingiva for lower jaw to be adhered to A-OP UK models





individual model teeth with screws, optional assortment (A-3 ZE anatomy) upper 11 tooth with root for resection, 12, 17, 21, 22 upper 23 tooth with root for embedding upper upper 24 tooth with root for resection lower 31, 32, 36, 37 33 tooth with root for resection lower 38 tooth with root for embedding lower 41, 42, 43, 44, 47, 48 lower

A-OP KN

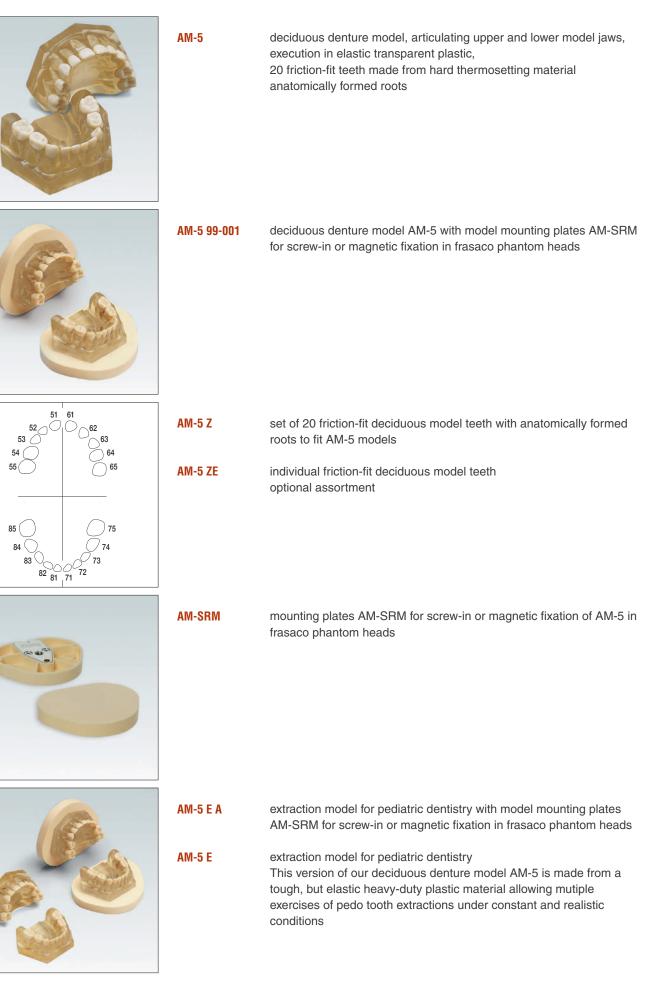
A-OP ZE

synthetic resin with a consistency similar to bone for embedding canine and wisdom tooth consisting of 4 bottles plus 1 strip of wax

sufficient for 3 dental models

Note: These products have been classified as hazardous goods and must be labeled and shipped in accordance with the relevant laws and regulations. This can make airfreight very costly. Please let us know in advance the exact quantities you require, so we can send you an offer detailing the additional cost. frasaco

deciduous model



pedodontal models

- AK-6/2 mixed dentition model, upper and lower model jaws occlude in a stable intercuspidation, 20 deciduous teeth and 4 permanent molars. The deciduous anterior teeth in the lower jaw are friction-fit, all other teeth are screw retained. Execution in hard thermosetting plastic material, elastic removable gingivae, quick-release devices for model mounting plate
- AK-6/2 M same as AK-6/2, however only with 20 deciduous teeth Note: These pedodontal models require model mounting plates AK-SRM when used in frasaco phantom heads
- AK-6/2 WOK elastic removable gingiva for upper jaw, positioned over the model base, held in place by the model teeth, suitable for model AK-6/2 OK
- AK-6/2 WOKM elastic removable gingiva for AK-6/2 M OK
- AK-6/2 WUK elastic removable gingiva for lower jaw, positioned over the model base, held in place by the model teeth, suitable for model AK-6/2 UK
- AK-6/2 WUKM elastic removable gingiva for AK-6/2 M UK

AK-SRM quick-release mounting plates for screw-in or magnetic fixation of pediatric models AK-6/2 and AK-6 in frasaco phantom heads

AK-6	mixed dentition model, to a large extent corresponding to AK-6/2. To facilitate first preparation exercises this version has a lower gingival contour. Therefore the teeth are easier accessible than the teeth of AK-6/2
AK-6 M	same as AK-6, however only with 20 deciduous teeth Note: These pedodontal models require model mounting plates AK-SRM when used in frasaco phantom heads
AK-6 WOK	elastic removable gingiva for upper jaw, positioned over the model base, held in place by the model teeth, suitable for model AK-6 OK
AK-6 WOKM	elastic removable gingiva for AK-6 M OK
AK-6 WUK	elastic removable gingiva for lower jaw, positioned over the model base, held in place by the model teeth, suitable for model AK-6 UK
AK-6 WUKM	elastic removable gingiva for AK-6 M UK







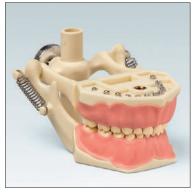




pedodontal models

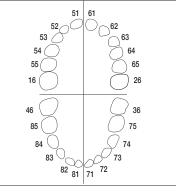
AK-6/2 DAK

AK-6 DAK



frasaco pedodontal model AK-6/2 with demonstration articulator DAK allowing simple functional movements

frasaco pedodontal model AK-6 with demonstration articulator DAK allowing simple functional movements



51 61

53 (

55 (

82 81 71

AK-6/2 Z	set of 20 deciduous model teeth and 4 permanent molars in hard thermosetting material with screws, for AK-6/2 models
AK-6/2 ZE	individual deciduous model teeth and permanent molars in hard thermosetting material with screws, optional assortment

AK-6 Z	set of 20 deciduous model teeth and 4 permanent molars in hard thermosetting material with screws, for AK-6 models
AK-6 ZE	individual deciduous model teeth and permanent molars in hard thermosetting material with screws, optional assortment



AK-6/2 ZP51	dental trauma:
99-002	fractured teeth 51 and 61 can be treated with the aid of frasaco pedo-
AK-6/2 ZP61	dontal strip crowns size 512 and 611A
99-002	



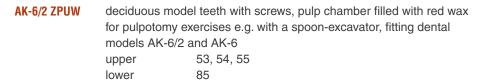
AK-6/2 ZP51	NBS Karies:
99-003	teeth 51 and 61 show the destruction of the tooth substance with NBS
AK-6/2 ZP61	caries. They can be treated with the aid of frasaco pedodontal strip
99-003	crowns size 512 and 611A

model teeth for pedodontal models

AK-6/2 ZPU

deciduous model teeth with screws, red pulp inserts showing if approached too closely during preparation, execution in hard thermosetting material, fitting dental models AK-6/2 and AK-6 upper 53, 54, 55 lower 85

AK-6/2 ZPUL	deciduous mod	el teeth with screws, hollow pulp chamber for
	pulpotomy exer	rcises, fitting dental models AK-6/2 and AK-6
	upper	53, 54, 55
	lower	85



AK-6/2 ZPUWPK deciduous teeth according to AK-6/2 ZPUW, pulp cavity filled with red wax, additional caries lesions suitable for models AK-6/2 and AK-6 upper 53, 54, 55 lower 85

AK-6/2 ZPUF model teeth for deciduous teeth endodontics suitable for model bases AK-6/2 and AK-6, screw retention, with transparent root and red hollow root canals, and ivory-coloured crowns made from Duroplast for pulpectomy exercises upper 53, 54, 55 lower 85









training model for pediatric anaesthesia



AK-6/2 IB

AK-SRM

anaesthesia training model for pediatric dentistry

Upper and lower jaw like pedodontal model AK-6/2 with 20 deciduous teeth and 4 permanent molars, execution in hard thermosetting plastic material with elastic removable gingivae and integrated micro-electronic. 8 contact points in the upper jaw, 5 contact points in the lower jaw and 2 contact points in its raising branches for training infiltration and intra-ligamentous techniques of anaesthesia. Audio signal after correct injection. Syringe included in the kit.

jaw



AK-6/2 WOK	elastic, removable gingiva for upper jaw
AK-6/2 WUK	elastic, removable gingiva for lower jaw
AK-6/2 I WS	elastic removable gingiva for raising branches of lower



quick-release mounting plates for screw-in or magnetic fixation of
pediatric anesthesia model AK-6/2 IB in frasaco phantom heads



AK-6/2 IB HA D-16	set consisting of pediatric anaesthesia training model AK-6/2 IB, mounting plates AK-SRM and model holder HA support, which can be used together with set AK-6/2 IB HA as a complete injection training system
7098	battery for pediatric anaesthesia training model
AK-6/2 IS	syringe for pediatric anesthesia training model

Note:

Always use a dry syringe only with this model, i.e. without anaesthetic, to avoid damaging the integrated contact points.

orthodontic exercises

A-8

- A-S upper and lower metallic model jaw bases for casting individual study models with extracted teeth or frasaco teeth
- A-S G rubber moulds to set up 28 teeth in A-S model jaw bases

orthodontic denture model with 8 anterior teeth, as well as 24 (series A-3 ZEB) teeth supplied loose for embedding in dental wax, all teeth in hard thermosetting material, suitable to bond brackets, lateral incisors and canines fixed to support orthodontic bands

after fixation of brackets and orthodontic bands head the model should be removed and warmed up to melt the wax, teeth will move into the desired therapeutic position

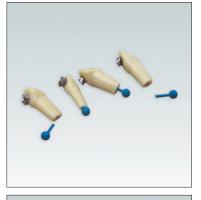
(see exemplary right figure)

	wax-mount model teeth for bracket exercises
	the roughened surface allows brackets to be fixed using
	commercial epoxy resin adhesive
	(brackets not included)
A-3 ZEB	individual teeth series A-3 ZEB for dental model A-8, 24 teeth available
	including A-3 K
A-S ZEB	individual teeth series A-S ZEB for dental model A-S, 28 teeth
	available
A-3 K	these apical retention beads prevent teeth extrusion from the wax base
	(already contained in A-3 ZEB and A-S ZEB)

A-R model tray execution in transparent plastic for embedding extracted teeth in dental wax, mounting thread for frasaco phantom heads, suitable for upper and lower jaws. After fixation of brackets and orthodontic bands the model should be removed and warmed up to melt the wax and teeth will move back to the correct position)









demonstration models



demonstration models

D-6 KF

demonstration model to teach waxing-up techniques on occlusal surfaces as well as morphology and function of anatomical teeth, distinguished by its three point intercuspidation, ideal for optimum waxing-up of the occlusals

upper and lower model jaws scale 5 : 1, tooth and gingiva coloured plastic with individual contact points

A-3 DAD 16	dental model A-3 DA with support (right)
AG-3 DAD 16	dental model AG-3 DA with support (left)
D-16	support

- ANA-4 DAFD 16 dental model ANA-4 DAF with support (right)
- AK-6/2 DAKD 16 deciduous dental model AK-6/2 DAK with support (left)

AK-6/2 DAK combined with a demonstration articulator DAK the deciduous denture model AK-6/2 is a useful tool for explaining topics of pediatric dentistry like temporomandibular articulation, grinding of teeth etc. to the patient









69

frasaco



phantom heads modular dental training systems

frasaco phantom heads permit the simulation of life-like situations from all fields of dental surgery and dental technology without distracting attention from the essentials.

Our pride in innovation and decades of experience have been directed towards simplifying use, reducing the number of individual components and minimizing maintenance. The result is as simple as it is precise and economical. All units have been designed along modular construction lines.

Every workstation can be assembled according to the topic being taught, and extended, if necessary. Our units are always as simple or, as complex, as necessary.

characteristics of our phantom heads

The frasaco phantom head is the ideal working tool for under and postgraduate courses for demonstrations and practical exercises. The state-of-the-art teaching system to simulate clinical cases in a realistic environment. For universities and institutions, but also for the dental office. A space saving dental simulator to train dental procedures to perfection. At any time.

All materials used such as aluminium, refined steel, thermoplastics and elastomers are of high-grade quality. The aluminium components have a coating which provides extra protection against corrosion and facilitates cleaning, in order to prevent any scratches becoming visible, thus allowing the components to longer retain their aesthetic appearance.

Many years of experience in manufacturing phantom heads, have long proven its high quality.

The robust construction has been proven in daily practice, designed for use by students:

practical to use and featuring uncomplicated handling as well as concentrating on the essential functions.

The patented frasaco articulation (P-6 and PK-2 series) combines average values of protrusive, mediotrusive and laterotrusive paths in one.

Optimum functioning using few parts, warrants for reduced maintenance and repairs as all screws are locked into place and cannot be lost. Clearly contoured components allow for easy cleaning. Inaccessible areas which could trap dirt have been avoided.

The modular construction of the frasaco model range perfectly fits the frasaco phantom heads.

Spare parts availability is assured for up to 10 years.



frasaco phantom heads P-6/3

Example for ordering a complete frasaco phantom head

Phantom head	1 frasaco phantom head P-6/3
Mask	1 frasaco face mask P-6 GMN 1L
Water drainage	1 frasaco water drainage system P-6 WFS1
Model	1 upper and lower model jaws frasaco AG-3
Mounting	1 frasaco table mounting assembly P-TDGP

P-6/3 frasaco phantom head P-6 with exchangeable articulator P-3

The articulator P-3 has anatomically shaped condyle boxes to allow for simulation of corresponding human masticatory functions within three-dimensional curved condylar paths. The model jaws and articulations are positioned in the correct anatomical relationship and the natural excursions of the mandible can be exactly reproduced. The vertical adjustment allows for mounting of different model jaws. The robust skull dome is coloured throughout in grey with a plastic coat of approx. 3 mm thickness, to prevent paint to splinter off and to allow scratches to be polished out. The neck articulation is located in the anatomically correct position at the cranial base and is used to position the head. The robust lift inside the skull dome provides access to a star knob which releases the face mask holding plate.

In order to allow anatomical face bows to be mounted, a nose has been added to the skull dome and the articulator P-3 is provided with corresponding fixing pins. Should the mandible be opened to 15 mm distance between upper and lower incisal edges, a deflection roller makes the heads of the condyles slide forward as with a patient. All components are made of high-grade materials and all fixing bolts are protected against loss. A face mask can be gripped between the liftplate and the articulator plate

(dental model and fixation not included)

- P-6/3 HGB The phantom head P-6/3 HGB (with limitation of the neck according to the anatomical degrees of freedom) is being used instead of the above mentioned P-6/3 with all frasaco training systems that include a shoulder torso
- P-6/3 PRO P-6/3 PRO is a special version of the proven frasaco P-6/3 phantom head, which has been optimized and adapted to the specific needs of education in prosthodontics

The incisal distance has been increased from approx. 42 to 52 mm with gliding condyle paths. An incisal pin is included for exercises with edentulous models. 2 additional pressure pins have been added to the condyle boxes. With these centric locks the centric position of the condyles can be determined and set with precision. All other features are exactly corresponding to P-6/3, so that the same accessories can be used and all combinations with mounting systems etc. are possible as with P-6/3

P-6/3 PRO HGB The phantom head P-6/3 PRO HGB (with limitation of the neck according to the anatomical degrees of freedom) is being used instead of the above mentioned P-6/3 PRO with all frasaco training systems that include a shoulder torso



frasaco phantom heads are always equipped for screw retention of dental models. If you would prefer the models to be retained magnetically, magnet mounting plates can also be incorporated (no extra charge). Please inform us accordingly.



frasaco phantom heads P-6/3, P-6/5 and accessories



P-6/3 EINSATZ

PRO

P-6/3 EINSATZ PRO can be ordered for upgrading existing P-6/3 heads by replacing the standard P-3 articulator. It is a special version of P-3, which has been optimized and adapted to the specific needs of education in prosthodontics

The incisal distance has been increased from approx. 42 to 52mm with gliding condyle paths. An incisal pin is included for exercises with edentulous models. 2 additional pressure pins have been added to the condyle boxes. With these centric locks the centric position of the condyles can be determined and set with precision. All other features are exactly corresponding to P-3, so that the same accessories can be used (dental model not included)

P-6/5



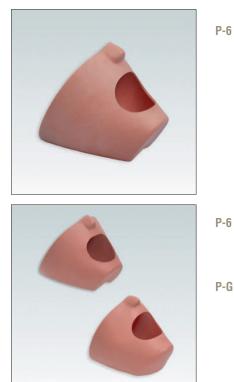
frasaco phantom heads are always equipped for screw retention of dental models. If you would prefer the models to be retained magnetically, magnet mounting plates can also be incorporated (no extra charge). Please inform us accordingly.

The P-6/5 phantom head is the most sophisticated training aid, description corresponding to P-6/3 including the following additional features: the inclination of condylar guidance is adjustable on both sides thus allowing the ideal anterior and canine guidance or a fully balanced occlusion to be simulated. The basic geometric dimensions can be measured and the models can be transferred to partial and fully adjustable articulators. A nose has been added to the skull dome and the articulator is provided with corresponding fixing pins at the hinge-axis points for mounting of anatomical face bows and hinge-axis localizers

(dental model and fixation not included)

P-6/5 HGB

The phantom head P-6/5 HGB (with limitation of the neck according to the anatomical degrees of freedom) is being used instead of the above mentioned P-6/5 with all frasaco training systems that include a shoulder torso



P-6 GMN

The new P-6 GMN face mask is the new standard for frasaco phantom heads and replaces the previous version P-6 GM. The mask combines the familiar resistant material with a realistic but slightly wider mouth shape than previously

P-6 GL

for example as required for DentSim type simulators

The face mask P-G with widened mouth opening and extended chin shape was specially developed for the P-6/3 PRO phantom heads, as well as for use with the integrated type P-G IWS suction hose. The modified design reduces the tensile load in the oral region of the mask

The P-6 GL face mask has a slightly larger vertical mouth opening,

accessories for frasaco phantom heads

P-6 W

water drainage nozzle for face masks

The positions for connecting the water drainage nozzle are marked on the inside of the face mask and can easily be perforated

- P-6 SL water drainage hose (1,20 m)
- P-6 K snap-on coupling for water hose incl. water drainage hose P-6 SK (0,12 m)
- P-6 H support for water collector bottle
- P-6 F water collector bottle
- P-6 GMN1L face mask of the series P-6 GMN with one hole in the bottom back region for connecting to a single water drainage system P-6 WFS 1
- P-6 WFS 1 This single water drainage system set includes a water drainage nozzle P-6 W, a water drainage hose P-6 SL, a snap-on coupling P-6 K including a short hose P-6 SK as well as a water collector bottle P-6 F, which can be mounted with a support P-6 H to a workstation
- P-6 GMN2L face mask of the series P-6 GMN with two holes in the top back region for connecting to a dual water drainage system P-6 WFS 2
- P-6 WFS 2 This dual water drainage system set includes two water drainage nozzles P-6 W, two short water drainage hoses P-SK, a y-shaped adapter 1585, a water drainage hose P-6 SL, a snap-on coupling P-6 K including another short water drainage hose P-6 SK as well as a water collector bottle P-6 F, which can be mounted with a support P-6 H to a workstation.

We recommend P-6 WFS 2 specially for phantom heads with torso, as water can be drained during typical treatment positions from the lowest point

- P-G IW face mask P-G with integrated suction hose inside the oral cavity, to be connected to a suction unit at the dental simulator
- P-G IWS water suction hose set as repeat order part for face mask as above or for upgrading face mask P-G to a P-G IW



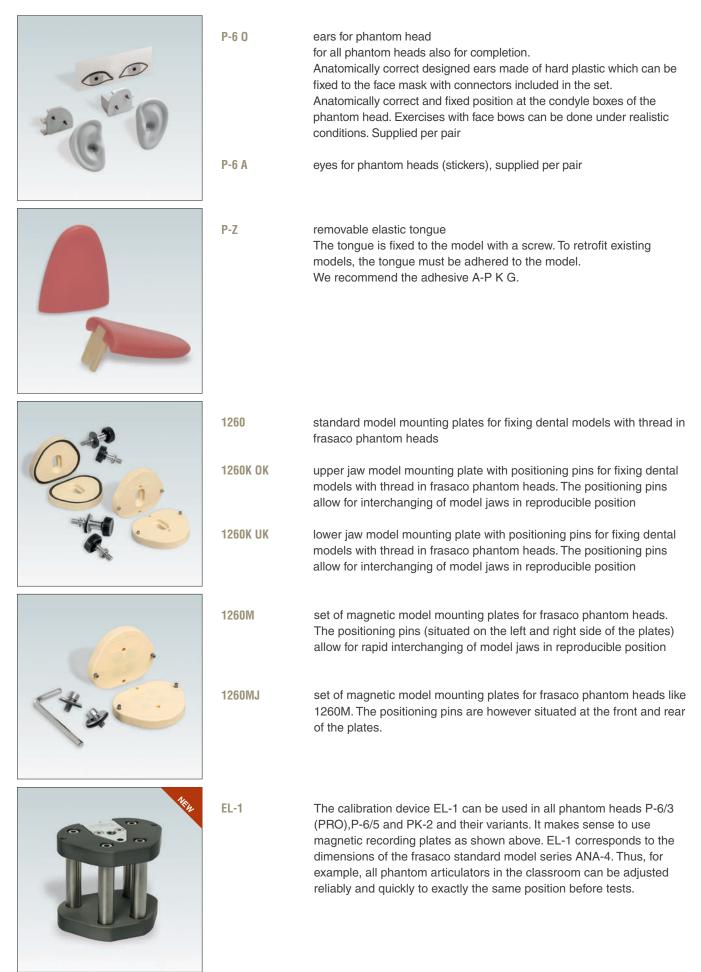








accessories for frasaco phantom heads



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frasaco phantom heads PK-1 and PK-2

PK-2

The frasaco phantom head PK-2 has been designed for users who are looking for a less expensive alternative to the proven P-6 series, without accepting compromises in handling and possible applications. With its neck articulation in the anatomically correct position at the cranial base and in combination with one of the many mounting systems frasaco can offer, it allows working in realistic treatment positions on workbenches, dental chairs or simulators. All face mask- and water drainage options frasaco offers for its series P-6 phantom heads can be used here too, so working with water is made easy. The phantom articulator of PK-2 features a temporomandibular joint with patented condylar boxes made from hard plastic with three-dimensional curved condylar paths for simulating anatomically correct jaw movements. The model jaws and articulations are positioned in the correct anatomical relationship and the natural excursions of the mandible can be exactly reproduced. The vertical adjustment allows for mounting of different model jaws. All versions of model mounting solutions well-known from the P-6 series can be used, including anatomical face bows.

The front part of the skull dome can be pulled open, as shown in the picture, for easy access to the screws for mounting dental models and face masks. (dental model and fixation not included)

PK-2 HGB The phantom head PK-2 HGB (with limitation of the neck according to the anatomical degrees of freedom) is being used instead of the above mentioned PK-2 with all frasaco training systems that include a shoulder torso



frasaco phantom heads are always equipped for screw retention of dental models. If you would prefer the models to be retained magnetically, <u>magnet mounting plates</u> can also be incorporated (no extra charge). Please inform us accordingly.

Note: The range of accessories as shown on pages 74 – 76 for series P-6 can also be used for series PK-1 and PK-2.

- **PK-1** The frasaco phantom head PK-1 has been designed for users who are looking for an inexpensive, however complete phantom head option with correct anatomical dimensions. With its neck articulation in the anatomically correct position at the cranial base and in combination with one of the many mounting systems frasaco can offer, it allows working in realistic treatment positions on workbenches, dental chairs or simulators. All face mask- and water drainage options frasaco offers for its series P-6 phantom heads can be used here too, so working with water is made easy. PK-1 does not have an articulator. All dental models that come with an M6 thread (except AG-3 IB) can be mounted using the adjustable frasaco universal articulator UAV, or use dental models with fixed demonstration articulators style DA, DAF, DAV or DAK with a short rod with a snap-in stopper to assure a stable fixation of the model during "treatment". The front part of the skull dome can be pulled open, as shown in the picture, for easy access to the screws for mounting dental models and face masks. (dental model and fixation not included)
- PK-1 HGB The phantom head PK-1 HGB (with limitation of the neck according to the anatomical degrees of freedom) is being used instead of the above mentioned PK-1 with all frasaco training systems that include a shoulder torso



accessories for frasaco phantom heads PK-1 and PK-2



P-6 WI

PK-1 P-BS

UAV

The frasaco oral cavity mask can either be used instead of the standard face mask with phantom heads series P-6 and PK or additionally as an inner face mask.

It does completely enclose the model jaws and therefore does allow working with water spray and making simulation exercises with limited space and realistic elasticity.

A useful side effect when using the mask in a phantom head is that the phantom head articulator is always kept clean.

(water drainage nozzle not included)

water drainage nozzle for oral cavity mask P-6 GF fitting to P-6 ISL hose with small diameter

The frasaco universal articulator UAV made from hard thermosetting plastic material with patented adjustable mandible allows the usage of all dental models in stable occlusion (except AG-3 IB). Included is a short rod with a snap-in stopper to assure a stable fixation of the model during "treatment"

in addition to its usage in the PK-1 phantom heads the frasaco UAV universal articulator can also be used for working in the hand or screwed to existing phantom head fixation rods with a diameter of smaller or equal to 13 mm

PK-1 P-BS is an alternative to screw fastening dental models with a thread M6 to a mounting plate of the phantom head. It comes with an attachment pole with snap-in stopper, so frasaco models with demonstration articulators DA, DAF, DAV, DAK or UAV can easily be mounted using their large fixing screw. All models with demonstration articulators that fit a 13 mm rod diameter can be mounted

P-BS

attachment pole fitting frasaco phantom heads PK-1. Can be retrofitted. The screw holes necessary for fixation are already in place on the PK-1 series of phantom heads

P-HA

The phantom head holder P-HA can be used to easily fasten model jaws without demonstration articulator in a phantom head PK-1

P-HA is especially recommended for the local anaesthesia training model AG-3 IB, which cannot be mounted to the hard plastic articulator series due to its raising branches of the lower jaw

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complete sets for working on a workbench

AG-3 DAD 16 K Dental Exercise Unit complete with: dental model AG-3 DA hinged support D-16 K

Recommendation for usage: exercises without water, e.g. oral prophylaxis training on a workbench freely accesible from all sides.

PK-1 PT Dental Exercise Unit complete with: phantom head PK-1 face mask P-6 GMN dental model AG-3 DA table mounting assembly P-TDG

PK-2 PT Dental Exercise Unit complete with: phantom head PK-2 face mask P-6 GMN dental model AG-3 table mounting assembly P-TDG

P-6/3 PT Dental Exercise Unit complete with: phantom head P-6/3 face mask P-6 GMN dental model AG-3 table mounting assembly P-TDGP

P-6/3 PA Dental Exercise Unit complete with: phantom head P-6/3 face mask P-6 GMN dental model AG-3 table mounting plate P-A

> Note: All Dental Exercise Units are also available with different dental models and different accessories (eyes, ears, water drainage systems etc.)













complete sets with small torso for working on a workbench



Note: All Dental Exercise Units are also available with different dental models and different accessories (eyes, ears, water drainage systems etc.)

complete sets with small torso for working on a workbench

PK-1 TKL Dental Exercise Unit complete with: phantom head PK-1 HGB with limitation of head movement face mask P-6 GMN dental model AG-3 DA small shoulder torso P-TKM mounting device Lift-O-Mat P-TL 400A for lateral undertable fixation

- PK-2 TKL
 Dental Exercise Unit complete with: phantom head PK-2 HGB with limitation of head movement face mask P-6 GMN dental model AG-3 small shoulder torso P-TKM mounting device Lift-O-Mat P-TL 400A for lateral undertable fixation
- P-6/3 TKL Dental Exercise Unit complete with: phantom head P-6/3 HGB with limitation of head movement face mask P-6 GMN dental model AG-3 small shoulder torso P-TKM mounting device Lift-O-Mat P-TL 400A for lateral undertable fixation
- P-6/5 TKL Dental Exercise Unit complete with: phantom head P-6/5 HGB with limitation of head movement face mask P-6 GMN dental model AG-3 small shoulder torso P-TKM mounting device Lift-O-Mat P-TL 400A for lateral undertable fixation

Note: All Dental Exercise Units are also available with different dental models and different accessories (eyes, ears, water drainage systems etc.)









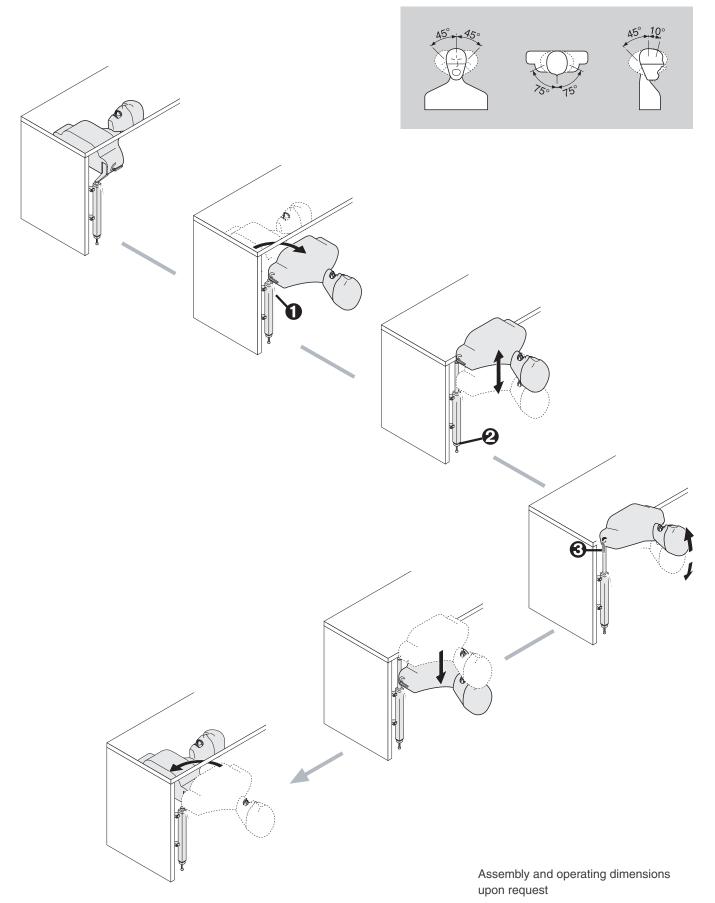


complete sets with shoulder torso for working on a workbench

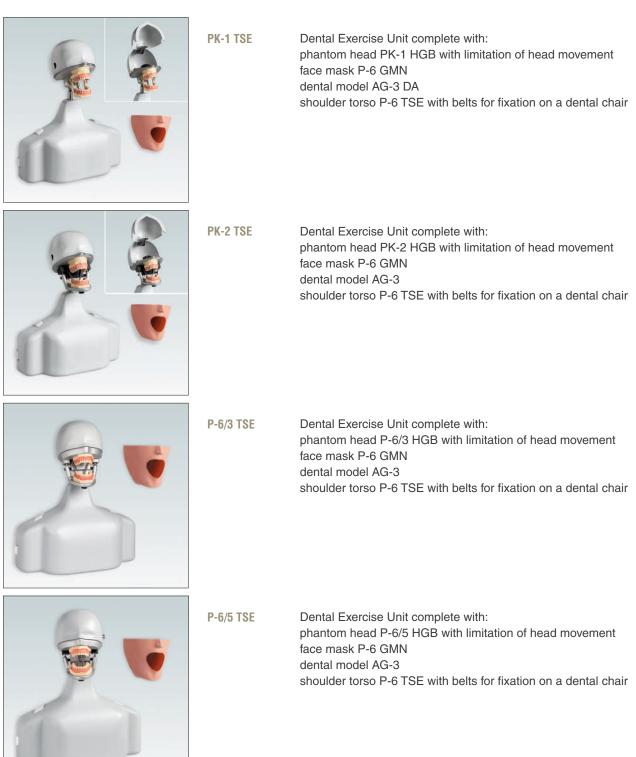


Note: All Dental Exercise Units are also available with different dental models and different accessories (eyes, ears, water drainage systems etc.)

dental training systems – table mounting

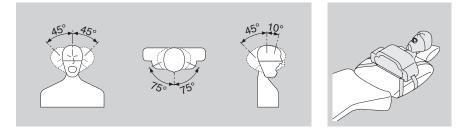


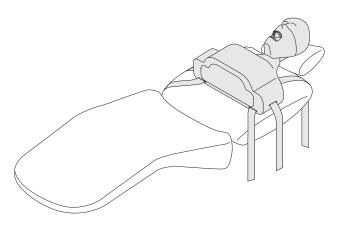
complete sets with shoulder torso for working on a dental chair

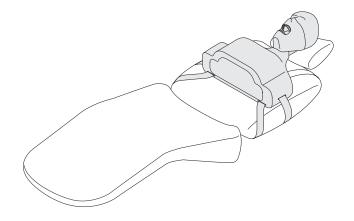


Note: All Dental Exercise Units are also available with different dental models and different accessories (eyes, ears, water drainage systems etc.)

dental training systems – dental chair fixation







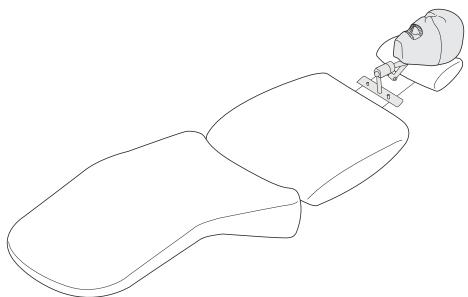


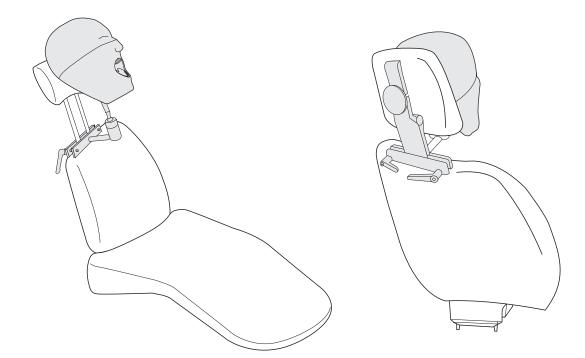
dental training systems – dental chair fixation



P-SH 9998-004

The P-SH 9998-004 chair mounting is used for fixing frasaco phantom heads quickly and securely to head rests of dental units. If interested, we recommend requesting a drawing with the exact dimensions of the chair mounting. The dental unit must also allow clamping in the adjustment area of the head rest





mounting adaptor for quick interchange from shoulder torso to table fixation

P-SKS

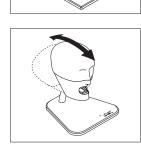
Mounting adaptor for frasaco dental training systems, can also be used for retrofitting existing configurations. With this interface a phantom head can be quickly and easily disassembled from table fixation on a workbench, reassembled on to a shoulder torso for dental chair practice, and then back again

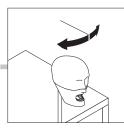


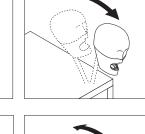
mounting assemblies for dental models and phantom heads

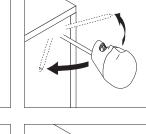
	part no.:	description / recommended use:	application:
	D-16	model support for demonstration purposes. Recommended for all dental models with demonstration articulators	
	D-16 K	hinged support for training upper jaw and lower jaw treatment positions. Recommended for all dental models with demonstration articulators	
	P-A	table mounting plate for demonstration of phantom heads. Recommended for phantom heads P-6/3, P-6/5, PK-1 and PK-2	
	P-TDG P-TDGP*	table mounting assembly with clamp, double balljoint and guidance rod for fixation of phantom heads P-6/5*, P-6/3*, PK-1 and PK-2	
*	P-UTDG P-UTDGP*	mounting assembly with aluminium block to be fixed underneath bench-top. Extensible rod can be fixed at required length. Double ball-joint and guidance rod for swivel mounting of phantom heads P-6/3*, P-6/5*, PK-1 and PK-2	
	P-UTD P-UTDS*	mounting assembly with plate or aluminium guide rail* for fixation to the table side. Ball-and-socket joint and guidance rod for swivel mounting of phantom heads P-6/3, P-6/5, PK-1 and PK-2 or P-6/3 HGB, P-6/5 HGB, PK-1 HGB and PK-2 HGB with shoulder torso	
Ţ	P-TL 400A	Lift-o-Mat mounting for fixation to the table side. Guidance rod can be extended, adjusted in heigh rotated and fixed in all required treatment position Also available in a special 180 hinged version (price on request). Recommended for phantom heads P-6/3 HGB, P- HGB, PK-1 HGB and PK-2 HGB with shoulder tor	s. -6/5

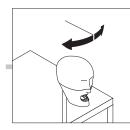


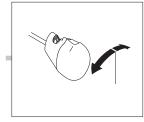


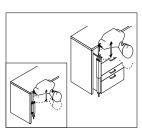


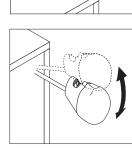


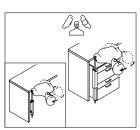


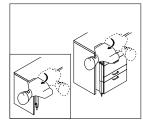


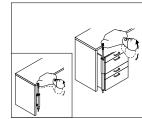


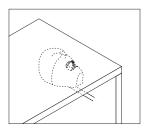


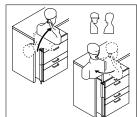










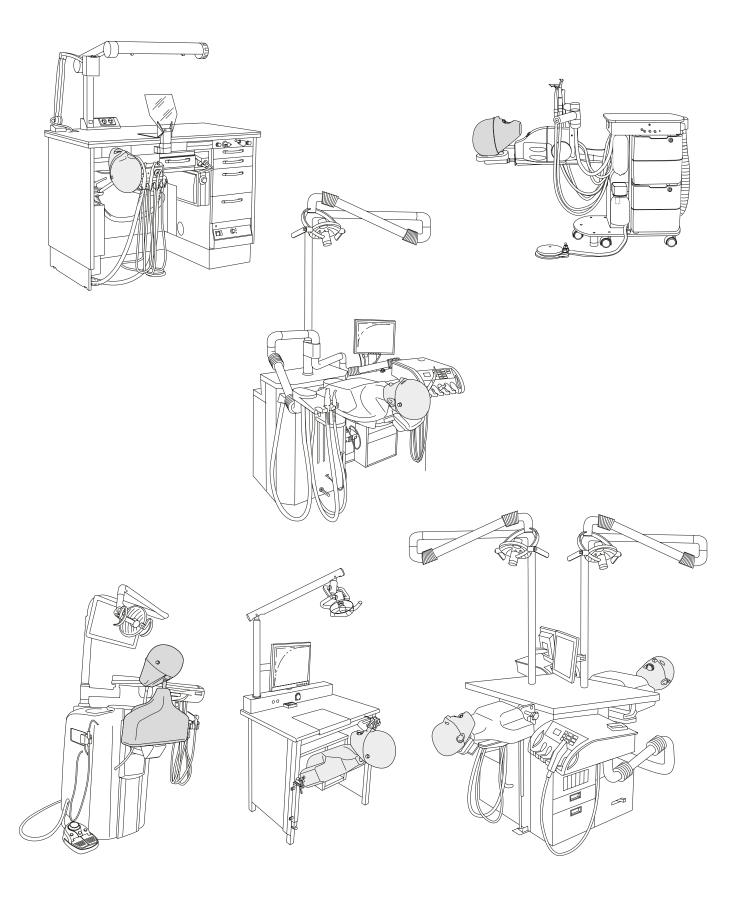


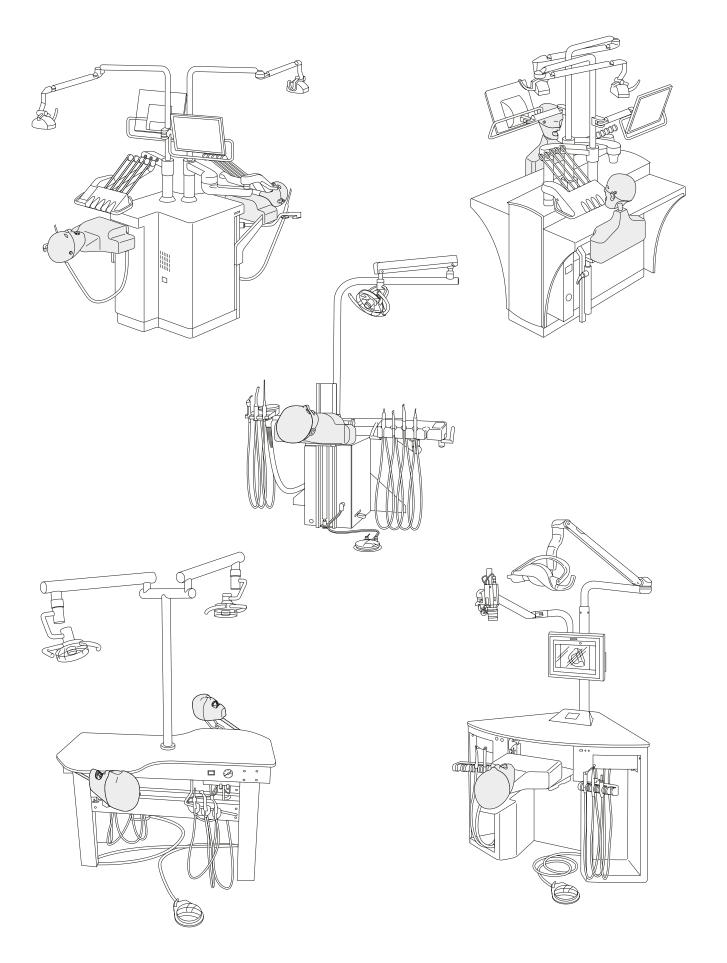


www.frasaco.de

dental training systems - complete workstations

As a system partner of companies specialized in the complete equipment of phantom laboratories, frasaco is offering customized modular solutions for dental training systems. We would be pleased to help you to contact the manufacturers of simulation workstations, as shown here







sundries frasaco – crowns and more

frasaco strip crowns:

- renowned moulds for fast and clean temporary restorations
- elastic, thin and easy to cut, packed antistatically
- pedodontal strip crown available for restoration of badly damaged deciduous teeth
- wide range covering all required sizes
- assortments for proper storage and choice, refill-packages available

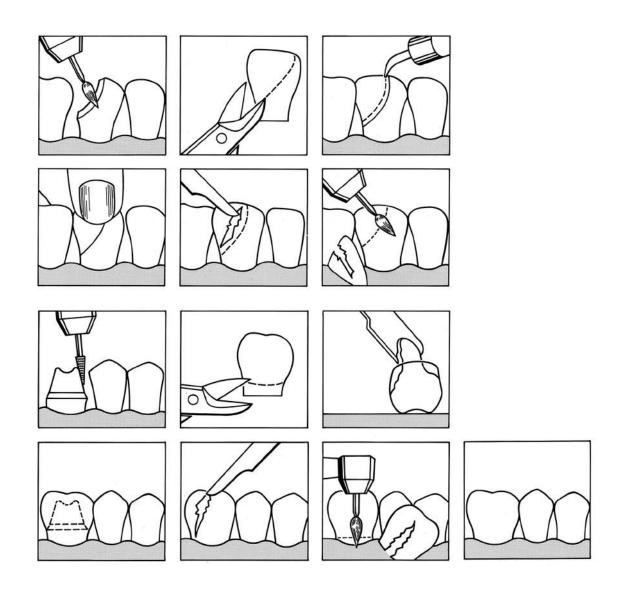
frasaco patented dispensers:

- quick and simple single-handed operation
- band exactly in the required length with neat and even cuts
- economical use and reduced waste
- one time purchase of the dispenser, cost-saving refill rolls available



strip crowns

Save time and money with frasaco strip crowns, achieving optimum efficiency in no time. Even for multiple layer technique, strip crowns can be used as matrix to shape the final layer.



frasaco strip crowns are elastic, thin and easy to cut celluloid crowns. In the transparent execution they are light-transmissive for polymerization light. They are used as moulds for creating temporary restorations on preparations and as matrices for restoration of corners and edges. They are placed without problem using any conventional material for temporary restorations. A strip crown in the required size and shape is adjusted to the cervical area and the gingival margin with a crown scissors. Prior to placement, ensure that strip crown and preparation are clean and dry. Fill the strip crown with temporary filling material and place it. Strip crowns can be used as matrices when restoring corners and edges – also when using composites. When doing so, cut out that section of the strip crown corresponding to the part of the tooth being restored, allowing for the strip crown to overlap the margins of the cavity. Fill the matrix with the definite filling material and press it into place. Remove the matrix after the filling material has set. Should strip crowns remain on a tooth for a few days, please make sure that their gingival edge is no deeper than 1 mm inside the sulcus to avoid possible traumatisation of the marginal periodontium. Under no circumstances should strip crowns remain in the mouth for longer than 30 days.

strip crowns – forms and sizes

central incisor – upper right							
lateral incisor – upper right	116	115	114	113	112	111 120	110
canine – upper right	136	135	134	133	132	131	130
first premolar – upper right	144	143	142	141	140		
first molar – upper right	163	162	161	160			

Explanation of the description of frasaco strip crowns: 1st digit = quadrant | 2nd digit = position of the tooth | 3rd digit = size backward-sorted

first molar – lower right	463	462	461	460	
first premolar – lower right	444	443	442	441	440
canine – lower right	434	433	432	431	430
lateral incisor – lower right	422	421	420		
central incisor – lower right	413	412	411		

210	211	212	213	214	215	216	central incisor upper left –
	220	221	222	223	224	225	lateral incisor upper left –
230	231	232	233	234	235	236	canine upper left –
		240	241	242	243	244	first premolar upper left –
			260	261	262	263	first molar upper left –
						~~~~	<i></i>
			360	361	362	363	first molar Iower left –
		340	341	342	343	344	first premolar lower left –
		330	331	332	333	334	canine Iower left –
				320	321	322	lateral incisor lower left –
				311	312	313	central incisor lower left –

#### 95

#### transparent strip crowns



### coloured strip crowns

ST-5E

5 coloured strip crowns of the same size refill package

**ST-FE174** anterior assortment with 174 coloured strip crowns plastic box with transparent cover 3 strip crowns of the same size in 58 compartments

upper jaw	110 – 115, 120 – 125, 130 – 135
upper jaw	210 - 215, 220 - 225, 230 - 235
lower jaw	411-413,420-422,430-434
lower jaw	311 - 313, 320 - 322, 330 - 334

**ST-BE108** posterior assortment with 108 coloured strip crowns plastic box with transparent cover 3 strip crowns of the same size in 36 compartments

upper jaw	140 – 144, 160 – 163
upper jaw	240 - 244, 260 - 263
lower jaw	440 - 444, 460 - 463
lower jaw	340 - 344, 360 - 363

ST-FBE 58 compact assortment (current anteriors and posteriors) with 58 coloured strip crowns plastic box with transparent cover 1 strip crown of one size in 58 compartments

upper jaw	111 – 116, 120 – 124, 131, 133, 141 – 143, 161, 162
upper jaw	211 – 216, 221 – 225, 231, 233, 241 – 243, 261, 262
lower jaw	311, 312, 321, 322, 330, 331, 341, 342, 360 – 362
lower jaw	411, 412, 421, 422, 430, 431, 441, 442, 460 – 462

SL-2

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arrangement system with 8 drawers for neat storage of frasaco strip crowns in refill packages of 5 each, flexibly adaptable to specific requirements

#### Note: no strip crowns included











### pedodontal strip crowns

Placing prefabricated frasaco pedodontal strip crowns is an excellent technique for retaining badly damaged deciduous teeth.

Formerly, deciduous teeth with carious defects were extracted once these exceeded a certain stage. Nowadays, they are left in the mouth as a spacer as it is known that the deciduous teeth are important for the unimpeded development of children's jaws. The progress made in conservative dentistry has changed the way in which this field is approached. Reference should also be made to aesthetic and phonetic aspects.

We have kept pace with these changes by supplying our pedodontal strip crowns in several sizes.

Allergies, which can be caused by other crown materials, are virtually eliminated.

central incisor		3								
	514	513	512	511A	511	611	611A	612	613	614
lateral incisor	524	523	522	521A	521	621	621A	622	623	624
canine	8	8		8			8		9	
	534	533	5	532	531	631	632	6	33	634



5 transparent strip crowns of the same size, refill package

ST-KK84

ST-K5K



pedodontal st	rip crown assortment with
84 transparer	t strip crowns for upper anteriors
plastic box wi	h transparent cover
3 strip crowns	of the same size in 28 compartments
upper jaw	511 - 514
upper jaw	521 - 524
upper jaw	531 - 534
upper jaw	611 - 614

621 - 624

631 - 634

upper jaw upper jaw

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99

#### matrix strips and dispensers

Tear resistant, plastic universal strips for use with auto-curing and light-curing composites and cements. To be used when shaping the restorations for class II, III, IV and V cavities

- Transparent and yellowish-transparent (not recommended for light polymerization of composties)
- Extra thin or standard thickness (retains its stability when being used for larger cavities)
- The yellowish-transparent band can easier be seen on the tooth or cabinet top

#### Note: the part of the transparent matrix strips with the colour mark must not enter the mouth of the patient.

Enjoy the one time purchase of the patented matrix band dispenser, refill rolls are available at an attractive price

universal strips, straight, length: 120 mm, width: 8.5 mm, package containing 50 pieces

US-120KE	transparent
	extra thin: 0.05 mm

- US-120KN transparent standard thickness: 0.08 mm
- US-120EE yellowish-transparent extra thin: 0.05 mm
- universal strips, curved, length: 75 mm, width: 8.5 mm, package containing 50 pieces
- US-75KE transparent extra thin: 0.05 mm
- US-75KN transparent standard thickness: 0.08 mm
- US-75EE yellowish-transparent extra thin: 0.05 mm

matrix band dispenser incl. matrix band roll, length: 15 m, width: 8.5 mm

US-15PKE	transparent extra thin: 0.05 mm
US-15PKN	transparent standard thickness: 0.08 mm
US-15PEE	yellowish-transparent

extra thin: 0.05 mm

matrix band refill roll, length: 15 m, width: 8.5 mm, package containing 3 rolls

US-15PKEN	transparent, extra thin: 0.05 mm
US-15PKNN	transparent, standard thickness: 0.08 mm
US-15PEEN	yellowish-transparent, extra thin: 0.05 mm
US-15PKEN E	package with 1 refill roll, transparent, extra thin: 0.05 mm
US-15PKNN E	package with 1 refill roll, transparent, standard thickness: 0.08 mm
US-15PEEN E	package with 1 refill roll, yellowish-transparent, extra thin: 0.05 mm









# SKZ

Das Kunststoff-Zentrum

# Certificate

The SKZ-Cert GmbH Zertifizierungen certifies to the company

# **FIASACO** GmbH Oberhoferstraße 18 88069 Tettnang

the introduction and application of a quality management system according to **ISO 9001:2015** 

#### Scope:

Development, production and distribution of dental and orthopaedic products, production of industrial plastic parts (injection moulded), mould manufacture

The proof has been furnished by a quality audit.

This certificate is valid from: Certificate No.: 16.02.2019 3565/18.R to: 15.02.2022

Würzburg, 18.01.2019 () lite ?? Certification Body DAkkS Akkreditierungsstel D-2M-17265-01-00 SKZ - Cert Gesellschaft mbH Zertifizierungen Frankfurter Straße 15-17 - 97082 Würzburg - Tel. ±49-931 4104-310 - cert@skz.de - www.skz.dc



# CERTIFICATE



This is to certify that the company

#### frasaco GmbH

Oberhofer Straße 18 88069 Tettnang Germany

has implemented and maintains a Quality Management System.

Scope: Development, production and distribution of dental and orthopedic products.

Through an audit, documented in a report, performed by DQS Medizinprodukte GmbH, it was verified that the management system fulfills the requirements of the following standard:

#### DIN EN ISO 13485 : 2016 + AC : 2017-07 EN ISO 13485 : 2016 + AC : 2016 ISO 13485 : 2016

Certificate registration no.538204 MP2016Certificate unique ID170715448Effective date2019-02-03Expiry date2022-02-02Frankfurt am Main2019-02-03

**DQS Medizinprodukte GmbH** 

Wluca

Sigrid Uhlemann Managing Director

Net

August-Schanz-Straße 21, 60433 Frankfurt am Main, Tel. +49 (0) 69 95427-300, medical.devices@dqs-med.de



Dr. Thomas Feldmann Head of Certification Body

410.90 en Version 1.0

### general commercial conditions

for use in relation to companies, legal entities under public law or public funds

The following terms and conditions shall apply to all future deliveries, services and quotations in relation to the buyer, even if no express reference to these terms and conditions has been made. Any contrary terms and conditions of purchase of the buyer shall not apply, and shall be binding upon frasaco only if they have been expressly accepted by frasaco. Even if frasaco makes reference to any letter containing, or referring to, terms and conditions of the customer or any third party, this shall not constitute consent to the application of such terms and conditions. If any individual provisions are or become ineffective, the other terms and conditions shall not be affected hereby.

Insofar as the products marketed by frasaco are medical devices under Section 3 (1) Medizinproduktegesetz [Medical Devices Act], the buyer shall comply with all applicable statutory provisions and secondary provisions (statutory orders, directives) relating to the installation, operation and use of medical devices and relating to the recording, assessment and prevention of risks in respect of medical devices in circulation or operation.

- 1. Quotation and Conclusion of Contract
- a) Quotations shall be subject to change without notice, to availability and to prior sale.
- b) Orders shall become binding only upon frasaco's written acknowledgement of the order.
   c) Amendments and supplements to the agreement made, including these General Terms
- and Conditions of Business, shall only be effective in writing.
- 2. Prices
- a) The selling prices quoted in the respective latest version of the price list shall apply. Prices shall be subject to change without prior notice. However, a minimum order value of € 50.00 net shall be charged even if the purchase order is below this value
- b) Selling prices shall be in € net, ex works Tettnang and exclude packaging, insurance, freight charges, customs duty and incidental import levies. Value-added tax shall be added at the respective statutory rate, insofar as applicable.
- c) In addition to the aforementioned amounts, a handling fee of € 10.00 net shall be charged in the case of any order value below € 200.00 net. This handling fee shall not apply to order values above € 200.00 net.
- 3. Obligation to deliver/take delivery
- a) Periods and deadlines promised by frasaco in respect of delivery or performance shall always only be approximate, unless a fixed period or deadline has been expressly guaranteed or agreed upon. Compliance with such deadlines and periods shall always be conditional upon the timely receipt of all documents essential for carrying out the order, as well as any down payment agreed upon. Otherwise, the deadlines and periods for delivery or performance shall be appropriately extended. Section 10 shall apply as regards the provision of material by the buyer.

In cases where shipment has been agreed upon, the periods and deadlines shall relate to the time of hand-over to the forwarder, carrier or any other third party appointed to carry out transportation.

- b) If frasaco defaults on delivery or performance, or if for whatever reason it becomes impossible for frasaco to deliver or perform, frasaco's liability shall be limited to compensatory damages under the terms of Section 7.
- c) frasaco shall be entitled to make sub-deliveries, if such sub-delivery can be used by the buyer for the purpose intended under the contract, if it has been ensured that the residual goods ordered will be delivered, and if this does not involve any substantial extra work or cost for the buyer, unless frasaco agrees to assume such extra cost. Moreover, deviations of up to +/- 10 % from the quantities ordered shall be permissible.
- d) If the buyer fails to fulfil its obligation to take delivery despite a reminder, frasaco shall be entitled, without prejudice to its other rights, to sell the delivery item on the open market.
- e) Except where a special agreement has been made, shipments of samples shall be invoiced after 30 days, calculated from the date of the delivery note.
- f) Goods returned for reasons not imputable to frasaco shall be accepted only by prior arrangement and only if the goods are in faultless condition and in their original packaging, and if postage has been paid. frasaco hereby reserves the right to decide in any individual case whether to accept returned goods. There shall be no entitlement to return custommade goods or goods delivered more than 3 months previously. Section 6 shall remain unaffected by this provision.

Credit notes shall be issued only if the original invoice and the original delivery note have been enclosed with the goods returned. In the case of a credit note, a handling fee of  $\leq$  50.00 net and an additional resorting fee of 20 % of the order value shall be charged.

g) Any events of force majeure shall entitle frasaco to postpone delivery by the duration of the hindrance plus a reasonable start-up period, or to wholly or partly rescind the order on account of the part of the order not performed, provided that such disruptions are of temporary duration. Strike, lockout or unforeseeable circumstances, e.g. business disruptions, that make it impossible for frasaco to deliver on time despite reasonable efforts shall be deemed to be equivalent to force majeure. Insofar as any aforementioned events make it materially more difficult or impossible for frasaco to deliver or perform, and such hindrance is not of temporary duration, frasaco shall be entitled to rescind the contract. If, as a result of such delay, it would be unreasonable to expect the buyer to accept delivery or performance, the buyer may rescind the contract by written declaration to frasaco forthwith.

- 4. Packaging, Shipment, Passage of Risk
- a) frasaco shall choose the packaging, mode of shipment and method of shipment at its dutiful discretion and in accordance with any and all applicable legal provisions. Packaging material shall be charged at cost price.
- b) frasaco shall effect transportation insurance for all deliveries. In any event, insurance costs shall be borne by the buyer. If any damage occurs in transit, confirmation from the relevant post office or forwarder shall be sent to frasaco.
- c) Even in the case of delivery carriage paid, the risk shall pass to the buyer as soon as the goods leave the premises of frasaco's supplier. If dispatch is delayed through the fault of the buyer, the risk of accidental destruction shall already pass to the buyer upon notification of readiness for shipment.
- 5. Retention of Title
- a) The goods delivered (goods under retention of title) shall remain frasaco's property until all claims existing now or in future against the buyer have been satisfied. In the case of a running account, such retention of title shall be deemed to be security for the balance owed by the buyer. During the period of retention of title, the buyer shall not be entitled to pledge the goods or to assign the same to third parties as security.
- b) In case the goods are on-sold, the buyer hereby assigns to frasaco, until all frasaco's claims have been satisfied, the proceeds receivable from such on-selling, as well as any other claims that the buyer is entitled to against its customers as result of such on-selling (particularly tort claims and claims to insurance benefits). frasaco hereby accepts this assignment. At frasaco's request, the buyer shall provide frasaco with all information and documents necessary for asserting frasaco's rights against the buyer's customers. frasaco hereby revocably authorises the buyer to collect in the buyer's own name the claims assigned to the seller. frasaco shall revoke such authorisation to collect only in the event that the goods are realised as security.
- c) Any attachment or seizure of goods under retention of title by third parties shall be reported to frasaco forthwith. All intervention costs ensuing therefrom shall, in any event, be borne by the buyer.
- d) frasaco shall release goods under retention of title, if and insofar as their value exceeds by more than 20 % the sum of the claims secured. In this respect, frasaco shall be free to choose which goods to release.
- 6. Alterations, Liability for Defects
- a) frasaco hereby reserves the right to alter the design or manufacture of its products in keeping with technical progress, or to completely remove products from its product range, without prior notice. Information provided in prospectuses, advertising mail, advertisements or demonstration items shall not constitute agreed qualities. This shall apply also to illustrations, drawings and size- or weight-related data enclosed with quotations, unless these are expressly referred to as binding.
- b) Any agreement on certain features of the goods or on the production of moulds must be in writing. Any reference to technical standards shall serve as a performance specification.
- c) Any notification of obvious defects shall be made forthwith upon receipt of the delivery.
- d) If a quality-related defect exists, such defect shall be eliminated, or a replacement shall be provided free of charge, at frasaco's option. If such replacement or rectification fails twice, the buyer may assert the statutory warranty claims under these General Terms and Conditions of Business. Parts replaced shall be returned at frasaco's request. In any event, warranty claims shall become statute-barred one year after the buyer has received the goods.
- 7. General Limitations of Liability
- a) In cases where fault is relevant, frasaco's liability for compensatory damages on whatever legal basis, particularly on the basis of impossibility, default, defective or incorrect delivery, breach of contract, culpa in contrahendo and tort, shall be limited in accordance with this Section 7.
- b) frasaco shall not be liable in cases of ordinary negligence on the part of its organs, statutory representatives, employees or other authorised agents, except where duties material to the contract have been breached. Duties material to the contract are defined as duties that ensue from the nature of the contract and that, if breached, would jeopar-dise attainment of the purpose of the contract.
- c) Insofar as frasaco is liable in principle under Item 7 (b), such liability shall be limited to the loss that was, at the time of contract closure, foreseen by frasaco as being a possible consequence of any breach of contract, or that frasaco ought to have foreseen at such time by applying the diligence customary in the trade. Additionally, any collateral loss and consequential loss incurred as a result of defects in the item delivered shall be compensatable only insofar as such loss is to be typically expected when the item delivered is used as intended.
- d) In cases of liability for ordinary negligence, frasaco's obligation to compensate for property damage and any further pecuniary loss resulting therefrom shall be limited to an amount of € 5,000,000.00 per occurrence of damage or loss, even if duties material to the contract have been breached.
- e) The above exclusions and limitations of liability shall apply to the same extent in favour of frasaco's organs, statutory representatives, employees and other authorised agents.

- f) The limitations under this Section 7 shall not apply to any liability of frasaco based on intentional misconduct, qualities guaranteed, mortal injury, physical harm or health damage or claims under the Produkthaftungsgesetz [Product Liability Act].
- 8. Payment Terms
- a) All payments shall be made in € (euros) exclusively to frasaco. A cash discount shall be allowed only if all invoices due earlier have been settled.
- b) Invoices from frasaco shall be due and payable within 30 days of the invoice date, if nothing to the contrary has been agreed upon in writing, and the invoicee is based in the Federal Republic of Germany.
- c) If the invoicee is based outside of the Federal Republic of Germany, delivery shall be subject to advance payment, unless otherwise agreed upon in writing. Payments in foreign currency shall be credited at the respective current € exchange rate. In this respect, the buyer shall bear the exchange rate risk. Exchange rate differences, bank charges and the like shall be passed on to the buyer, and shall be settled forthwith.
- d) If the agreed payment deadline is exceeded, interest at the rate of 8 % above the respective valid base interest rate shall be charged per annum in accordance with Section 247 BGB [German Civil Code].
- e) frasaco hereby reserves the right to refuse to accept cheques and bills of exchange. Checks and rediscountable bills of exchange shall be accepted only on account of performance. All costs in connection therewith, particularly discounting charges, shall be borne by the buyer.
- f) The buyer shall not be entitled to set off against claims of frasaco or assert a right of retention, unless the buyer's claims are undisputed, have been determined by a final and non-appealable court judgement or are at the final judgement stage.
- g) Any culpable non-compliance with payment terms, such as default in payment for example, or any cirumstances giving rise to serious doubts about the buyer's creditworthniss, shall cause all frasaco's claims to fall due immediately.
- 9. Moulds and Tools
- a) The price for moulds shall also include the costs for one single supply of samples, not however the costs for testing and machining devices, nor for alterations requested by the buyer. Costs for any further supply of samples that are imputable to frasaco shall be borne by frasaco.
- b) frasaco is and shall remain the owner of all moulds made for the buyer by frasaco itself or by any third party contracted by frasaco. As long as the buyer meets its obligations to pay and take delivery, moulds shall be used only for orders placed by the buyer. frasaco shall be obliged to replace such moulds free of charge only if such moulds are essential for fulfilling an output quantity guaranteed to the buyer. frasaco's obligation to retain such moulds shall lapse two years after the last delivery of parts made out of such mould, and after prior notification of the buyer.
- c) If it is agreed that the buyer shall become the owner of such moulds, title shall pass to the buyer upon payment of the purchase price for the moulds. Instead of handing over the moulds to the buyer, frasaco shall be under an obligation to retain the moulds. frasaco shall mark the moulds as externally owned property, and shall, at the buyer's request, insure such moulds at the buyer's expense.
- d) In the case of moulds owned by the buyer and/or made available by the buyer on loan, frasaco's liability as regards retention and care shall be limited to the level of diligence that it applies in its own affairs. Costs for servicing and insurance shall be borne by the buyer. frasaco's obligations shall lapse, if the moulds have not been collected by the buyer within a reasonable period after completion of the order and a corresponding request to the buyer. As long as the buyer has not fully met its contractual obligations, frasaco shall, in any event, be entitled to retain the moulds.
- 10. Material Provided by the Buyer
- a) If material is to be provided by the buyer, such material shall, at the buyer's own expense and risk, be supplied to frasaco in due time and faultless condition with an appropriate quantity surplus of at least 5 %.
- b) If these prerequisites are not met, or not met in due time, the delivery period shall be reasonably extended. Except in cases of force majeure under Item 3 (g), the buyer shall bear all resulting extra costs, including costs in connection with interruptions in manufacture.
- c) frasaco shall assume no responsibility for the quality or composition of material provided by the customer. The customer shall be solely responsible for ensuring that the raw materials provided are absolutely suitable for production, and that they satisfy the statutory provisions. frasaco shall not carry out any examination or analysis of the material provided by the customer, unless this has been expressly agreed upon in writing.
- 11. Property Rights
- a) If frasaco is required to deliver on the basis of drawings, models or samples, or using parts provided by the buyer, the buyer shall be accountable that no third-party property ights are infringed as a result thereof. frasaco shall point out to the buyer all such rights known to it. The buyer shall indemnify frasaco against all third-party claims, and shall compensate for any loss incurred. frasaco shall be entitled, without this requiring any examination of the legal position, to temporarily discontinue work, if a third party pleading a property right belonging to it prohibits frasaco from manufacturing or delivering.

- b) All drawings and samples sent to frasaco for the purpose of submission of a quotation shall be returned to the buyer at the buyer's request, or shall otherwise be destroyed three months after the submission of a quotation, if the buyer has not accepted the quotation in due time.
- c) frasaco shall be entitled to copyrights and any industrial property rights in the models, moulds, devices, drafts and drawings made by frasaco or by third parties on its behalf.

#### 12. Principle of Separability

If the buyer is a medical institution or a member of a healthcare profession, frasaco and the buyer hereby affirm that the decision to purchase is based solely on quality and price. The procurement and the marketing of the goods by frasaco shall be subject to general competition in terms of price and performance. The buyer hereby affirms that no other considerations have been relevant, and that there are no other reasons for its decision to purchase (e.g. gratuities to the buyer).

- 13. Place of Performance, Place of Jurisdiction and Applicable Law
- a) For both Parties hereto, Tettnang shall be the place of performance for delivery and payment. Tettnang shall be the place of jurisdiction for both Parties hereto. However, frasaco hereby reserves the right to bring an action before the court having jurisdiction over the buyer's registered office, where necessary.
- b) The laws of the Federal Republic of Germany shall exclusively apply.



#### Telephone / Export Dept.

+49(0)7542/9315-23

Telefax +49(0)7542/9315-15

frasaco GmbH P.O. Box 1244, D-88061 Tettnang Germany

info@frasaco.de

www.frasaco.de