

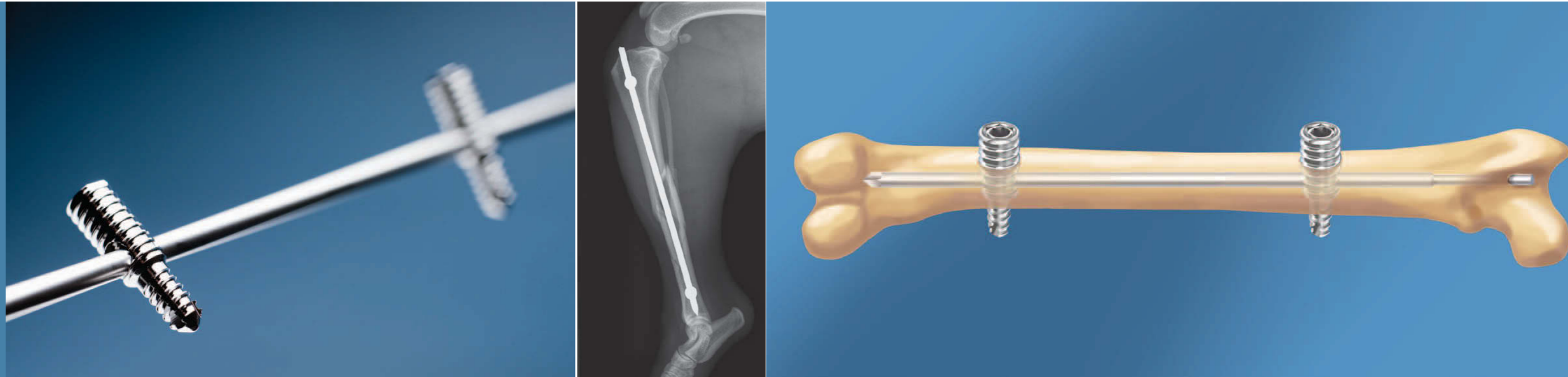
Aesculap® Veterinary Orthopaedics

Targon® VET Interlocking Nail



Targon® VET

Flexibility | Stability | Dynamics



The Targon VET is based on new, technology which reverses the known principles of interlocking nails. The rotation-stabilising locking screws can first be flexibly inserted in the metaphysis and diaphysis, and only then is the nail positioned through a central hole in the locking screws and stabilised with fixation screws. The interlocking nail can be implanted without additional targeting instruments.

In addition to the known benefits of locking nails, this also enables a flexible placement of the implant and a variable adjustment of the nail length to the given bone anatomy.

The Targon VET is therefore the first locking nail to combine biological fracture stabilisation with flexible and variable implantation.



**KLEINTIERKLINIK
AUGSBURG**

All studies and cases mentioned in the brochure were carried out by Dr. Martin Unger and Dr. Michael Brückner in cooperation with the Augsburg Small Animal Clinic.

- Flexible implantation in variable sizes
- Biological fracture healing
- No targeting device or fluoroscopy required
- Minimally invasive technique possible

The Targon VET is available in two sizes:

2.5 mm with locking screws \varnothing 4.8 / 3.2 mm

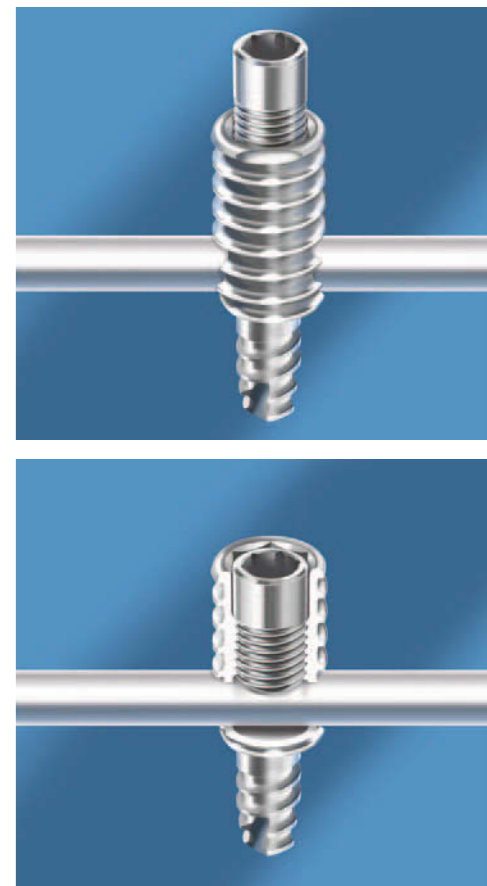
3.0 mm with locking screws \varnothing 5.6 / 3.2 mm

The fixation screws made of specifically hardened material stabilise the nail in the locking screws.

Indications:

Diaphyseal and metaphyseal fractures of the femur, tibia and humerus

Type of animal: Cats and small dogs





Flexible implantation

The innovative new technology of Targon VET allows locking screws to be flexibly placed in the bone according to the fracture and the specific anatomical conditions.

Fixation screw provides stability

Inserting the fixation screw into the locking screws with a defined torque fixes the screw-nail configuration, thereby ensuring stability against compression and rotation.

Variable sizes

The nail is shortened according to the length of the bone. Therefore, a large variety of animals can be treated with just a few implant sizes.

Reliable OP technique thanks to high-quality instruments

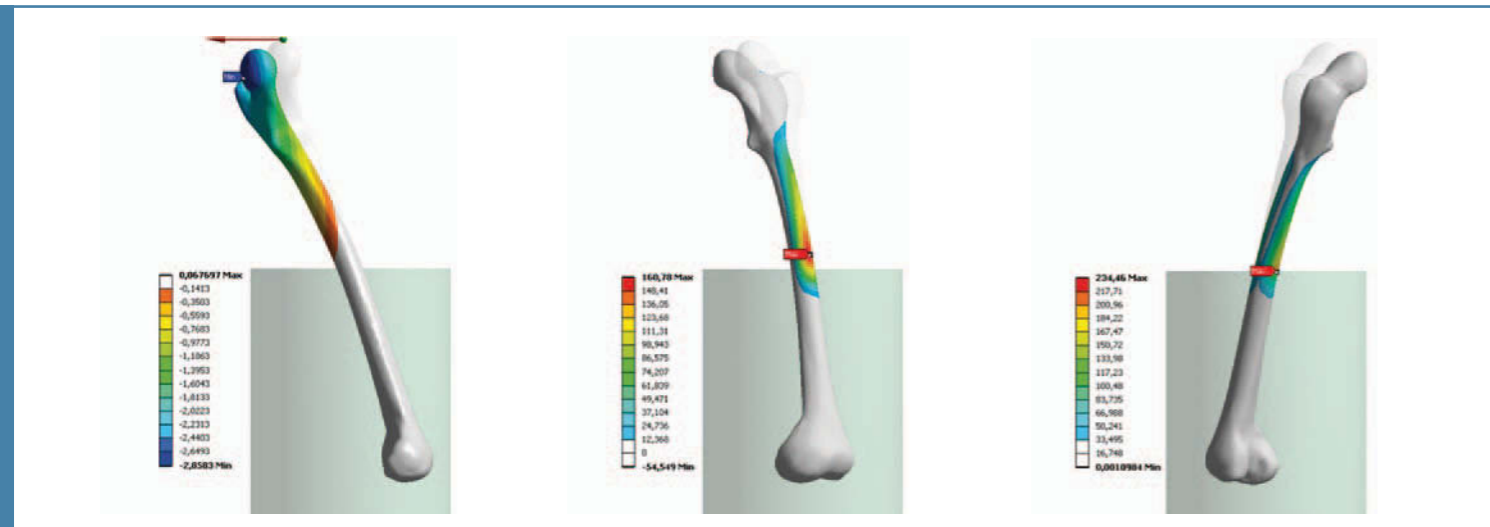
The instruments enable a reliable and functional OP technique. The instruments are arranged intuitively in the set and are easy to use. All instruments conform to Aesculap's traditional quality standards.

Implantation that preserves soft tissue

The Targon VET can be used with an open surgical technique with preserving the traumatised tissue (open but do not touch), but is also compatible with minimally-invasive implantation. Intraoperative fluoroscopy is not required.

Biological fracture healing

The preservation of the soft tissue and treatment of the fracture with a intramedullary nail promote biological fracture healing.



The Targon VET was trialed and tested in various preclinical studies prior to clinical use. During these studies, both static and cyclically dynamic trials were carried out on a bone model and a cadaver bone.

On the bone model

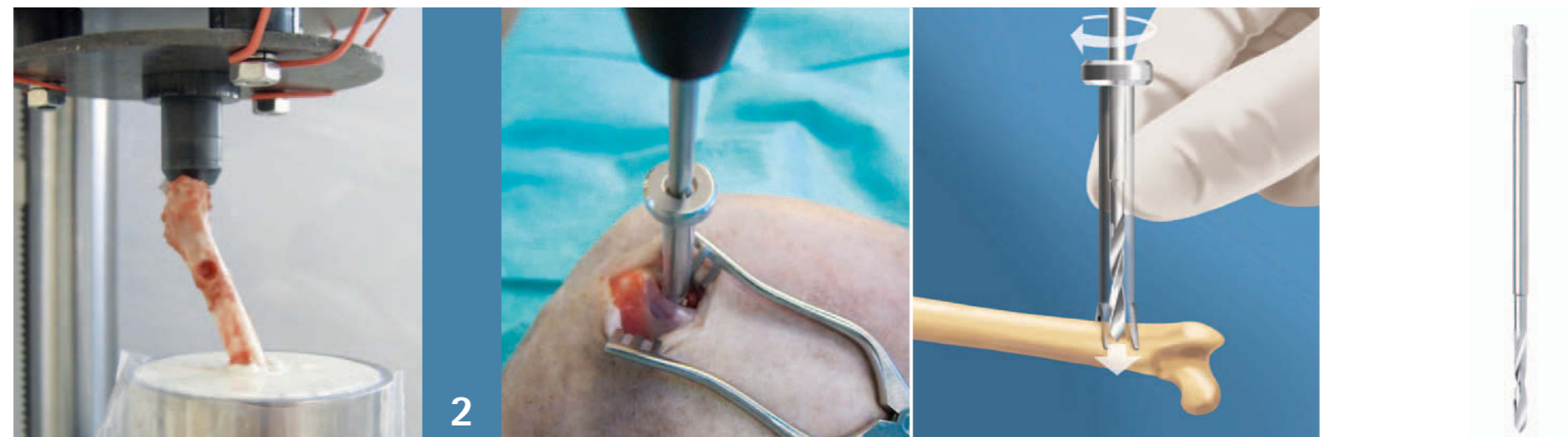
- Cyclical 4-point bending test: Bend strength
- Static torsion test: Rotational stability
- Static extraction test: Function of the locking mechanism

On the cadaver bone

- X-ray examination: Evaluation of the minimum required bone diameter
- Dynamic compression test (DYNA-MESS): Simulation of the physiological load



The positioning and approach to the fractured bone is the same as the standard approach to the femur for a given case. The centering drill sleeve (1) is used for the first drill hole in the diaphyseal region. If a centering drill sleeve cannot be used near a joint due to the anatomical conditions, a tissue protection sleeve (2) can be used instead.

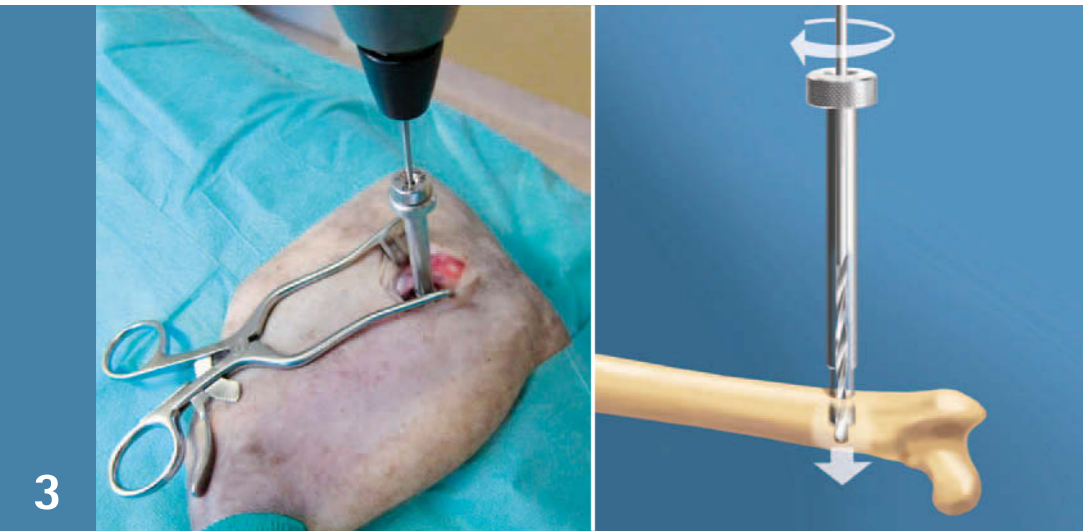


The centering drill sleeve is positioned at a right angle to the bone axis. The near (cis) cortex is then drilled with a 4.0 mm (4.8 mm) hole through the drill sleeve, which is now centrally positioned on the bone.

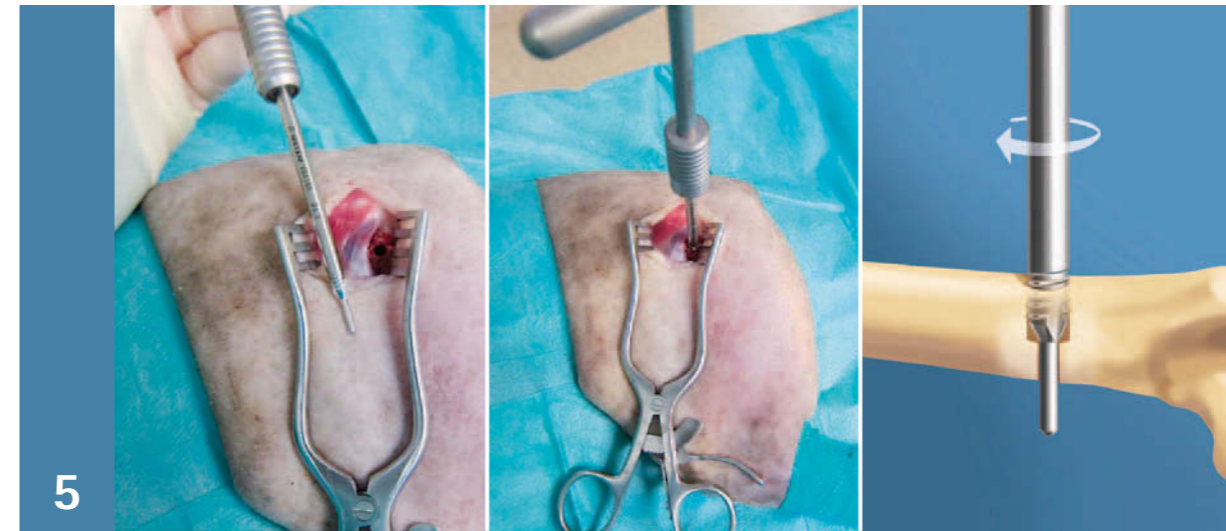
The details for implanting a nail with a 3.0 mm diameter are given in brackets.

Targon® VET

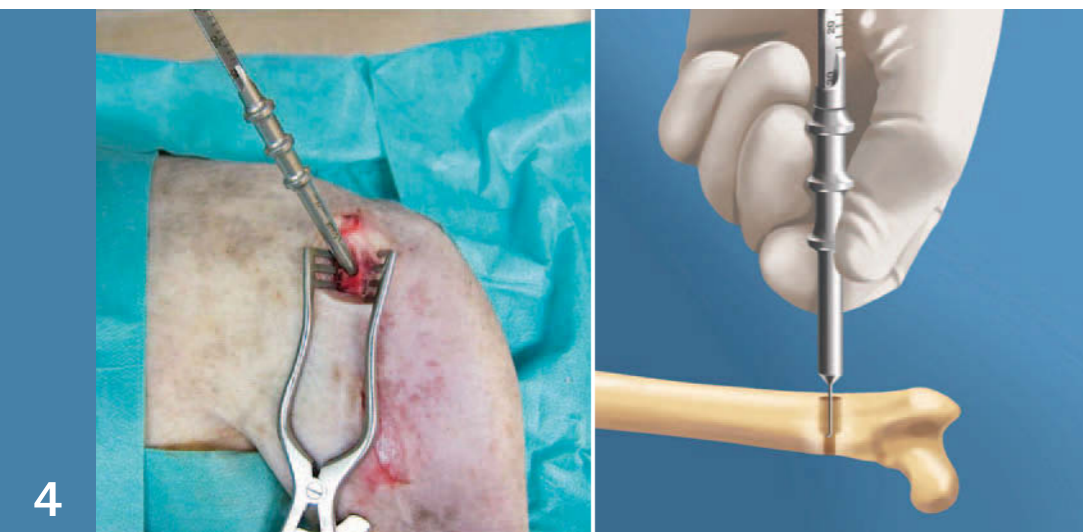
Surgical technique demonstrated on a femur with a 2.5 mm nail



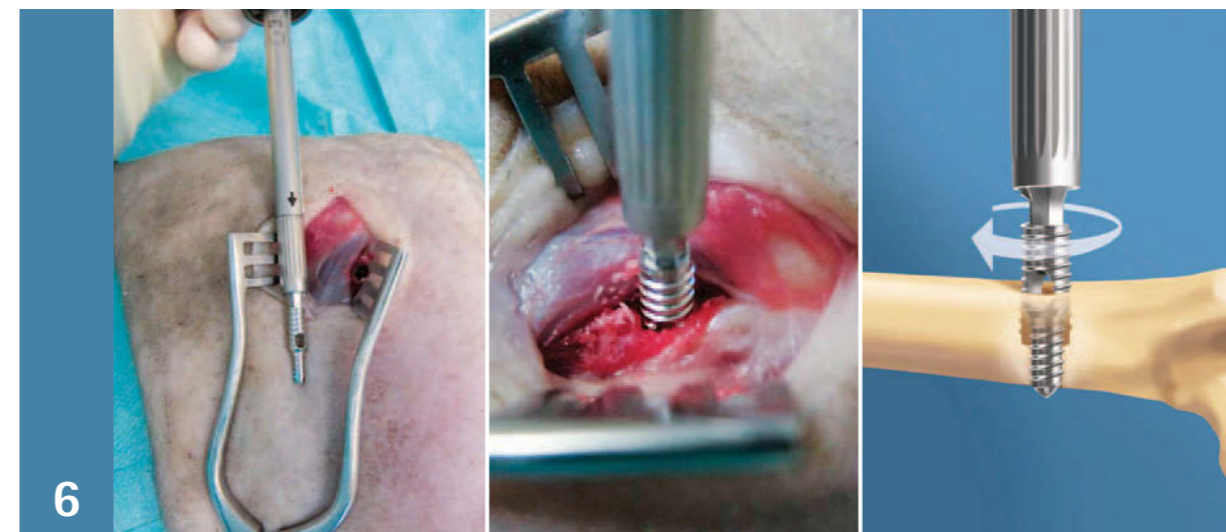
The drill sleeve with an internal diameter of 2.5 mm (3.5 mm) is then inserted into the drilling hole of the near (cis) cortex and the trans-cortex is drilled with the 2.5 mm (3.5 mm) drill.



Then the thread is cut using the 4.8 mm (5.6 mm) diameter tap, which is clamped in the T-handle. To do this, the blunt, thin end is inserted in the hole of the trans-cortex and appropriate pressure is applied to cut the thread into the near (cis) cortex.



After removing the drill sleeve, the depth of the drilled hole can then be measured with the depth gauge.



A locking screw corresponding to the measured depth is then clamped in the Targon VET screwdriver. The arrow on the screwdriver shaft should point in the direction of the oblong hole in the locking screw. The screwdriver is then used to insert the locking screw. The thread for the trans-cortex is self-tapping. The arrow on the screwdriver indicates whether the hole in the locking screw is running centrally in the medullary cavity. X-ray templates* are used beforehand to measure how many turns the screw needs to position the hole centrally in the medullary cavity.



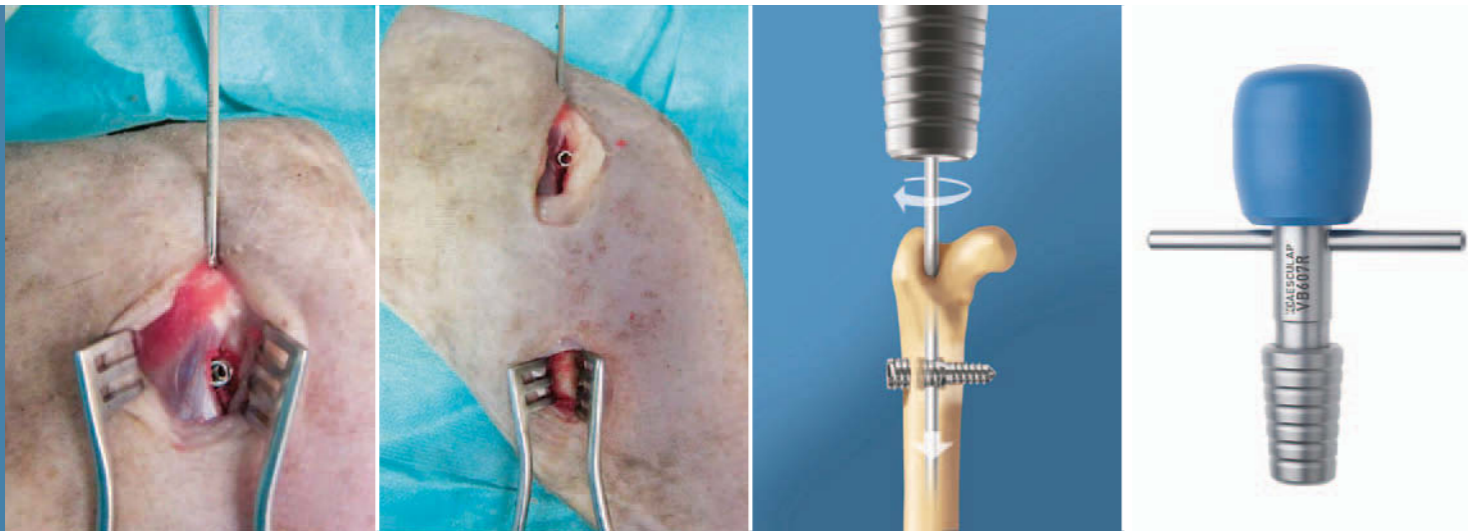
The details for implanting a nail with a 3.0 mm diameter are given in brackets.

** Available on request.*

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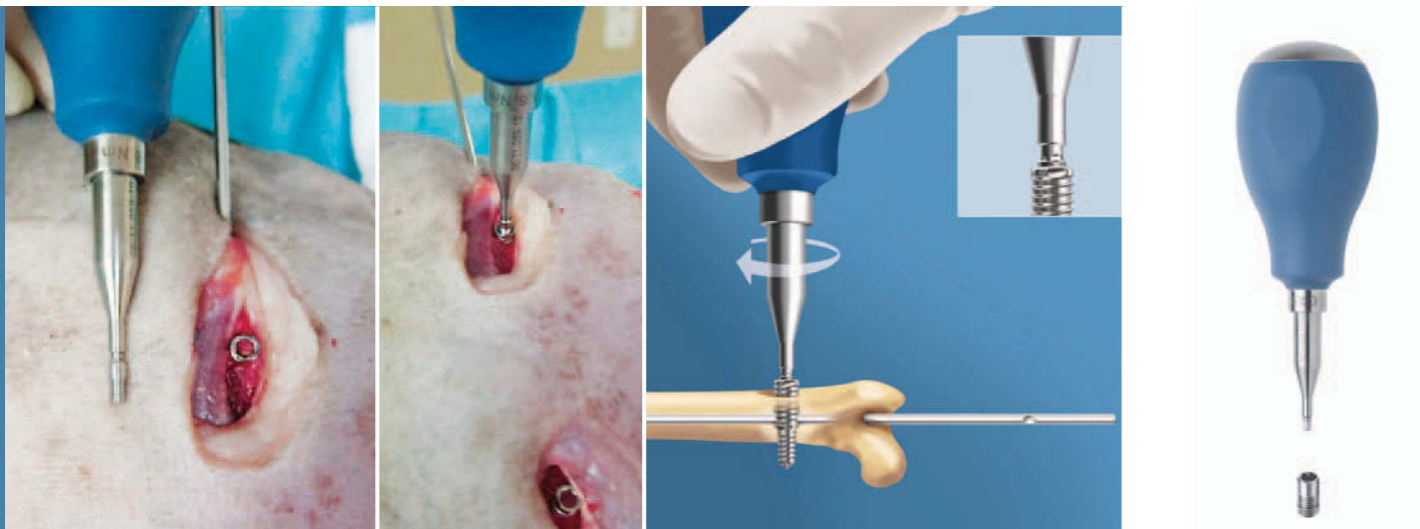
Surgical technique demonstrated on a femur with a 2.5 mm nail

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The Targon VET nail is inserted into the bone in the direction of the locking screw, using the insertion handle, and pushed through the oblong of the positioned locking screw towards the medullary cavity. No aiming device or fluoroscopy is required. Then the second locking screw positioned distal to the fracture is implanted as described above and the nail is pushed forward in the distal part and guided through the second locking screw. The correct position of the nail can be checked by turning the locking screws. If the screws cannot be turned, the nail is correctly positioned in both holes.

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After the fracture has been aligned, fixation screws are inserted into the locking screws, first distally, then proximally, with the small conical fixation screwdriver. They are subsequently tightened with the torque screwdriver with 1.4 Nm in order to fix the implant system. The fixation screws can only be tightened once. If a correction needs to be made, the fixation screws must be replaced.

Targon® VET

Instrument set

Instruments

Art. no. **Description**

GC405R T-handle, square shaft



LX156R Wire cutting forceps



LS044R Depth gauge



VB610R Screwdriver locking screw



VB611R Screwdriver fixation screw



VB612R Torque screwdriver



VB607R Insertion handle nail



Drilling devices

Art. no. **Description**

Inner diameter

VB616R Drill sleeve 2.5 mm

2.5 mm



VB617R Drill sleeve 3.0 mm

3.0 mm



VB606R Tissue protection sleeve

4.8 mm



VB609R Centralizer

4.8 mm



Targon® VET

Instrument set

Drills and taps			
Art. no.	Description	Diameter	Length
VB599R	Drill, AO shaft	2.5 mm	120 mm 
VB603R	Drill, AO shaft	3.0 mm	120 mm 
VB604R	Drill, AO shaft	4.0 mm	120 mm 
VB605R	Drill, AO shaft	4.8 mm	120 mm 
VB618R	Tap, square shaft	4.8 mm	
VB619R	Tap, square shaft	5.6 mm	
Instruments for explantation			
Art. no.	Description		
VB608R	Trephine cutter		
VB613R	Extractor for nail 2.5 mm		
VB614R	Extractor for nail 3.0 mm		
VB615R	Explantation screwdriver		

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Implants

Nails			
Art. no.	Description	Diameter	Length
VN014S	Targon® VET nail 2.5 mm	2.5 mm	180 mm 
VN015S	Targon® VET nail 3.0 mm	3.0 mm	180 mm 
Locking screws for nail 2.5 mm			
VN020S	Targon® VET locking screw	4.8 mm	16 mm
VN021S	Targon® VET locking screw	4.8 mm	18 mm
VN022S	Targon® VET locking screw	4.8 mm	20 mm
VN023S	Targon® VET locking screw	4.8 mm	22 mm
VN024S	Targon® VET locking screw	4.8 mm	24 mm
VN025S	Targon® VET locking screw	4.8 mm	26 mm
VN026S	Targon® VET locking screw	4.8 mm	28 mm
Locking screws for nail 3.0 mm			
VN030S	Targon® VET locking screw	5.6 mm	16 mm
VN031S	Targon® VET locking screw	5.6 mm	18 mm
VN032S	Targon® VET locking screw	5.6 mm	20 mm
VN033S	Targon® VET locking screw	5.6 mm	22 mm
VN034S	Targon® VET locking screw	5.6 mm	24 mm
VN035S	Targon® VET locking screw	5.6 mm	26 mm
VN036S	Targon® VET locking screw	5.6 mm	28 mm
Fixation screw			
VN040K	Targon® VET fixation screw		

Integrated System – VN010 Targon® VET Set Implants

Art. no.	Description	Number
VN011R	Tray with storage holder for VN010	1
JN095	Container for tray	1
VN014S	Targon® VET nail Ø 2.5 x 180 mm	2
VN015S	Targon® VET nail Ø 3 x 180 mm	2
VN040K	Targon® VET fixation screw for locking pin	10
VN020S	Targon® VET locking screw Ø 4.8 x 16 mm	6
VN021S	Targon® VET locking screw Ø 4.8 x 18 mm	6
VN022S	Targon® VET locking screw Ø 4.8 x 20 mm	6
VN023S	Targon® VET locking screw Ø 4.8 x 22 mm	6
VN030S	Targon® VET locking screw Ø 5.6 x 16 mm	3
VN031S	Targon® VET locking screw Ø 5.6 x 18 mm	3
VN032S	Targon® VET locking screw Ø 5.6 x 20 mm	3
VN033S	Targon® VET locking screw Ø 5.6 x 22 mm	3
VN034S	Targon® VET locking screw Ø 5.6 x 24 mm	3
VN035S	Targon® VET locking screw Ø 5.6 x 26 mm	3
VN036S	Targon® VET locking screw Ø 5.6 x 28 mm	3



Integrated System – VB600 Targon® VET Set Instrument Set

Art. no.	Description	Number
VB601R	Tray 1 with storage holder	1
VB602R	Tray 2 with storage holder	1
JN095	Container for tray	2
VB599R	Drill Ø 2.5 x 120 mm, AO shaft	1
VB604R	Drill Ø 4 x 120 mm, AO shaft	1
VB603R	Drill Ø 3.0 x 120 mm, AO shaft	1
VB605R	Drill Ø 4.8 x 120 mm, AO shaft	1
VB609R	Centralizer Targon® VET	1
VB616R	Drill sleeve Targon® VET D 2.0 mm	1
VB617R	Drill sleeve Targon® VET D 3.5 mm	1
VB618R	Tapper Targon® VET 4.8 mm	1
VB619R	Tapper Targon® VET 5.6 mm	1
LS044R	Depth gauge	1
VB610R	Screwdriver Targon® VET SW 3.0	1
VB607R	Insertion handle Targon® VET	1
VB611R	Screwdriver Targon® VET, conical, SW 2.0	1
VB612R	Torque screwdriver Targon® VET SW 2.0	1
LX156R	Wire cutter	1
VB608R	Trephine cutter Targon® VET	1
VB615R	Explantation screwdriver SW 2.0	1
VB613R	Extractor for nail 2.5 mm	1
VB614R	Extractor for nail 3.0 mm	1
GC405R	Square T-handle	1
VB606R	Tissue protection sleeve Targon® VET Ø 4.8 mm	1

