straumann®

BASIC INFORMATION

Straumann® iEXCEL Surgical Procedure

Technical handling information

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1. STRAUMANN® iEXCEL DENTAL PERFORMANCE SYSTEM

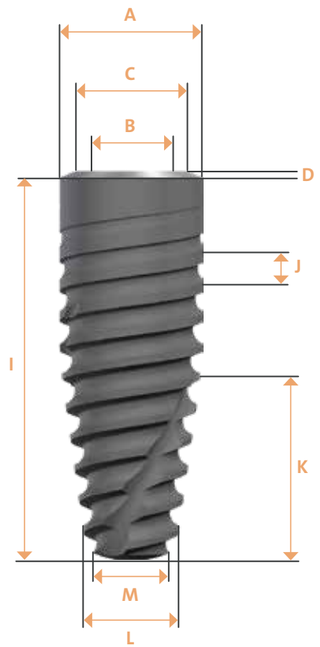
The Straumann® iExcel dental performance system" consists of four implants.
There are two endosteal designs, the "C-design" and the "X-design" being each available in bone and tissue level versions.
These four implants are compatible with the same surgical instruments and feature an identical inner connection, the TorcFit™ connection.

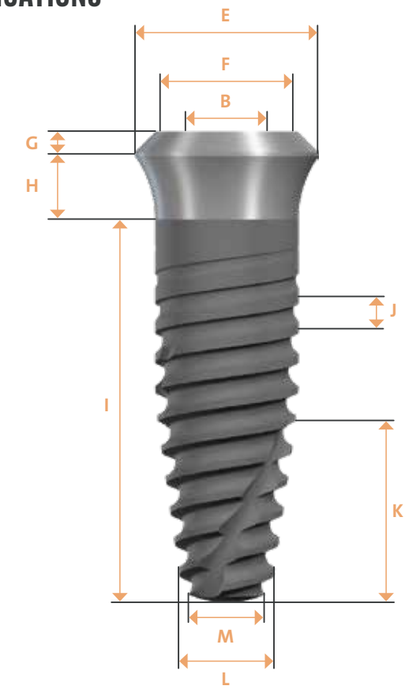
	C-DESIGN		X-DESIGN	
Bone Level				
TorcFit™ prosthetic base	**BLC**		**BLX**	
RB: Regular Base **WB:** Wide Base		Ø3.3 Ø3.75 Ø4.0 Ø4.5 Ø5.0 Ø5.5 Ø6.5		Ø3.5 Ø3.75 Ø4.0 Ø4.5 Ø5.0 Ø5.5 Ø6.5
Tissue Level				
TorcFit™ prosthetic base	**TLC**		**TLX**	
NT: Narrow TorcFit™ **RT:** Regular TorcFit™ **WT:** Wide TorcFit™		Ø3.3 Ø3.75 Ø4.5 Ø5.5 Ø6.5		Ø3.75 Ø4.5 Ø5.5 Ø6.5

This is a summary document the following complete basic information documents are available:

- Straumann BLX Implant System Basic Information USLIT.1205, CALIT.1205
- Straumann BLC Implant System Basic Information USLIT.1644, CALIT.1644
- Straumann TLX Implant System Basic Information USLIT.1397, CALIT.1397
- Straumann TLC Implant System Basic Information USLIT.1642, CALIT.1642

1.1 BLC AND TLC IMPLANTS DESIGN AND SPECIFICATIONS

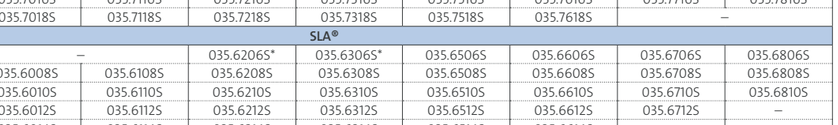




		Straumann BLC™ and TLC™ Implants								
		BLC Ø3.3 mm RB		BLC Ø3.75 mm RB		BLC Ø4.0 mm RB	BLC Ø4.5 mm WB		BLC Ø5.0 mm WB	BLC Ø5.5 mm WB	BLC Ø6.5 mm WB
		TLC Ø3.3 mm NT	TLC Ø3.3 mm RT	TLC Ø3.75 mm NT	TLC Ø3.75 mm RT	–	TLC Ø4.5 mm RT	TLC Ø4.5 mm WT	–	TLC Ø5.5 mm WT	TLC Ø6.5 mm WT
	(A) Maximum implant body outer diameter	3.3 mm		3.75 mm		4.0 mm	4.5 mm		5.0 mm	5.5 mm	6.5 mm
	(B) Connection diameter	2.7 mm									
BLC	(C) Platform diameter	2.9 mm									
BLC	(D) 22.5° bevel height	0.1 mm		0.18 mm		0.23 mm	0.33 mm				
TLC	(E) Shoulder diameter	3.5 mm	4.8 mm	3.5 mm	4.8 mm	–	4.8 mm	6.5 mm	–	6.5 mm	
TLC	(F) Platform diameter	2.9 mm	3.7 mm	2.9 mm	3.7 mm		3.7 mm	5.0 mm		5.0 mm	
TLC	(G) 45° bevel height	0.3 mm	0.65 mm	0.3 mm	0.65 mm		0.65 mm	0.85 mm		0.85 mm	0.75 mm
	(H) Smooth shoulder height	1.8 mm (SP)					1.8 mm (SP)			1.8 mm (SP)	
	(I) Endosteal lengths	8-18 mm		6-18 mm						6-16 mm	
	(J) Thread pitch*/flank lead/ depth	1.6 mm/20°/0.35 mm				1.6 mm/ 20°/ 0.35 mm	1.8 mm/20°/0.45 mm		2.1 mm/ 20°/ 1.05	2.1 mm/ 20°/ 0.5 mm	2.3 mm/ 20°/ 0.75 mm
	Number of chip flutes	2					2 for L 6 mm/ 4 for L 8-18 mm			4	
	Implant lengths: 6 to 8 mm										
	(K) Tapered part/taper	2.6 mm/14°					2.7 mm/14°		2.6 mm/14°		
	(L) Apical diameter threads	2.22 mm		2.63 mm		2.88 mm	3.5 mm		4.1 mm	4.63 mm	5.71 mm
	(M) Apical diameter core	1.52 mm		1.81 mm		2.18 mm	2.36 mm		2.75 mm	3.18 mm	3.67 mm
	Implant lengths: 10 to 18 mm										
	(K) Tapered part/taper	5 mm/8°		5.2 mm/8°		4.8 mm/8°	5.5 mm/8°				6.5 mm/8°
	(L) Apical diameter threads	2.05 mm		2.37 mm		2.76 mm	3.10 mm		3.62 mm	4.14 mm	4.87 mm
	(M) Apical diameter core	1.35 mm		1.61 mm		2.10 mm			1.79 mm	2.21 mm	2.76 mm

** Implant advances by this amount with every rotation.*

1.2 BLC AND TLC IMPLANTS ARTICLE LIST

		Straumann BLC™ Implants						
		Ø3.3 mm	Ø3.75 mm	Ø4.0 mm	Ø4.5 mm	Ø5.0 mm	Ø5.5 mm	Ø6.5 mm
Color code		(white)	(red)	(gray)	(green)	(magenta)	(brown)	(black)
Prosthetic base		RB (Regular Base)			WB (Wide Base)			
Connection		TorcFit™						
Image								
SLActive®								
Available lengths	6 mm	–	035.9206S*	035.9306S*	035.9406S	035.9506S	035.9706S	035.9806S
	8 mm	035.9008S	035.9208S	035.9308S	035.9408S	035.9508S	035.9708S	035.9808S
	10 mm	035.9010S	035.9210S	035.9310S	035.9410S	035.9510S	035.9710S	035.9810S
	12 mm	035.9012S	035.9212S	035.9312S	035.9412S	035.9512S	035.9712S	035.9812S
	14 mm	035.9014S	035.9214S	035.9314S	035.9414S	035.9514S	035.9714S	035.9814S
	16 mm	035.9016S	035.9216S	035.9316S	035.9416S	035.9516S	035.9716S	035.9816S*
	18 mm	035.9018S	035.9218S	035.9318S	035.9418S	035.9518S	–	
SLA®								
Available lengths	6 mm	–	035.8206S*	035.8306S*	035.8406S	035.8506S	035.8706S	035.8806S
	8 mm	035.8008S	035.8208S	035.8308S	035.8408S	035.8508S	035.8708S	035.8808S
	10 mm	035.8010S	035.8210S	035.8310S	035.8410S	035.8510S	035.8710S	035.8810S
	12 mm	035.8012S	035.8212S	035.8312S	035.8412S	035.8512S	035.8712S	035.8812S
	14 mm	035.8014S	035.8214S	035.8314S	035.8414S	035.8514S	035.8714S	035.8814S
	16 mm	035.8016S	035.8216S	035.8316S	035.8416S	035.8516S	035.8716S	–
	18 mm	035.8018S	035.8218S	035.8318S	035.8418S	035.8518S	–	

		Straumann TLC™ SP Implants									
		Ø3.3 mm		Ø3.75 mm		Ø4.5 mm		Ø5.5 mm	Ø6.5 mm		
Shoulder Height		Standard Plus - Implant shoulder 1.8 mm									
Color code		(white)		(red)		(green)		(brown)	(black)		
Prosthetic Base		NT	RT	NT	RT	RT	WT	WT	WT		
Connection		TorcFit™									
Image											
SLActive®											
Available lengths	6 mm	–			035.7206S*	035.7306S*	035.7506S	035.7606S	035.7706S	035.7806S	
	8 mm	035.7008S	035.7108S		035.7208S	035.7308S	035.7508S	035.7608S	035.7708S	035.7808S	
	10 mm	035.7010S	035.7110S		035.7210S	035.7310S	035.7510S	035.7610S	035.7710S	035.7810S	
	12 mm	035.7012S	035.7112S		035.7212S	035.7312S	035.7512S	035.7612S	035.7712S	035.7812S	
	14 mm	035.7014S	035.7114S		035.7214S	035.7314S	035.7514S	035.7614S	035.7714S	035.7814S	
	16 mm	035.7016S	035.7116S		035.7216S	035.7316S	035.7516S	035.7616S	035.7716S	035.7816S	
	18 mm	035.7018S	035.7118S		035.7218S	035.7318S	035.7518S	035.7618S	–		
SLA®											
Available lengths	6 mm	–			035.6206S*	035.6306S*	035.6506S	035.6606S	035.6706S	035.6806S	
	8 mm	035.6008S	035.6108S		035.6208S	035.6308S	035.6508S	035.6608S	035.6708S	035.6808S	
	10 mm	035.6010S	035.6110S		035.6210S	035.6310S	035.6510S	035.6610S	035.6710S	035.6810S	
	12 mm	035.6012S	035.6112S		035.6212S	035.6312S	035.6512S	035.6612S	035.6712S	–	
	14 mm	035.6014S	035.6114S		035.6214S	035.6314S	035.6514S	035.6614S	–	–	
	16 mm	035.6016S	035.6116S		035.6216S	035.6316S	035.6516S	035.6616S	–	–	
	18 mm	035.6018S	035.6118S		035.6218S	035.6318S	035.6518S	035.6618S	–		

To obtain more information about the indications and contraindications related to each implant, please refer to the corresponding instructions for use. Instructions for use can be found at ifu.straumann.com.

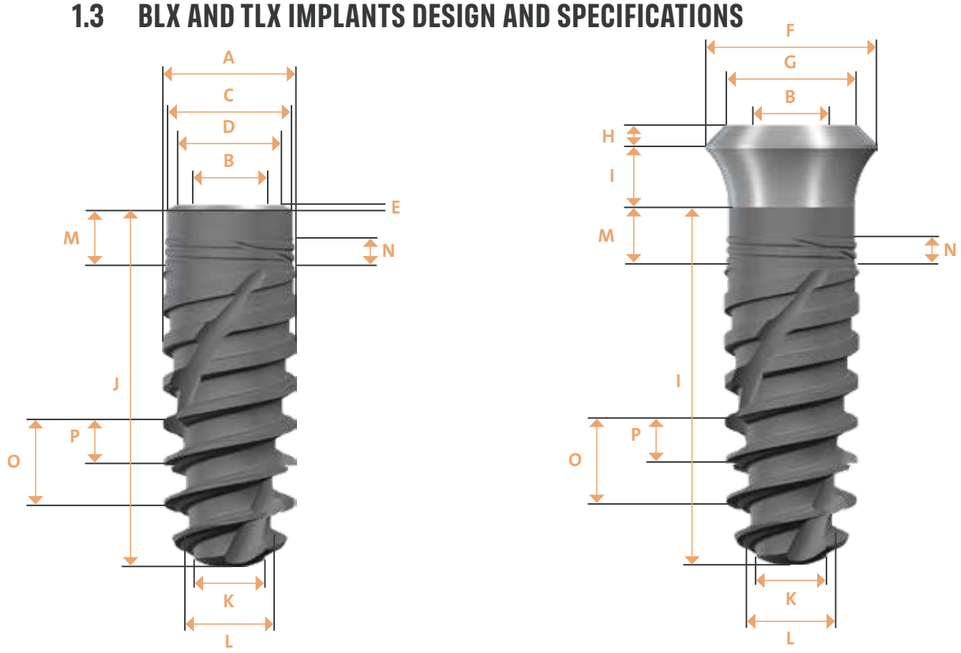
Note:

Small diameter implants and angled abutments are not recommended for the posterior region of the mouth.

Not all products shown are available in all markets. Not all products shown are available in all markets.

*For Canada, 6 mm length implants not available in diameters less than 4.5 mm.

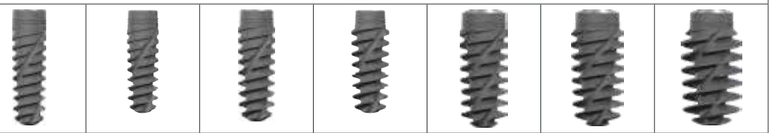
1.3 BLX AND TLX IMPLANTS DESIGN AND SPECIFICATIONS



		Straumann BLX and TLX Implants							
		BLX Ø3.5 mm RB	BLX Ø3.75 mm RB		BLX Ø4.0 mm RB	BLX Ø4.5 mm RB		BLX Ø5.0 mm WB	BLX Ø5.5 mm WB	BLX Ø6.5 mm WB
		–	TLX Ø3.75 mm NT	TLX Ø3.75 mm RT	–	TLX Ø4.5 mm NT	TLX Ø4.5 mm RT	–	TLX Ø5.5 mm WT	TLX Ø6.5 mm WT
	(A) Maximum implant body outer diameter	3.5 mm	3.75 mm		4.0 mm	4.5 mm		5.0 mm	5.5 mm	6.5 mm
	(B) Connection diameter	2.7 mm								
BLX	(C) Neck diameter	3.4 mm	3.5 mm					4.5 mm		
BLX	(D) Platform diameter	2.9 mm								
BLX	(E) 22.5° bevel height	0.1 mm	0.12 mm					0.33 mm		
TLX	(F) Shoulder diameter	–	3.5 mm	4.8 mm	–	3.5 mm	4.8 mm	–	6.5 mm	
TLX	(G) Platform diameter	–	2.9 mm	3.7 mm	–	2.9 mm	3.7 mm	–	5.0 mm	
TLX	(H) 45° bevel height	–	0.5 mm		–	0.5 mm		–	0.5 mm	
TLX	(I) Smooth shoulder height	–	1.8 mm (SP) or 2.8 mm (S)		–	1.8 mm (SP) or 2.8 mm (S)		–	1.8 mm (SP) or 2.8 mm (S)	
	(J) Lengths	8-18 mm	6-18 mm						6-16 mm (6-12 mm for TLX)	
	(K) Apical diameter, body	1.9 mm						2.2 mm		
	(L) Apical diameter, threads	2.75 mm	2.9 mm			3.6 mm		3.5 mm	4.0 mm	5.2 mm
	Number of apical cutting flutes	2						4		
	Implant lengths: 6 and 8 mm									
	(M) Neck height	1.0 mm								
	(N) Micro threads height	0.5 mm								
	(O) Thread pitch*	1.7 mm			1.8 mm	2.0 mm		1.9 mm	2.1 mm	2.3 mm
	(P) Thread spacing	0.85 mm			0.9 mm	1.0 mm		0.95 mm	1.05 mm	1.15 mm
	Implant lengths: 10 to 14 mm									
	(M) Neck height	1.7 mm								
	(N) Micro threads height	0.85 mm								
	(O) Thread pitch*	2.1 mm	2.2 mm		2.25 mm	2.5 mm		2.3 mm	2.5 mm	2.7 mm
	(P) Thread spacing	1.05 mm	1.1 mm							

** Implant advances by this amount with every rotation.*

1.4 BLX AND TLX IMPLANTS ARTICLE LIST

		Straumann® BLX Implants						
		Ø3.5 mm	Ø3.75 mm	Ø4.0 mm	Ø4.5 mm	Ø5.0 mm	Ø5.5 mm	Ø6.5 mm
Color code		(white)	(red)	(gray)	(green)	(magenta)	(brown)	(black)
Prosthetic Base		RB (Regular Base)				WB (Wide Base)		
Connection		TorcFit™						
Picture								
SLActive®								
Available lengths	6 mm	–	061.4306*	061.5306*	061.6306	061.7306	061.8306	061.9306
	8 mm	061.3308	061.4308	061.5308	061.6308	061.7308	061.8308	061.9308
	10 mm	061.3310	061.4310	061.5310	061.6310	061.7310	061.8310	061.9310
	12 mm	061.3312	061.4312	061.5312	061.6312	061.7312	061.8312	061.9312
	14 mm	061.3314	061.4314	061.5314	061.6314	061.7314	061.8314	061.9314
	16 mm	061.3316	061.4316	061.5316	061.6316	061.7316	061.8316	061.9316
	18 mm	061.3318	061.4318	061.5318	061.6318	061.7318	–	
SLA®								
Available lengths	6 mm	–	061.4506*	061.5506*	061.6506	061.7506	061.8506	061.9506
	8 mm	061.3508	061.4508	061.5508	061.6508	061.7508	061.8508	061.9508
	10 mm	061.3510	061.4510	061.5510	061.6510	061.7510	061.8510	061.9510
	12 mm	061.3512	061.4512	061.5512	061.6512	061.7512	061.8512	061.9512
	14 mm	061.3514	061.4514	061.5514	061.6514	061.7514	061.8514	061.9514
	16 mm	061.3516	061.4516	061.5516	061.6516	061.7516	061.8516	061.9516
	18 mm	061.3518	061.4518	061.5518	061.6518	061.7518	–	

Note: Small diameter implants and angled abutments are not recommended for the posterior region of the mouth.

*For Canada, 6 mm length implants not available in diameters less than 4.5 mm.

		Straumann® TLX SP Implants					
		Ø3.75 mm		Ø4.5 mm		Ø5.5 mm	Ø6.5 mm
Shoulder height		Standard Plus - Implant shoulder 1.8 mm					
Color code		(red)		(green)		(brown)	(black)
Prosthetic base		NT	RT	NT	RT	WT	WT
Connection		TorcFit™					
Image							
SLActive®							
Available lengths	6 mm	035.3006S*	035.3106S*	035.3406S	035.3506S	035.3706S	035.3806S
	8 mm	035.3008S	035.3108S	035.3408S	035.3508S	035.3708S	035.3808S
	10 mm	035.3010S	035.3110S	035.3410S	035.3510S	035.3710S	035.3810S
	12 mm	035.3012S	035.3112S	035.3412S	035.3512S	035.3712S	035.3812S
	14 mm	035.3014S	035.3114S	035.3414S	035.3514S	–	
	16 mm	035.3016S	035.3116S	035.3416S	035.3516S		
	18 mm	035.3018S	035.3118S	035.3418S	035.3518S		
SLA®							
Available lengths	6 mm	035.2006S*	035.2106S*	035.2406S	035.2506S	035.2706S	035.2806S
	8 mm	035.2008S	035.2108S	035.2408S	035.2508S	035.2708S	035.2808S
	10 mm	035.2010S	035.2110S	035.2410S	035.2510S	035.2710S	035.2810S
	12 mm	035.2012S	035.2112S	035.2412S	035.2512S	035.2712S	035.2812S
	14 mm	035.2014S	035.2114S	035.2414S	035.2514S	–	
	16 mm	035.2016S	035.2116S	035.2416S	035.2516S		
	18 mm	035.2018S	035.2118S	035.2418S	035.2518S		

		Straumann® TLX S Implants					
		Ø3.75 mm		Ø4.5 mm		Ø5.5 mm	Ø6.5 mm
Shoulder height		Standard - Implant shoulder 2.8 mm					
Color code		(red)		(green)		(brown)	(black)
Prosthetic base		NT	RT	NT	RT	WT	WT
Connection		TorcFit™					
Image							
SLActive®							
Available lengths	6 mm	035.1006S*	035.1106S*	035.1406S	035.1506S	035.1706S	035.1806S
	8 mm	035.1008S	035.1108S	035.1408S	035.1508S	035.1708S	035.1808S
	10 mm	035.1010S	035.1110S	035.1410S	035.1510S	035.1710S	035.1810S
	12 mm	035.1012S	035.1112S	035.1412S	035.1512S	035.1712S	035.1812S
	14 mm	035.1014S	035.1114S	035.1414S	035.1514S	N/A	
	16 mm	035.1016S	035.1116S	035.1416S	035.1516S		
	18 mm	035.1018S	035.1118S	035.1418S	035.1518S		
SLA®							
Available lengths	6 mm	035.0006S*	035.0106S*	035.0406S	035.0506S	035.0706S	035.0806S
	8 mm	035.0008S	035.0108S	035.0408S	035.0508S	035.0708S	035.0808S
	10 mm	035.0010S	035.0110S	035.0410S	035.0510S	035.0710S	035.0810S
	12 mm	035.0012S	035.0112S	035.0412S	035.0512S	035.0712S	035.0812S
	14 mm	035.0014S	035.0114S	035.0414S	035.0514S	N/A	
	16 mm	035.0016S	035.0116S	035.0416S	035.0516S		
	18 mm	035.0018S	035.0118S	035.0418S	035.0518S		

To obtain more information about the indications and contraindications related to each implant, please refer to the corresponding instructions for use. Instructions for use can be found at www.ifu.straumann.com.

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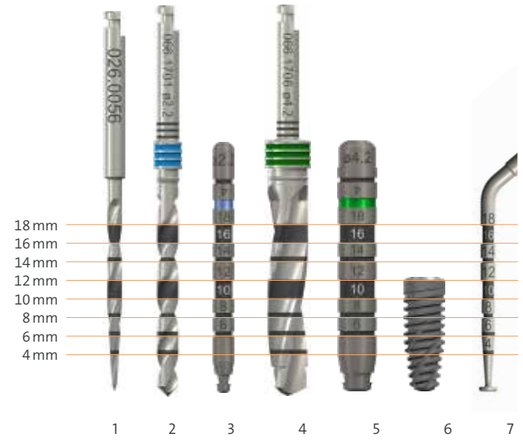
*For Canada, 6 mm length implants not available in diameters less than 4.5 mm.

2. SURGICAL PROCEDURE

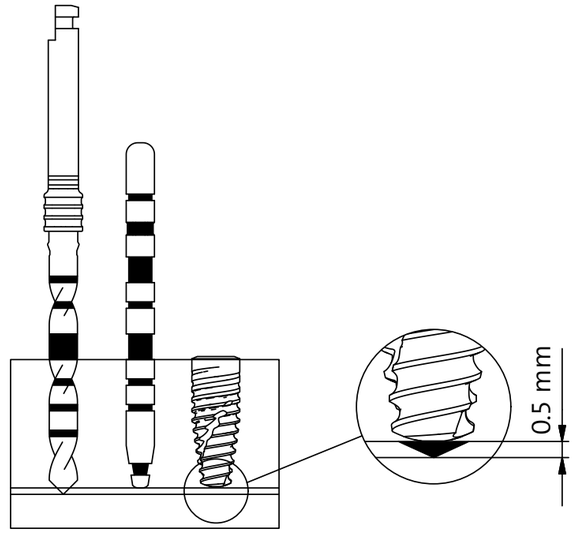
The Straumann® iExcel Implant System is supplied with a specific set of instruments.

The instruments have depth marks at 2 mm intervals that correspond to the available implant lengths. The first bold mark on the drills represents 10 mm and 12 mm, where the lower edge of the mark corresponds to 10 mm and the upper edge to 12 mm. The second bold mark on the long drills represents 16 mm and 18 mm, where the lower edge of the mark corresponds to 16 mm and the upper edge to 18 mm.



1. Needle Drill: 026.0056
2. Pilot Drill, long: 066.1701
3. Alignment Pin: 046.799
4. Drill Ø4.2 mm, long: 066.1706
5. Depth Gauge: 046.804
6. BLC Implant Ø4.5 / 12 mm: 035.9412S
7. Implant Depth Gauge: 066.2000

Warning: Due to the function and design of the drills, the drill tip is up to 0.5 mm longer than the insertion depth of the implant. For example, if you drill until the 10 mm marking the actual osteotomy has a depth of 10.5 mm.



2.1 PREOPERATIVE PLANNING

Prosthetic-driven planning is recommended, and close communication between the patient, dentist, surgeon and dental technician is imperative for achieving the desired esthetic result.

Mesiodistal bone availability is an important factor when choosing the implant type and diameter as well as the inter-implant distances if multiple implants are placed. The point of reference on the implant for measuring mesiodistal distances is always the largest diameter of the implant.

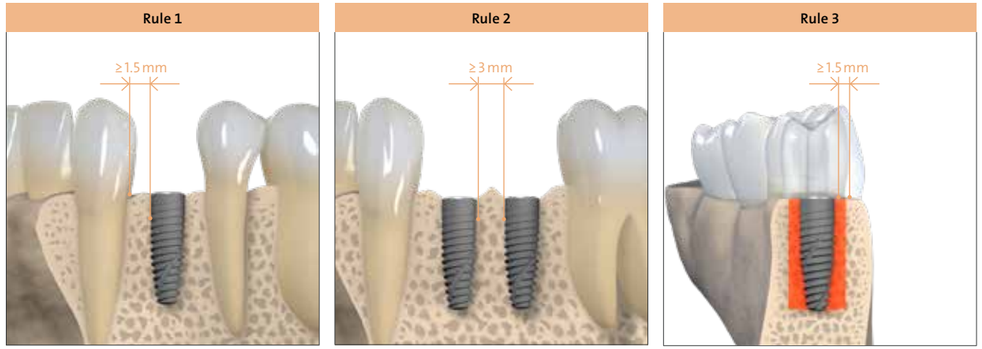
The following three rules should be regarded as minimum guidelines:

Rule 1: Distance to adjacent tooth at bone level
A minimum distance of **1.5 mm from the implant adjacent tooth** (mesial and distal) is recommended.

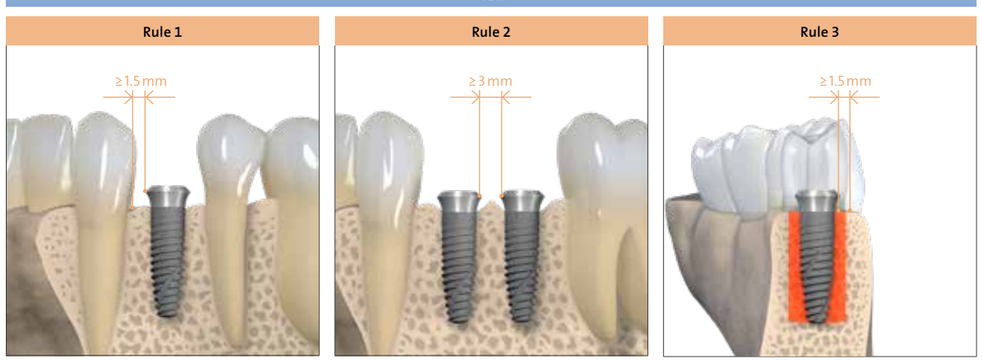
Rule 2: Distance to adjacent implants at bone level
A minimum distance of **3 mm between two adjacent implants** (mesiodistal) is recommended.

Rule 3: The facial and palatal bone layer must be at least 1.5 mm thick in order to ensure stable hard and soft tissue conditions. Within this limitation, a restoration-driven orofacial implant position and axis should be chosen to allow the placement of screw-retained restorations.

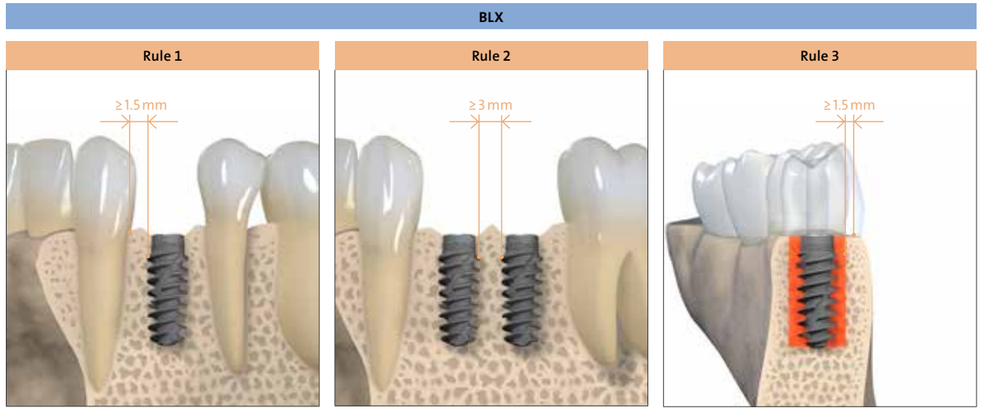
BLC



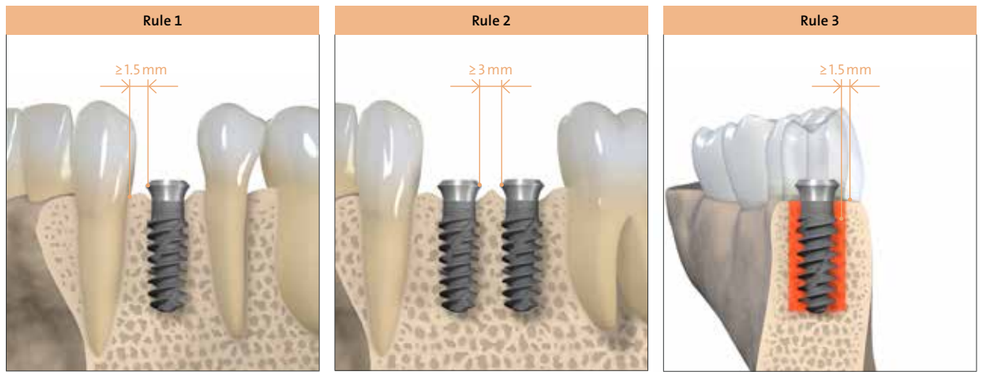
TLC



BLX



TLX



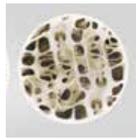
Caution: An augmentation procedure is indicated if the orofacial bone wall is less than 1.5 mm or a layer of bone is missing on one or more sides. This technique should be employed only by dentists with adequate experience in the use of augmentation procedures.

2.2 IMPLANT BED PREPARATION

2.2.1 Bone density definition

Depending on the bone density, different drill protocols should be applied. This provides the flexibility to adjust the implant bed preparation to the individual bone quality and anatomical situation.

Cross sectional view of different types of bone quality*

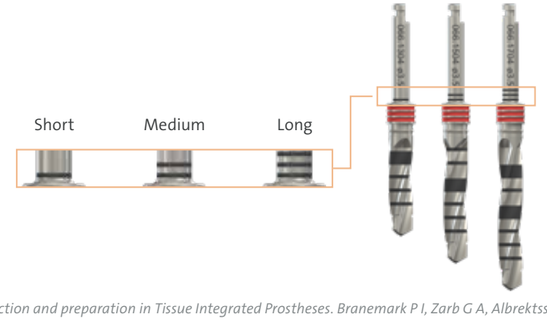
Type I	Type II / III	Type IV
Hard	Medium	Soft
Thick cortical bone with marrow cavity	Thin cortical bone with dense trabecular bone of good strength	Very thin cortical bone with low density trabecular bone of poor strength
		

2.2.2 VeloDrills™

The VeloDrill™ line in the Straumann® Dental Implant System is delivered color-coded. For precise depth control, VeloDrills™ are compatible with a disposable Drill Stop (refer to *Straumann® Drill Stop – Basic Information* (NAMLIT.1347)). VeloDrills™ are compatible for freehand and guided surgery. For more information, check the Appendix.

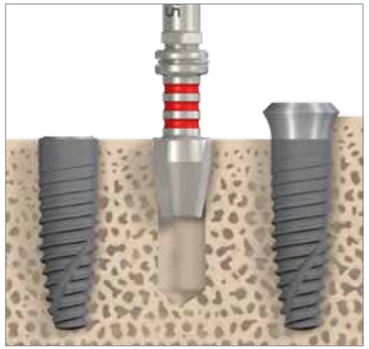
	Needle Drill	Pilot Drill	Drills							
Color	–									
Image (short)										
Diameter	Ø1.6 mm	Ø2.2 mm	Ø2.8 mm	Ø3.2 mm	Ø3.5 mm	Ø3.7 mm	Ø4.2 mm	Ø4.7 mm	Ø5.2 mm	Ø6.2 mm

VeloDrills™ are available in three different lengths (short: 34 mm, medium: 38 mm and long: 42 mm).



** Lekholm U, Zarb G. Patient selection and preparation in Tissue Integrated Prostheses. Branemark P I, Zarb G A, Albrektsson T (eds). pp199–210. Quintessence, 1985..*

2.2.3 Profile Drills 1 for BLC and TLC Implants



In the presence of a hard cortical bone layer, it is recommended to widen the implant bed in this area using a Profile Drill diameter matching the implant diameter independent of the overall bone-quality.

Color							
Image							
Article number	034.362	034.363	034.364	034.365	034.382	034.366	034.367
To be used with	BLC and TLC Ø3.3 mm	BLC and TLC Ø3.75 mm	BLC Ø4.0 mm	BLC and TLC Ø4.5 mm	BLC Ø5.0 mm	BLC and TLC Ø5.5 mm	BLC and TLC Ø6.5 mm
Material and rpm	Stainless steel, 300 rpm						

Profile Drills 1 for BLC and TLC implants (single use)

Color							
Image							
Article number	034.362S	034.363S	034.364S	034.365S	034.382S	034.366S	034.367S
To be used with	BLC and TLC Ø3.3 mm	BLC and TLC Ø3.75 mm	BLC Ø4.0 mm	BLC and TLC Ø4.5 mm	BLC Ø5.0 mm	BLC and TLC Ø5.5 mm	BLC and TLC Ø6.5 mm
Material and rpm	TAN, 300 rpm						

2.2.4 Profile Drills 2 for the RT and WT platforms of TLC and TLX Implants

Platform	RT		WT	
Length	24mm	34mm	24mm	34mm
Image				
Article number	036.3300	036.3301	036.3302	036.3303
To be used with	TLC and TLX RT implants		TLC and TLX WT implants	
Material and rpm	Stainless steel, 400 rpm			

Note: When using an Straumann® TLC or TLX Implants with an unflaired NT platform, no Profile Drill 2 is needed.

Caution: The profile drills are suitable only for the corresponding implant type.

Should the clinician, at their own clinical judgment, deem it necessary to insert the implant deeper, it is recommended to profile drill with the dedicated instruments for RT and WT platforms.

2.2.5 Implant bed preparation – BLC & TLC Implants

Important considerations:

Recommended drill sequence

→ Depending on the bone density, different drill protocols should be applied. This provides the flexibility to adjust the implant bed preparation to the individual bone quality and anatomical situation.
→ The recommended drill sequences are based on bone quality to ensure optimal primary stability in healed site situations.
→ The recommended drills to be used are indicated with solid dots in the color of the respective diameter.
→ Depending on the diameter of the final implant bed, some intermediate drills are skipped in order to optimize the number of drilling steps.
→ The recommended drill speed for all drills is 800 rpm under constant irrigation by sterile saline.

Warning: Due to the function and design of the drills, the drill tip is up to 0.5 mm longer than the insertion depth of the implant

Preparation of the cortical bone (profile drilling)

→ In the presence of a hard cortical bone layer, it is recommended to widen the implant bed in this area using a Profile Drill diameter matching the implant diameter independent of the overall bone-quality.
→ The recommended use of the profile drill is indicated in the drill sequence with a P in a circle in the color of the respective implant diameter. The recommended max. drill speed for profile drills 1 is 300 rpm.

Subcrestal implant placement

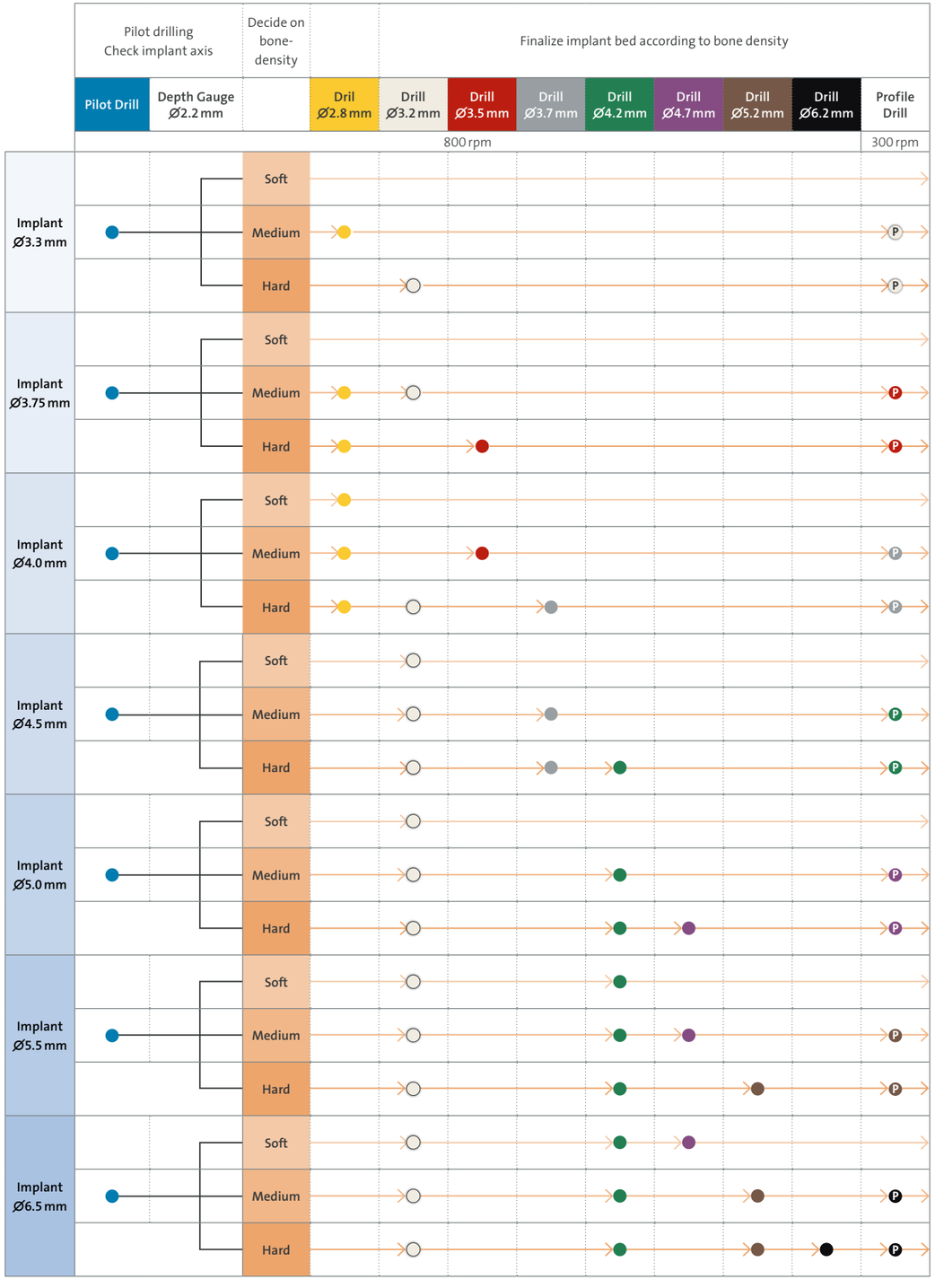
→ For subcrestal implant placement consider the final implant position for drill depth and never undersize in length with the Pilot Drill (∅2.8).
→ For implant with diameter ∅4.5 and larger never undersize in length with the drill ∅3.2 mm.
→ Straumann® TLC RT and WT implants: Should the clinician, at their own clinical judgment, deem it necessary to insert the implant subcrestally, it is recommended to profile drill with the dedicated instruments (see page 15).
→ The recommended max. drill speed for profile drills 2 is 400 rpm.

Drill sequence for immediate implant placement in extraction sockets:

→ In fresh extraction sites where the implant engages only with its apical part, it is recommended to use the medium bone density protocol and to prepare the osteotomy by one drill diameter less than the recommended final drill.
→ Preparation of the cortical bone with the profile drill is not recommended.

Implant diameter	Final drill medium bone	Final drill extraction socket
∅3.3	∅2.8	∅2.2
∅3.75	∅3.2	∅2.8
∅4.5	∅3.7	∅3.5
∅5.5	∅4.7	∅4.2
∅6.5	∅5.2	∅4.7

Recommended drill sequence for Straumann BLC™ and Straumann TLC™ Implants



2.2.6 Implant bed preparation – BLX & TLX Implants

Important considerations:

Recommended drill sequence

- → Depending on the bone density, different drill protocols should be applied. This provides the flexibility to adjust the implant bed preparation to the individual bone quality and anatomical situation.
- → The recommended drill sequences are based on bone quality to ensure optimal primary stability in healed site situations.
- → The recommended drills to be used are indicated with solid dots in the color of the respective diameter.
- → Depending on the diameter of the final implant bed, some intermediate drills are skipped in order to optimize the number of drilling steps.
- → The recommended drill speed for all drills is 800 rpm under constant irrigation by sterile saline.

Warning: Due to the function and design of the drills, the drill tip is up to 0.5 mm longer than the insertion depth of the implant.

Hard bone drill protocol:

Application of the hard bone drill protocol for a BLX implant diameter with wider threads (Ø4.5 mm, Ø5.5 mm and Ø6.5 mm) in healed sites results in a small gap between the implant neck and the surrounding crestal bone. In such situations it is recommended to consider minor bone grafting around the implant neck. This may be accomplished by scraping a small amount of bone with a surgical chisel from the area surrounding the osteotomy (already exposed) and placing it between the implant and the osteotomy.

Preparation of the cortical bone (cortical widening)

- → In the presence of a hard cortical bone layer, it is recommended to widen the implant bed in this area.
- → The recommended use of an additional drill for cortical widening is indicated in the drill sequence with C in a circle (C).
- → Cortical widening is recommended to a depth of 4 mm for implants with a length of 6 mm and 8 mm, and to a depth of 6 mm for implants with a length of 10 mm to 18 mm.

Subcrestal implant placement

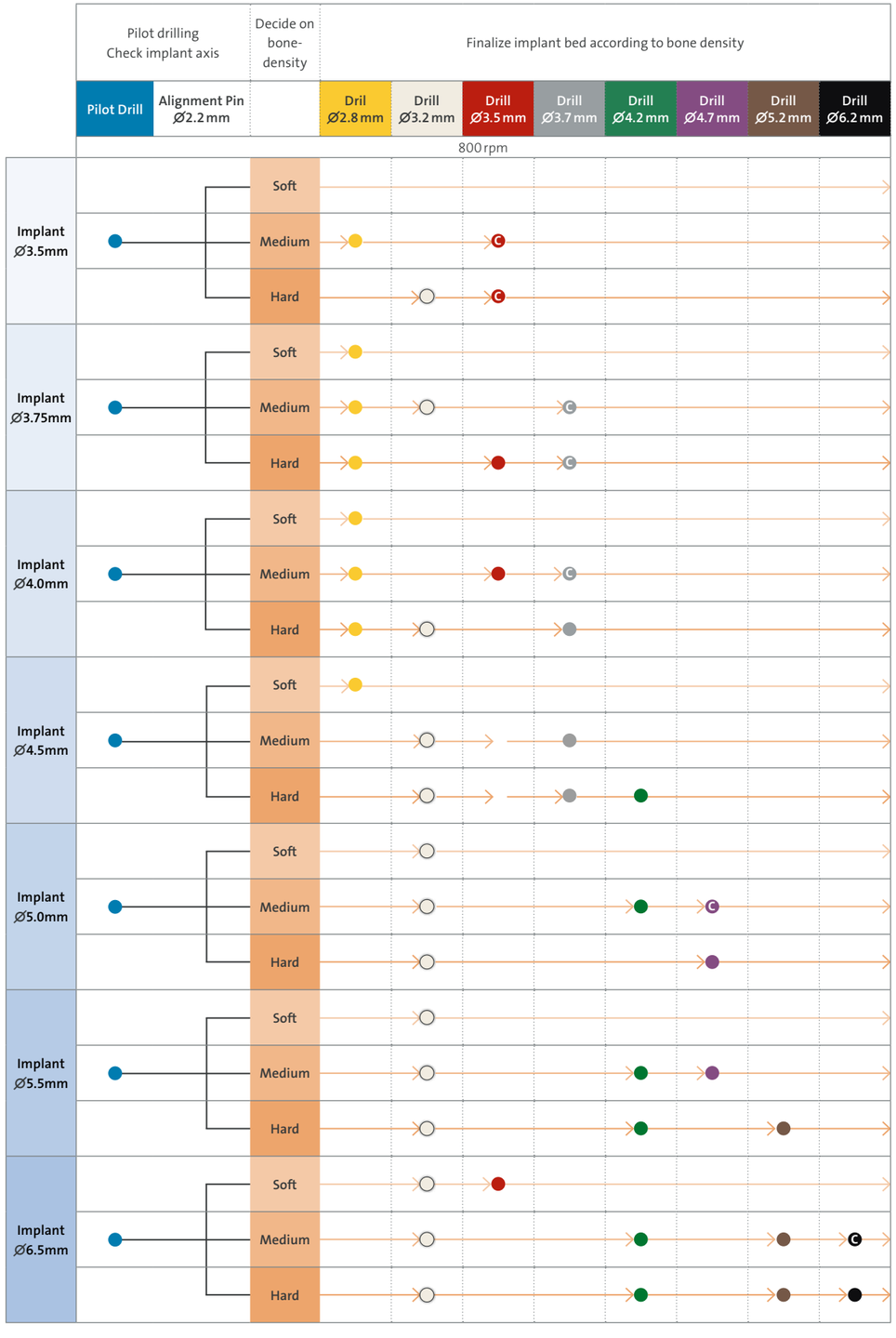
- → For subcrestal implant placement consider the final implant position for drill depth and never undersize in length with the Pilot Drill (Ø2.8).
- → For implant with diameter Ø5.0 and larger never undersize in length with the drill Ø3.2 mm.
- → Straumann® TLX RT and WT implants: Should the clinician, at their own clinical judgment, deem it necessary to insert the implant subcrestally, it is recommended to profile drill with the dedicated instruments (see page 15).
- → The recommended max. drill speed for profile drills 2 is 400 rpm.

Drill sequence for immediate implant placement in extraction sockets:

- → In fresh extraction sites where the implant engages only with its apical part, it is recommended to use the medium bone density protocol and to prepare the osteotomy by one drill diameter less than the recommended final drill.
- → Cortical widening to prepare the cortical bone is not recommended

Implant diameter	Final drill medium bone	Final drill extraction socket
Ø3.5	Ø2.8	Ø2.2
Ø3.75	Ø3.2	Ø2.8
Ø4.0	Ø3.5	Ø3.2
Ø4.5	Ø3.7	Ø3.5
Ø5.0	Ø4.2	Ø3.7
Ø5.5	Ø4.7	Ø4.2
Ø6.5	Ø5.2	Ø4.7

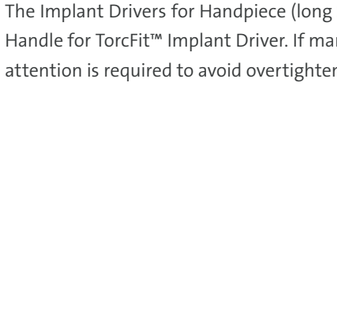
Recommended drill sequence for Straumann® BLX and Straumann® TLX Implants



2.3 IMPLANT PLACEMENT

2.3.1 Implant driver selection

Select the appropriate Implant Driver type for pick-up and insertion of the Straumann® BLC, BLX, TLC and TLX implants.

Implant Driver type								
Implant Driver for Handpiece				Implant Driver for Ratchet			Implant Driver for Ratchet, screw-retained	
								
short	medium	long	extra long	short	medium	long	short	long
Length 21 mm	Length 26 mm	Length 31 mm	Length 36 mm	Length 21 mm	Length 26 mm	Length 31 mm	Length 21 mm	Length 31 mm
Stainless steel								
066.4101	066.4107*	066.4102	066.4108	066.4201	066.4207*	066.4202	066.4205	066.4206

Note: Consider the available intra-oral space when selecting an Implant Driver. The long and extra-long versions are recommended for anterior only.

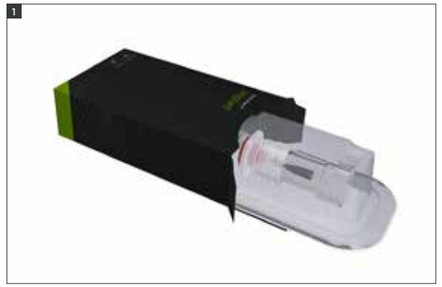
Surgical Handle for TorcFit™ Implant Driver

Stainless steel
066.4000

The Implant Drivers for Handpiece (long (066.4102), extra long (066.4108)) are compatible with the Surgical Handle for TorcFit™ Implant Driver. If manual surgical Implant Drivers are used to insert the implant, special attention is required to avoid overtightening.

2.3.2 Implant pick up

The Implants are provided with a new implant carrying system that supports direct pick-up with an appropriate Implant Driver.



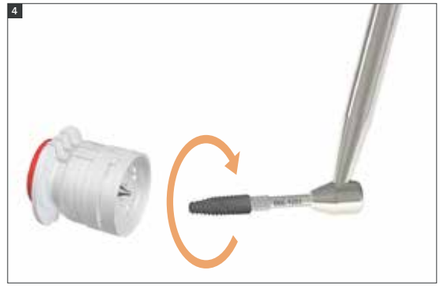
Step 1 – Open box and remove seal of blister to get access to the implant vial.

Note: Patient label can be found on the blister seal. The blister ensures the sterility of the implant. Do not open the blister until immediately prior to implant placement.

Step 2 – Open the vial with a counter-clockwise turn and remove the lid together with the implant.

Step 3 – Hold the vial lid and connect the Implant Driver to the implant using the Handpiece. You hear a click when the Implant Driver is attached correctly.

Caution: Make sure that the Implant Driver is properly seated and pull slightly on the Implant Driver to verify that it is correctly attached. Replace the Implant Driver with a new one if insufficient attachment occurs.

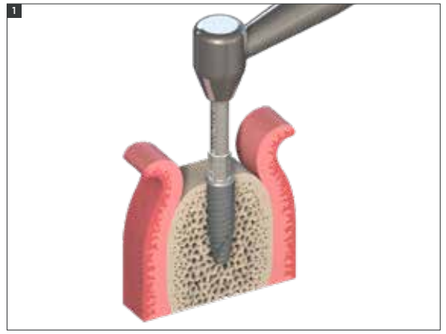


Step 4 – A slight clockwise turn is needed to remove the implant from its holder.

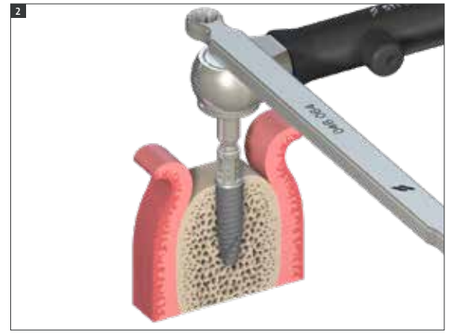
Note: After removing the implant from the solution, the chemical activity of SLActive® is ensured for 15 minutes.

2.3.3 BLC and BLX implants placement

Straumann® BLC and BLX Implants can be placed using the Handpiece, or manually using the Ratchet. Do not exceed the recommended maximum speed of 15 rpm when using the Handpiece.



Step 1 – Place the implant
Place the implant with the driver in the implant bed by turning it clockwise.

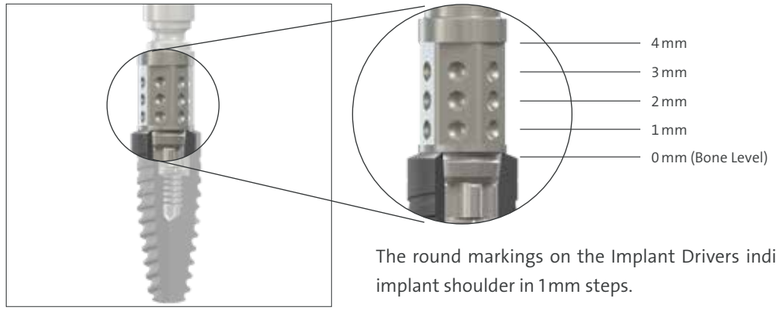


Step 2 – Final position
Use the Ratchet to move the implant to its final position by turning it clockwise.

For BLC implants:
If there is strong resistance remove the implant, place the implant together with the Implant Driver back into the vial and widen the implant bed according to the drill protocol.

For BLX implants:
If there is strong resistance before the implant reached its final position, rotate the implant counterclockwise a few turns and continue to insert. Repeat this step several times if necessary.
If resistance is still too strong remove the implant, place the implant together with the implant driver back into the vial or store it temporarily in the cassette and widen the implant bed according to the drill protocol.

Note: For immediate function, a final torque of at least 35 Ncm should be achieved. Excessive insertion torque must be avoided because this can lead to resorption of the bone.



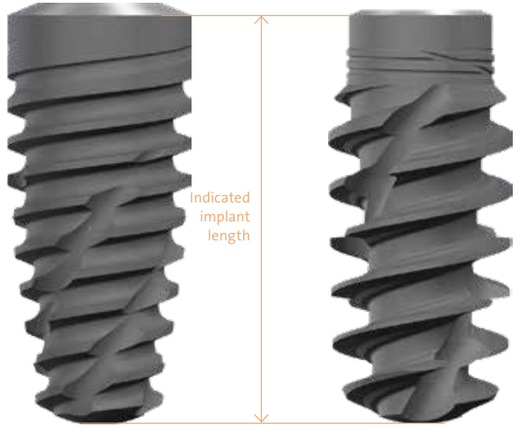
The round markings on the Implant Drivers indicate the distance to the implant shoulder in 1 mm steps.

Coronoapical implant position for BLC and BLX Implants

Straumann® BLC and BLX Implants allow for flexible coronoapical implant positioning, depending on individual anatomy, implant site, the type of restoration planned, and preference. In healed sites, a slight subcrestal placement of 0.5 to 1.0 mm is recommended.

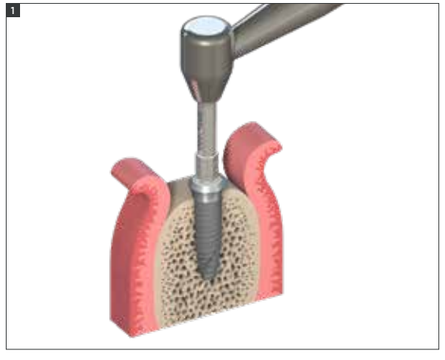
Note: Consider final implant position for drill depth, never undersize in length with the Pilot Drill.

For ISQ measurements: The Osstell Smartpeg type 38 (100455) is compatible with the BLC and BLX Implant Systems.



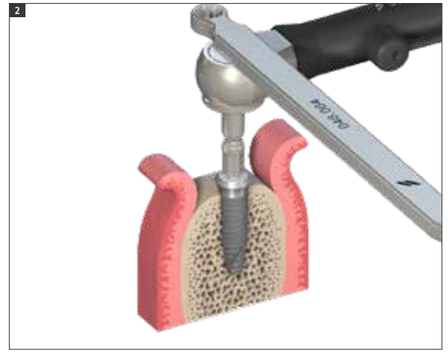
2.3.4 TLC and TLX implants placement

Straumann® TLC and TLX Implants can be placed using the Handpiece, or manually using the Ratchet. Do not exceed the recommended maximum speed of 15 rpm when using the Handpiece.



Step 1 – Place the implant

Place the implant with the driver in the implant bed by turning it clockwise.



Step 2 – Final position

Use the Ratchet to move the implant to its final position by turning it clockwise.

For TLC implants:

If there is strong resistance remove the implant, place the implant together with the implant driver back into the vial and widen the implant bed according to the drill protocol.

For TLX implants:

If there is strong resistance before the implant reached its final position, rotate the implant counterclockwise a few turns and continue to insert. Repeat this step several times if necessary.

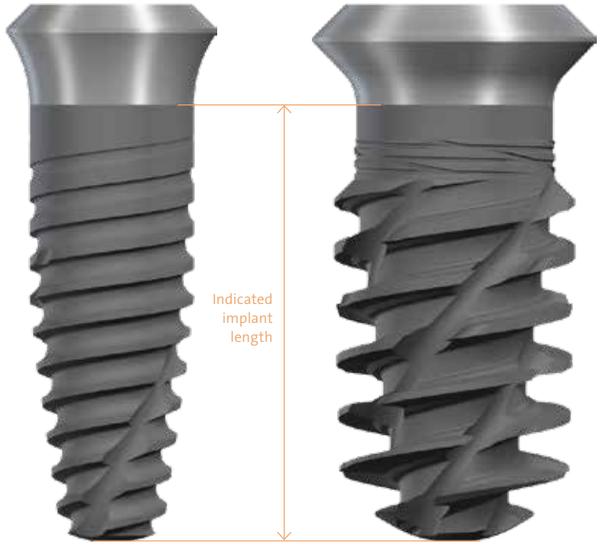
If resistance is still too strong remove the implant, place the implant together with the implant driver back into the vial or store it temporarily in the cassette and widen the implant bed according to the drill protocol.

Note: For immediate function, a final torque of at least 35 Ncm should be achieved. Excessive insertion torque must be avoided because this can lead to resorption of the bone.

Final implant position for TLC and TLX Implants
During coronoapical implant positioning, the TLC and TLX implants are best placed with the SLActive® surface margin at bone level.

Note: Straumann® Implants allow for flexible coronoapical implant positioning, depending on individual anatomy, implant site, the type of restoration planned, and preference. Should the clinician, for any reason related to his own clinical judgement, deem necessary to insert the implant deeper, a subcrestal placement of 0.5 mm is possible. For subcrestal placement, the use of profile drills is required.

For ISQ measurements: The Osstell Smartpeg type 95 (100455) is compatible with the TLC and TLX Implant Systems for platform NT and RT.
The Osstell Smartpeg type 66 is compatible with the TLC and TLX Implant Systems for platform WT.



2.4 PRIMARY IMPLANT CLOSURE & HEALING PHASE

2.4.1 BLC and BLX Implants Closure Caps

Straumann® BLC and TLC Implants can be placed using the Handpiece, or manually using the Ratchet. Do not exceed the recommended maximum speed of 15 rpm when using the Handpiece.

	BLC and BLX Implant Closure Caps, sterile			
	RB		WB	
	BLC	BLX	BLC	BLX
				
Compatibility	BLC implants: ∅3.3, 4.0 and 3.75mm BLX implants: ∅3.5, 3.75, 4.0 and 4.5mm		BLC implants: ∅4.5, 5.0, 5.5 and 6.5mm BLX implants: ∅5.0, 5.5 and 6.5mm	
Recommended tightening torque	Hand-tight			
Article number	064.4100S		064.8102S	
Material	Titanium			

Note: Since the closure caps for BLX implants and BLC RB implants cover the entire implant shoulder, gingiva, bone particles or bone graft particles can easily be trapped between Healing Cap and implant. It is recommended to clean the implant connection thoroughly prior to the placement of the closure cap and to check the proper seating prior to wound closure, e.g. visually or by taking an x-ray.

2.4.2 TLC and TLX Implants Closure Caps and Healing Caps

TLC and TLX Implants Closure and Healing Caps, sterile			
	NT	RT	WT
			
Compatibility	TLC implants Ø3.3 and 3.75 mm TLX implants Ø3.75 and 4.5 mm	TLC implants: Ø3.3, 3.75 and 4.5 mm TLX implants: Ø3.75 and 4.5 mm	TLC implants Ø4.5, 5.5 and 6.5 mm TLX implants: Ø5.5 and 6.5 mm
Recommended tightening torque	Hand-tight		
Closure caps	0 mm: 036.3200S		
	1.5 mm: 036.0201S	1.5 mm: 036.1201S	NA
Healing caps	3 mm: 036.0203S 4.5 mm: 036.0204S	2 mm: 036.1202S 3 mm: 036.1203S 4.5 mm: 036.1204S	2 mm: 036.2202S 3 mm: 036.2203S 4.5 mm: 036.2204
Material	Titanium		

Note: Since the TLC and TLX closure caps and Healing Caps cover the whole implant shoulder, gingiva, bone particles or bone graft particles can easily be trapped between closure cap or Healing Cap and implant. It is recommended to clean the implant connection thoroughly prior to the placement of the closure cap or Healing Cap and to check the proper seating prior to wound closure, e.g. visually or by taking an X-ray.

2.4.3 Healing phase

For the delayed loading surgical protocol, it is recommended to follow the healing time durations as indicated below:

Situation	Healing phase	
	SLActive®	SLA®
• Good bone quality and adequate bone quantity • Implants with a diameter of 3.75 mm and wider and a Straumann® SLActive®/SLA® surface length of ≥ 8 mm	At least 3–4 weeks	At least 6 weeks
• Cancellous bone quality • Implants with a diameter of 3.3 mm • Implants with a Straumann® SLActive®/SLA® surface length of 6 mm	At least 8 weeks	At least 12 weeks
• Straumann® SLActive®/SLA® surface is not completely in contact with the bone • Bone augmentation measures* are necessary	Healing phase corresponding to the situation	

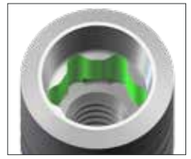
3. RESTORATIVE PROCEDURES

3.1 BONE LEVEL TORCFIT™ CONNECTION – BLC & BLX

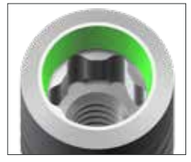
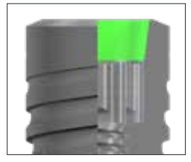
The Straumann® BLC and BLX Implants feature the intuitive TorcFit™ connection. This connection supports self-guiding insertion, for clear-cut tactile feedback. Six positions enable a simple yet flexible alignment and outstanding protection against rotation.

All BLC and BLX Implants have the same inner geometry regardless of the diameter of the implant. This allows the use of one set of prosthetic components ("RB/WB abutments") and simplifies the prosthetic steps. In addition, a wide emergence profile can be created on top of WB implants ("WB abutments").

Improved Torx with six positions:
- Allows transmission of high torques
- Simple yet flexible implant and abutment alignment

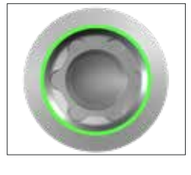



7° conical prosthetic connection:
- High mechanical stability and stress distribution
- Exact implant-abutment fit
- Narrow emergence profile creates space for soft tissues
- Clear feedback of final position by friction fit

22.5° shoulder prosthetic connection:
- High mechanical stability
- Exact implant-abutment fit
- Extra wide emergence profiles (implants with diameter >5.0 mm)
- Divergence compensation for bridges


Flat top portion:
- High accuracy for impression components
- Flat sealing for healing and temporary components to protect inner conus

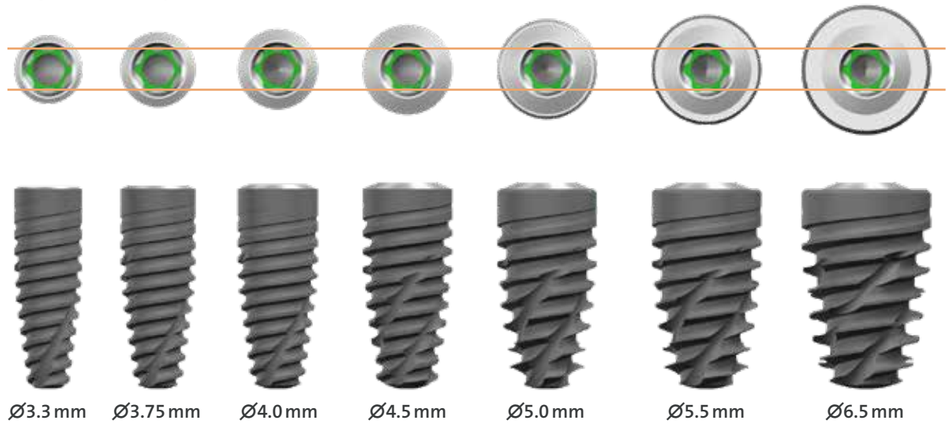
Same inner geometry regardless of the diameter of the implant

- A single prosthetic range to manage all implant diameters (“RB/WB”)
- Simplified prosthetic steps
- Same Implant Driver for all implants

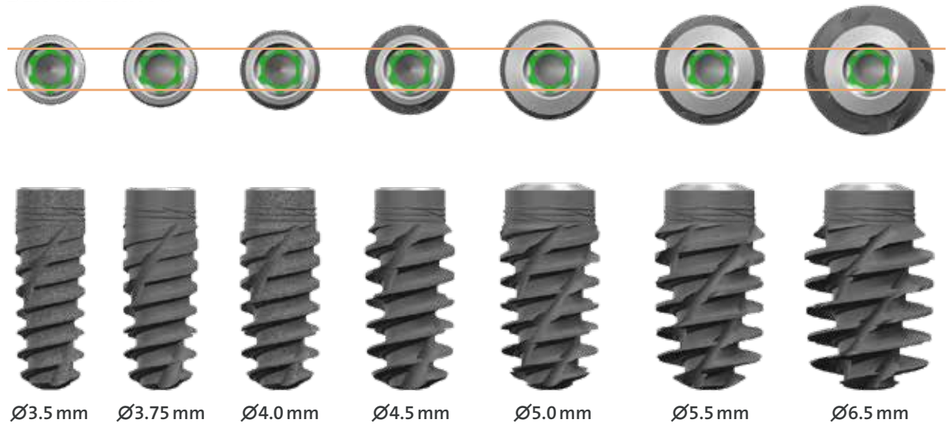
Precise machined shoulder for optional wide emergence profile (diameter >5.0 mm)

- Free choice of implant regardless of prosthetic volume to restore

BLC IMPLANTS



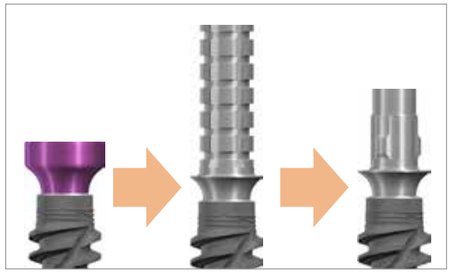
BLX IMPLANTS



3.2 HEALING ABUTMENTS SELECTION AND CONSISTENT EMERGENCE PROFILE

Straumann® iExcel puts a strong emphasis on esthetic considerations. It offers tailor-made solutions that allow for natural soft tissue shaping and maintenance in all indications. A versatile portfolio of healing and temporary abutments is available for easy and fast processing.

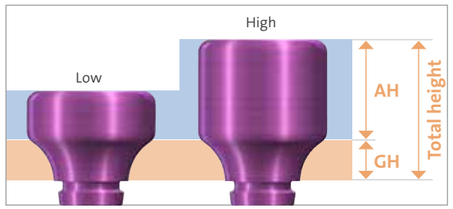
To optimize the soft tissue management process, all healing abutments, temporary abutments and final abutments feature Consistent Emergence Profiles™. Thus, the emergence profiles are uniform throughout the treatment process.



Consistent Emergence Profiles from Healing Abutment to Final Abutment.

3.2.1 Healing Abutments

Due to the uniform and matching emerging profiles among the different abutments, the selection of the Healing Abutment at day of surgery determines the available (matching) options for the final restoration.
Therefore, always communicate the implant diameter and the selected healing abutment to the restoring dentist or dental lab in order to facilitate the appropriate final abutment selection.



Healing Abutments are available in two different abutment heights (AH).

The total height of a Healing Abutment for BLC/BLX consists of two parts:

→ **Gingiva Height (GH):** Emerging part of the abutment, available in heights of 0.75 mm to 3.5 mm. The emergence profile is uniform throughout the BLX prosthetic portfolio.

→ **Abutment Height (AH):** Cylindrical part of the abutment, available in two heights - 2 mm (low) or 4 mm (high)

All Healing Abutments are one-piece abutment and color coded (magenta: for RB and WB implants braun: for WB implants) with laser marked Gingiva Height (GH) and diameter (Ø) on top . Use the color, GH and Ø information to identify the matching temporary and final abutments. Note: for multi unit restorations always use the Abutments marked with B/B (Bridge/Bar).

Slim profile single crown

RB/WB Healing Abutment

After healing, no wide profile crown (WB) nor bridge restoration possible, see on the back page.

Note: Use Healing Abutment Ø5.0, GH 1.5 mm for Variobase® AS and RB/WB CARES® Abutments.

Wide profile single crown, molar

WB Healing Abutment

Note: For WB BLX implants.

Bridge

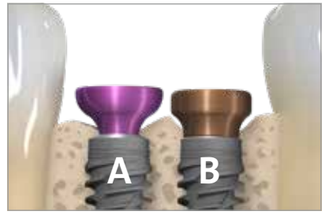
RB/WB Healing Abutment for Bridge/Bar

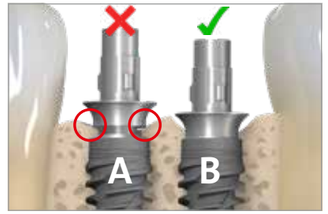
Note: Use this healing abutment if it has not yet been determined whether the restoration will consist of single crowns or a bridge.

Three different types of Healing Abutments with color code and laser marking to identify emergence profile and compatibility.

Single crown: WB Variobase® cannot be seated!

WB Variobase®

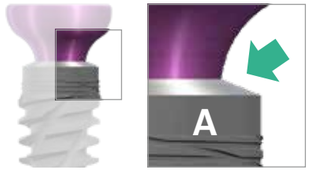




A Implant with a RB/WB Healing Abutment (magenta) has been used → A WB Variobase® **cannot be seated** properly due to bone covering the implant shoulder

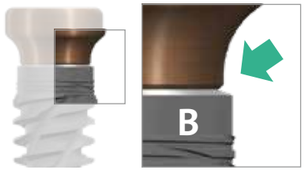
B Implant with a WB Healing Abutment (brown) has been used → A WB Variobase® can be seated since the implant shoulder was properly protected by the appropriate WB Healing Abutment during the healing phase

RB/WB Healing Abutment for Single Crown



- Emerges from ∅2.9 mm
- No protection of outer shoulder

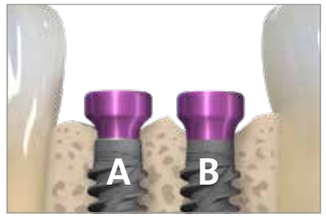
WB Healing Abutment for Bridge/Bar

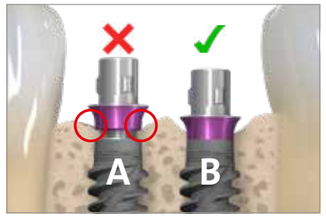


- Emerges from ∅4.0 mm
- Protection of outer shoulder of WB implants

Bridge/Bar restoration: Variobase® for Bridge/Bar cannot be seated!

Variobase® for Bridge/Bar

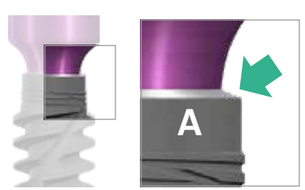




A Implant with a Healing Abutment for **Single Crown** has been used → A Variobase® for Bridge/Bar **cannot be seated** properly due to bone covering the implant shoulder

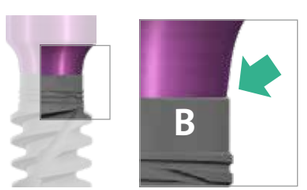
B Implant with a Healing Abutment for **Bridge/Bar** has been used → A Variobase® for Bridge/Bar can be seated since the implant shoulder was properly protected by the appropriate HA for Bridge/Bar during the healing phase

RB/WB Healing Abutment for Single Crown



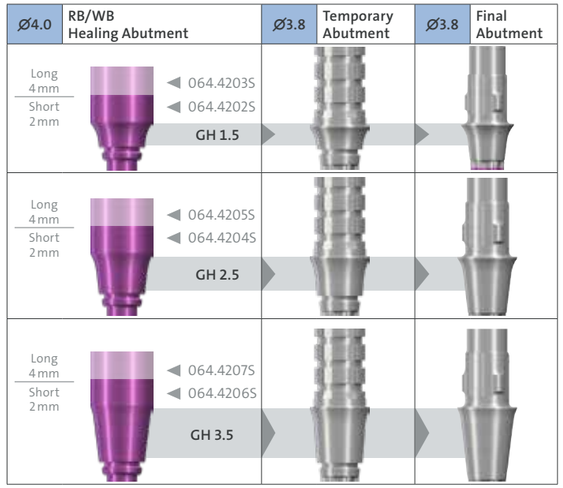
- Emerges from ∅2.9 mm
- No protection of outer shoulder

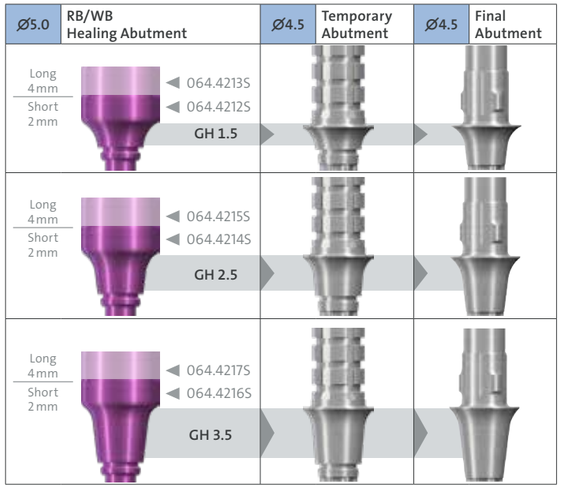
RB/WB Healing Abutment for Bridge/Bar

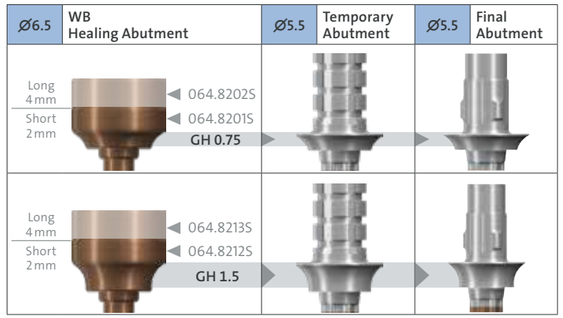


- Emerges from ∅3.4 mm
- Protection of outer shoulder

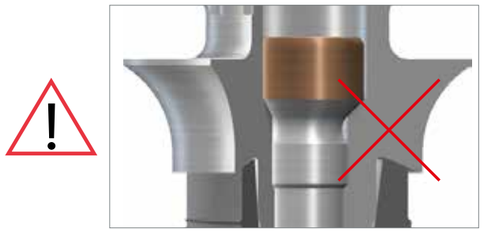
3.2.2 Consistent Emergence Profiles, overview of matching components



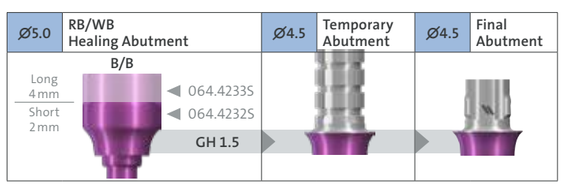




Place WB Abutmets only on wide diameter (WB) Implants. WB Healing Abutmenst exeed the should of RB Implants.



Non-Engaging (Bar/Bridge)

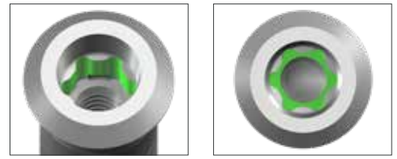


Always communicate the implant diameter and the selected healing abutment to the restoring dentist or dental lab.

3.3 TISSUE LEVEL TORCFIT™ CONNECTION – TLC & TLX

The Straumann® TLC and TLX Implants feature the intuitive TorcFit™ connection. This connection supports self-guiding insertion for clear-cut tactile feedback. Six positions enable a simple yet flexible alignment and outstanding protection against rotation.

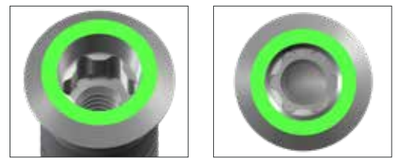
Improved Torx with six positions:
- Allows transmission of high torques
- Simple yet flexible implant and abutment alignment



7° conical prosthetic connection:
- High mechanical stability

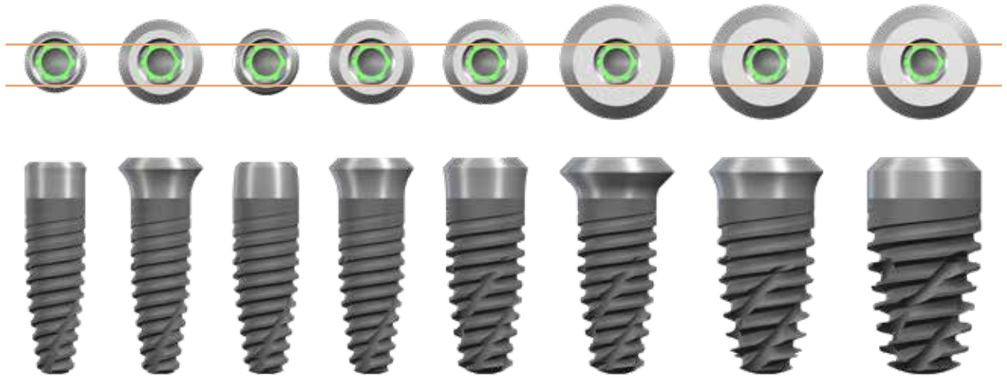
45° shoulder prosthetic connection:
- High mechanical stability
- Exact implant-abutment fit
- Extra wide emergence profiles (implants with diameter >5.5 mm)
- Divergence compensation for bridges

Flat top portion:
- High accuracy for Scanbody



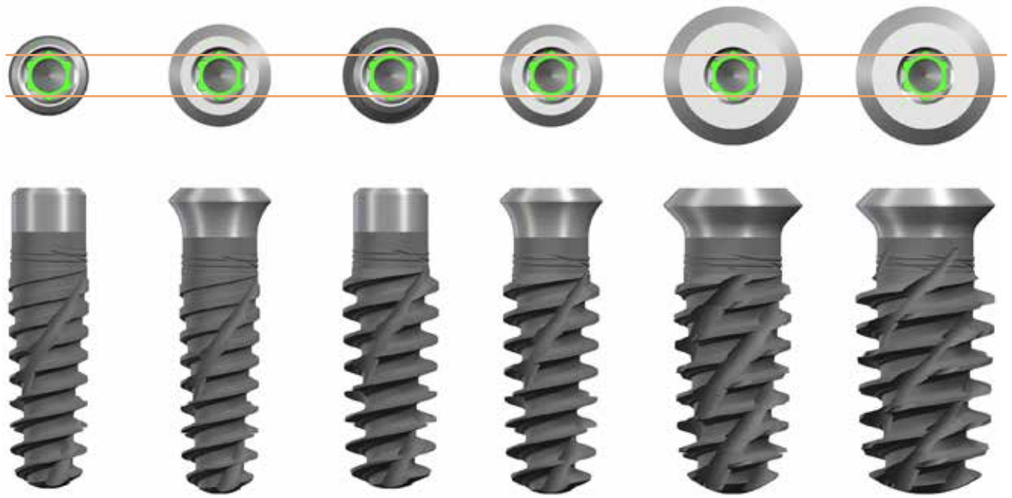
All TLC and TLX Implants have the same inner geometry regardless of the diameter of the implant. This allows the use of the **same implant driver for all implants**.

TLC IMPLANTS



Ø3.3 mm NT | Ø3.3 mm RT | Ø3.75 mm NT | Ø3.75 mm RT | Ø4.5 mm RT | Ø4.5 mm WT | Ø5.5 mm WT | Ø6.5 mm WT

TLX IMPLANTS



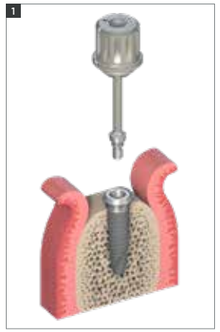
Ø3.75 mm NT | Ø3.75 mm RT | Ø4.5 mm NT | Ø4.5 mm RT | Ø5.5 mm WT | Ø6.5 mm WT

3.4 TISSUE LEVEL – SOFT TISSUE MANAGEMENT

After implantation, the implant is closed – hand-tightened – with a Closure Cap or a Healing Cap or immediately loaded with a final abutment to protect the implant. With the Closure Cap or the Healing Cap, the surgeon can choose between submucosal and transmucosal healing and has all options available for soft tissue management made possible through a set of secondary healing components. The closure cap and Healing Cap are recommended for intermediate use. After the soft-tissue healing phase they are replaced with the appropriate temporary or final restoration.

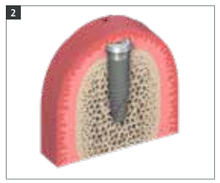
3.4.1 Submucosal healing

For submucosal healing (healing under closed mucoperiosteal flap) the use of a Closure Cap or shorter Healing Cap is recommended. Submucosal healing is suggested in esthetic indications and for implantations with simultaneous guided bone restoration (GBR) or membrane technique. A second surgical procedure is required for uncovering the implant and insertion of the desired secondary component.

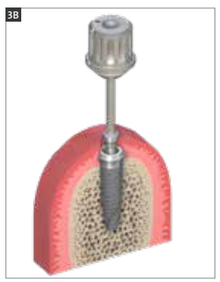


Step 1 – Inserting the Closure Cap or the Healing Cap (1.5 mm) after first surgery
Ensure that the internal configuration of the implant is clean.
Pick up the Closure Cap or the Healing Cap with the SCS Screwdriver. The friction fit will secure the Closure Cap or the Healing Cap to the instrument during insertion and will allow safe handling.
Hand-tighten the Closure Cap or the Healing Cap. The design will provide a tight connection between the two components.

Note: All Closure Cap or a Healing Cap are delivered sterile and ready to use.
Subsequent loosening is made easier by applying chlorhexidine gel or sterile Vaseline to the Closure Cap or a Healing Cap before it is screwed into the implant.

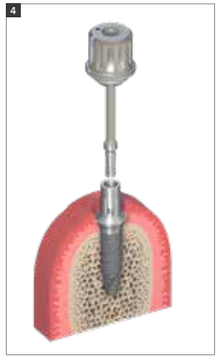


Step 2 – Wound closure
Adapt the mucoperiosteal flaps carefully and suture together with interrupted sutures.
Make sure a tight seal is formed over the implant.



Step 3 – Reopening and removal: second surgery
Locate the implant.
Make a small crestal incision down to the Closure Cap or a short Healing Cap.
Spread the flap slightly and remove the Closure Cap or a short Healing Cap with the SCS Screwdriver.

4

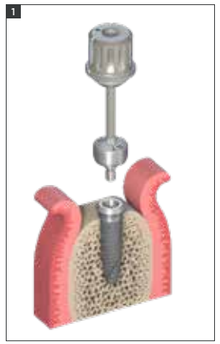


Step 4 – Insertion and wound closure
Rinse the exposed internal connection of the implant thoroughly with sterile saline solution.
Insert the abutment.
Adapt the soft tissue and suture it back tightly without tension around the abutment.

3.4.2 Transmucosal healing

A versatile portfolio of Healing Caps is available for all Straumann® implants, enabling soft-tissue sculpturing during transmucosal healing.

1



Step 1 – Insertion
Ensure that the internal configuration of the implant is clean and bloodless.
Insert the Healing Cap with the SCS Screwdriver. The friction fit secures the components to the instrument during insertion and ensures safe handling.
Hand-tighten the Healing Cap. The design will provide a tight connection between the two components.

Note: All Healing Caps are delivered sterile and ready to use. Subsequent loosening is made easier by applying chlorhexidine gel or sterile Vaseline to the Healing Cap before it is screwed into the implant.

2

Step 2 – Wound closure
Adapt the soft tissue and suture it back tightly around the Healing Cap.

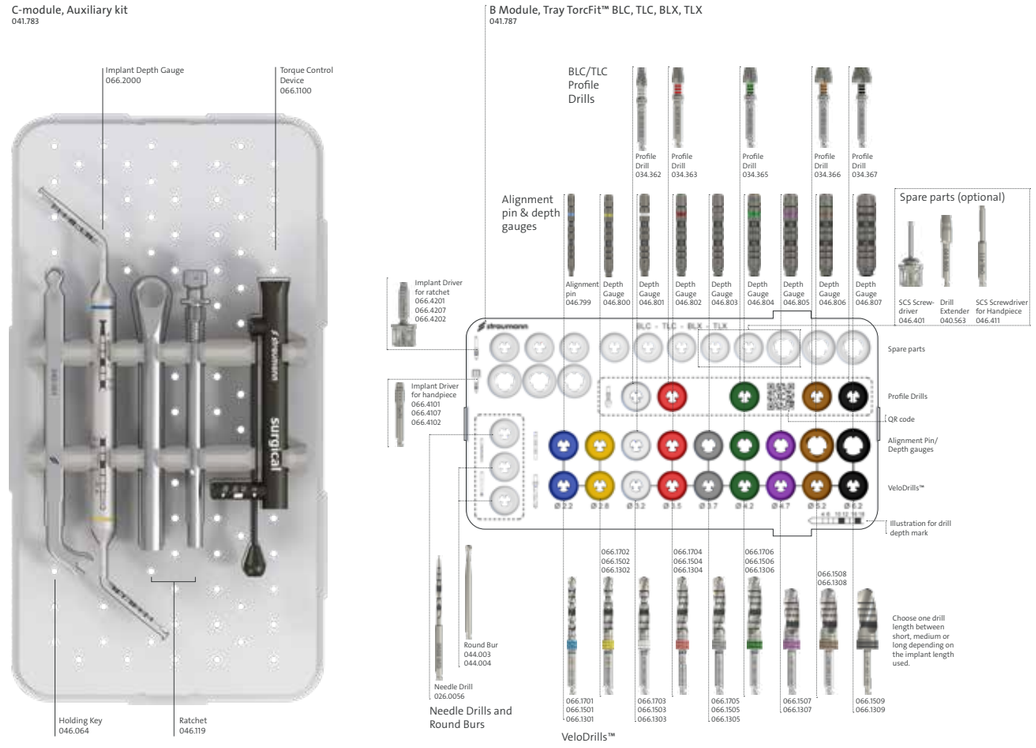
APPENDIX

STRAUMANN® MODULAR CASSETTE

The Straumann® Modular Cassette is used for the sterilization and the secure storage of the surgical instruments and auxiliary instruments. For guidelines on how to clean and sterilize the cassette, please refer to *Straumann® Modular Cassette, Basic Information* (NAMLIT.1297). The B and C modules can be stacked as shown in the picture.

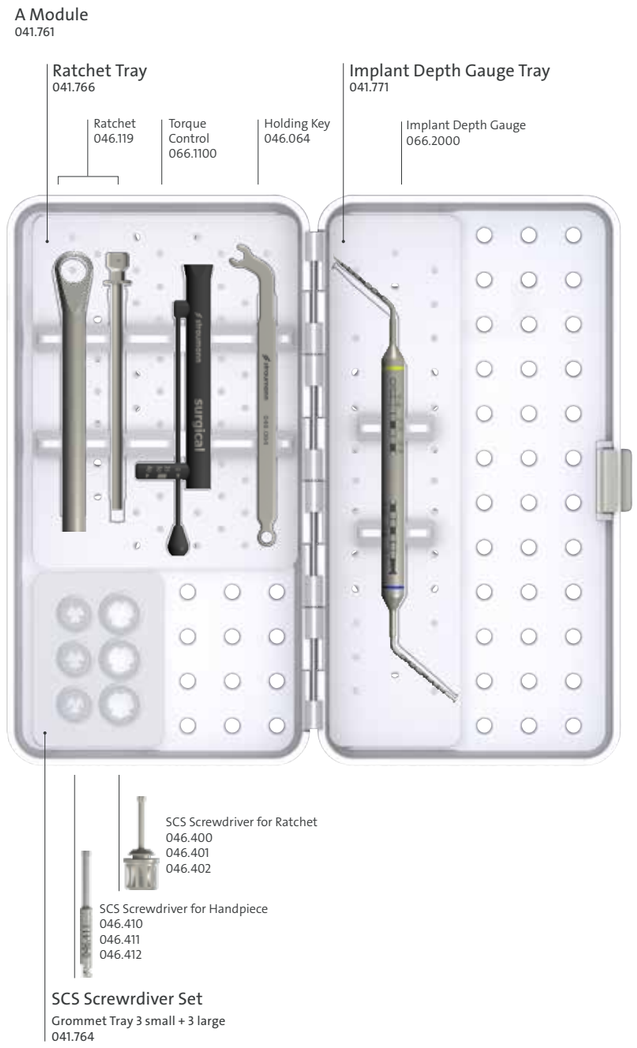
The QR code on the trays of the modular cassette leads to an online webpage to support with documents for the implant surgical workflow and the cassette setup and maintenance.

SETUP FOR FREEHAND SURGERY



For more information refer to *Straumann® Modular Cassette Selection Guide* (NAMLIT.1297).

For additional instruments and tools, please use the A-module. The A Module mainly stores surgical tools that can be shared among different implant lines. Users can set up the A Module according to their needs by changing the removable trays inside the A Module.

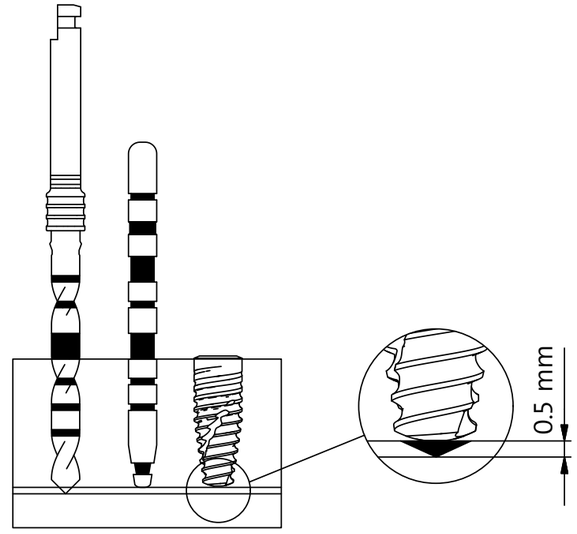


VELODRILLS™

The VeloDrill™ line in the Straumann® Dental Implant System is delivered color-coded and is compatible for freehand and guided surgery.

	Needle Drill	Pilot Drill	Drills							
Color	–									
Image (short)										
Diameter	Ø1.6 mm	Ø2.2 mm	Ø2.8 mm	Ø3.2 mm	Ø3.5 mm	Ø3.7 mm	Ø4.2 mm	Ø4.7 mm	Ø5.2 mm	Ø6.2 mm
Step diameter	–		Ø2.5 mm	Ø3.0 mm	Ø3.3 mm	Ø3.6 mm	Ø3.9 mm	Ø4.4 mm	Ø4.9 mm	Ø5.7 mm
Short	026.0054	066.1301	066.1302	066.1303	066.1304	066.1305	066.1306	066.1307	066.1308	066.1309
Medium	–	066.1501	066.1502	066.1503	066.1504	066.1505	066.1506	–		
Long	026.0056	066.1701	066.1702	066.1703	066.1704	066.1705	066.1706	066.1707	–	
Material	Stainless steel									

Warning: Due to the function and design of the drills, the drill tip is up to 0.5 mm longer than the insertion depth of the implant. For example, if you drill until the 10 mm marking the actual osteotomy has a depth of 10.5 mm.



For more information on Guided Surgery refer to the *Straumann® iExcel System – Guided Surgery System Instruments, Basic Information* (NAMLIT.1719).

STRAUMANN® DRILL STOP – PRECISE DEPTH CONTROL

The Straumann® Drill Stop provides precise depth control over drilling depth during implant bed preparation for the placement of Straumann® dental implants. The drill stop restricts drilling deeper than the predefined depth, to be used in sensitive indications to avoid the mandibular nerve or sinus floor.

All drill stops allows fast and secure mounting and dismounting manually or with a drill stop aid. Color-coding allows easy identification of diameter size.

Delivered in sterile sets, the Straumann® Drill Stop is designed for single-patient use only and must be used in conjunction with drills specifically designed for them.

- Multi use VeloDrill™, short

Art. No.	Article	Picture
040.584S	Drill Stop Set, Type A, for drill Ø2.2-4.2 mm, short 12 mm	
040.585S	Drill Stop Set, Type B, for drill Ø2.2-4.2 mm, short 10 mm	
040.586S	Drill Stop Set, Type C, for drill Ø2.2-4.2 mm, short 8 mm	
040.587S	Drill Stop Set, Type D, for drill Ø2.2-4.2 mm, short 6 mm	
040.588S	Drill Stop Set, Type E, for drill Ø2.2-4.2 mm, short 4 mm	
040.589S	Drill Stop Set, Type A wide, for drill Ø4.7-6.2 mm, short 12 mm	
040.590S	Drill Stop Set, Type B wide, Ø4.7 - 6.2 mm, for drill Ø4.7-6.2 mm, short 10 mm	
040.591S	Drill Stop Set, Type C wide, Ø4.7 - 6.2 mm, for drill Ø4.7-6.2 mm, short 8 mm	
040.592S	Drill Stop Set, Type D wide, Ø4.7 - 6.2 mm, for drill Ø4.7-6.2 mm, short 6 mm	
040.593S	Drill Stop Set, Type E wide, Ø4.7 - 6.2 mm, for drill Ø4.7-6.2 mm, short 4 mm	
040.594	Drill Stop Aid	

For more information refer to the *Straumann® Drill Stop, Basic Information* (NAMLIT.1347).

RATCHET AND TORQUE CONTROL DEVICES

The Ratchet is a two-part lever arm instrument with a rotary knob for changing the direction of force. It is supplied with a service instrument, which is used to tighten and loosen the head screw. The Holding Key (046.064) can be used to stabilize the Ratchet.

Two different Torque Control Devices are available for defined torque transmission or for torque measurements, with markings of 15 Ncm / 35 Ncm and 35-50 Ncm / 80 Ncm, respectively. Choose the appropriate device depending on the intended use.

Ratchet and Torque Control Devices				
	Holding Key	Ratchet	Torque Control Device for Ratchet	Torque Control Device for Ratchet, Surgical
				
Intended use	Auxilliary	Torque transmission	Prosthetic	Surgical
Torque markings	NA	NA	0 / 15 / 35 Ncm	0 / 35 / 50 / 80 Ncm
Article number	046.064	046.119	046.049	066.1100
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel, DLC coated

Note: To ensure prolonged perfect function and cleanability, the Ratchet must always be taken apart and the individual parts disinfected, cleaned and sterilized after use. Its function must be checked in good time before each use.

Always use the Service Instrument to tighten the bolt of the Ratchet before use.

Torque reading on Torque Control Device:

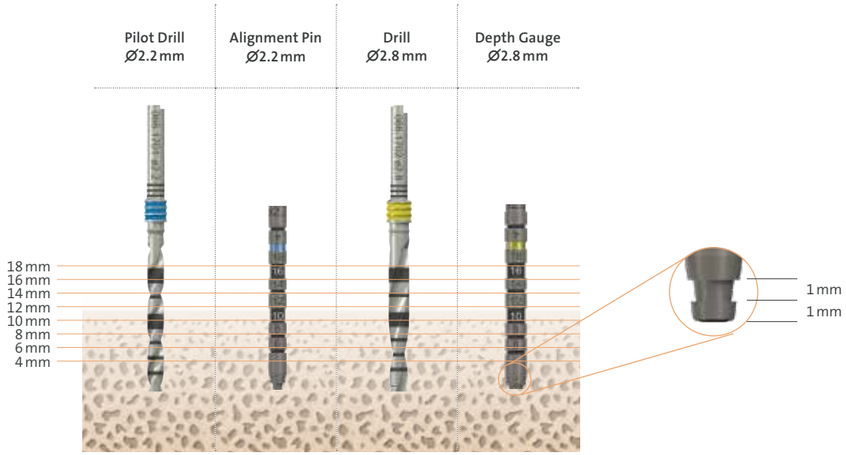
EXTERNAL IRRIGATION WHEN USING DRILL EXTENDER

The Stop Ring reduces the effectiveness of the irrigation when a Drill Extender is used. In this case use additional external irrigation (e.g with a syringe) to ensure proper cooling of the osteotomy during drilling.

ALIGNMENT PINS AND DEPTH GAUGES

Alignment Pins and Depth Gauges are available for accurate depth measurements and alignment of orientation and position of the osteotomy. Their diameters and colors correspond to the drill diameters and are compatible with all Straumann® Dental Implant Systems.

The tip and the groove are both 1.0 mm long. This allows distortion measurements on an interoperative radiograph.



IMPLANT DEPTH GAUGE

The Implant Depth Gauge is used for accurate depth measurement and tactile examination of the osteotomy.
Blue end: use to examine osteotomy made by Pilot Drill (Ø2.2 mm)
Yellow end: use to examine osteotomy made with Drill Ø2.8 mm and wider.
The Implant Depth Gauge is made of titanium alloy (TAN) and is compatible with all Straumann® Dental Implant Systems.

Implant Depth Gauge, 066.2000

DETERMINING THE VERTICAL BONE AVAILABILITY (X-RAY REFERENCE SPHERE AND X-RAY REFERENCE FOIL)

The vertical bone availability determines the maximum allowable length of the implant that can be placed. A minimum distance of 2 mm between the apex of the implant and the alveolar nerve should be kept. For easier determination of the vertical bone availability, we recommend the use of an x-ray reference foil with X-ray Reference Sphere.

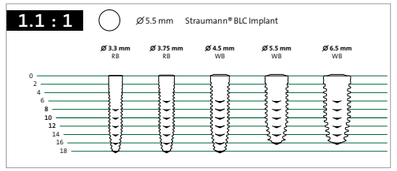
The X-ray Reference Sphere (art. no. 049.076V4) has a diameter of 5 mm. The image of the sphere on the X-ray provides the reference value for the magnification scale. To prepare a reference sphere-carrying template, the selected implant positions are marked on the study cast. The X-ray Reference Spheres are fixed at the marked points. The vacuum-formed template is then made with the spheres. The subsequent X-ray shows the vertical bone availability and mucosal thickness, from which the corresponding implant length and type can be derived, in consideration of the enlargement factor.

The Reference Foil is used for measurement and comparison. It assists the user in selecting the suitable implant type, diameter and length. Similar to the distortions that occur in x-rays, the implant dimensions are shown on the individual reference foils with the corresponding distortion factors (1:1 to 1.7:1). Each magnification factor or scale is determined by showing the X-ray Reference Sphere on the reference foil. First, compare the size of the X-ray Reference Sphere on the patient's x-ray with the size of the Reference Sphere on the reference foil. Superimpose the two pictures to find the correct scale. Next, determine the spatial relations around the implant position, and establish the implant length and insertion depth.

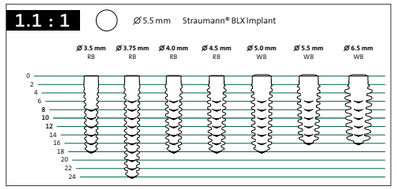
To calculate the effective bone availability, use the following formula:

$$\frac{\text{X-ray Reference sphere 5 mm} \times \text{bone availability (X-ray*)}}{\text{Reference sphere diameter on the X-ray}} = \text{effective bone availability}$$

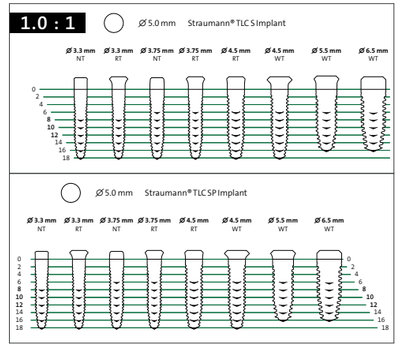
* Taking into consideration all implant-related anatomical structures (e.g. mandibular canal, sinus maxillaris, etc.)



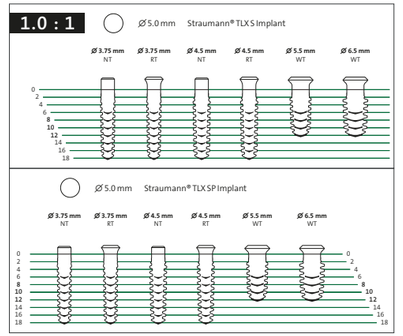
X-ray Reference Foil BLC Implants, 065.0104



X-ray Reference Foil for BLX Implants, 065.0000



X-ray Reference Foil TLC Implants, 065.0105



X-ray Reference Foil for TLX Implants, 036.3400

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