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LASAK

Removal of a damaged screw

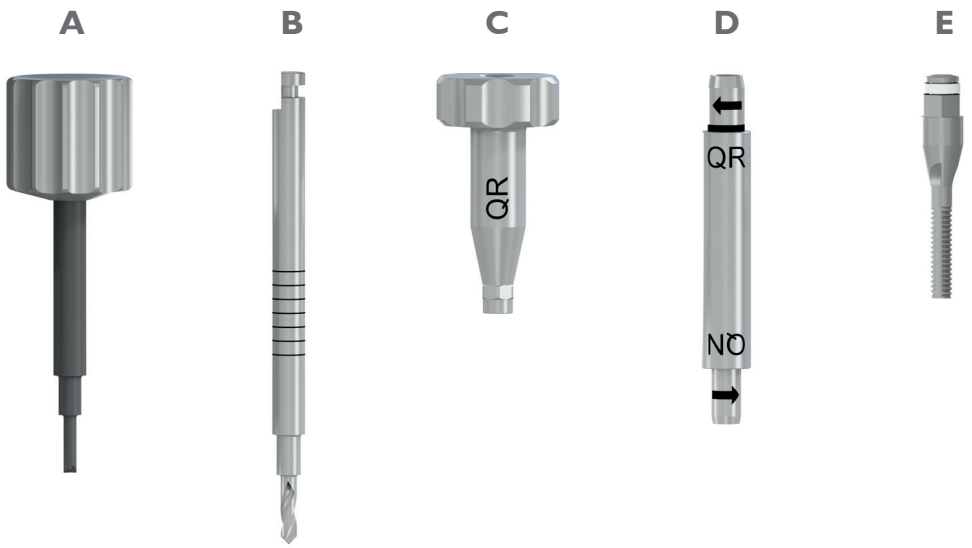
for BioniQ and IMPLADENT systems



Removal of a damaged fixing screw

A broken screw can be removed from the implant using a screw remover set.
The screw remover set contains the following instruments:

- Claw drill (A) – to unscrew the screw fragment from the implant thread
- Reverse drill (B) – to remove a screw that is stuck in the implant thread
- Drill guide (C) – to ensure the proper positioning of the instruments during the entire procedure of screw removal
- Fragment remover (D) – to unscrew the screw fragment from the implant thread; available only for the BioniQ system
- Threadformer (E) – to renew a damaged thread in the implant, if needed

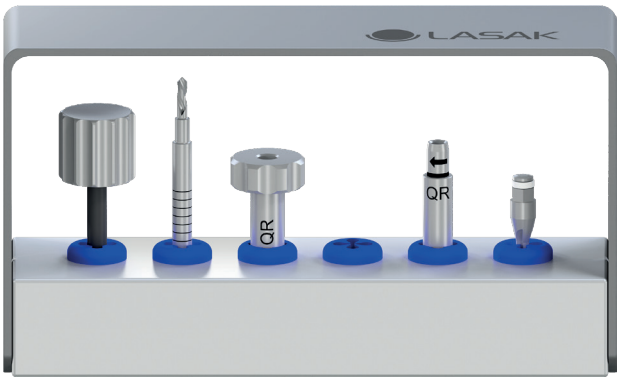


BioniQ	Ref. No.
Screw remover set BioniQ, QR (threadformer, reverse drill, drill guide, claw drill, fragment remover and organizer)	2909.00
Threadformer, QR	2909.01
Reverse drill, QR	2909.02
Drill guide, QR	2909.03
Claw drill, QR	2909.04
Screw remover set BioniQ, QN (threadformer, reverse drill, drill guide, claw drill, fragment remover and organizer)	2919.00
Threadformer, QN	2919.01
Reverse drill, QN	2919.02
Drill guide, QN	2919.03
Claw drill, QN	2919.04
Fragment remover (QR and QN platforms)	2920.00

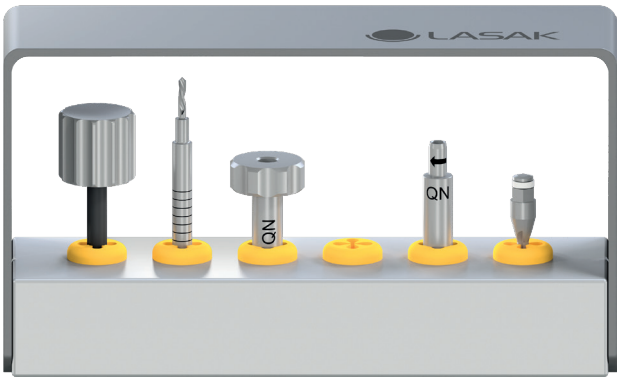
IMPLADENT	Ref. No.
Screw remover set IMPLADENT, D2.9 (threadformer, reverse drill, drill guide, claw drill and organizer)	1903.00
Threadformer, D2.9	2909.01
Reverse drill, D2.9	2909.02
Drill guide, D2.9	1903.03
Claw drill, D2.9	2909.04
Screw remover set IMPLADENT, D3.7 (threadformer, reverse drill, drill guide, claw drill and organizer)	1904.00
Threadformer, D3.7	1904.01
Reverse drill, D3.7	2909.02
Drill guide, D3.7	1904.03
Claw drill, D3.7	1904.04

LABEL FOR DIFFERENT SYSTEMS AND THEIR PLATFORMS

BioniQ

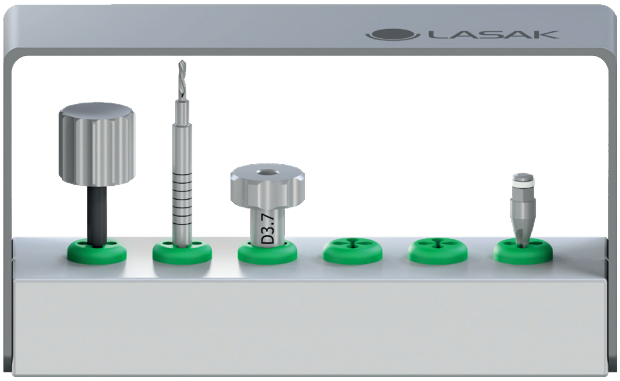


QR prosthetic platform

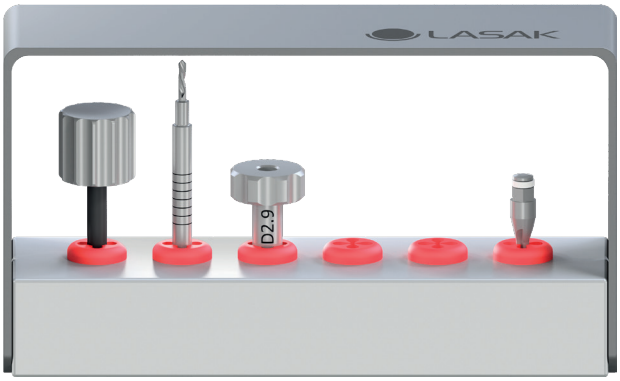


QN prosthetic platform

IMPLADENT®



Green platform 3.7



Red platform 2.9

CAUTION

It is very important that the surgical unit runs in **reverse mode** when using the reverse drill.

In case the removal of the fragment is delayed, we recommend covering the implant area using a teflon tape or polyether impression material.

To improve the function of the threadformer, use a lubricant for endodontic instruments (such as FileCare EDTA) for the threaded shaft of the implant.

Before using the drill guide, lubricate its lower opening (hexagon side in the BioniQ system and octagon side in the IMPLADENT system) with grease. Lubrication will improve the function of the instruments during unscrewing, reduce wear and, in some cases, keep the screw in the drill guide until it is removed.

Removal of a damaged fixing screw

FOR BIONIQ SYSTEM ONLY

1. The screw breaks under its head

If the screw breaks under the head (Fig. 1), the fixing screw fragment can be unscrewed from the implant **counter clockwise** using the fragment remover (D) (Fig. 2).
The fragment remover must be operated counter clockwise, otherwise the fixing screw fragment will be tightened in the implant.
The fragment remover may be used in the QR and QN prosthetic platforms. The platform mark can be found on the instrument.



Fig. 1: BioniQ system – X-ray of a screw with a break under its head.

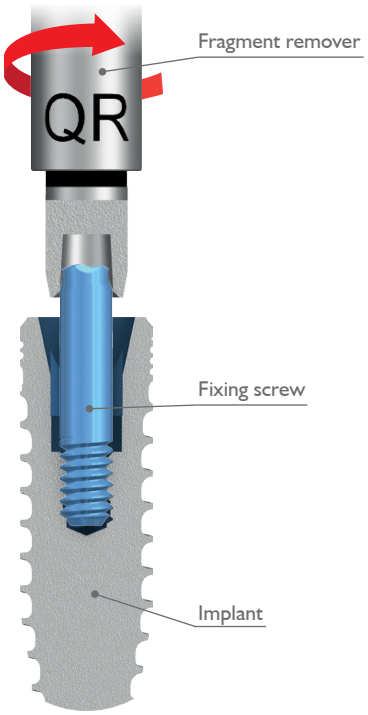


Fig. 2: BioniQ system – The fixing screw fragment is unscrewed using the fragment remover.

CAUTION

Before using the drill guide, lubricate its lower opening (hexagon side in the BioniQ system and octagon side in the IMPLADENT system) with grease. Lubrication will improve the function of the instruments during unscrewing, reduce wear and, in some cases, keep the screw in the drill guide until it is removed.

FOR BIONIQ AND IMPLADENT SYSTEMS

2. The screw breaks in a thread and can be unscrewed using a claw drill

Insert the drill guide (C) into the implant so that it is fully inserted into the hexagon (BioniQ) or octagon (IMPLADENT) of the implant (Fig. 4). Insert the claw drill (A) into the drill guide so that it touches the broken fixing screw (Fig. 5).



Fig. 3: BioniQ system – X-ray of a screw with a break in a thread.

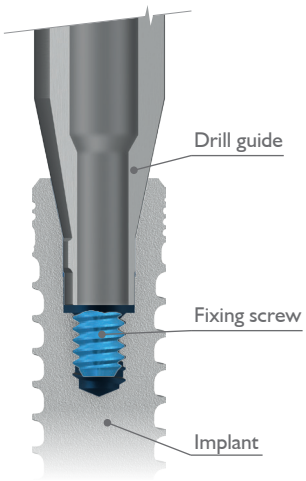


Fig. 4: BioniQ system – Insertion of the drill guide into the implant.

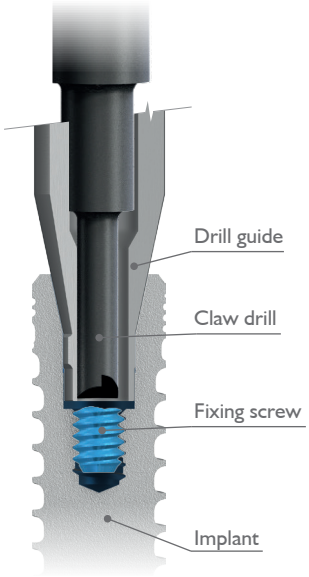


Fig. 5: BioniQ system – Unscrewing the broken screw using a claw drill.

Rotate the claw drill **counter clockwise** while maintaining a constant pressure (Fig. 6). After a few turns, the entire screw fragment should be inserted into the drill guide. Manually remove the drill guide with the claw drill.
If the screw fragment remains inside the implant, remove it using a tweezer (Fig. 7). **Ensure that the patient does not inhale the screw fragment.**

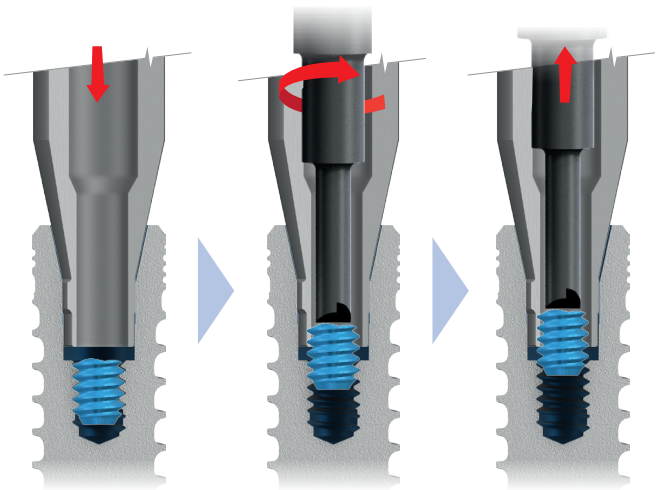


Fig. 6: Unscrewing the broken screw using a claw drill.

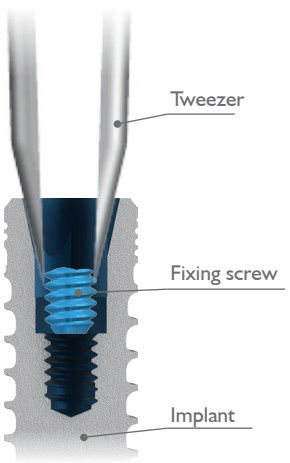


Fig. 7: Removal of the screw fragment using a tweezer.

Removal of a damaged fixing screw

3. The screw breaks in a thread and cannot be unscrewed using a claw drill

I. REMOVAL OF THE SCREW

Insert the drill guide (C) into the implant so that it is fully inserted into the hexagon (BioniQ) or octagon (IMPLADENT) of the implant (Fig. 4).

Set the surgical unit to the **reverse mode. Do not use the air turbine while drilling**. Set the speed to 400–600 RPM. Place the reverse drill (B) onto the pin and insert it in the drill guide. Remove the fixing screw fragment from the implant. The drill stop will prevent damage of implant internal geometry.

Use the cooling of the surgical unit to cool the reverse drill. Cool and rinse the inside of the implant with saline using a syringe with a needle. Drill intermittently and rinse the inside of the implant to prevent excessive heating of the implant. Immediately after removing the fixation screw, thoroughly clean the implant and remove any metal shavings left inside the implant.

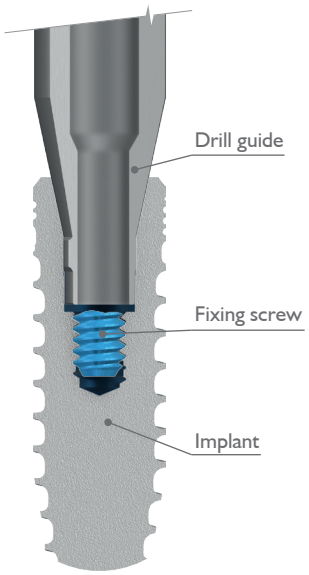


Fig. 4: BioniQ system – Insertion of the drill guide into the implant.

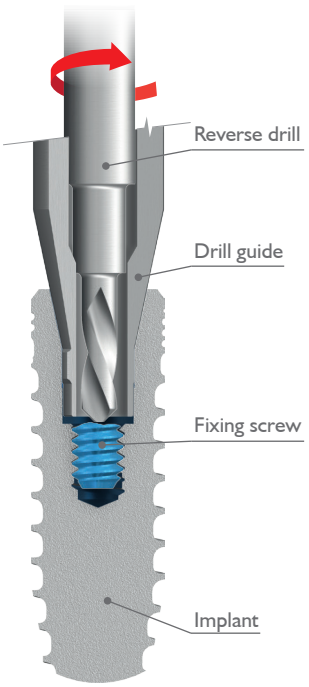


Fig. 8: BioniQ system – Removal of the broken screw using a reverse drill.

II. CHECKING THE IMPLANT THREAD

Prior to the thread check, we recommend using a lubricant for endodontic instruments (such as FileCare EDTA) for the threaded shaft of the implant.

After removal of the broken fixing screw, use an impression pin for the open tray impression technique or a new fixing screw to check the integrity of the implant thread. **However, do not ever use a fixing screw for subsequent prosthetic work.**

The pin or screw must be screwed into the implant without significant torque (resistance) and should be screwed at least four full turns. If the check is complete and the implant thread is OK, the prosthetic treatment may continue. If you experience signs of resistance or the pin (screw) cannot be screwed in completely, unscrew the pin (screw) and use the threadformer (E) to renew the implant thread.

III. USING THE THREADFORMER TO RENEW THE THREAD

To improve the function of the threadformer, use a lubricant for endodontic instruments (such as FileCare EDTA) for the threaded shaft of the implant.

In case it is necessary to renew a thread due to previous drilling or the presence of contaminants, use a threadformer (E) corresponding to the system and prosthetic platform (BioniQ QR or QN or IMPLADENT D3.7 or D2.9).

In the case of the **BioniQ** system, insert the threadformer into a Unigrip or insertion wrench BioniQ (must not be mechanical). In case of the **IMPLADENT** system, insert the threadformer into a extension wrench (must not be mechanical). **Do not ever use a ratchet or a surgical unit.**

Operate the threadformer slowly, intermittently and in small steps. Choose the size of the step according to the threadformer resistance. Following the formation (renewal) of a certain depth of the thread, always go back half the depth. Repeat the procedure until the maximum depth of the thread is reached.

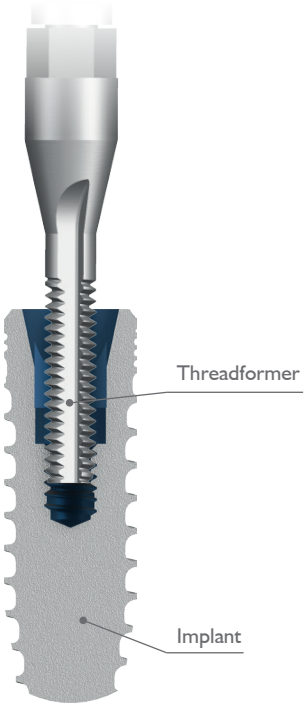


Fig. 9: BioniQ system – Using a threadformer to renew the thread.

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