Cleaning and disinfection:
The further reprocessing should be carried out mechanically (according to the recommendations of the Commission for Hospital Hygiene and Infectious Disease Prevention of the Robert Koch Institute). Silicone stoppers should be removed from endodontic instruments prior to reprocessing.

Limited number of reprocessing cycles:
Disposable products (marked on the packaging) must not be reprocessed. The reuse of these disposable products poses a risk of infection. A safe, risk-free reuse can therefore not be guaranteed. The end of a product’s service life depends on its degree of damage and wear. Do not exceed the permitted frequency of reuse, if this is known. Frequent reprocessing does not affect the performance of these instruments.

Work station:
Hygienic precautions according to the provisions valid in your country.

Storage and transport:
Place instruments in a cleaning/disinfection tank (Fräsator) filled with a suitable detergent/disinfectant (e.g. Komet DC1/alkaline, aldehyde-free) (fig. 1) immediately after use in the mouth to prevent drying of residues on the instruments (protein fixation) and to facilitate the cleaning of the instruments. It is recommended to process the instruments within one hour of use at the very latest. The instruments should be in the cleaning/disinfection tank (Fräsator) when transported to the site where the reprocessing is to take place. Endodontic instruments can be transported in a special interim support equipped with a foam insert drenched in disinfecting solution (e.g. Komet Interim Stand 595 (fig. 2)).

Cleaning and disinfection:
The further reprocessing should be carried out mechanically (according to the recommendations of the Commission for Hospital Hygiene and Infectious Disease Prevention of the Robert Koch Institute). Silicone stoppers should be removed from endodontic instruments prior to reprocessing.
Validated mechanical reprocessing

**Equipment used:**
- Cleaning/disinfection device (co. Miele, with Vario TD-programme or co. Melag with universal programme)
- 1.5 g/l Komet DCTherm, 9869 / mildly alkaline (DCTherm is only available in Germany)
- Bur block for rotary instruments: Komet, 9890L4 (height: 4 cm), 9890L5 (height: 5 cm) (fig. 4), 9890L7 (height: 7 cm)
- Wash box 9955 (fig. 5) with insert tray for endodontic and surgical instruments (AlphaKite 540, EasyShape 533 and 594, Endo universal 541, MaxilloPrep Bone 535, MaxilloPrep Spread-Condense 537)

**Reprocessing:**
- Remove instruments from cleaning / disinfection tank (Fräsator) or interim support immediately before mechanical reprocessing. Remove silicone stoppers, if used, and rinse instruments thoroughly under running water to prevent any residues of the detergent/disinfectant from getting into the machine (fig. 3).
- Place the instruments in a suitable bur block.
- Place the bur block in the washer/disinfector in such a way that the instruments are directly hit by the spray jet (fig. 4 and 5)
- Put detergent powder into the washer/disinfector, following the indications on the label and the instructions of the manufacturer of the washer/disinfector.
- Start the Vario TD programme or universal programme (for diagram of program sequence see fig. 6) including thermal disinfection. Thermal disinfection takes place allowing for the A₀ value and observing national provisions (prEN/ISO 15883).
- On completion of the cycle remove instruments from the washer/disinfector and dry (fig. 7) (preferably with compressed air as recommended by the Commission for Hospital Hygiene and Infectious Disease Prevention of the Robert Koch Institute). When drying the bur block please make sure that even hard-to-reach areas are dried properly (fig. 11).
- Visual examination to ensure that the instrument is clean and undamaged. If after mechanical reprocessing there are still visible residues of contamination, repeat the cleaning and disinfecting process until no visible contamination is left.
Standardised manual reprocessing (alternative)

**Equipment used:**
- Nylon brush (e.g. Komet 9873)
- Suitable detergent/disinfectant for rotary instruments with proven disinfecting effect (e.g. Komet DC1, 9826/alkaline, aldehyde-free, DGHM approved).
- Ultrasonic bath (alternatively: instrument bath)

**Reprocessing:**
- Remove instrument from cleaning/disinfection tank (Fräsator) or from the interim support. Remove silicone stoppers, if used, and rinse off surface contamination under running water. Remove surface contamination thoroughly under running water (Fig. 8). Completely remove stubborn contamination with a nylon brush below water level, turning the instrument constantly. Rinse instrument thoroughly with running water.
- Place the instruments in a suitable sieve or bur block into the ultrasonic device filled with detergent/disinfectant (fig. 9). Rinse cleaning instrument thoroughly with running water.
- During chemical cleaning/disinfection in the ultrasonic device, observe the instructions of the manufacturer regarding concentration and immersion time. Be sure to observe the full correct immersion time which does not start until the last instrument has been placed into the ultrasonic device. Attention: do not exceed 45°C (risk of protein coagulation)!
- On completion of the immersion time, rinse instruments thoroughly with suitable water (preferably with demineralised water to avoid residues of lime) (fig. 10).
- Dry instruments (preferably with compressed air as recommended by the Commission for Hospital Hygiene and Infectious Disease Prevention of the Robert Koch Institute) (fig. 11-12).
- Visual examination to ensure that the instrument is clean and undamaged. If there are still visible residues of contamination, repeat the cleaning and chemical disinfecting process until no visible contamination is left (fig. 13).
Control and functional test:
Instruments showing the following defects are to be discarded immediately:
• Missing diamond coating (uncoated areas)
• Blunt and chipped blades
• Deformations (e.g. bent/twisted/fractured instruments)
• Corroded surfaces

Packing:
Make sure that the packaging is suitable for the instrument and the chosen method of sterilisation. Single pack: The packaging must be large enough to ensure that there is no pressure on the seal. In the set: Place instruments onto the tray provided or onto universal sterilisation trays (fig. 14). The instruments must be protected. Use an appropriate method to pack the tray. Instrument with limited use are to be marked accordingly. Sterilization containers with suitable insert trays can also be used, e.g. endodontic sterilisation container 556 or insert tray 541 (fig. 15).

Sterilisation:
Steam sterilisation using a vacuum process at 134°C in a device that complies with the provisions of DIN EN 13060; with validated processes.
• Fractionated pre-vacuum (type B) or simplified pre-vacuum (type S)
• Sterilisation temperature: 134°C
• Hold time: at least 5 minutes (full cycle)
• Drying time: at least 10 minutes
In order to prevent staining and corrosion, the steam must be free of particles. Make sure not to exceed the maximum capacity of the sterilizer when sterilizing several instruments. Follow the instructions of the device manufacturer.

Transport and storage:
The packed sterile goods must be protected from dust, moisture and recontamination during transport and storage.

Universally valid notes:
The decisive factors to ensure efficient reprocessing are the thorough cleaning of the instruments and the material compatibility of the detergent and disinfectant used. Fully virucidal agents cannot meet all of these criteria at the same time, which is why Komet DC1 is only virucidal to a limited extent. The full virucidal effect during reprocessing is obtained by the final thermal treatment in the autoclave. This is in compliance with the recommendation of the Commission for Hospital Hygiene and Infectious Disease Prevention of the RKI stating that thermal disinfection is the preferred method. Observe the legal provisions regarding the reprocessing of medical products valid in your country (e.g. www.rki.de). The manufacturer confirms that the above detailed reprocessing methods are suitable for preparing the above named instrument group to enable their reuse. The user of the medical device is responsible for ensuring that the applied method is carried out with appropriate equipment, materials and trained personnel at the reprocessing site and that it actually achieves the desired result. To guarantee this, routine controls of the validated mechanical and/or manual preparation methods are necessary. Any deviation from the above detailed process (e.g. use of different chemicals) must be carefully checked by the operator to ensure effectiveness and to avoid possible adverse consequences.