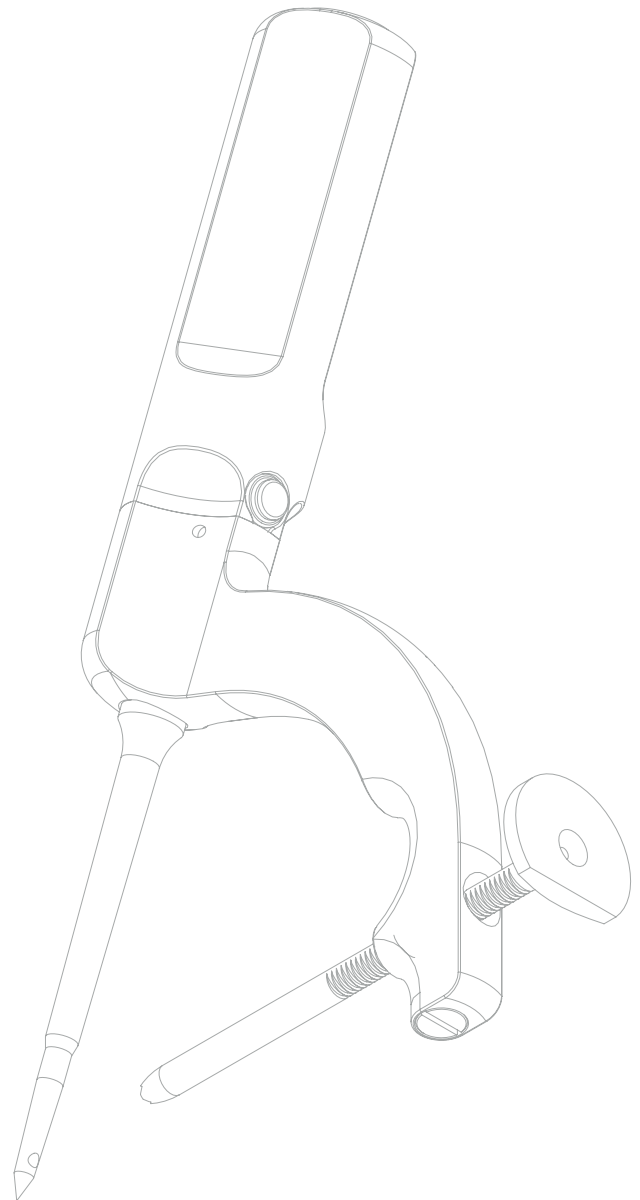
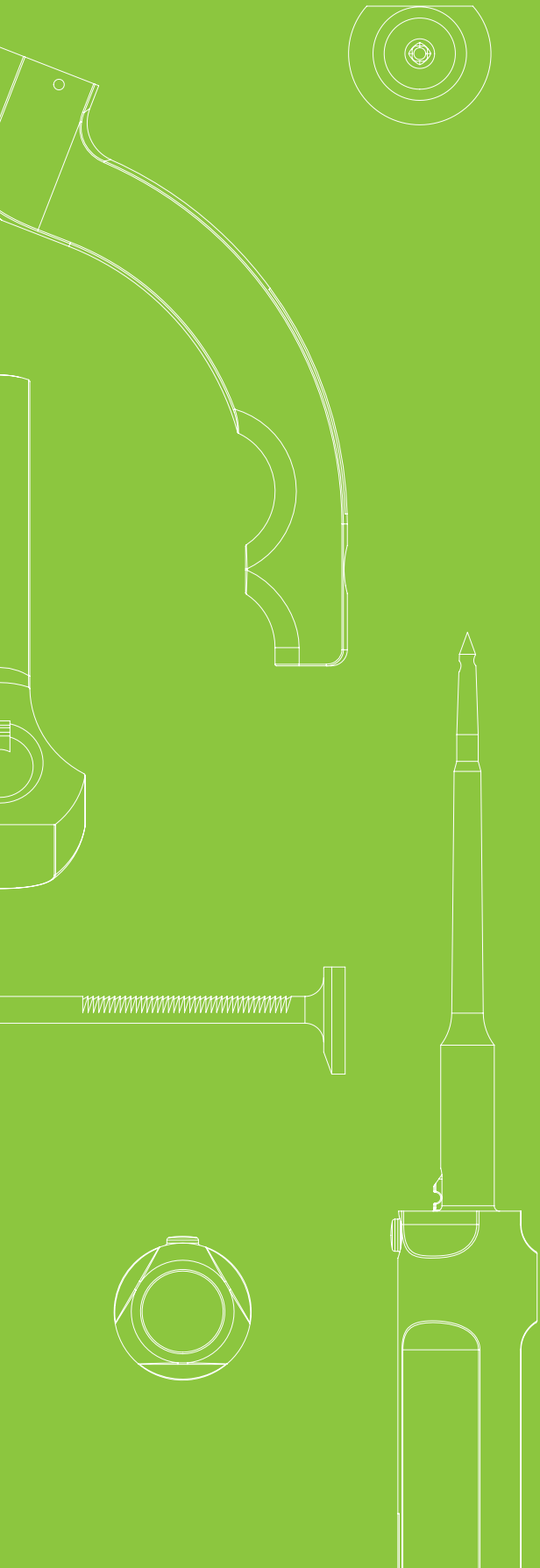




INSTRUCTIONS FOR USE

Drillbone Tunneler

Rotator Cuff Repair
Tunneler



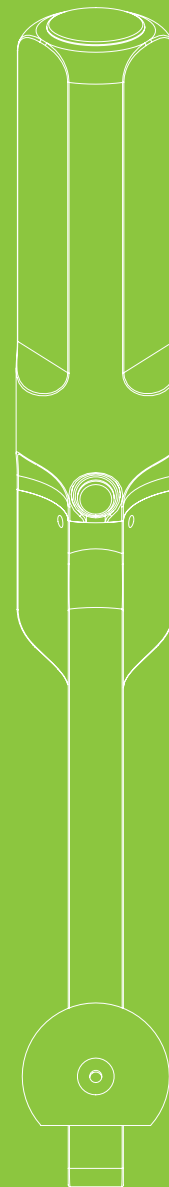
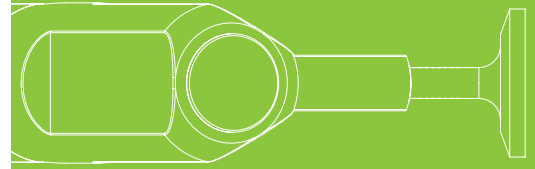
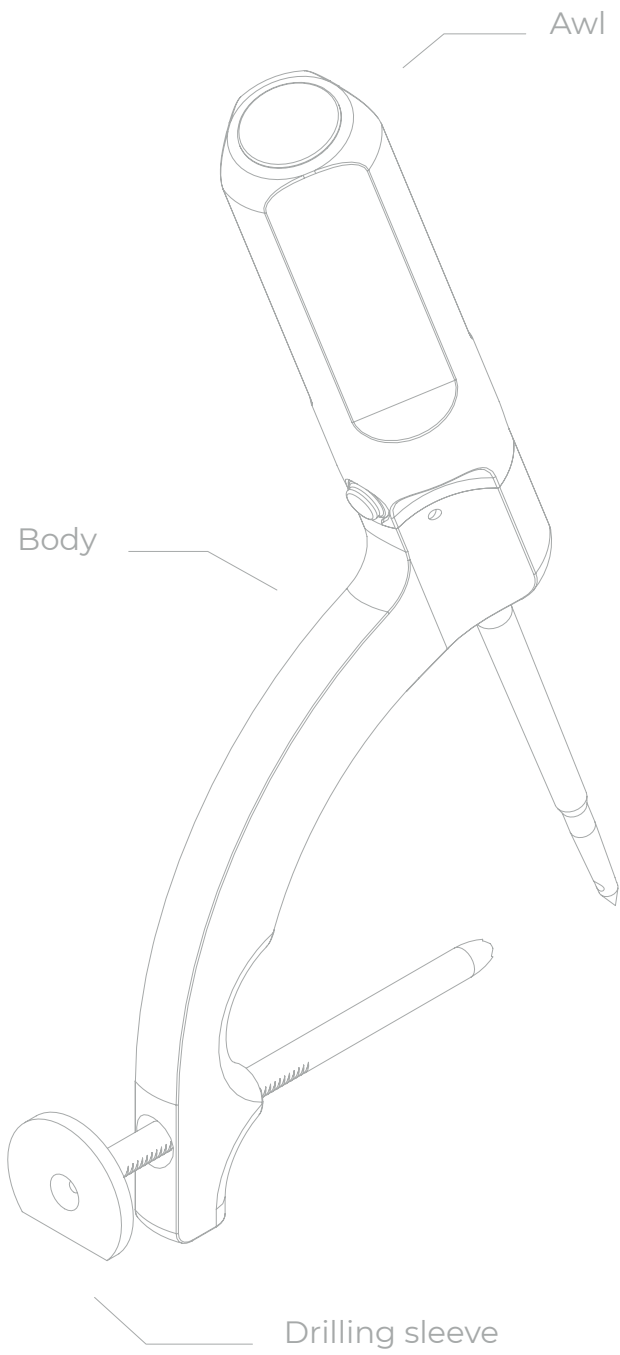


TABLE OF CONTENTS

1.	Device description and specification.	4
1.1	Manufacturer	4
1.2	Product name and commercial name	4
1.3	Medical device classification	4
1.4	Intended use	4
1.5	Target population	4
1.6	Indication and medical conditions	5
1.7	Contraindications, warnings, and safety measures.	5
1.8	Principles of operation and mode of action	5
2.	Technical specifications	6
3.	Use	7
4.	Reuse	8
4.1	Cleaning	8
4.1.1	Cleaning and sanitization – manual	9
4.1.2	Cleaning and sterilization – automated	9
4.2	Sanitization	10
4.3	Lubrication.	10
4.4	Sterilization	11
4.5	Additional information	12
4.6	Packaging and storage.	13
4.7	Warning	13
4.8	Frequency of application	15
5.	Patient benefits	15
6.	Risks	16
6.1	Reporting adverse events	16
7.	Disposal.	17
8.	Disclaimer	17
9.	Symbols.	18

1. Device description and specification

1.1 Manufacturer

Business name: Drillbone s.r.o.
Address: Bulharská 1173/37, Královo Pole, 612 00 Brno,
Czech Republic
ID: 03960293
VAT No.: CZ03960293

1.2 Product name and commercial name

Product name: Drillbone Tunneler
Other product name: Rotator Cuff Repair Tunneler

1.3 Medical device classification

Class Ir, non-sterile, non-measuring.

1.4 Intended use

The Drillbone Tunneler medical device is intended for precision targeting of planned bone tunnels for performing the rotator cuff repair. The medical device is intended for use by expert medical professionals.

1.5 Target population

The medical device is indicated for all adult patients and children aged 12 or more.

1.6 Indication and medical conditions

The Drillbone Tunneler medical device is indicated for use in transosseous rotator cuff repair, for precision targeting of planned bone tunnels for performing the rotator cuff repair.

1.7 Contraindications, warnings, and safety measures

- Osteoporosis
- Higher age
- Patients with active infections
- Medical conditions slowing healing, such as restriction of blood supply or infection
- Conditions that tend to limit the patient’s capacity or willingness to observe instructions during the healing period.

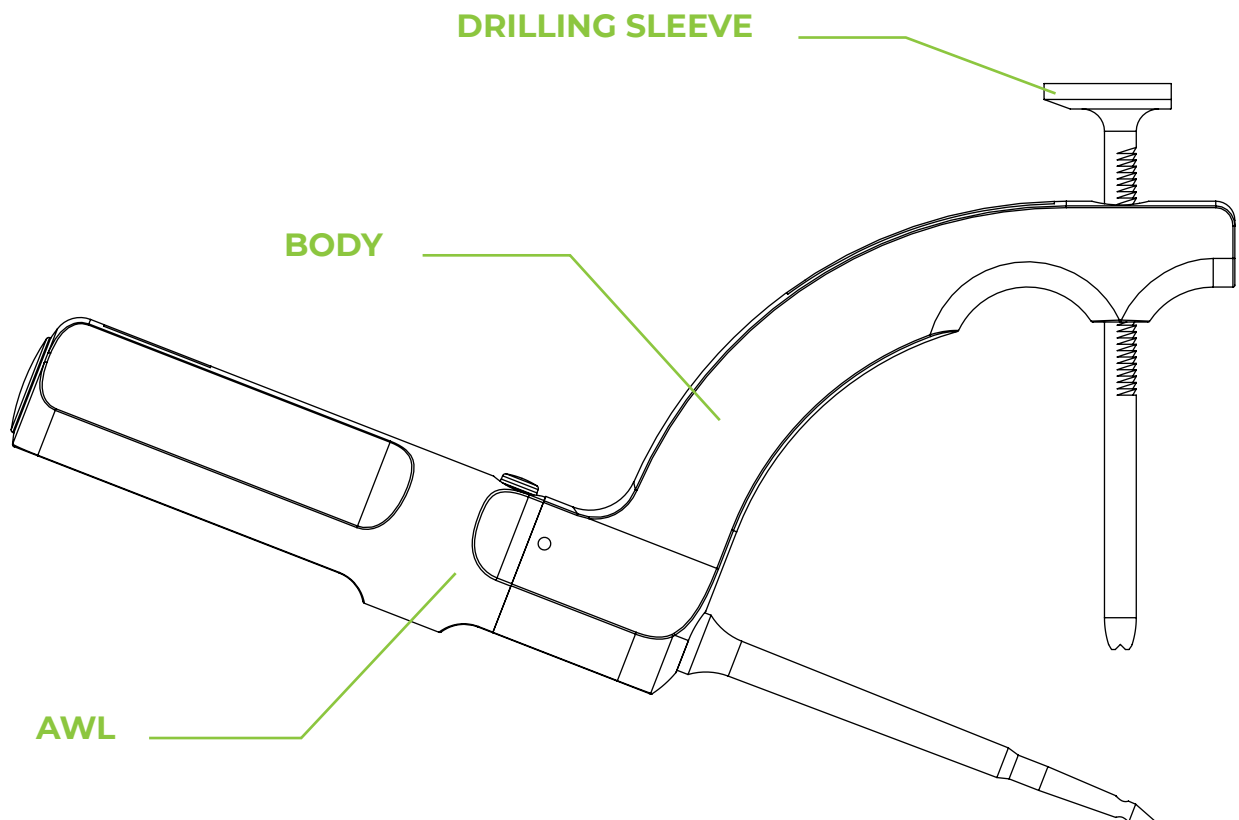
1.8 Principles of operation and mode of action

The principle of operation of the Drillbone Tunneler is described in Annex 1 of a *Surgical Technique* that is provided with the delivery of each device package. The Surgical Technique document is also available for download on <https://drillbone.com/en/downloads/>. Providers of medical services provider shall ensure that the medical device is used strictly in compliance with the instructions of the manufacturer.

2. Technical specifications

The Drillbone Tunneler consists of the following components:


- body, as a supporting structure,
- Awl, with its' tip at the end
- drilling sleeve as a guide for drill bit



Individual components include the following basic structural elements:

- The body of the device has two precision holes for positioning the tip and the drilling sleeve. The axis of the awl and axis of the drilling sleeve are inclined towards each other at an angle and intersect at one point.
- A button on the handle of the punch releases the tip from the body. After that the awl can be turned or removed from the body.
- The drilling sleeve is designed as a ratchet, with a moving bolt inside the body.

3. Use

- During the operation, continuously wipe away blood and any other tissue materials from the Drillbone Tunneler medical device to prevent them from drying and sticking to the surface.
- Rinse the apertures in the Drillbone Tunneler medical device with sterile or purified water to prevent drying and sticking of any blood or other tissue materials inside.
- Contaminated Drillbone Tunneler medical device must be separated from other uncontaminated surgical instruments to avoid contamination of unused surgical instruments, personnel and the environment.
- Keep stained Drillbone Tunneler medical device away from medical waste.
-  Before each use, check that the guide surface of the awl and the drill sleeve are sufficiently lubricated (see section 4.3).

4. Reuse

The medical device is intended for reuse for which it needs to be thoroughly cleaned, sanitized, and sterilized. It can be used for individual patients during only one operation of rotator cuff tear to establish the transosseous tunnels. The package includes *Annex 2 Reuse Procedure - Photo Series*, which describes in detail the individual steps of cleaning, disinfection, lubrication and sterilization; and *Annex 3 Infographic*, which illustrates the individual steps of the cleaning, lubrication and sterilization procedure.


After the operation and prior to sterilization the Drillbone Tunneler medical device must be checked for:

- cleanliness
- any damage (e.g. corrosion, colour change, wear and tear, cracks, excessive and significant scratching, chipping),
- correct function of the Drillbone Tunneler,
- any missing or removed numbers or marks on the medical device.

If showing any of the above signs of damage, discard the Drillbone Tunneler medical device.

Prior to using the Drillbone Tunneler medical device make sure its surface is undamaged and free of any visible defects and that it is fully functional. Do not use the Drillbone Tunneler medical device for rotator cuff repair if visibly and significantly damaged, if the marks are illegible, if showing signs of corrosion or any other damage. Discard the medical device and contact the manufacturer.

4.1 Cleaning

- Wipe all parts of a new Drillbone Tunneler medical device with a clean cloth.
- Prior to manual cleaning, remove all removable parts of the Drillbone Tunneler medical device or place them on a separate tray.
-  Do not use alkaline cleaning agents (maximum pH 9).

4.1.1 Cleaning and sanitation – manual

- Place the Drillbone Tunneler medical device into sanitizing bath and make sure it does not move freely during the cleaning process or that it does not touch other devices; damage may occur.
- After the recommended time of exposure, remove the Drillbone Tunneler medical device from the sanitizing bath and rinse it thoroughly with clean water.
- Wash the Drillbone Tunneler medical device by hand, remove any gross impurities mechanically using a brush and a cleaning and sanitizer solution in an ultrasound bath, and then rinse the device thoroughly under running water.
- The manufacturer does not prescribe any specific cleaning and sanitizing agents for the Drillbone Tunneler medical device. When using such agents, follow the instructions of the respective manufacturer of the agent:
 - respect the prescribed concentration,
 - bath temperature
 - quality of water and time of exposure
- After the recommended time of exposure, rinse the cleaning agent off under running water.

4.1.2 Cleaning and sterilization – automated

- Validated cleaning and sterilization routines using automatic machines are always preferred to manual cleaning. Good cleaning is the precondition of successful sterilization and thanks to automated cleaning/sterilization higher degree of process safety can be achieved.
- It is recommended to clean the Drillbone Tunneler medical device in automatic washers with thermal sanitization cycle prior to sterilization.
- Place the Drillbone Tunneler medical device into a sanitizer bath and make sure it does not move freely during the cleaning process or that it does not touch other devices; damage may occur.
- The manufacturer does not prescribe any specific cleaning and sanitizer agents for the Drillbone Tunneler medical device.

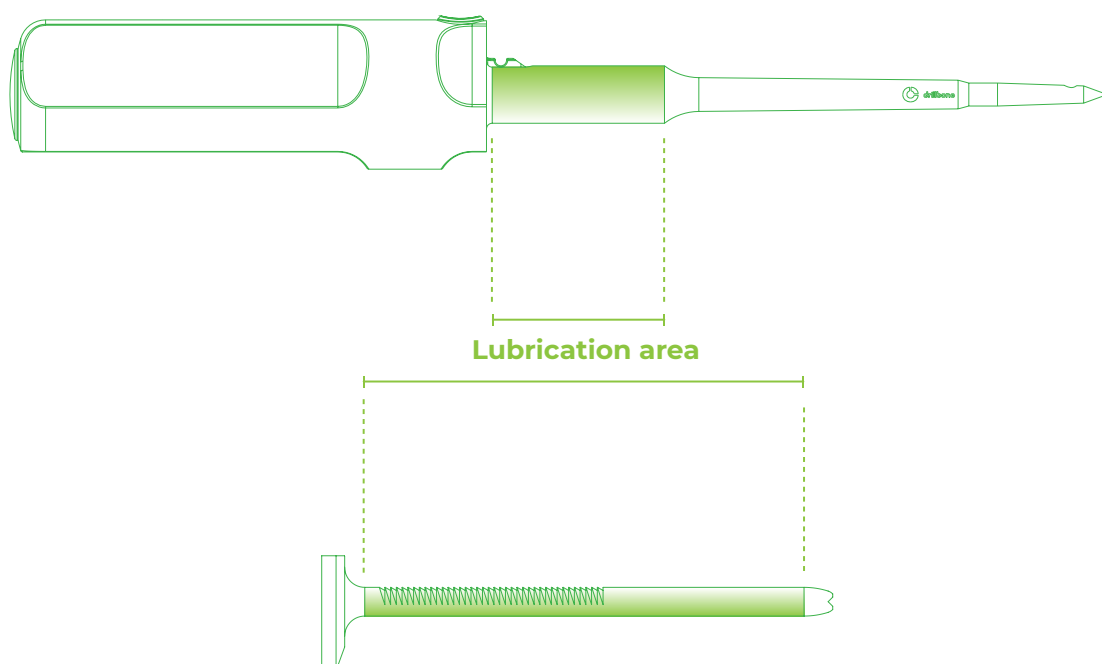
- When using such agents, follow the instructions of the respective manufacturer of the agent. Observe especially the following:
 - prescribed concentration,
 - temperature of the solution,
 - quality of water,
 - time of exposure.

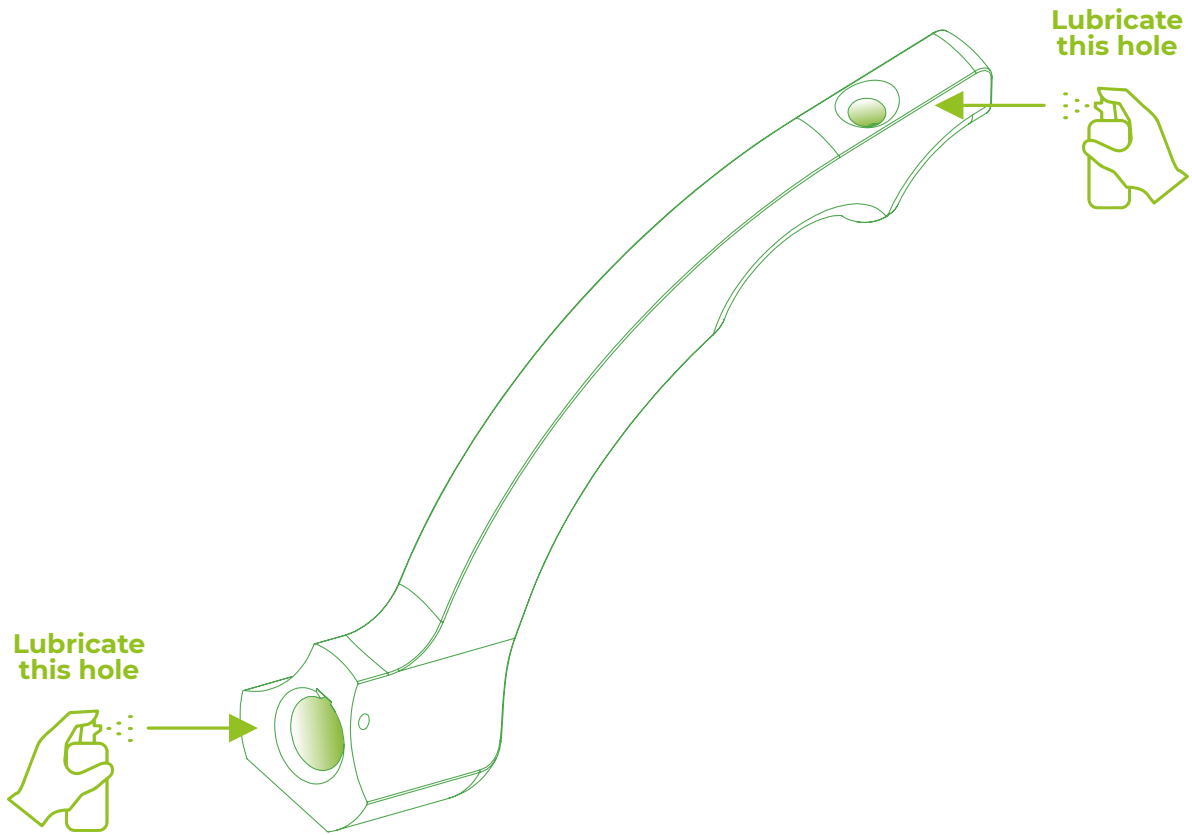
4.2 Sanitization

When cleaning the Drillbone Tunneler in an automatic washer, sanitize it at a minimum temperature of 90 °C for at least 5 minutes.

4.3 Lubrication

For proper long-term function, the Drillbone Tunneler must be properly lubricated. Lubrication points are shown in the figure below. Apply the lubricant to the cylindrical surfaces of the awl and drill sleeve. Subsequently, gradually insert the awl and drill sleeve into the caliper using circular motions. Then rotate the awl and drill sleeve several times simultaneously with axial movements. This creates a sufficient lubricating film for the tool to function properly. As a lubricant, use commonly used preservative sprays or medical lubricants Tools.





4.4 Sterilization

Sterilize only cleaned and sanitized Drillbone Tunneler medical device. The manufacturer recommends sterilizing the Drillbone Tunneler with damp heat in a hot steam sterilizer:

Temperature	134 °C
Sterilization time	7 minutes
Pressure	310 kPa

When using hot-air sterilization in forced air circulation devices, apply one of the following settings:

	Setting 1	Setting 2	Setting 3
Temperature	160 °C	170 °C	180 °C
Sterilization time	60 minutes	30 minutes	20 minutes

4.5 Additional information

- Cleaning process with thermal sanitation has been validated for the Drillbone Tunneler. The manufacturer does not guarantee the result of other cleaning methods. The manufacturer recommends that any other methods should be validated by the supplier of the particular washing machine in question.
- Damp heat sterilization method has been validated for the Drillbone Tunneler:

Temperature	134 °C
Sterilization time	7 minutes
Pressure	310 kPa

- Instructions for cleaning and sterilization are provided in compliance with ISO 15883, ISO 17664 and ISO 17665-1 standards.
- It is the responsibility of the processor to achieve the desired result by preparing the product using devices, materials, and staff at a preparatory workplace. The manufacturer warns that validation and routine observance of the established methods is required. Any deviations from these recommendations must be evaluated accordingly.

4.6 Packaging and storage

- Stained Drillbone Tunneler medical device shall be shipped separately from unstained instruments to prevent contamination.
- Store sanitized, cleaned, rinsed, and dry Drillbone Tunneler in a convenient way and place. Use convenient sterilization cover or reusable solid container (packaging and containers for providing a sterile barrier in compliance with ISO 11607 Packaging for terminally sterilized medical devices).
- Avoid any sharp and pointed parts of the Drillbone Tunneler medical device. If in contact with other objects, damage to the surface may occur.
- The Drillbone Tunneler medical device can be packaged also in sterilizing packaging and containers meeting the requirements of the ISO 11607 standard.
- Keep packaged Drillbone Tunneler medical device in clean and dry environment without extreme temperatures and humidity, away from direct sunlight. Keep away from animals, insects, dust, mould, and chemicals.

4.7 Warning

- Do not place the medical device into saline containing salt (NaCl solution). The Drillbone Tunneler medical device is made from stainless steel materials and prolonged contact with salt could lead to corrosion (pitting corrosion, stress corrosion).
- Be careful when using cleaning solutions with higher alkalinity and/or solutions with added hydrogen peroxide. They can cause colour change.
- This may damage the identification symbols on the Drillbone Tunneler medical device.
- Do not use rough cleaning materials (such as steel wool, etc.) or abrasive detergents. We recommend cleaning the Drillbone Tunneler medical device in a cleaning and sanitizing machine intended for surgical instruments compliant with ISO 15883-1.
- Pay special attention to cleaning the apertures, narrow and small parts of the Drillbone Tunneler medical device.
- Always thoroughly clean the Drillbone Tunneler medical device and

properly lubricate the moving parts prior to sterilizing (see ch. 4.3).

- The Drillbone Tunneler medical device is supplied as NON-STERILE. Clean, sanitize, lubricate and sterilize it before use for the first time.
- Before using the Drillbone Tunneler medical device for the first time, check it for any visible damage. Contact the manufacturer if suspecting any damage.
- Before using the Drillbone Tunneler medical device for the first time, clean, sanitize, lubricate and sterilize the device according to the instructions provided in this manual.
- Always clean, lubricate and sterilize the Drillbone Tunneler medical device immediately after use.
- Keep the Drillbone Tunneler medical device in mobile condition by proper lubrication according to ch. 4.3. After thorough cleaning and sanitization of medical device do the proper lubrication. To maintain the Drillbone Tunneler medical device, use only preservatives meeting the following requirements:
 - based on paraffin/white,
 - meeting the valid European pharmacopoeia,
 - biologically compatible,
 - suitable for steam sterilization and steam-permeable.
- The Drillbone Tunneler medical device may not be treated with silicone preservatives. These preservatives may restrict mobility and limit the effect of steam sterilization.
- Repairs of the medical device may be performed by the manufacturer only.
- DATAMATRIX explanations on Drillbone Tunneler:
 - (01) UDI-PI (GTIN)
 - (10) LOT
 - (11) date of manufacture
 - (21) serial number

4.8 Frequency of application

200 sterilization cycles can be performed on the Drillbone Tunneler medical device. The life expectancy of the Drillbone Tunneler medical device is determined by the degree of wear and tear caused by use. Repeated cleaning, sanitization and sterilization of the medical device have minimum impact on the Drillbone Tunneler.

5. Patient benefits

The benefit of using the Drillbone Tunneler medical device during a transosseous surgical operation is the establishment of precisely located bone tunnels. Using the medical device allows for establishing tunnels that respect the anatomical conditions, bone architecture and variation in shoulder size between different individuals. Thanks to this the patient experiences faster relief of postoperative pain with a higher biological potential for healing thanks to the tunnels and direct bone-tendon contact (compared to other surgical techniques).

6. Risks

Clinical risks for the users of the Drillbone Tunneler medical device issue mainly from the possibility of: fragment of a part of the tunneler, incorrect positioning of the targeter followed by incorrectly drilled bone tunnel, insufficient sterilization of the medical device, noncompliance with the conditions and purpose of use.

6.1 Reporting adverse events

Report any serious incidents directly or indirectly linked to this medical device to Drillbone s.r.o., competent authority of your country and the country of patient's origin (if different).

Report via e-mail (Tomáš Valenta, valenta@drillbone.com) or by regular mail (Drillbone s.r.o., MUDr. Filip Hudeček, Bulharská 1173/37, Královo Pole, 612 00 Brno, Česká republika).

7. Disposal

Discarded Drillbone Tunneler medical device is considered hazardous waste. The user is responsible for adopting measures for safe handling and disposal of the product. Damaged Drillbone Tunneler medical device, decontaminated, cleaned and dry, shall be disposed as potentially hazardous waste as per the Waste Catalogue – Chapter 18 – Wastes arising from healthcare (for European Union).

8. Disclaimer

Drillbone s.r.o. disclaims any liability for direct or consequential injuries or damage resulting from improper use of the device, and in particular from non-compliance with the instructions in the operating manual or in the instructions for preparation and maintenance.

9. Symbols



Manufacturer



Manufacturing date



Read the instructions



Non-sterile medical
device



Conformity mark



Warning / alert



Reference catalog number



Batch code identifying the
batch or lot



Serial number identifying
the medical device



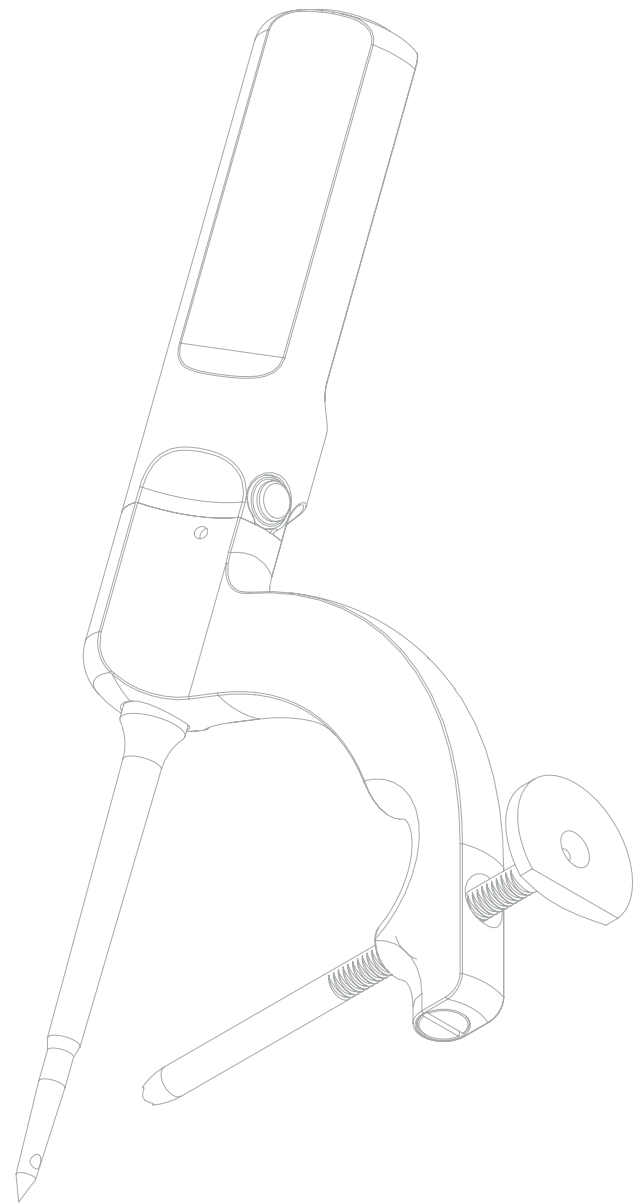
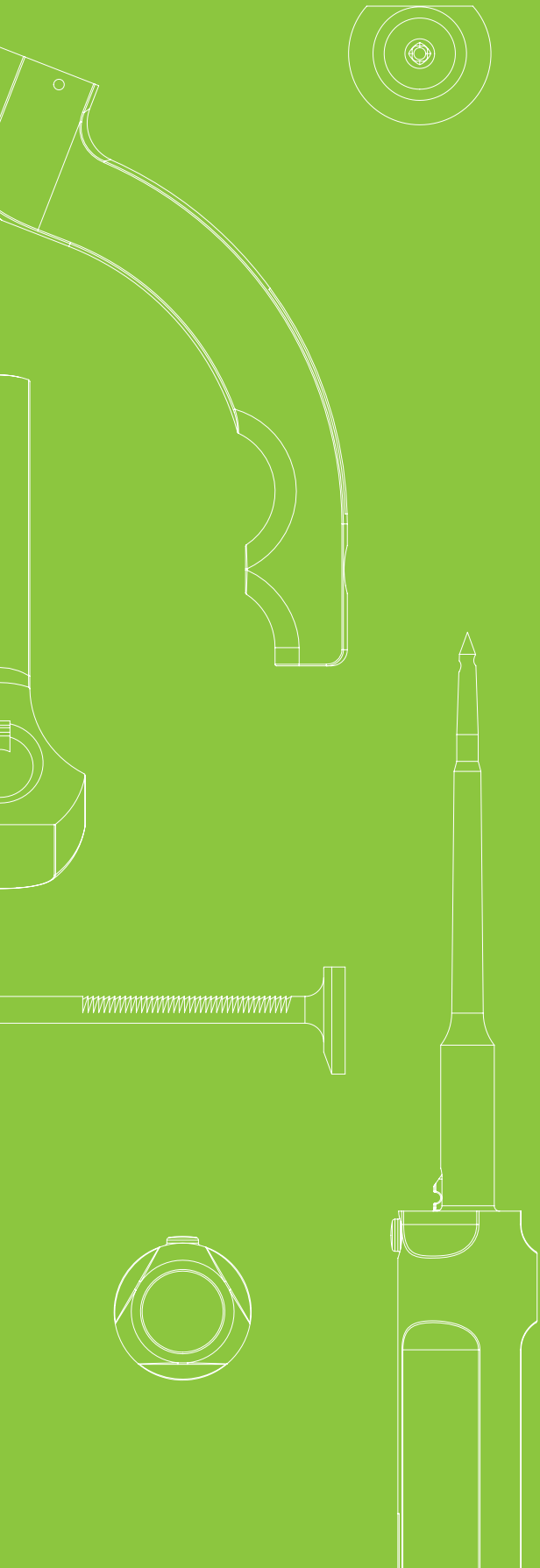
Quantity per package



INSTRUCTIONS FOR USE

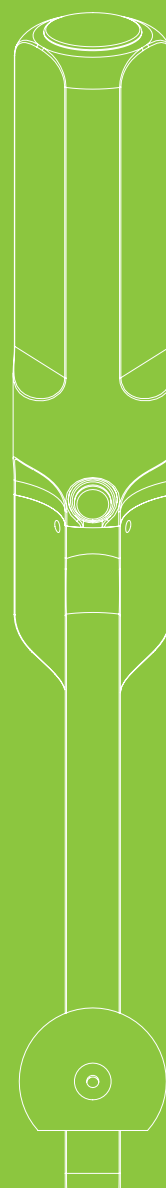
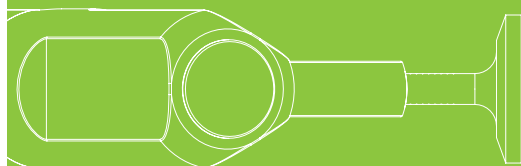
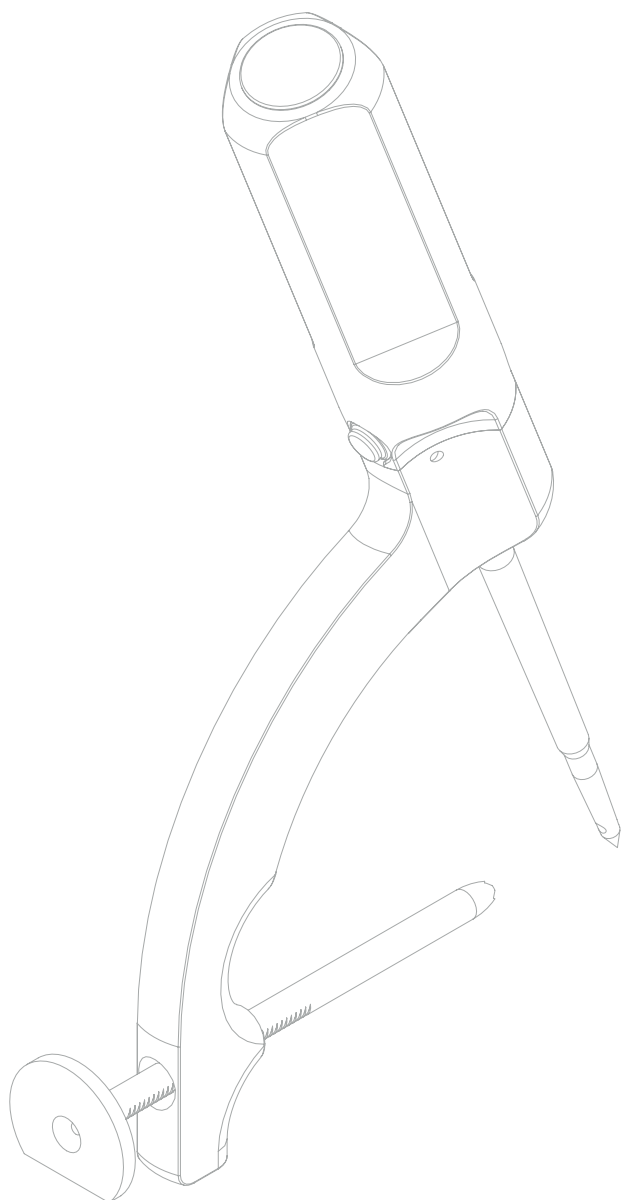
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Rotator Cuff Repair
Tunneler





“strong solutions
for better healing”



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