








CHM[®]

COMPRESSION SCREWS

- *IMPLANTS*
- *INSTRUMENT SET 40.8120.200*
- *SURGICAL TECHNIQUE*



SYMBOLS DESCRIPTION

	Caution - pay attention to a special procedure.
	Perform the activity under X-Ray control.
	Information about the next stages of a procedure.
	Proceed to the next stage.
	Return to the specified stage and repeat the activity.
	Before using the product, carefully read the Instructions for Use. It contains, among others, indications, contraindications, side effects, recommendations and warnings related to the use of the product.
	The above description is not a detailed instruction of conduct. The surgeon decides about choosing the operating procedure.

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The manufacturer reserves the right to introduce design changes.

Updated INSTRUCTIONS FOR USE are available at the following website: ifu.chm.eu

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1. INTRODUCTION

The instrument set includes:

- instruments used for compression screws implantation and removal when the treatment is completed,
- surgical technique.

Compression screws are used for bone fragments compression and osteosynthesis, mostly in fractures within the hand and wrist.

1.1. INDICATIONS FOR COMPRESSION SCREWS

Compression screws are used for fractures of small bones of the hand and wrist, mainly:

- scaphoid bone and other wrist bones
- basis metacarpalis
- distal phalanxes

2. IMPLANTS

Compression cannulated screw

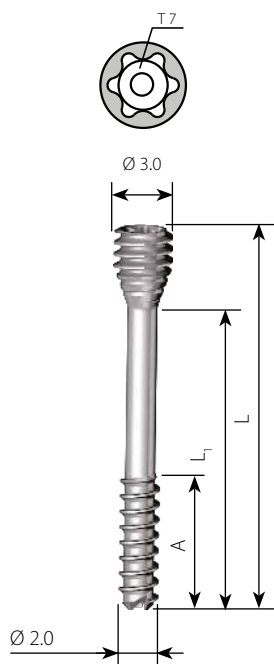
Ø2.0/Ø3.0

L [mm]	L1 [mm]	A [mm]	Catalogue No.	
			Steel	Titanium
10	6	4	1.1967.010	3.1967.010
12	8	5	1.1967.012	3.1967.012
14	10	5	1.1967.014	3.1967.014
16	12	6	1.1967.016	3.1967.016
18	14	6	1.1967.018	3.1967.018
20	16	7	1.1967.020	3.1967.020
22	18	7	1.1967.022	3.1967.022
24	20	7	1.1967.024	3.1967.024
26	22	8	1.1967.026	3.1967.026
28	24	8	1.1967.028	3.1967.028
30	26	8	1.1967.030	3.1967.030

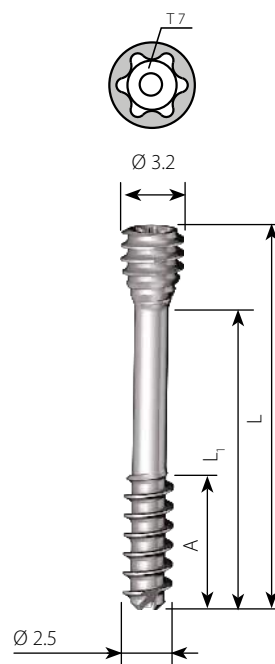
Ø2.5/Ø3.2

L [mm]	L1 [mm]	A [mm]	Catalogue No.	
			Steel	Titanium
10	6	4	1.1968.010	3.1968.010
12	8	5	1.1968.012	3.1968.012
14	10	5	1.1968.014	3.1968.014
16	12	6	1.1968.016	3.1968.016
18	14	6	1.1968.018	3.1968.018
20	16	7	1.1968.020	3.1968.020
22	18	7	1.1968.022	3.1968.022
24	20	7	1.1968.024	3.1968.024
26	22	8	1.1968.026	3.1968.026
28	24	8	1.1968.028	3.1968.028
30	26	8	1.1968.030	3.1968.030

self-tapping



self-tapping



Compression cannulated screw

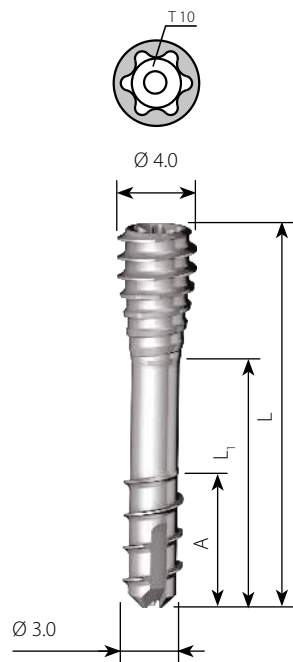
Ø3.0/Ø4.0

L [mm]	L1 [mm]	A [mm]	Catalogue No.	
			Steel	Titanium
12	5	3	1.1969.012	3.1969.012
14	7	4	1.1969.014	3.1969.014
16	9	5	1.1969.016	3.1969.016
18	11	6	1.1969.018	3.1969.018
20	13	7	1.1969.020	3.1969.020
22	15	7	1.1969.022	3.1969.022
24	17	7	1.1969.024	3.1969.024
26	19	8	1.1969.026	3.1969.026
28	21	8	1.1969.028	3.1969.028
30	23	8	1.1969.030	3.1969.030
32	25	8	1.1969.032	3.1969.032
34	27	8	1.1969.034	3.1969.034
36	29	8	1.1969.036	3.1969.036
38	31	9	1.1969.038	3.1969.038
40	33	9	1.1969.040	3.1969.040

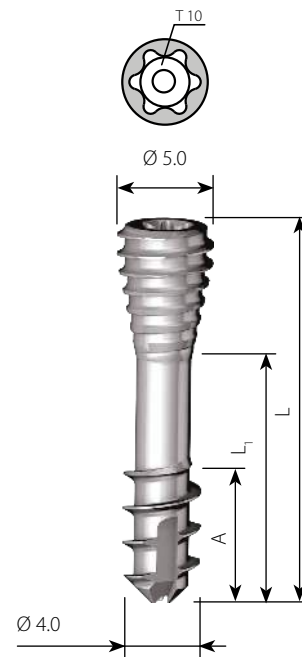
Ø4.0/Ø5.0

L [mm]	L1 [mm]	A [mm]	Catalogue No.	
			Steel	Titanium
20	13	9	1.1970.020	3.1970.020
22	15	9	1.1970.022	3.1970.022
24	17	10	1.1970.024	3.1970.024
26	19	10	1.1970.026	3.1970.026
28	21	11	1.1970.028	3.1970.028
30	23	11	1.1970.030	3.1970.030
32	25	12	1.1970.032	3.1970.032
34	27	12	1.1970.034	3.1970.034
36	29	13	1.1970.036	3.1970.036
38	31	13	1.1970.038	3.1970.038
40	33	14	1.1970.040	3.1970.040
42	35	14	1.1970.042	3.1970.042
44	37	15	1.1970.044	3.1970.044
46	39	15	1.1970.046	3.1970.046
48	41	16	1.1970.048	3.1970.048
50	43	16	1.1970.050	3.1970.050

self-tapping



self-tapping

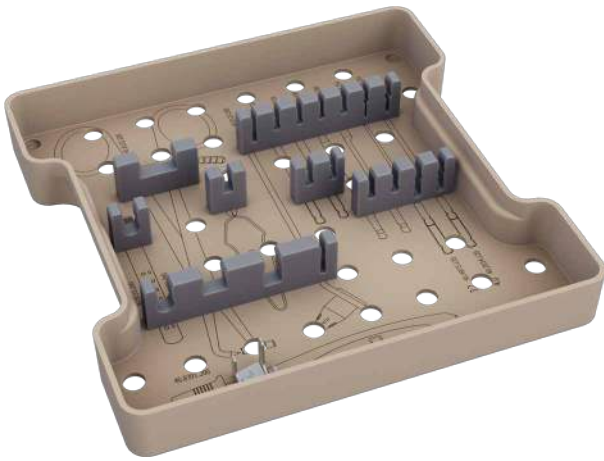















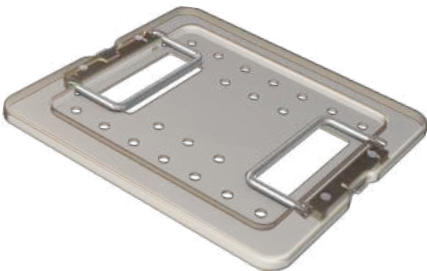

3. INSTRUMENT SET

The instrument set [40.8120.200] is used for bone fracture fixation using compression screws and to remove implants when the treatment has been completed. The instrument set includes:

- Palette for instruments and implants [40.8121.200]
- Stand for Ø2.0 i Ø2.5 screws [40.8165.000]
- Stand for Ø3.0 i Ø4.0 screws [40.8166.000]

The palette and stands are placed in a container and covered with a cover for facilitated sterilization of instruments and implants, their storage and transportation to the operating theater.

Instrument set for compression screws 40.8120.200	Name	Catalogue no.	Pcs
	Stand for screws	40.8165.000	
	Stand for screws	40.8166.000	
	Palette for instruments and implants	40.8121.200	
	Compression forceps	40.8122.200	1
	Quick coupling handle 23/105	40.8391.200	1
	Wire guide	40.8123.000	1

Instrument set for compression screws 40.8120.200		Name	Catalogue no.	Pcs
	Sleeve	40.8131.200	2	
	Guide rod 0.8/80	40.8132.080	4	
	Kirschner wire 1.0/80	40.4814.080	4	
	Forceps	40.8127.200	1	
	Countersink 2.5	40.8128.225	1	
	Countersink 3.2	40.8128.232	1	
	Screwdriver tip T7	40.8130.200	1	
	Screwdriver tip T10	40.8129.200	1	
	Cannulated drill 1.6/100	40.8124.251	1	
	Cannulated drill 2.6/100	40.8125.251	1	
	Cannulated drill 3.2/120	40.4973.120	1	
	Cannulated drill 4.0/120	40.2034.120	1	
	Container lid 4x4 246x222x11	40.8159.200	1	
	Container 4x4H 253.5x226x66.5	40.8158.200	1	

4. SURGICAL TECHNIQUE

The surgical technique depends on the fracture type, its location and the size of the compression screw to be used. Before using compression screws for fracture fixation, take an X-Ray of the fracture site. Procedure planing should include also surgical approach to ensure safe implantation.

4.1. SURGICAL APPROACH

The compression treatment of the scaphoid bone fragments is usually performed using volar approach with short straight incision over the radiocarpal joint space from the flexor carpi radialis tendon, going forward hook-like to the ulnar side and ending near the glomus. Medial surgical approach through an incision in the anatomical snuffbox is an alternative approach.

Access to the first and second metacarpal bone is possible via volar approach. Other metacarpal bones can also be reached from the dorsal side. Phalanxes can be reached via medial-axial and the medial-lateral approaches.

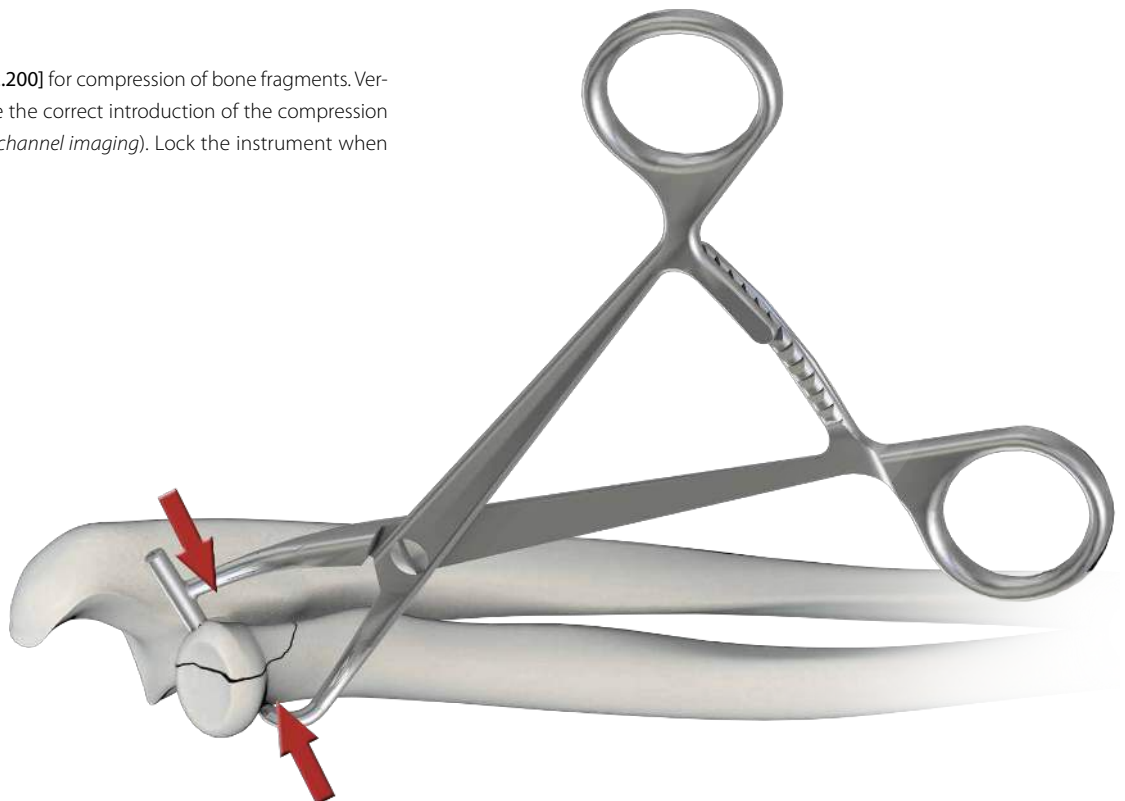
4.2. FRAGMENTS COMPRESSION

4.2.1. Fragments compression using compression cannulated screws

Compression cannulated screws

- 2.0/3.0 [1.1967.xxx / 3.1967.xxx],
- 2.5/3.2 [1.1968.xxx / 3.1968.xxx],
- 3.0/4.0 [1.1969.xxx / 3.1969.xxx],
- 4.0/5.0 [1.1970.xxx / 3.1970.xxx].

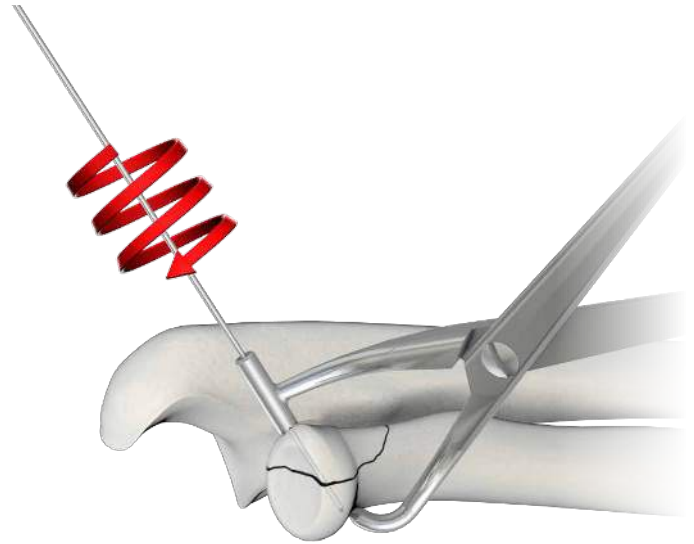
Use compression forceps [40.8122.200] for compression of bone fragments. Verify the setting of forceps to ensure the correct introduction of the compression screw (if possible, use X-Ray video channel imaging). Lock the instrument when set properly.



Install the appropriate guide rod (the diameter of the rod chosen depends on the fracture type, place and the size of the compression screw) to the drive and insert it through the guide in one of arms of the compression forceps into both bone fragments.



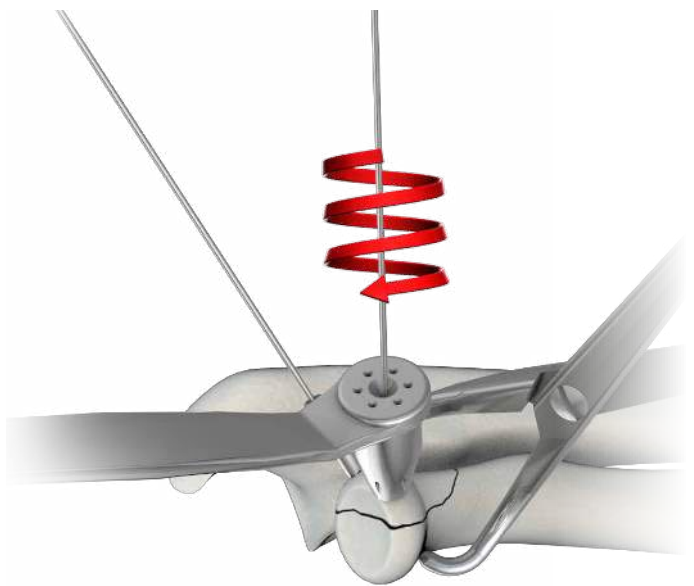
Make sure not to penetrate the other cortical layer (control the drilling depth using X-Ray imaging).



Install the other guide rod (the diameter of the rod chosen depends on the fracture type, place and the size of the compression screw) to the drive and using the wire guide [40.8123.200], insert the rod in both bone fragments so that they do not rotate in relation to each other.



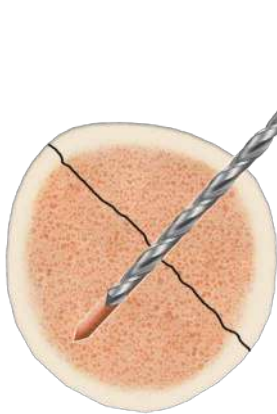
Make sure not to penetrate the other cortical layer (control the drilling depth using X-Ray imaging).



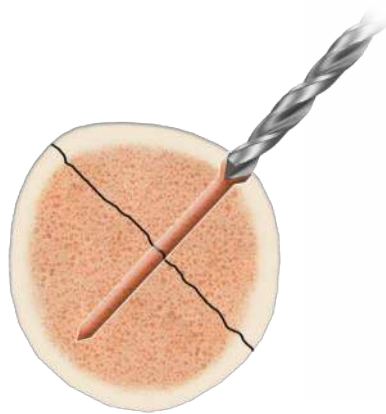
Optional reaming is only possible for hard cortical bone. For 2.0 screws [1.1967.xxx], ream with 2.6 drill [40.8125.251]; for 3.0 screws [1.1969.xxx], ream with 3.2 drill [40.4973.120]; and for 4.0 screws [1.1970.xxx], ream with 4.0 drill [40.2034.120].



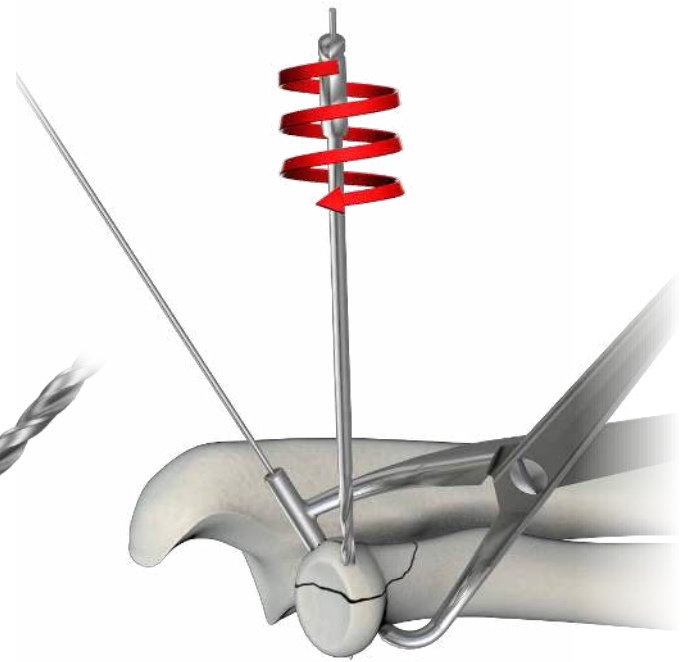
CAUTION:
Do not ream over the tip of the guide rod so as not to weaken the compression screw anchorage (control the reaming depth using X-Ray imaging).



drilling a hole in the bone

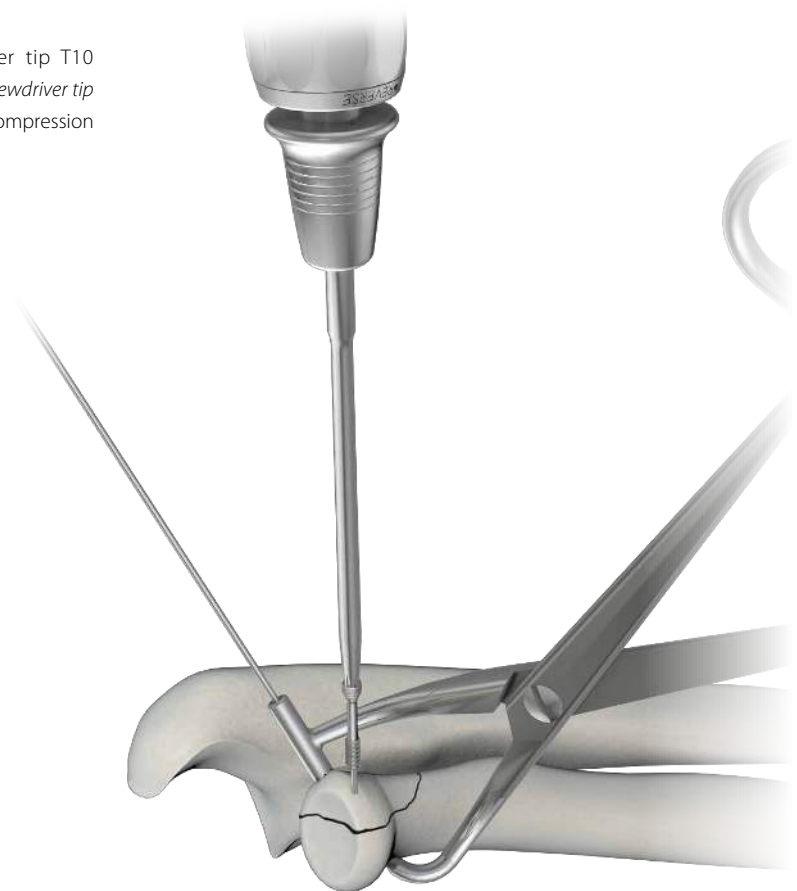


reaming the cortical layer of the bone



Use quick coupling handle 23/105 [40.8391.200], screwdriver tip T10 [40.8129.200] or screwdriver tip T7 [40.8130.200] (the size of the screwdriver tip depends on the diameter of the compression screw) and the selected compression screw for fixation of bone fragments.

Remove the guide rod.



Follow the same procedure described in point 5 for the other screw. Verify the correctness of the treatment performed.



4.3. COMPRESSION SCREWS REMOVAL

When the treatment is completed, remove the implant from the bone using quick coupling handle [40.8391.200] and screwdriver tip T10 or T7. It is recommended to use solid screwdrivers (*not included in the instrument set*).

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