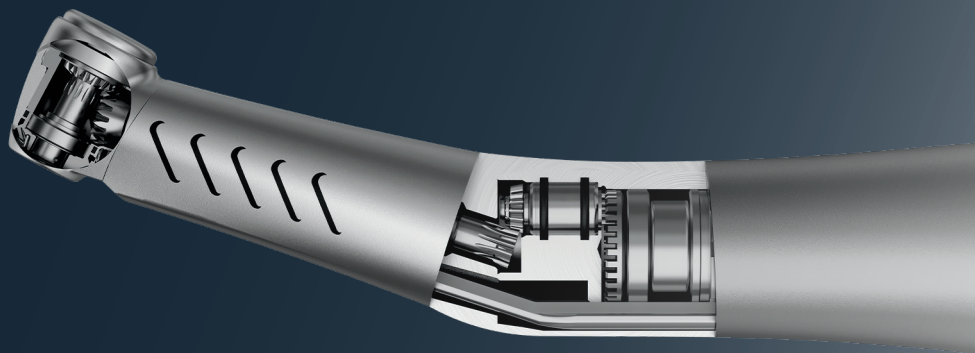


KaVo handpiece care

Tips for prolonging the service life of your handpieces.



KAVO

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Dear User,
We are delighted that you made your decision in favour of high quality KaVo handpieces and would like to give you some tips in this brochure to help you extend the service life of your KaVo handpieces.

This brochure provides you with information about the necessary care and the consequences of incorrect care with simple descriptions and visual representation.

KaVo takes complaints very seriously and investigations have revealed that many defects could be avoided with the correct reprocessing of the handpieces.

Over

50%

of the handpiece failures are caused by improper cleaning and care.

Improperly serviced handpieces



Used handpieces that have been serviced regularly and properly



1. General

Original spare turbines are marked with the new KaVo logo.



1.1 Original KaVo spare parts

Non-original or forged spare parts cause damage to the product and associated risks.

Advantages of original KaVo spare parts:

- Optimum safety for patient and user
- Longevity based on service life tests and continuous improvements
- Warranty remains valid

If a user fails to use original KaVo spare parts, he or she works with a medical device that is no longer approved by KaVo:

- As a consequence, the spare parts manufacturer or the dentist becomes the manufacturer of the medical device
- Any warranty claims against KaVo are void
- There have been cases of accidents at dental practices due to forged spare parts



KaVo Original Factory Repair

For repairs visit www.kavobox.com and send your instruments to the KaVo Original Factory Repair.

KaVo Technical Service

For technical questions or complaints please contact the KaVo Technical Service.

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service.instruments@kavokerr.com

2. Protect the chuck system

2.1 Rotating handpieces with intact shafts

If you use dental burs that have not been approved by KaVo, the handpiece may suffer substantial damage. Damage includes: Defects on the chucking system or defects on the bur shaft.

*Worn-out or damaged shafts/grooves
(you can feel grooves when you run a fingernail along the shafts)*



2.2 Length and dimensions of burs

For manufacturer information concerning the length, diameter, shaft shape and max speed, please refer to the corresponding instructions for use. Grooves and color markings on the drill shaft should be outside the clamping area and outside the guide bushing. This ensures better bur guidance.



Groove outside the bushing



Groove in the area of the guide bushing - no longer visible

The dental bur shaft:

The dental tool shaft must be smooth along the minimal shaft clamping length.

- The min. shaft clamping length of KaVo miniature turbines is 9 mm
- The min. shaft clamping length of KaVo standard turbines is 11 mm

Consequences of non-compliance with manufacturer specifications:

- The dental bur retention force may be too low due to a worn-out shaft and the dental bur may be released during the treatment
- The shaft can spin freely in the chuck and destroys the chuck.
The dental tool can fall out
- The ball bearings, gear wheels and chuck can be overloaded,
e.g. by the dental tools being too long
- A shaft with recess/groove can jam in the clamping region of the handpiece

Recesses or grooves in the clamping area can lead to accelerated wear and tear or jamming of the chucking system.



2. Protect the chuck system

2.3 Separation of crowns and bridges

Dental bur manufacturers offer crown materials specifically for different types of bur. For instance, they recommend a special bur made of hard metal for the crown made of metal or soft ceramics whereas for a zirconium crown, a diamond bur is recommended. Please comply with the speed recommended by the manufacturer of the bur or crown separator. In case of straight- or cross-toothed crown separators the recommended speed is very often lower than that of diamond-coated crown separators.

Stop the handpiece immediately if the crown separator hooks into the tooth!

If toothed crown separators are recommended, cross-toothed tools are preferable because straight-toothed dental burs more often tend to hook into the crown material. The abrupt engagement by hooking-in subjects the chucking system of the contra-angle handpiece or turbine to a strong strain and the chuck and the crown separator can be subject to more rapid wear and tear.

Straight-toothed crown separator



Irrespective of the type of crown separator used, if contact pressure is too high, this will also lead to a quicker wear and tear of the chucking system. KaVo recommends a contact pressure of 2-3 N.

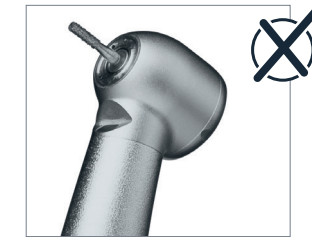
The service life of a straight- and contra-angle handpiece or turbine significantly depends on the lubrication of the chucking system, the ball bearings and the gear. KaVo recommends switching to a new and perfectly serviced handpiece in case the treatment lasts clearly longer than 20 minutes.

2.4 Remove the bur from the chuck

Handpiece without bur dental



Handpiece with inserted bur



The chuck should bear no load during storage in order to prolong its service life. Storage of handpieces together with the dental bur is associated with a risk of injury or infection.

Close the tensioning ring of the handpiece

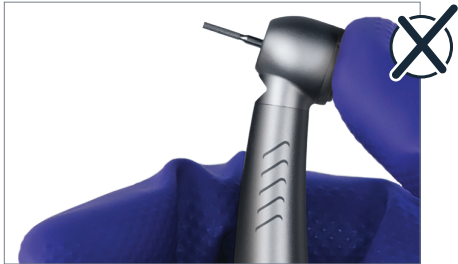
Never start operating the straight handpiece while the chuck is open. The handpiece and chuck will malfunction or jam.

Never press the push-button during operation of the device

Never press or wipe the push-button on the turbine, straight or contra-angle handpiece while the handpiece is rotating, because of excessive wear and tear on drive/rotor and damage to the push-button/chuck.

2. Conservation of value of the chucking system

Push-button is pressed during ongoing operation



Possible consequences of push-button actuation during operation include:

- Push-button can heat up excessively
- Malfunction of the push-button
- Chuck does not release or does do with difficulty
- Metallic abrasion particals of the lid might get into the ball bearings

Never position the patient's cheek close to the push-button.

The friction between the push-button and the chucking system generates heat that may cause burn injuries to the mucosal membranes.

Push-button used correctly



Push-button was worn out due to incorrect use



3. Lubricate the ball bearing

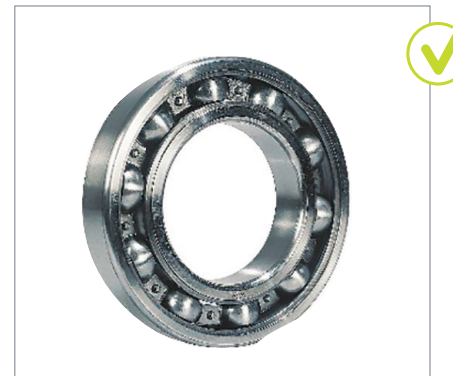
Lubrication of ball bearing:

Insufficient lubrication of the ball bearings causes signs of excessive wear and tear possibly leading to defects. To prevent any secondary damage, have defective ball bearings replaced quickly.

Signs indicative of defective ball bearings include:

- Loud running noise
- Uneven run
- Handpiece jams completely
- Strong increase in temperature

New ball bearing



Defective ball bearing



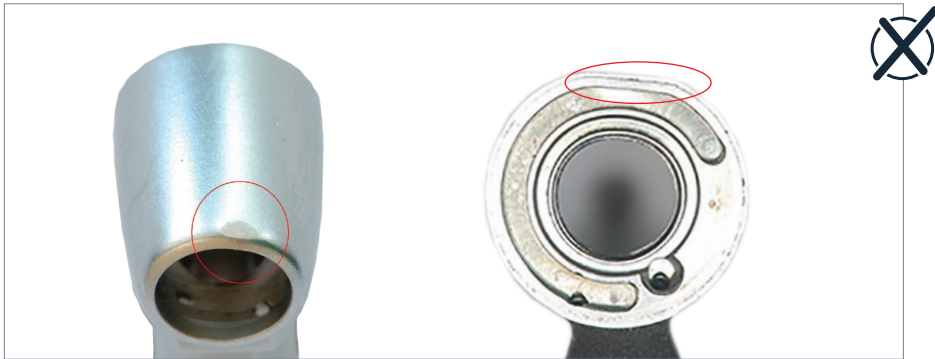
Even missing lubrication once, in particular after internal cleaning, can lead to early damage to the ball bearing.

4. Prevent damage from dropping

4.1 Prevent damage from dropping

Check the handpiece by eye for any changes during the reprocessing process in order to protect both the handpiece and the patient.

Handpiece showing damage from being dropped



Consequential damage, such as jamming of ball bearings, can cause thermal damage to the ball bearings and thus rapid failure.

Procedure for detecting damage from dropping the handpiece:

- Visual inspection for external damage reveals deformation
- Functional test reveals excessive running noise and/or excessive heating

If you are not sure about damage from dropping a handpiece, please contact your KaVo Service Centre to prevent possible secondary damage.

5. Application issues

5.1 Disinfection



Never reprocess the handpiece in an ultrasonic cleaner, because:

- The ball bearings might be destroyed
- Other technical defects on the handpiece may occur

Never disinfect the handpiece with chloride-containing products:

Use disinfectants approved by the manufacturer only. If the disinfectants do not meet these requirements, they can lead to corrosion.



Recommended wipe disinfection



Do not spray disinfectants or not allowed disinfectants on the instrument or the engine/turbine-coupling. This can cause malfunctions.



If the disinfectant is sprayed into the instrument or into the engine/turbine-coupling, malfunctions can occur.

For more information on reprocessing dental instruments, please refer to the KaVo reprocessing poster as well as the respective instructions for use of the KaVo instruments.

5. Application issues

5.2 Care with Lubrication

The service life of a straight- and contra-angle handpiece or turbine significantly depends on the lubrication of the chucking system, the ball bearings and the gear. In general, automated care of rotating dental handpieces using the KaVo QUATTROcare PLUS is preferred over manual care. KaVo guarantees the proper function of KaVo products only when using the approved care products of KaVo. KaVo recommends servicing the product as part of the reprocessing after each use, i.e. after each cleaning, disinfection, and before each sterilisation. If possible, maintain handpieces and heads separately.

KaVo recommends cleaning and servicing the chuck system once every week. Under intensive operation (e.g. separating crowns) more frequent lubrication is recommended.

The following lubrication options are available:

1. QUATTROcare PLUS with the „Service adaptor for chuck“ (0.411.7603)
2. KaVo Spray with the „INTRA spray head“ (0.411.9911)
3. Chuck care set (1.003.1253) for the QUATTROcare Plus Spray

Care of the chuck system



The use of the QUATTROcare PLUS ensures consistent servicing and minimizes errors and subsequent costs. KaVo recommends changing to a new maintained instrument within one treatment if the operating time exceeds 20 minutes.

QUATTROcare PLUS: All O-rings of the service couplings on the QUATTROcare PLUS must be in good condition. Otherwise, the handpiece will not be lubricated properly. KaVo electrical motors must not be lubricated, since they feature inherent permanent lubrication. Air-driven motors should be lubricated after each use according to the instructions for use.

5.3. Protect handpieces during storage

In order to prevent impairment of the medical device, make sure that the inside and outside of the device is dry. Remove the liquid residues inside and outside with compressed air, otherwise corrosion may occur.



- Always use a handpiece stand (3.005.5204)
- Excessive residual oil leaks out
- Otherwise, the handpiece may get too hot when operated again, which may lead to further damage on the ball bearings

Never plug the serviced instrument onto the motor/turbine coupling and directly after lubrication never store it in the instrument holder. The oil might leak into the hose and may lead to a defects on the coupling.

6. Additional routine service

6.1 Removal of clogging

6.1.1 Handpieces

The spray channels may become clogged due to the water being hard.

If an insufficient amount of spray water exits at the spray openings, please check if the spray channels are soiled and clean them according to need.

If the amount of water is too low, the tooth and the pulp may be damaged by overheating.

Short-term remedy:

Clean the spray nozzles using the dedicated nozzle needles provided by the manufacturer. Do not use a root canal needle to puncture the spray nozzles, otherwise, the spray channels may be damaged.

Caution: never place the handpiece in a descaling agent or spray it with a descaling agent, as this may lead to corrosion.

Spray nozzle from KaVo



Cleaning of the spray nozzles by a certified repair workshop.

Use of the endo file



6.2 Replacing the water filter

If the water quality is poor, the water filter (if any) can become dirty. The spray quality and the amount of water decrease.

Replacing a water filter



*New functional water filter
(for material number, see Chapter 8)*



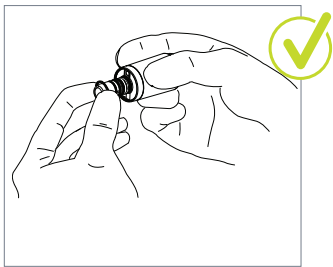
6.3 Replacing the O-rings

Procedure for replacement of the O-rings:

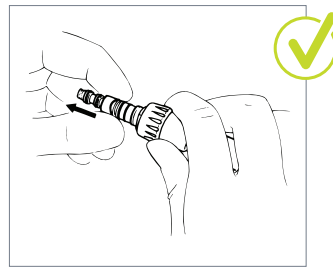
Always replace all O-rings available. Do not use any sharp/hard tools.

- Compress the O-rings between the fingers such that the O-ring lifts off slightly
- Pull off the O-rings toward the front

Replacing an O-ring on an INTRAmatic coupling



Replacing an O-ring on a MULTIflex coupling



Servicing the o-rings:

- Use recommended oils exclusively since the O-rings may otherwise decompose or swell up with other chemicals
- Do not use Vaseline

the following tips prolong the durability of o-rings:

- Attach and remove the handpiece/cannula in a straight line and with a slight twisting motion onto/from the motor/turbine coupling
- Lubricate the O-rings exclusively with a cotton swab moistened with KaVo Oil

Product name	Material number
Water filter (GENTLEforce, GENTLEsince, GENTLEmini)	1.000.4823
Water filter (COMFORTdrive, MASTERmatic, GENTLEpower, MASTERtorque, EXPERTtorque, EXPERTmatic)	1.002.0271
Wrench for water filter	1.002.0321
O-ring (MULTIflex coupling black), 10 pcs.	1.004.2776
O-ring (MULTIflex coupling white), 10 pcs.	1.004.2775
O-ring (INTRAmatic motor), 10 pcs.	0.200.6120
Multi LED (handpieces)	1.007.5372
High-pressure lamp (for MULTIflex LUX couplings, pneumatic and electric motors)	1.002.2928
Nozzle needle (spray tubing, INTRA, INTRAmatic)	0.410.0931
Nozzle needle (handpieces)	0.410.0921
Spray repair kit (INTRA, INTRA LUX)	0.410.0610
Handpiece stand	3.005.5204
Insert for handpiece stand (MULTIflex)	0.411.9902
Insert for handpiece stand (COMFORTdrive)	1.006.0525
Cellulose pad (for handpiece stand)	0.411.9862

7. Care agents and spare parts

8. Comments

<u>Produktname</u>	<u>Materialnummer</u>
KaVo Spray 2112A (box of 6 cans)	0.411.9640
Spray head (INTRA) for straight and contra-angle handpieces, heads, chucks	0.411.9911
Spray head (COMFORTdrive)	1.005.3154
Spray head (MULTIflex) for turbines, SONICflex, INTRAFlex	0.411.9921
Pack of Cleanpac, 10 pcs.	0.411.9691
QUATTROcare PLUS 2124A care unit	1.008.3805
QUATTROcare PLUS Spray 2140P (box of 6 cans)	1.005.4525
INTRAmatic short	1.011.7380
INTRA heads service coupling	0.411.7941
MULTIflex service coupling	1.009.6142
COMFORTdrive service coupling	1.005.1707
Service coupling for chuck (for automated chuck servicing)	0.411.7603
Chuck servicing set (for manual servicing with QUATTROcare spray can)	1.003.1253

We are working continuously to increase the satisfaction of our customers even further and hope that the information compiled in this brochure helps you prolong the service life of your rotating handpieces.

If you are aware of typical servicing errors from your everyday routine or if you see any need for more detailed explanation of any topic, please get in contact with service.instruments@kavokerr.com.

Thank you very much!

Dental Excellence from KaVo.



Treatment Units

Beautiful lines, patient comfort and simple operation are just a few of the benefits to the line of KaVo treatment units. Everything you need to perform any procedure all in one solution.



Handpieces

KaVo has always been the leader in creating innovative solutions for dental practitioners. Our vast line of quality handpieces showcase our attention to your level of care while delivering performance that lasts.