

Operating Instructions

PROTAR® evo 2, 3, Plaster articulator.



Always on the safe side.



KaVo. Dental Excellence.

PROTAR®evo 2, 3.

A 1	User notes	1
	A 1.2 Important information	1
	A 1.3 Safety measures	1
	A 1.4 Purpose and applications	1
A 2	Scope of delivery – Accessories	2
	A 2.1 Scope of delivery	2
A 3	Controls and functional elements	2
A 4	Preparations for start-up operation	3
	A 4.1 Support pin	3
	A 4.2 Centric locks	3
	A 4.3 PROTARevo with Splitcast (Factory adjustment)	3
	A 4.4 Maintenance	3
	A 4.5 Working with the Mounting Set Mat. No. 0.622.1121	4
	A 4.6 PROTARevo without Split-cast	4
	A 4.6.1 PROTARevo with magnetic fixing	4
A 5	Articulation of the model	4
	A 5.1 Articulation of the upper model with the KaVo Face bow ARCUS	4
	A 5.2 Articulation of the upper model with the help of the Transfer Stand	6
	A 5.3 Average value method using the KaVo upper jaw model positioner Mat. No. 0.622.1781 APFnt Method	6
	Guarantee Information	7
	Spare parts PROTAR®evo 2	7
	Spare parts PROTAR®evo 3	7

Vertrieb/distribution:

KaVo Dental GmbH

Bismarckring 39 D-88400 Biberach

Tel.: 0 73 51 / 56-0 • Fax: 0 73 51 / 56 -14 88

Hersteller/manufacturer:

Kaltenbach & Voigt GmbH

Bismarckring 39

D-88400 Biberach



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A 1 User notes

A 1.2 Important information



The operating instructions should be read by the user before putting the unit into operation for the first time, in order to avoid incorrect operation and damage.

KaVo assumes no responsibility for damage arising through:

- use of incorrect information
- improper use
- improperly performed repairs.

Repair and maintenance work - apart from the activities described in these instructions for use - may be performed only by qualified technical personnel.

KaVo recommends using only original spare parts for operation and for repairs.

For more information see Operating Instruction PROTAR® evo Mat. No. 1.002.5701.

A 1.3 Safety measures

Safe operation and protection of the unit are ensured only through proper use in accordance with the Operating Instructions, using the tools approved for this purpose. The following should also be followed:

- the work safety regulations
- the accident prevention regulations.

In accordance with these requirements, it is the duty of the user



- to use only flawless materials
- to observe the correct applications
- to protect the patient, and others, from exposure to injury
- to avoid contamination by the product.
- not to work not with damaged functional parts.

A 1.4 Purpose and applications

The Gnathostomatic System is one of the most complex locomotor organs in the human body, largely due to its three dimensional spatial movements. In the event where a therapeutic, prosthetic or orthognathic treatment is required, a function-oriented therapy is essential. Segments of this kind of therapy, by necessity, have to be performed extra-orally, i.e. functional diagnosis, treatment planning, surgical, therapeutic or prosthodontic appliances. A simulation device which can mimic the mandibular movements and can accept the parameters of the patient's condylar and anterior guidance accurately, in addition, will retain the program of the dynamics of the mandible and the condyles, is not only necessary in the dental practice, but also in the dental laboratory.

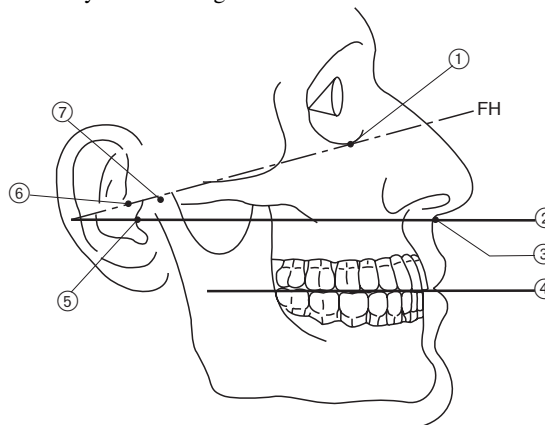
An articulator and associated measuring devices are indispensable tools for recording and transferring existing anatomical conditions or manipulable variables, they form the basis for function-oriented therapy. A defect-free morphological condition between the temporomandibular joint, the neuromuscular system and the dentition, forms the basis for a healthy and well functioning gnathostomatic system.

In order to faithfully reproduce the movements of the mandible on an articulator, anatomical reference points and reference lines have to be identified on the patient, with regard to a system of co-ordinates. The visual connection between the subnasal point and the Tragus Medialis (5) for instance, forms Camper's Plane of Occlusion (2) (CP).

On the other hand, the visual connection between the Porion (6) and the Infra-Orbital Point (1) (IOP) forms the Frankfurt Horizontal Plane (FHP).

The co-ordinates of these reference points and planes result in the Horizontal Condylar Inclination (HCI) . Other terms in use: Protrusive Path - Mid-Sagittal Horizontal Inclination - Condylar Path Angle.

- ③ Subnasal point
- ④ Okklusions plane
- ⑦ Hinge axis



PROTAR®evo 2, 3.

A 2 Scope of delivery – Accessories

A 2.1 Scope of delivery

Articulator PROTAR®evo 2 with-out Split-Cast 1.002.3305 consisting of:

Articulator upper section 1.002.3303
Articulator lower section 1.002.3265

or

Articulator PROTAR®evo 3 with-Split-Cast 1.002.3309 consisting of:

Articulator-upper section 1.002.3307
Articulator-lower section 1.002.3266

or

Articulator PROTAR®evo 3 with-out Split-Cast 1.002.3308 consisting of:

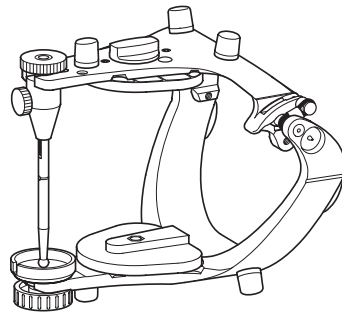
Articulator-upper section 1.002.3306
Articulator-lower section 1.002.3265

or

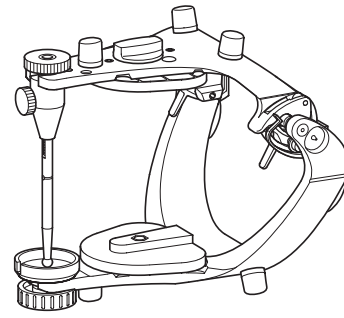
Plaster Articulator 1.002.9161

Operating Instructions PROTAR®evo
Mat. No. 1.002.9563

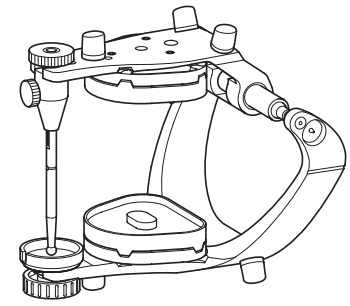
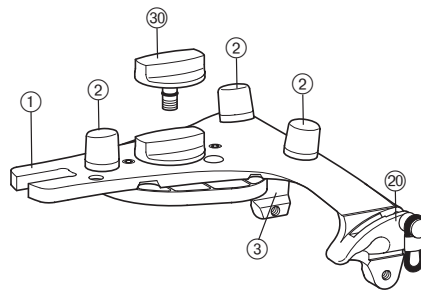
i For more information see Operating Instructions PROTARevo
Mat. No. 1.002.5701.



PROTAR evo 2



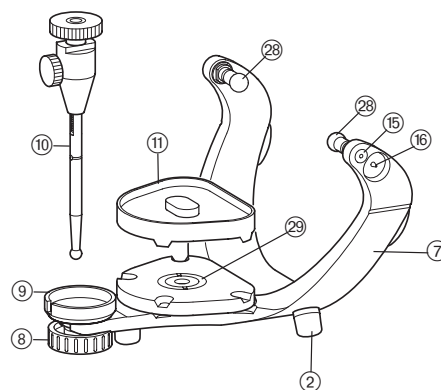
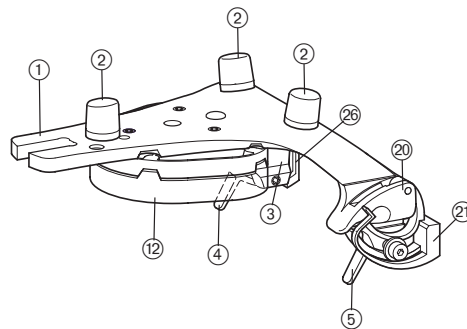
PROTAR evo 3



1.002.9161

A 3 Controls and functional elements

- ① Articulator upper section
- ② Support feet
- ③ Knebelschraube (optional)
- ③ Hinge box, right
- ②① Hinge box, left
- ④ Centric lock, right
- ⑤ Centric lock, left
- ②① Spring element, left
- ②⑥ Spring element, right
- ⑦ Articulator lower section
- ⑧ Incisal tray, 20°
- ⑨ Incisal plate flat
- ⑨ Support pin
- ⑪ Mounting plate, bottom
- ⑫ Mounting plate, top
- ⑮ Hinge axis
- ⑮ Reference pin
- ⑮ Ball joints
- ⑮ Magnet retention system



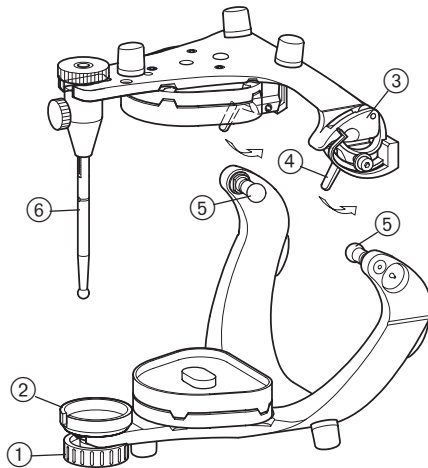
PROTAR® evo 2, 3.

A 4 Preparations for start-up operation

A 4.1 Support pin

Insert support pin ⑥ into top or bottom part of articulator and screw in firmly.

Fit flat incisal plate ② with 20° incisal tray ① in the top or lower section. 10° - 50° trays can also be used instead of the 20° tray.



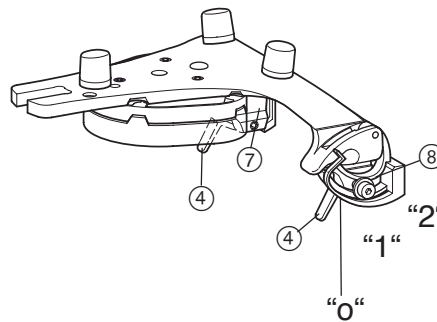
A 4.2 Centric locks

Position "0"

In position "0" the centric lock ④ is closed. The articulator upper section can only be rotated in the "closed" position

Position "1"

When the centric locks ④ are in the middle Position "1", the articulator is freely movable so that the desired articulator movements can be carried out. The spring elements ⑧ press the condyles ⑤ against the joint surfaces of the hinge boxes to prevent them from lifting off.



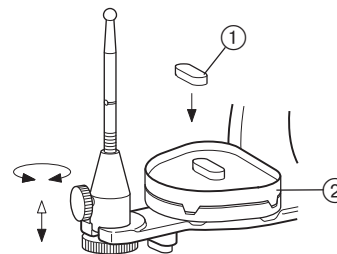
In its Position "1", the articulator can be handled like a non-Arcon articulator. This will prevent the upper and lower sections of the articulator from coming apart.

Position "2" = open

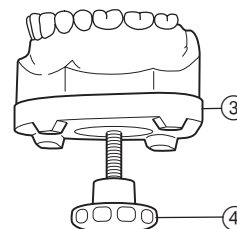
In this position, the upper section can be removed.

A 4.3 PROTARRevo with Splitcast (Factory adjustment)

If the articulator is factory-equipped with the KaVo Splitcast, the magnetically-held control plate ② serves to accept the model. The retention adapter ① is used for retention of plaster.

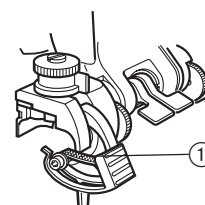


After completing the work, the model is pressed out of the control plate ③ by use of the star-grip screw ④. Finally, clean the control plate ③.



A 4.4 Maintenance

For better lubrication grease the Hinge ① with Articulator Lubricating Paste REF. 1.001.7613



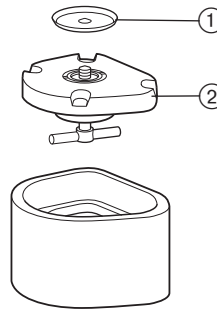
PROTAR® evo 2, 3.


A 4.5 Working with the Mounting Set Mat. No. 0.622.1121

The mounting set enables the production of accurately fitting plaster plates for the KaVo Split- Cast.

Practical hints – function

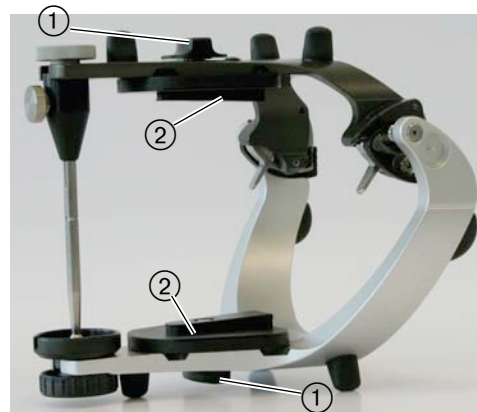
- Snap the mounting disc ① into the mounting set ②.
- As a rule, the mounting set does not have to be insulated.
- Remove the plaster plate after 6 hours, at the latest.
- After each use, immediately clean the mounting set thoroughly under running water.
- If necessary, use KaVo Separating Material (Order No. 0.622.4442). Blow off superfluous separating material.



 *Never use plaster solvents to clean the mounting set.*


A 4.6 PROTARevo without Split-cast

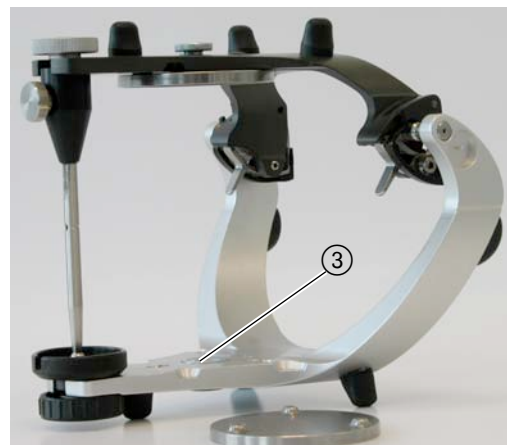
If the Artikulator is factory-installed equipped without Split-cast, then the mounting plates ② (0.622.1871) are fixed with the help of a tommy screw ①.



A 4.6.1 PROTARevo with magnetic fixing

By use of the magnetic fixing 1.002.4686, a magnet ③ can be located in the PROTARevo in place of the capstan-head screw. Together with the 3PS mounting plates ④ a fast change of model is possible.

 *This method of fixing the model does not allow synchronization.*



A 5 Articulation of the model

A 5.1 Articulation of the upper model with the KaVo Face bow ARCUS

Ideally for the plaster labor:
the KaVo Plaster articulator 1.002.9161.



PROTAR®evo 2, 3.

i You can articulate the Upper modell with all types of PROTARevo.

Release clamping lever ④ and pull face bow ③ apart.

The support pin ② must already be located in the articulator lower section and set to the **zero position**.
(Remove the incisal plate ⑥ and close the centric locks, at first the left, finally the right of the upper section).

Affix the ear-pieces of the face bow to the orientation pins ① on the articulator lower section, slide the face bow together again then lock the clamping lever ④.

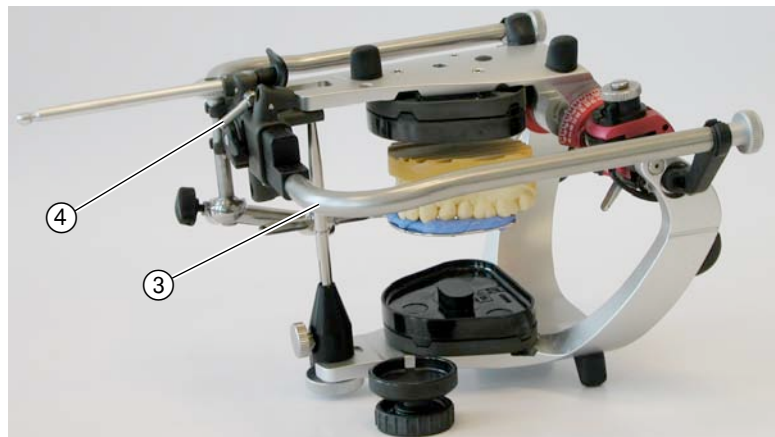
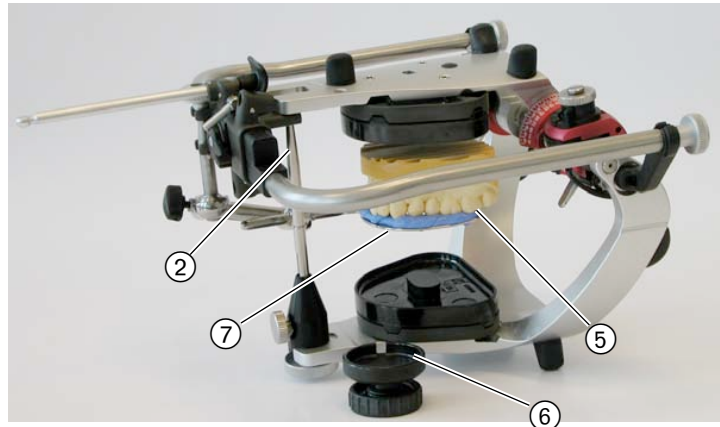
The face bow ③ is placed on the support pin ②.

Position the upper dentition ⑤ in the impressions ⑦ on the bite fork.

Mix the plaster to a creamy consistency, and place on the model of the upper jaw (Close the opening in the control plate with the retention adapter Mat. No. 1.001.0887) Spread the plaster over the control plate in the upper section. Close the upper section, using no pressure.

After the plaster has hardened, remove the face bow together with the bite fork from the articulator.

Release clamping lever ④, and take the facebow ③ out of the articulator.



PROTAR® evo 2, 3.

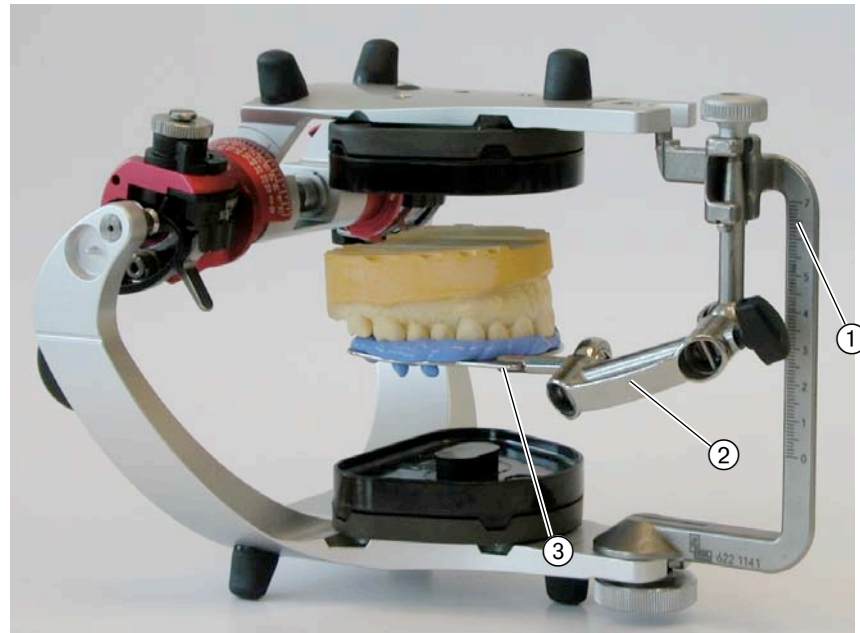
A 5.2 Articulation of the upper model with the help of the Transfer Stand

i If articulation is to be carried out in the dental laboratory, it is only necessary to send the bitefork with holder.

Remove the support pin and incisal plate from the articulator.

Locate Transfer Stand ① in the lower section of the articulator.

Insert bite fork ③ with bitefork holder ② into the transfer stand ①.



A 5.3 Average value method using the KaVo upper jaw model positioner Mat. No. 0.622.1781 APFnt Method

The medium-value model positioner for an edentulous upper jaw model makes articulation possible, if no face bow is available.

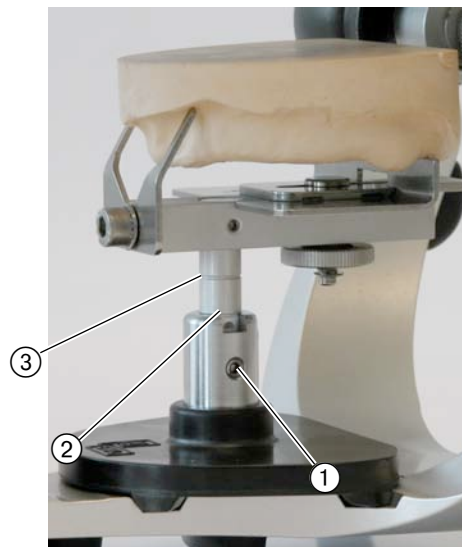
The edentulous flaps and the lowest points behind the two tubercles serve as reference points.



① Fixing screw

② Adjustment mark if KaVo Split- Cast is not installed.

③ Adjustment mark when KaVo Split-Cast is installed.



PROTAR® evo 2, 3.

Guarantee Information

Within the framework of applicable KaVo delivery and payment conditions, KaVo guarantees proper function, freedom from flaws in material and manufacturing for a period of 12 months from the date of purchase demonstrated by the purchaser.

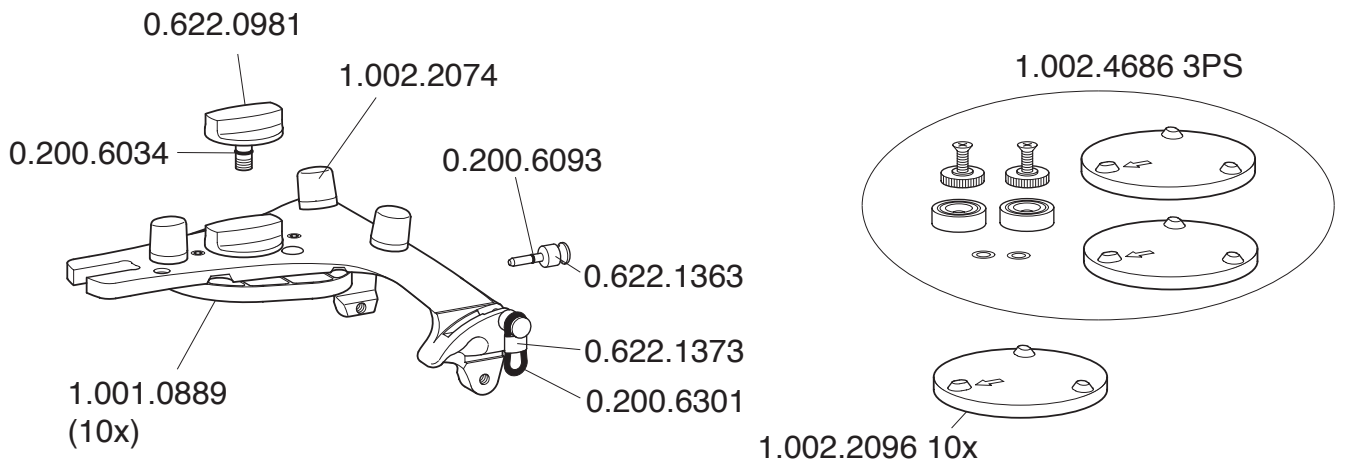
In case of justified complaints, KaVo will honor its warranty with a free replacement or repair.

The warranty does not cover defects and their consequences that arose or may have arisen due to natural wear, improper handling, cleaning or maintenance, noncompliance with operating, maintenance or connection instructions, corrosion, contaminated media supply or chemical or electrical influences deemed abnormal or impermissible in accordance with factory specifications. The warranty does not usually cover lamps, light conductors made of glass and glass fibers, glassware, rubber parts and the colourfastness of plastic parts.

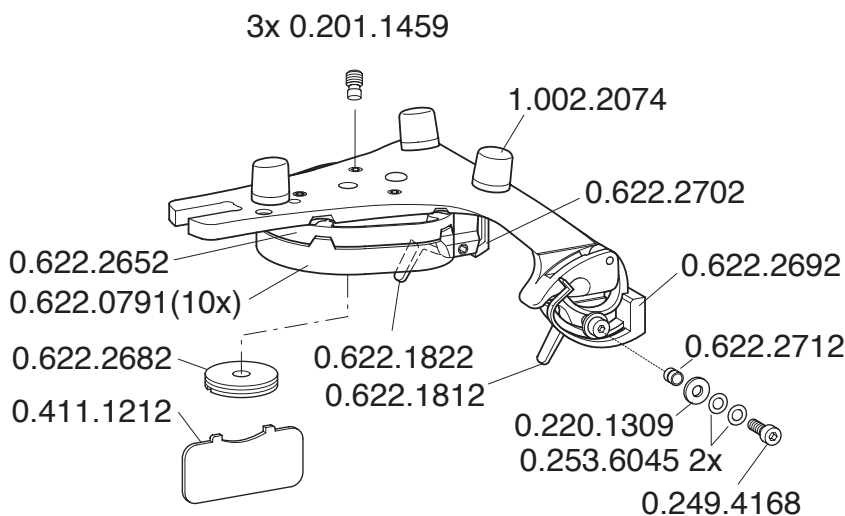
The warranty expires when defects or their consequences can arise from manipulations or changes to the product. Warranty claims can only be asserted when they are immediately reported to KaVo in writing.

This notification must be accompanied by a copy of the invoice or delivery note on which the manufacturing number is clearly visible. In addition to the guaranty, the statutory warranty claims of the purchaser also apply with a warranty period of 12 months.

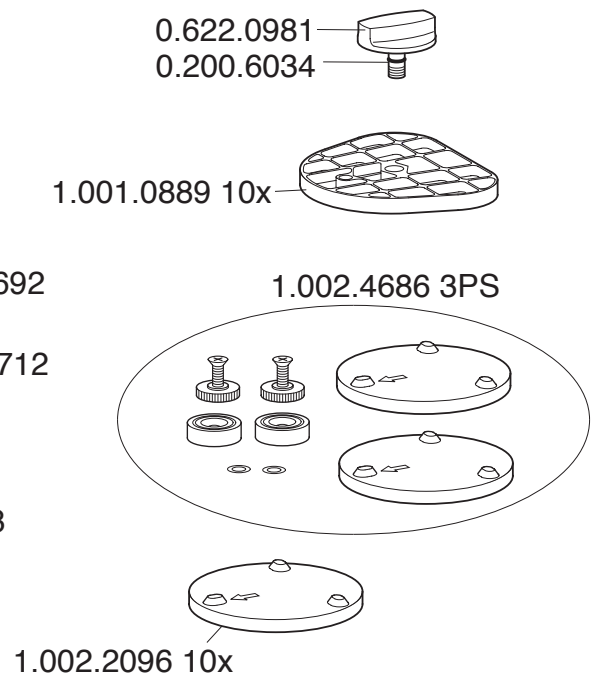
Mat. No. 1.002.3905 without Split-Cast



Mat. No. 1.002.3307 with Split-Cast



Mat. No. 1.002.3306 without Split-Cast





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KaVo Dental GmbH, D-88400 Biberach/Riss
Telefon +49 7351 56-0 Fax +49 7351 56-1488
Internet: www.kavo.com