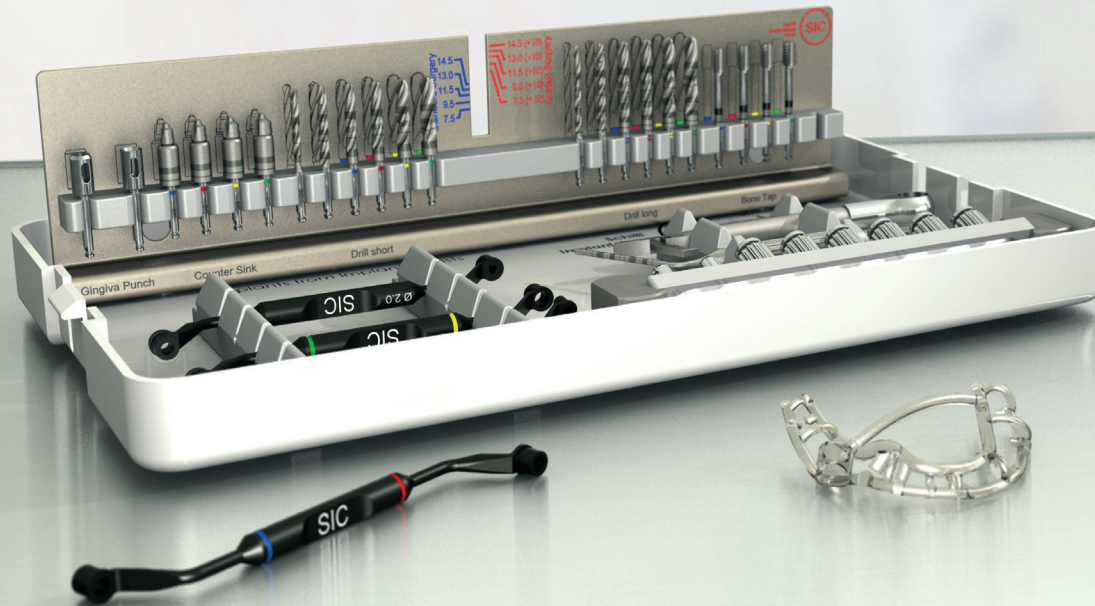


SIC invent



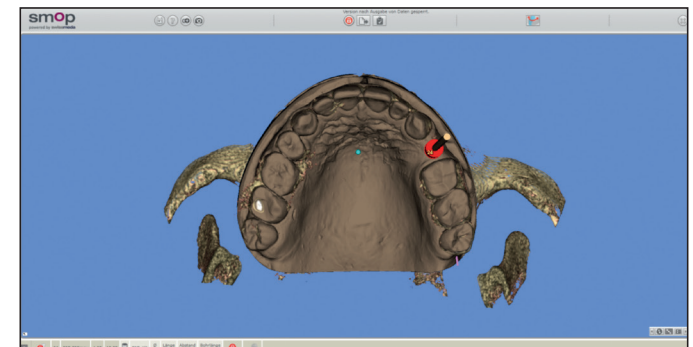
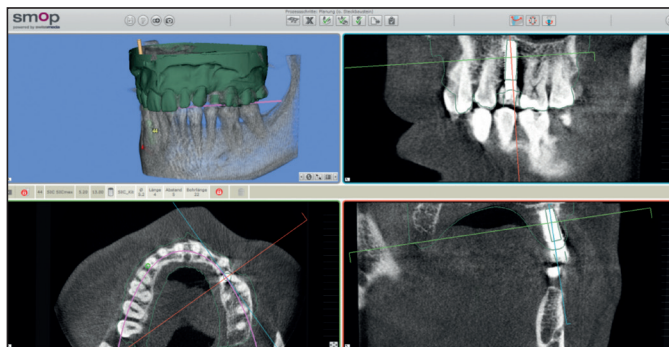
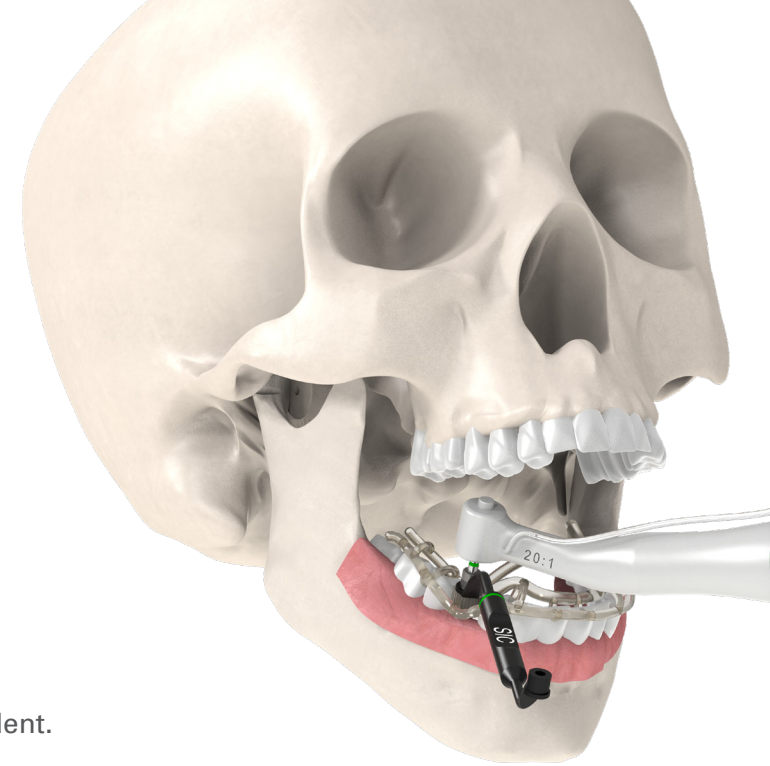
Guided Surgery
Template surgery –
prosthetically oriented backwards planning

SIC Guided Surgery

3D diagnosis in combination with prosthetically oriented backwards planning increases reliability for determining the optimal tooth position. SIC Guided Surgery is a software-independent surgical system for template-guided, navigated implant insertion. Important characteristics are compactness, efficiency and ergonomics of the instrumentarium.

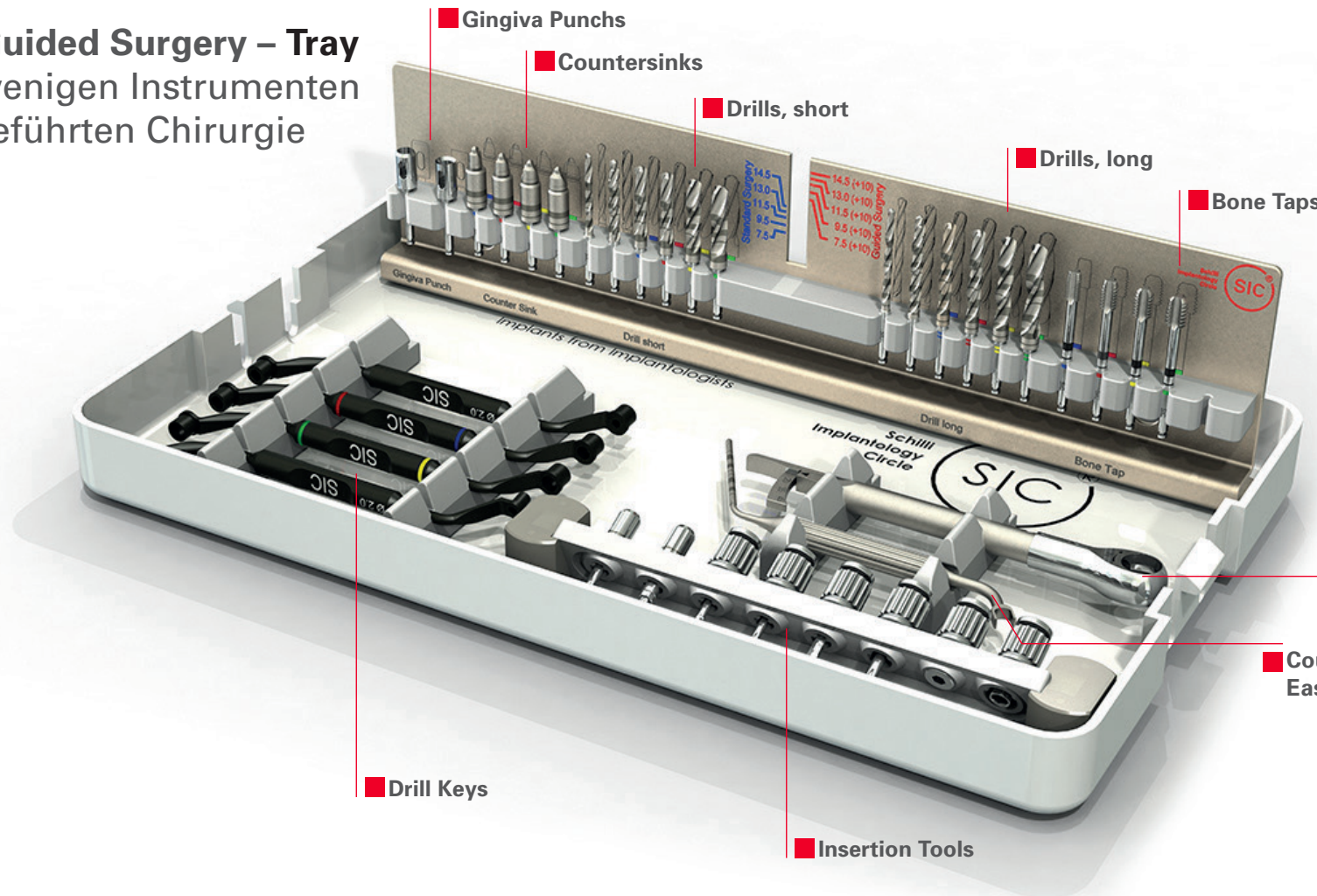
Maximum flexibility due to open connection to current planning tools, variability due to the possibility of laboratory or industrial production of the guiding templates, surgical freedom with maximum functionality and precision predominated during the conception and development of the system.

- Software-independent, open instrument set
- Implemented in the planning tools: SimPlant® (Dentsply Sirona), CeHa imPLANT® (med 3D), coDiagnostiX® (Straumann®), SKYplanX (bredent), SICAT Implant (SICAT GmbH & Co. KG), smop Planning Solution (Swissmeda AG), Nemotec (Software Nemotec, S.L.), Implant Studio (3Shape), Natrodent.
- Fabrication of the guide centrally by Materialise Dental, SICAT GmbH & Co. KG or in a local dental laboratory
- Guidance of implant placement using the guide template
- Maximum flexibility for the operator (no fixed depth stops)
- Master sleeve \varnothing 5.2 mm for standard indications and Master sleeve \varnothing 3.1 mm for lateral and lower incisors



SIC Guided Surgery – Tray

Mit wenigen Instrumenten zur geführten Chirurgie



■ Gingiva Punchs

■ Countersinks

■ Drills, short

■ Drills, long

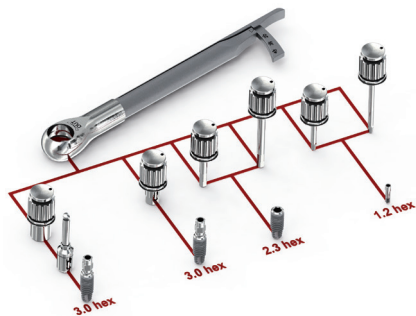
■ Bone Taps

■ Drill Keys

■ Insertion Tools

■ Torque Ratchet, Titanium

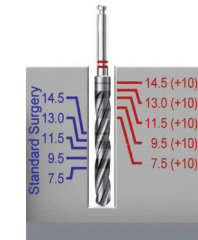
■ Counter Ratchet with Easy Handle



■ **Titanium Ratchet**
ratchet and insertion tools for manual and handpiece operations



■ **Two Master Sleeves**
Ø 5.2 mm and Ø 3.1 mm
(diese werden für die Schablonen von Swissmeda nicht benötigt)



■ **Drill Gauge**
for reliable check of the depth markings

SIC Guided Surgery – Surgical Guideline

Master Sleeve Ø 5.2 mm



1 Initial Situation
Raising a flap of the soft tissue using an incision around the teeth and over the alveolar ridge.



2 Initial Drilling
The countersink is used for initial Ø 2.0 mm pre-drilling and expanding the cortical bone to the planned implant diameter. The recommended motor speed is max. 500 rpm. The insertion depth depends on the local bone quality. **In the case of a severely atrophied alveolar ridge or intentionally planned subcrestal implant position, pre-drilling should initially be completed using the Ø 2.0 mm pilot drill.**



3 Pilot Drilling
The Ø 2.0 mm pilot drill is inserted to the planned implant length using the **drill key 935581** with "Ø 2.0 mm" printed on the side. The recommended motor speed is max. 800 rpm.



4 1st Extension Drilling
The Ø 2.8 mm extension drill is inserted to the planned implant length using the **drill key 935581** "Ø 2.8 mm" printed on the side. The recommended motor speed is max. 800 rpm.



5 Additional Extension Drilling
Additional extension drilling depends on the planned implant diameter in accordance with the overview on Page 6. **The drill keys are colour coded to correspond with the respective drill.** The recommended motor speed is max. 800 rpm.



6 Bone Tap
The bone tap is used for bone of D1/D2 quality. The instrument is inserted via the shank end into the **drill key 935580** with "TAP" printed on the side and locked into the contra-angle. During insertion into the guide template, the tip of the bone tap centres in the bone cavity and the guide sleeve in the template.

Tip:
At the Ø 2.0 mm drilling stage, only spot drill the alveolar ridge briefly, remove the template and check the position of the drill hole!

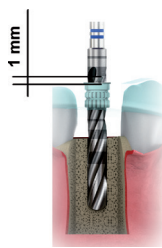
Master Sleeve Ø 3.1 mm
for lateral and lower incisors
For SiCace® 3.4 mm and SiCmax 3.7 mm



SiCace
Ø 3.4 mm
SiCmax
Ø 3.7 mm



2 Pilot Drilling
The Ø 2.0 mm pilot drill is inserted to the planned implant length using the drill key 935580 with "Ø 2.0 mm" printed on the side. The recommended motor speed is max. 800 rpm.



3 Extension Drill Ø 3.1
The Ø 3.1 mm extension drill is inserted to the planned implant length directly through the sleeve. **The final length is attained when the depth marking is 1 mm above the sleeve.** The recommended motor speed is max. 800 rpm.

Removing of the template



4 Countersink Ø 3.4
The Ø 3.4 mm countersink is used **without a template** for expanding the cortical bone. The insertion depth depends on the local bone quality. The recommended motor speed is max. 500 rpm.



5 Bone Tap Ø 3.4
The Ø 3.4 mm bone tap is used with D1/D2 bone quality without a template. In D1/D2 bone quality the thread section depth should be 50% of the implant length, but a minimum of 6.0 mm. The recommended motor speed is max. 35 rpm.



6 Implant Placement
When placing the implant using a hand-piece, the recommended motor speed is max. 25 rpm.

Subsequent stages are the same as the procedure with the Ø 5.2 mm master sleeve.

SIC Guided Surgery – Surgical Guideline



7 Bone Tap

The depth of the thread section depends on the local bone quality. In D1/D2 quality bone the thread section depth should be 50 % of the implant length, but a minimum of 6.0 mm. The recommended motor speed is max. 35 rpm.



8 Vorbereitung zur Insertion

Das Implantat wird direkt über den Implantatshuttle in das Eindrehinstrument WS geclipst und und maschinell oder mit Hilfe des **TR Adapter 937108** und der Drehmomentratsche eingeschraubt.



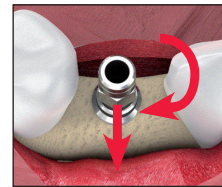
9 Implant Placement

The laser marking on the insertion instrument defines the planned insertion depth. When using a handpiece to place the implant, the recommended motor speed is 25 rpm.



10 Implant Alignment

When the implant is in the final position, an outer corner of the contra-angle insertion tool should be facing towards the buccal/labial aspect.

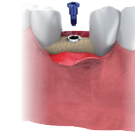


Align buccally



11 Final Steps

To loosen the retention screw, the insertion post should be locked in position using the Pick Up. Remove the insertion post together with the retention screw.



Cover Screw

Fit the cover screw and tighten "finger-tight".

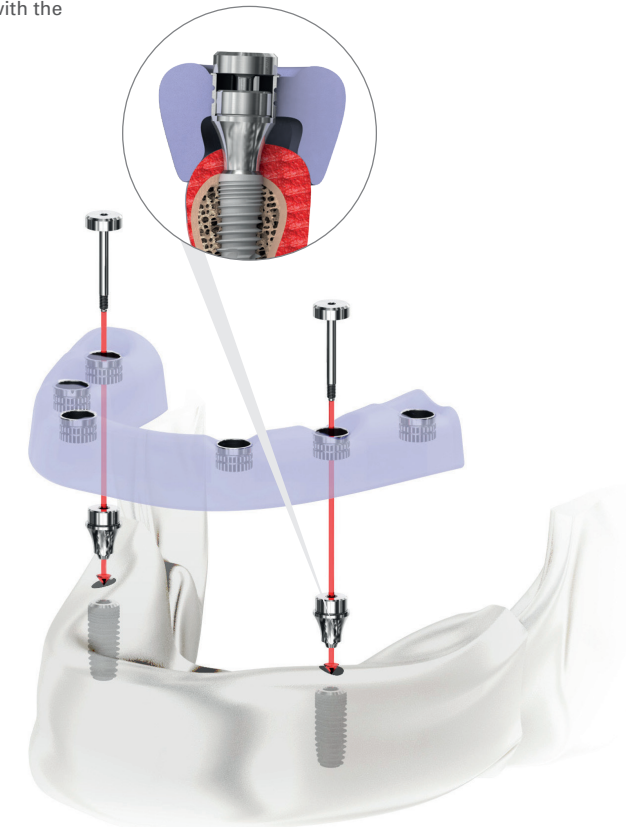


Suture

General instructions:

- Always insert rotary instruments into the matching drill key/master sleeve before starting drilling
- Always hold the drill key securely
- Ensure that the template is fixed securely in position
- Avoid lateral tilting of the drills
- Drill intermittently
- Ensure that there is adequate cooling with all instruments in use
- Use only sharp drilling tools
- Observe the colour coding of extension drills and matching drill keys

The SIC GS Fixation Post is used for fixing the guiding template on one or two implants. The device assures the fixation of the template with the correct distance of 9 mm from the implant shoulder to the top of the sleeve and guarantees a maximum of local accuracy during multi-implant placements. After placing the first implant through the guiding template, the first SIC GS Fixation Post will fasten the template in position. After placing the second implant, the second SIC GS Fixation Post will secure the template stable and precise for the surgery procedure of the following implant placements. Further the SIC GS Fixation Post can be used in the lab to create the set-up of a provisional bridge. Lab implants will be fixed with the SIC GS Fixation Posts to the guiding template. Then the lab implants will be bonded to the master model in the exact position of the template.



SIC Guided Surgery – Drill Sequence and Surgical Planning Dimensions

Overview of the drill keys and surgical instruments

SICace®	Ø 3.4 mm	Ø 4.0 mm	Ø 4.5 mm	Ø 5.0 mm
SICmax	Ø 3.7 mm	Ø 4.2 mm	Ø 4.7 mm	Ø 5.2 mm

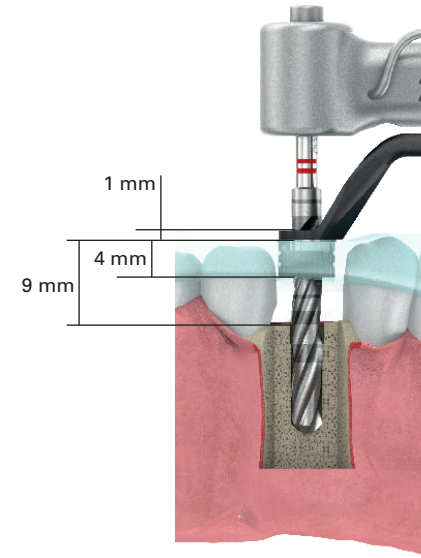
Level bone situation and paracrestal implant placement

Implant diameter		Ø 3.4 mm and Ø 3.7 mm					Ø 4.0 mm and Ø 4.2 mm					Ø 4.5 mm and Ø 4.7 mm					Ø 5.0 mm and Ø 5.2 mm				
Length		7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5
	Key:																				
Countersink Ø 3.4	no	x	x	x	x	x															
Countersink Ø 4.0	no						x	x	x	x	x										
Countersink Ø 4.5	no											x	x	x	x	x					
Countersink Ø 5.0	no																x	x	x	x	x
Pilot Drill Ø 2.0	2.0	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Extension Drill Ø 2.8	2.8	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Extension Drill Ø 3.10	3.10	x	x	x	x*	x*															
Extension Drill Ø 3.25	3.25						x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Extension Drill Ø 3.75	3.75											x	x	x	x*	x*					
Extension Drill Ø 4.25	4.25																x	x	x	x*	x*
Bone Tap Ø 3.4	TAP	(x)	(x)	(x)	(x)	(x)															
Bone Tap Ø 4.0	TAP						(x)	(x)	(x)	(x)	(x)										
Bone Tap Ø 4.5	TAP											(x)	(x)	(x)	(x)	(x)					
Bone Tap Ø 5.0	TAP																(x)	(x)	(x)	(x)	(x)

x = short or long version
 x* = only long version
 (x) = for bone quality D1/D2
 All dimensions in mm

Irregular bone situation and subcrestal implant placement

Implant diameter		Ø 3.4 mm and Ø 3.7 mm					Ø 4.0 mm and Ø 4.2 mm					Ø 4.5 mm and Ø 4.7 mm					Ø 5.0 mm and Ø 5.2 mm				
Length		7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5	7.5	9.5	11.5	13.0	14.5
	Key:																				
Pilot Drill Ø 2.0	2.0	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Countersink Ø 3.4	no	x	x	x	x	x															
Countersink Ø 4.0	no						x	x	x	x	x										
Countersink Ø 4.5	no											x	x	x	x	x					
Countersink Ø 5.0	no																x	x	x	x	x
Extension Drill Ø 2.8	2.8	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Extension Drill Ø 3.10	3.10	x	x	x	x*	x*															
Extension Drill Ø 3.25	3.25						x	x	x	x*	x*	x	x	x	x*	x*	x	x	x	x*	x*
Extension Drill Ø 3.75	3.75											x	x	x	x*	x*					
Extension Drill Ø 4.25	4.25																x	x	x	x*	x*
Bone Tap Ø 3.4	TAP	(x)	(x)	(x)	(x)	(x)															
Bone Tap Ø 4.0	TAP						(x)	(x)	(x)	(x)	(x)										
Bone Tap Ø 4.5	TAP											(x)	(x)	(x)	(x)	(x)					
Bone Tap Ø 5.0	TAP																(x)	(x)	(x)	(x)	(x)



■ Planning dimensions for sleeve positioning in the guide template

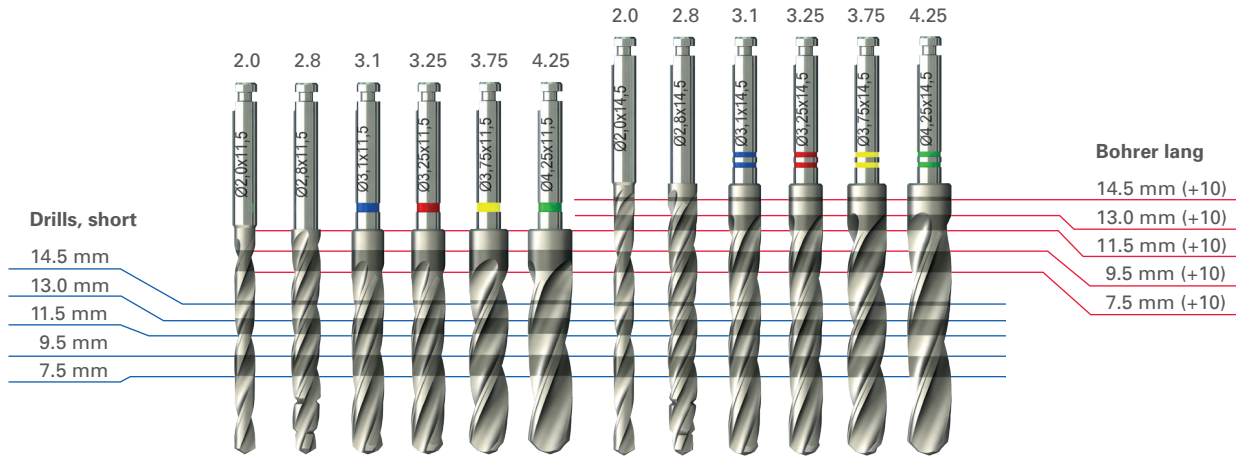


■ Master Sleeve Ø 5.2 mm



SIC Guided Surgery – Overview of Tools

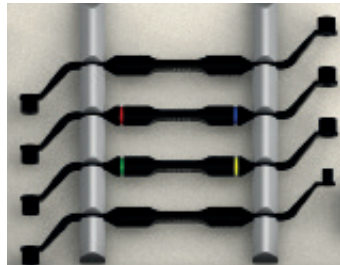
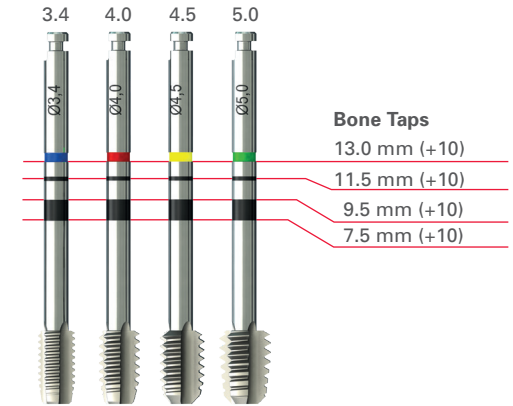
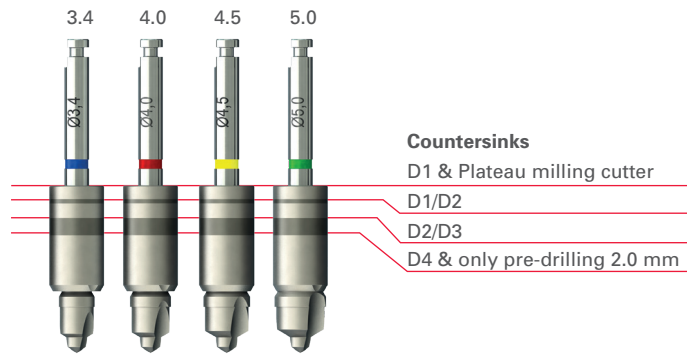
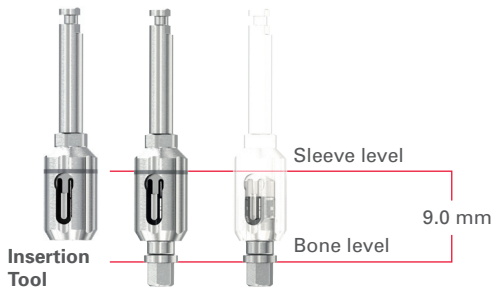
Standard Surgery



Bohrer lang

14.5 mm (+10)
13.0 mm (+10)
11.5 mm (+10)
9.5 mm (+10)
7.5 mm (+10)

Guided Surgery

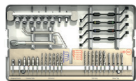

































- 935581 SIC GS Drill Key Ø 2.0 mm and Ø 2.8 mm, for Sleeve Ø 5.2 mm
- 935582 SIC GS Drill Key Ø 3.10 mm and Ø 3.25, for Sleeve Ø 5.2 mm
- 935583 SIC GS Drill Key Ø 3.75 mm and Ø 4.25 mm, for Sleeve Ø 5.2 mm
- 935580 SIC GS Drill Key Ø 2.0 mm, for Sleeve Ø 3.1 mm and Bone Tap, for Sleeve Ø 5.2 mm



Note:
The depth control using the laser marking on the insertion instrument only applies with implants in the packaging with a viewing window!

SIC invent Products Guided Surgery

	933110	SIC Surgical Tray, Guided Surgery, equipped		935563	SIC GS Bone Tap Ø 3.4 mm
	937154	SIC GS Gingiva Punch Ø 4.2 mm		935564	SIC GS Bone Tap Ø 4.0 mm
	937155	SIC GS Gingiva Punch Ø 5.2 mm		935569	SIC GS Bone Tap Ø 4.5 mm
	935550	SIC GS Countersink Ø 3.4 mm		935565	SIC GS Bone Tap Ø 5.0 mm
	935551	SIC GS Countersink Ø 4.0 mm		935580	SIC GS Drill Key Ø 2.0 mm, for Sleeve Ø 3.10 mm and Bone Tap for Sleeve Ø 5.2 mm
	935566	SIC GS Countersink Ø 4.5 mm		935581	SIC GS Drill Key Ø 2.0 mm and Ø 2.8 mm, for Sleeve Ø 5.2 mm
	935552	SIC GS Countersink Ø 5.0 mm		935582	SIC GS Drill Key Ø 3.10 mm and Ø 3.25 mm, for Sleeve Ø 5.2 mm
	935553	SIC GS Pilot Drill Ø 2.0 mm		935583	SIC GS Drill Key Ø 3.75 and Ø 4.25 mm, for Sleeve Ø 5.2 mm
	935555	SIC GS Extension Drill Ø 2.8 mm		937115	SIC GS Insertion Tool, Angle Piece
	935556	SIC GS Extension Drill Ø 3.10 mm		937114	SIC GS Insertion Tool, Angle Piece, long
	935557	SIC GS Extension Drill Ø 3.25 mm		935590	SIC GS Sleeve Ø 3.1 mm
	935567	SIC GS Extension Drill Ø 3.75 mm		935591	SIC GS Sleeve Ø 5.2 mm
	935558	SIC GS Extension Drill Ø 4.25 mm		935592	SIC GS Fixation Post, for Sleeve Ø 5.2 mm
	935554	SIC GS Pilot Drill Ø 2.0 mm, long			
	935559	SIC GS Extension Drill Ø 2.8 mm, long			
	935560	SIC GS Extension Drill Ø 3.10 mm, long			
	935561	SIC GS Extension Drill Ø 3.25 mm, long			
	935568	SIC GS Extension Drill Ø 3.75 mm, long			
	935562	SIC GS Extension Drill Ø 4.25 mm, long			

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