

# Instruments for Use

## SURGICAL INSTRUMENTS



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**INTRODUCTION:**  
This information in this instruction carefully improve handling and misuse can lead to premature Wear and Tear of the Products or risks for Patients and Users. This instruction for use should not contain all the information required to use a surgical instrument. Please also consult the relevant surgical technique.

**CAUTION:**  
SURGICAL INSTRUMENTS MAY ONLY BE USED BY TRAINED AND QUALIFIED MEDICAL STAFF. AS TECHNICAL PROBLEMS CAN NEVER BE WHOLY EXCLUDED, A READY-TO-USE ALTERNATIVE SYSTEM SHOULD ALWAYS BE ENSURED FOR ANY PATIENT APPLICATIONS.

**INDICATIONS:**  
SURGICAL INSTRUMENTS ARE INTENDED FOR USE ON HUMANS.

**CONTRAINDICATIONS:**  
The use of surgical instruments depends on the individual clinical picture and the intended surgical procedures.

**GENERAL CONTRAINDICATIONS:**  
The specific contraindications of the individual osteosynthesis implants and instruments must be viewed in the corresponding surgical technique.

**GENERAL CONTRAINDICATIONS:**  
In general, contraindications for the use of the implants and instruments depend on the individual clinical picture and the intended surgical procedure.

**GENERAL CONTRAINDICATIONS:**  
The status of health which exclude a sufficient support or affect the healing process, e.g., interference of the blood supply or insufficient blood supply or quantity.

**GENERAL CONTRAINDICATIONS:**  
The mental conditions which make a participation in the rehabilitation programme impossible (Parkinson disease, alcoholism, drug usage, etc.)

**GENERAL CONTRAINDICATIONS:**  
Allergy to a material component (e.g., nickel, titanium, cobalt, chrome, or vascular diseases that endanger the affected extremity; a lack of bony tissue or poor bone quality (e.g. severe osteoporosis);

**GENERAL CONTRAINDICATIONS:**  
Local bone tumours.

**GENERAL CONTRAINDICATIONS:**  
Systemic diseases and metabolic disorders; infections and falls; obesity;

Highly physical and strong vibration related activities are exposed to blows and/or excessive loads.

**DESCRIPTION:**  
The operating physician/surgeon must ensure that the equipment is in faultless working order prior to using it. It is recommended that the manual surgery handling even further through the lack of care in reducing the equipment or in case of inadequate property. Any instrument that does not work properly (due to wear and tear, mishandling, improper maintenance) must be disposed of.

**PREVENTING CORROSION:**  
Corrosion is the deterioration or wear that can be caused by chemical reactions.

**PREVENTING CORROSION:**  
Carefully assemble the correctly wrapped and sterilized instruments prior to surgery.

**PREVENTING CORROSION:**  
Ensure that the outer packaging is intact and that the sterilization indicator is clearly visible and readable.

**PREVENTING CORROSION:**  
Take note of the sterilization indicator in order to ensure sterility.

**PREVENTING CORROSION:**  
Prepare instruments only shortly before the surgery.

**PREVENTING CORROSION:**  
Remove blood and other exudates from the instruments.

**PREVENTING CORROSION:**  
Rinse through perforated instruments in order to prevent adherence of dried blood and bone matter.

**PREVENTING CORROSION:**  
Begin the cleaning process immediately after the surgery.

**PREVENTING CORROSION:**  
CONTACT PRESSURE  
Excessive contact pressure must be avoided.

**PREVENTING CORROSION:**  
In the case of cutting instruments (steel, nitinol and tungsten carbide instruments), this may result in damage to the working parts by excessive contact pressure.

**PREVENTING CORROSION:**  
An increase in the generation of heat which facilitates the risk of thermal necrosis.

**PREVENTING CORROSION:**  
Excessive contact pressures can lead to breakage of the grinding wheels in grinding instruments. This can result in excessive heat generation.

**PREVENTING CORROSION:**  
In some extreme cases, instrument breakage caused by excessive contact pressures cannot be avoided.

**PREVENTING CORROSION:**  
Cooling  
Adequate cooling must be ensured when using rotary instruments. Instrument blades are heated by splinters. In the case of insufficient heat treatment, this results in greater deformation of the blades.

**PREVENTING CORROSION:**  
Thermal necrosis  
(thermal necrosis) in the worst case scenario, the drills can be used with a maximum torque of 2000 revolutions/minute.

**PREVENTING CORROSION:**  
SORTING OUT DAMAGED INSTRUMENTS  
Instruments should be inspected for bluntness and damage by using a magnifying glass.

Attention must be paid to the following:  
• Manufacturer must be cleaned mechanically in a proper manner before and after each use.

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Wipe brushes, scouring pads or other products. Wire brushes, scouring pads or other products may not be used. The cleaning agent used must have a neutral pH in order to avoid corrosion and blunting of the instruments, and to prevent the risk of skin irritation of the user. The precautionary measures for use as well as the machine supplier recommendations should be observed with regard to cleaning agents, and a final rinse at a temperature set between 70°C and 95°C in order to facilitate drying. The instruments should be dried properly in order to prevent new contamination from forming. Afterwards, each instrument should be inspected to see if it handles well and operates properly.

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Drying time: at least 10 min. It is the manufacturer's responsibility to ensure that the instruments are completely dry before use.

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