

Neo SR kit Screw Remover

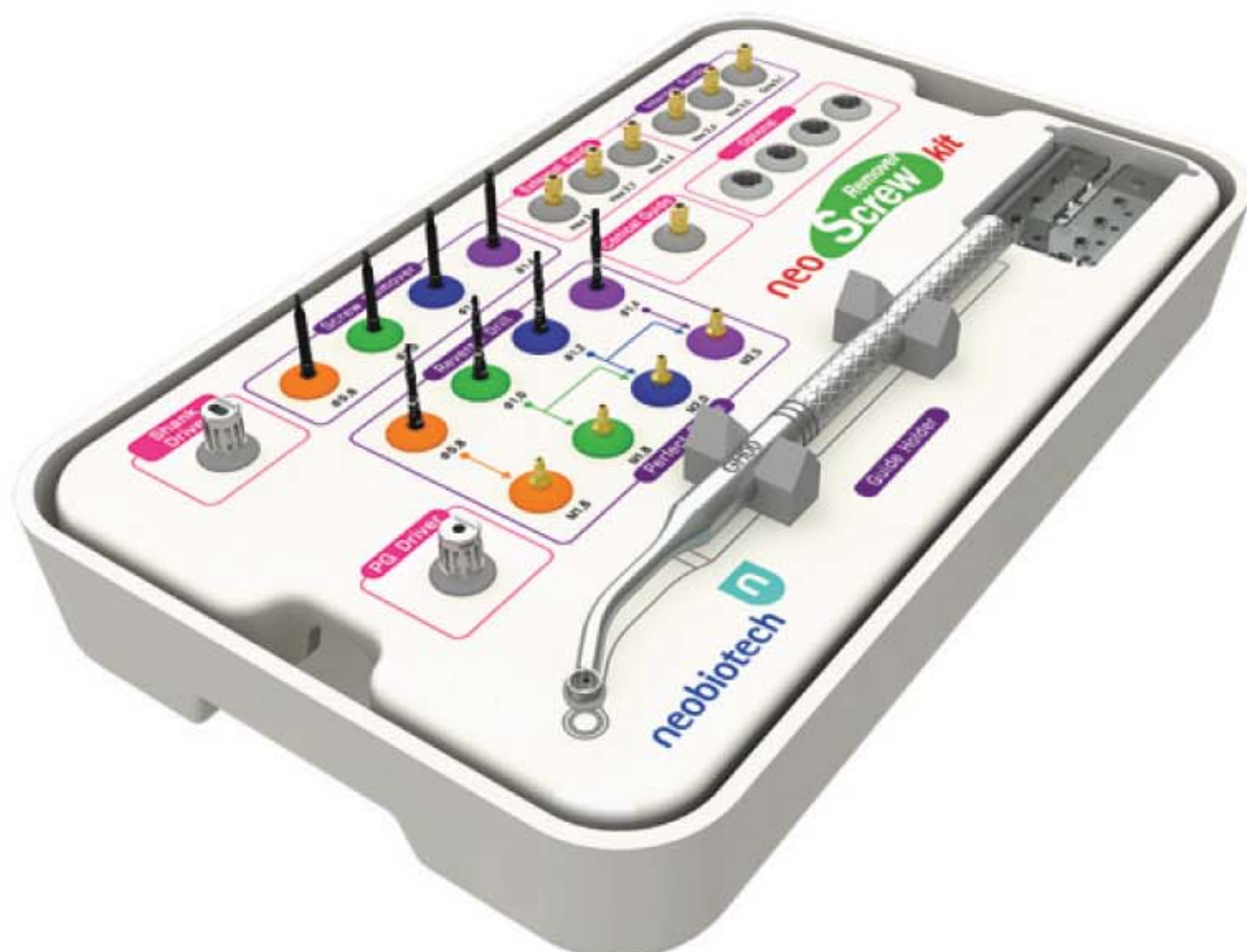
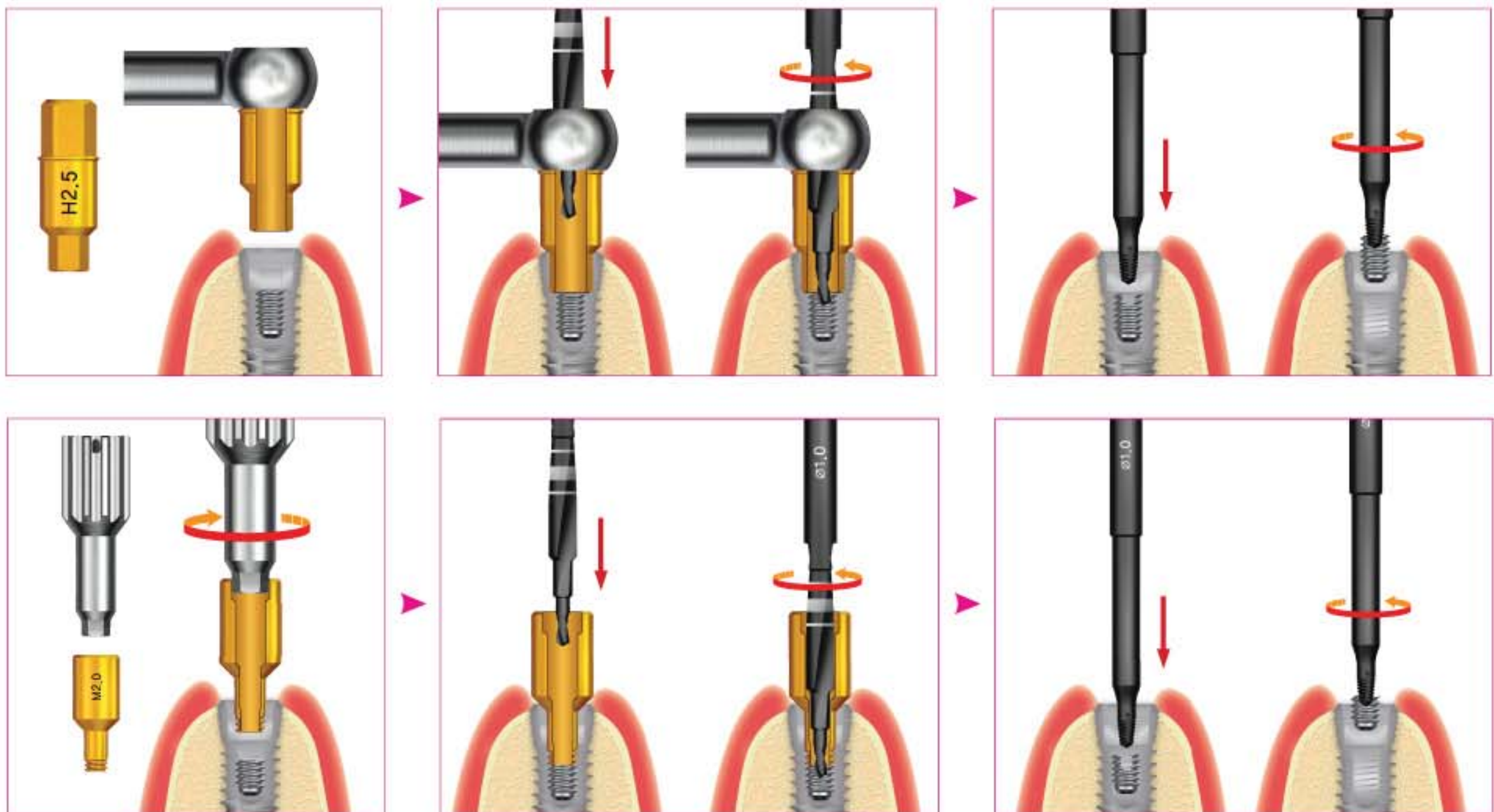


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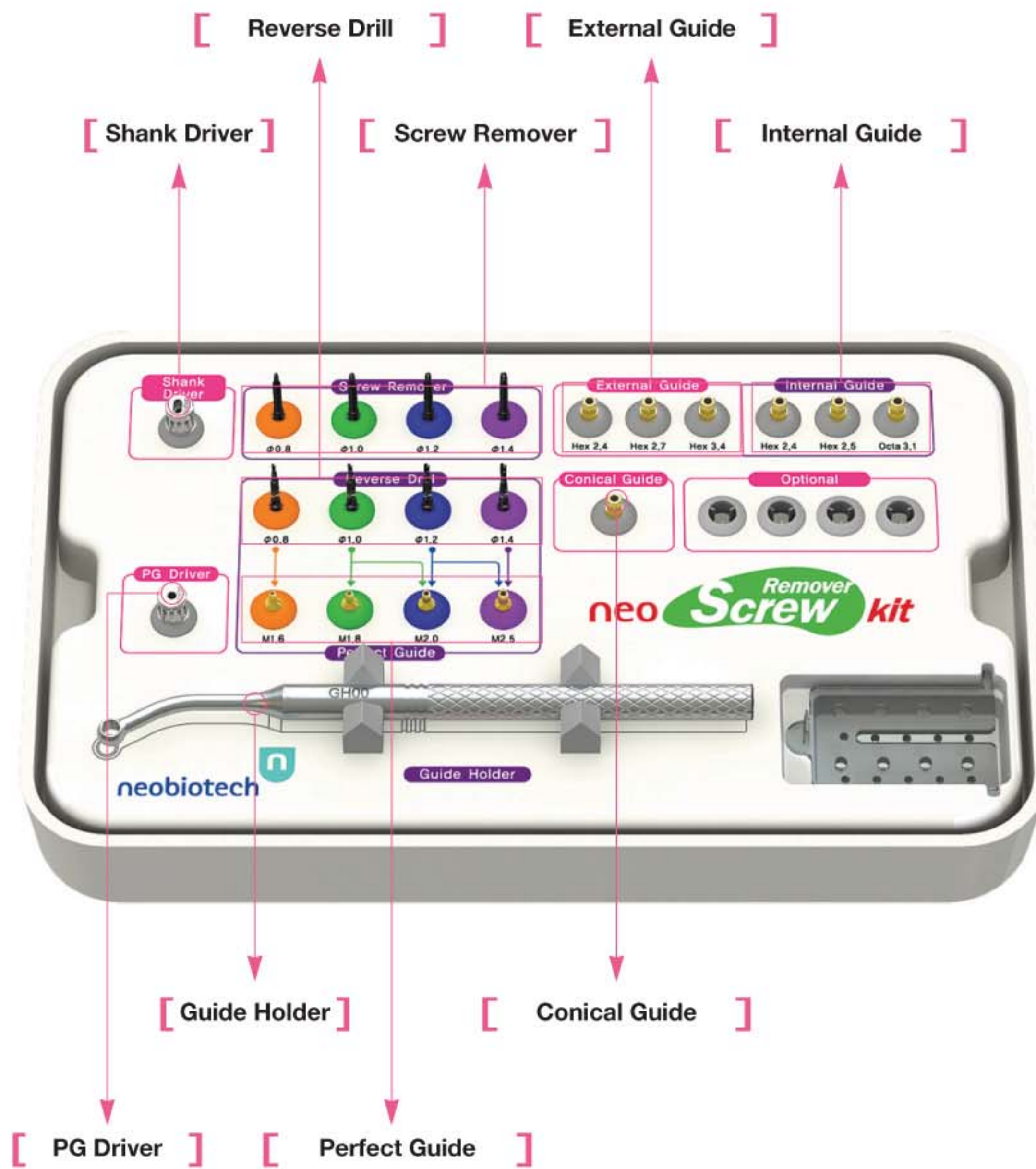
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Introduction

neo Screw Remover kit This is kit consisting of the tools designed to remove the fractured screw fast and safely in case that the screw inside the inserted fixture are fractured due to several reasons.



Neo SR(Screw Remover) KIT Composition



Neo SR(Screw Remover) KIT Component

1. Reverse Drill



- This is an instrument to form the hole for screw remover to insert on the fractured screw before using a screw remover which has the function to remove the screw. According to edge diameter, it is consisted of 4types and selects a reverse drill suitable for the size of screw desired to remove.

- This enables to adjust the drilling the drilling depth 1mm~3mm as it is marked.

Diameter(ϕ)	Product Name	Fractured Screw Size
0.8	RCD 08	M1.6
1.0	RCD 10	M1.8 or M2.0
1.2	RCD 12	M2.0 or M2.5
1.4	RCD 14	M2.5

※ Abutment Screw standard is different according to the manufacturer but generally, except for special case, the screws of M1.6, M1.8, M2.0, M2.5 are used.

("M" means the meter screw and the number means the diameter of screw. For example, "M1.6 screw" means the meter screw with screw diameter 1.6mm.)

2. Screw Remover



This is an instrument to remove the fractured screw by inserting the screw remover suitable for the hole formed by a reverse drill and turning counterclockwise at less than 80rpm. Screw Remover is designed with the taper structure so that the more it turns the ore the friction force required to loosen increases.

Diameter(ϕ)	Product Name	Application
0.8~1.1	SR 08	When the hole is formed by Reverse Drill ϕ 0.8(RCD08)
1.0~1.3	SR 10	When the hole is formed by Reverse Drill ϕ 1.0(RCD10)
1.2~1.5	SR 12	When the hole is formed by Reverse Drill ϕ 1.2(RCD12)
1.4~1.7	SR 14	When the hole is formed by Reverse Drill ϕ 1.4(RCD14)

※ SR14 is use for broken hex of the screw.

Neo SR(Screw Remover) KIT Component

3. Shank Driver



This is an instrument designed to use by hand or torque wrench or ratchet by attaching the screw remover to this instrument.

Product Name	Application Product
SDH 00	SR08, SR10, SR12, SR14

4. Perfect Guide & PG Driver

Perfect Guide plays a role of the guide of Reverse Drill and is used when the screw is fractured downward female screw inside the fixture, and is used by attaching directly to the fixture female screw using a PG Driver.

- As there is a specially designed bump which enables to push the fractured screw together by turning it when attaching a Perfect Guide, the guide can be attached perfect.
- Inside Perfect Guide, a drill stop is designed to avoid drilling more than 2mm.
- As this is attached directly to the Fixture for use, the tool to fix the guide is not needed when drilling.



• Perfect Guide

Standard	Product Name	Application fixture female screw	Application Reverse Drill
ø0.8 / M1.6	PG 0816	M1.6	RCD 08
ø1.0 / M1.8	PG 1018	M1.8	RCD 10
ø1.2 / M2.0	PG 1220	M2.0	RCD 10, 12
ø1.4 / M2.5	PG 1425	M2.5	RCD 12, 14



• PG Driver

Hex(mm)	Product Name	Application Product
2.5	PGHD 25S	PG0816, PG1018, PG1220, PG1425

※ Be sure to use the same size of Perfect Guide as fixture female screw.

Neo SR(Screw Remover) KIT Component

5. Conical, Internal & External Guide

Like Perfect Guide, these instruments play a role of the guide of Reverse Drill and are used when a Perfect Guide can not be used, or when the screw is fractured in the deep area downward more than 2mm in the beginning of female screw inside the fixture, and select the proper guide to use according to the internal connection.



• Conical Guide

Size	Product Name	Application Fixture
11°/8°	CG 00	Having 11° or 8° internal connection Fixture



• Internal Guide

Size	Product Name	Application Fixture
2.4 Hex	IHG 24	Having 2.4 Hex internal connection Fixture
2.5 Hex	IHG 25	Having 2.5 Hex internal connection Fixture
3.1 Octa	IOG 31	Having 3.1 Octa internal connection Fixture



• External Guide

Size	Product Name	Application Fixture
2.4 Hex	EHG 24	Having 2.4 Hex external connection Fixture
2.7 Hex	EHG 27	Having 2.7 Hex external connection Fixture
3.4 Hex	EHG 34	Having 3.4 Hex external connection Fixture

6. Guide Holder



This is an instrument to hold by hand and fix the Internal Guide, External Guide and Conical Guide which play a role of the guide when using a Reverse Drill, after attaching them to this instrument.

Standard	Product Name	Application Product
3.5 Double Hex	GH 00	Conical Guide : CG00 Internal Guide : IHG24, IHG25, IOG31 External Guide : EHG24, EHG27, EHG34

※ In case of impossible use of Perfect Guide situation, use Guide Holder with Conical, Internal, and External Guide.

User Guide

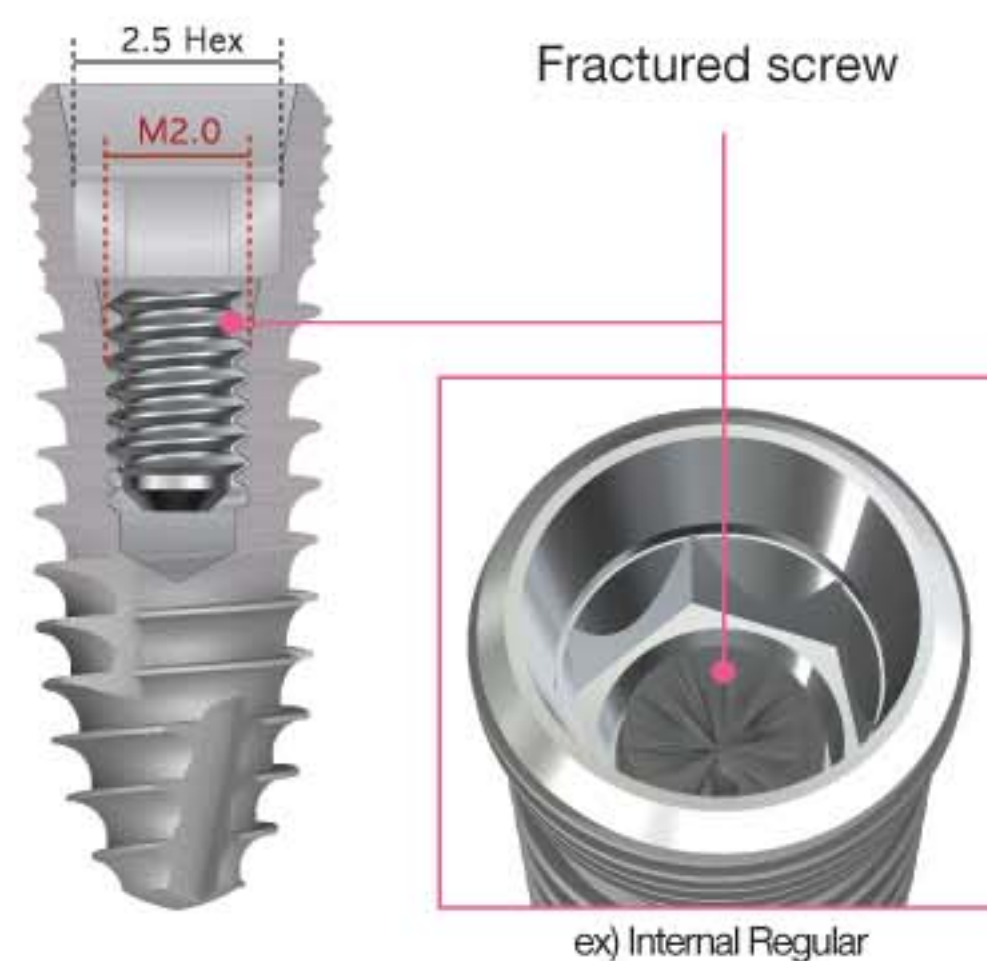
1. Sterilize

Sterilize the desired components to use only or sterilize the whole kit that the components are inserted.

2. Find standard size for Fixture & Screw

Check the size of Fixture connection or the desired fractured screw to remove or the female screw inside the fixture.

※ If you don't know the size of Fixture connection or the fractured screw or the female screw of fixture, be sure to ask the manufacturer or agent for information.



▶ Fixture connection

External : 2.4Hex, 2.7Hex, 3.3Hex ,3.4Hex
Internal : 2.4Hex, 2.5Hex, 3.1 Octa

▶ Screw standard

In general M1.6, M1.8, M2.0, M2.5 are mostly fitted

3. Guide for selection & connection

Select the suitable guide for Fixture connection and screw size and attach it to the fixture.

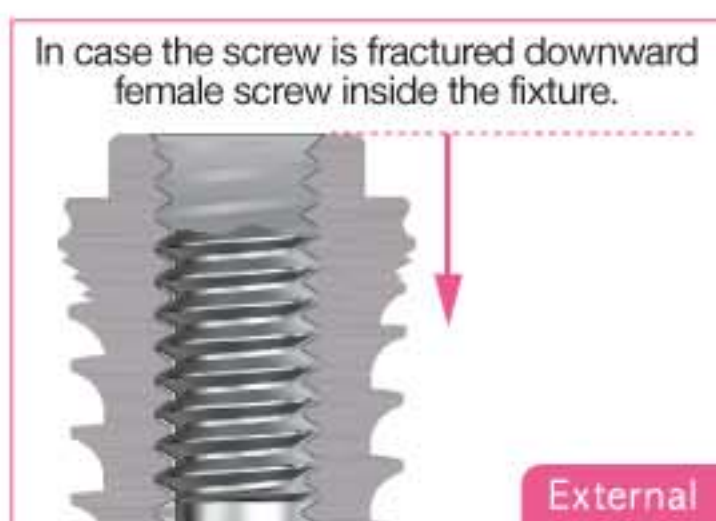
1. Usage of Perfect guide.

Use a PG Driver to attach the Perfect Guide which corresponds to the size of female screw of fixture, to the female screw of the fixture.

Attach it with about 10Ncm which is a torque enough to tighten by the hand force.

2. Usage of External, conical, internal guide.

When there is a situation which cannot use Perfect Guide or abutment screw has been fractured more than 2mm, select one proper guide among External Guide, Conical Guide, and Internal Guide and install the selected guide on the Guide Holder and then attach it to the fixture.



User Guide

4. Usage of Reverse Drill

Select suitable Reverse Drill to the size of screw desired to remove and attach it to the contra angle of surgical engine and then insert it in the Guide installed in the fixture and turn it counterclockwise at 1,200rpm~1,300rpm to form 1~2mm hole on the fractured screw. As the heat may generate by drilling, the sufficient irrigation is needed.

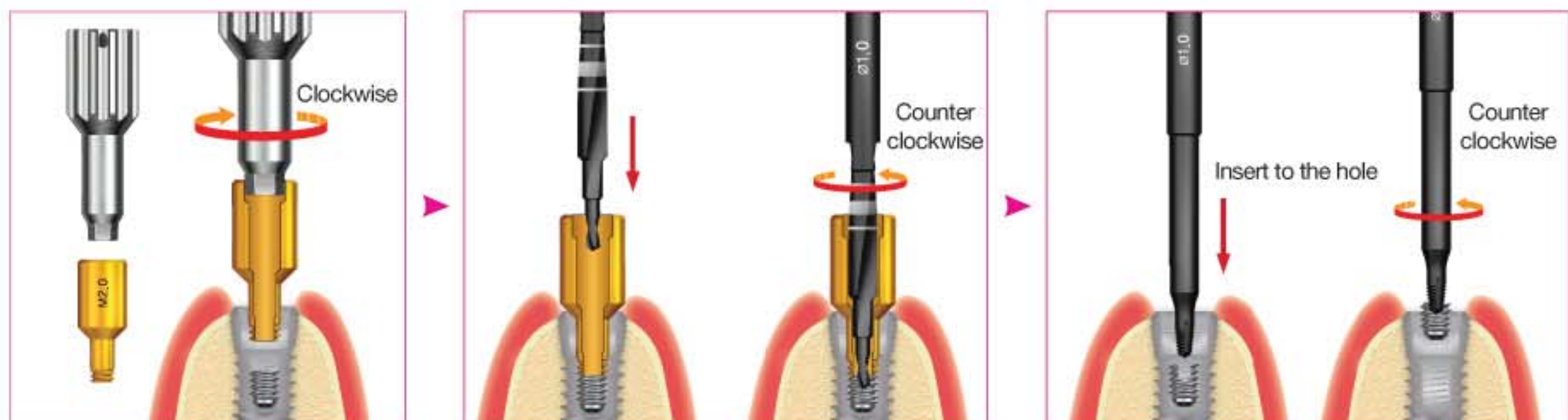
※ To reduce the mistake to attach the Perfect Guide which has different size with that of female screw of Fixture, attach the Perfect Guide with a bigger diameter first and if not fitted, try to attach the smaller Perfect Guide.

5. Usage of Screw Remover

After removing the attached guide, select the Screw Remover suitable for the hole formed by a Reverse Drill and attach it to the contra angle of surgical engine and then press the Screw Remover on the formed hole with the proper force and turn it counterclockwise less than 80rpm to loosen the screw.

If a Screw Remover is attached to Shank Driver, it is available to loosen the fractured screw by hand or by connecting a Ratchet or Torque Wrench.

► Perfect Guide



Connect PG Driver to Perfect Guide before connecting Perfect Guide to the fixture.

- In order to make 1~2mm hole of fractured screw, it needs to insert Reverse drill to the Guide and drill counterclockwise with irrigation.
- Do not connect the Guide while the drill is rotating. You must drill when Reverse drill touches the surface of the screw.

Remove the Guide with the drill, the insert a suitable Screw Remover to the hole and remove the fractured screw by rotating counterclockwise.

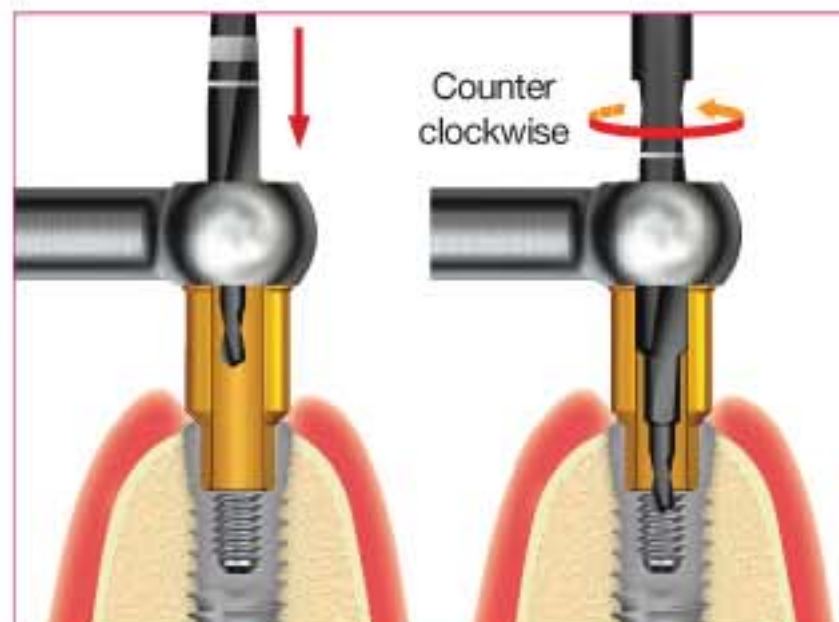
※ As a drill stop is designed inside Perfect Guide, the drilling more than 2mm is not possible. However, for External Guide, Conical Guide and Internal Guide, a drill stop is not designed other than Perfect Guide. Thus, when drilling, be sure to check the strip marking which indicates the drilling depth of Reverse Drill.

User Guide

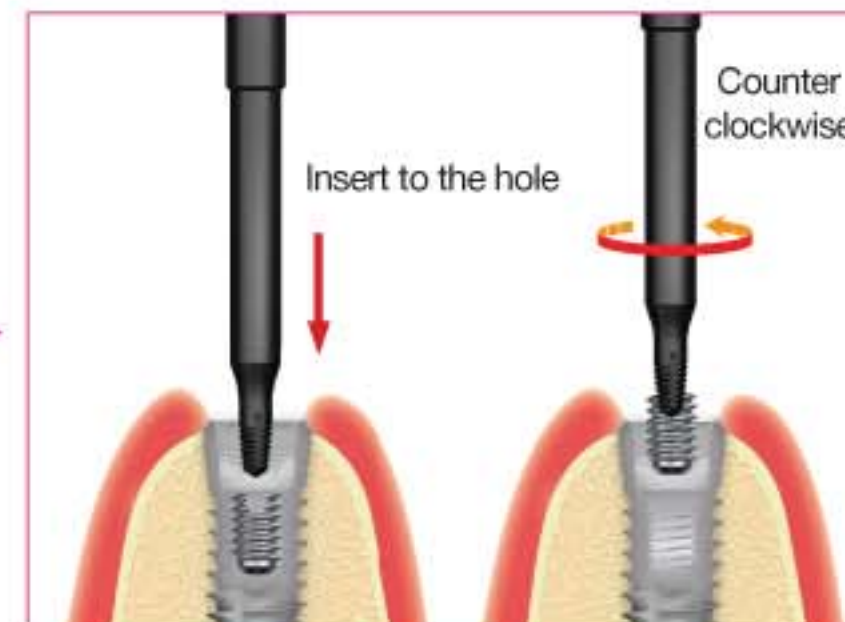
▶ External, Internal, Conical Guide



Install the selected guide on the Guide Holder and then attach it to the fixture by hand.



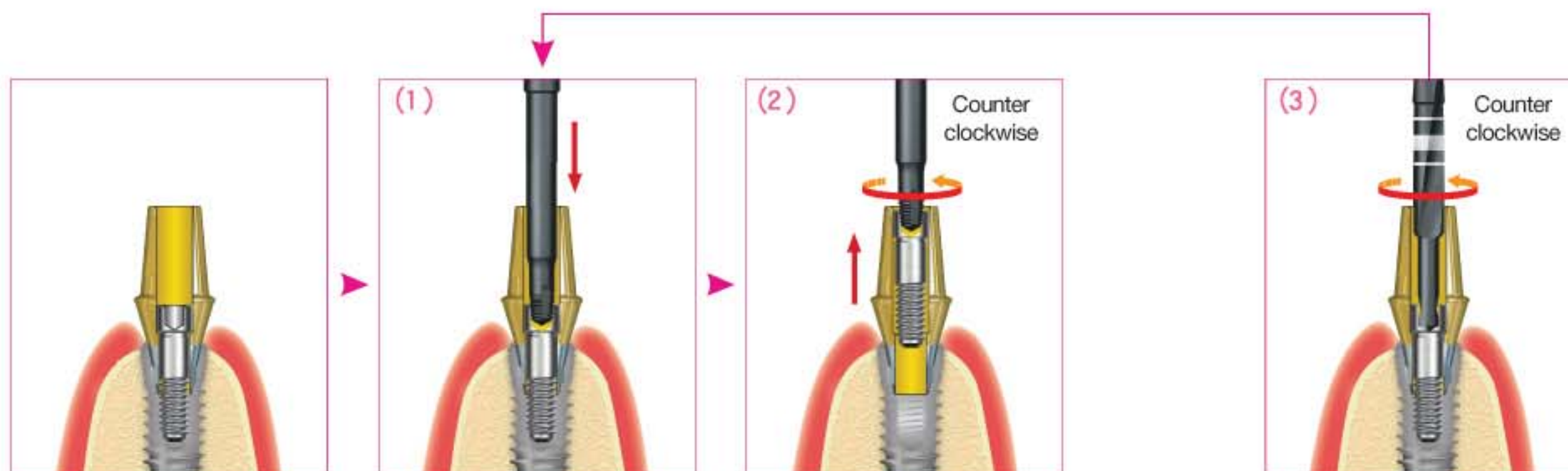
-In order to make 1~2mm hole of fractured screw, it needs to insert Reverse drill to the Guide and drill counterclockwise with irrigation.
-Do not connect the Guide while the drill is rotating. You must drill when Reverse drill touches the surface of the screw.



Remove the Guide with the drill, the insert a suitable Screw Remover to the hole and remove the fractured screw by rotating counterclockwise.

▶ In case of broken hex of Abutment screw.

When there is over torque by combining the Fixture and the abutment, hex of the screw head can be distorted. On this case, using screw remover kit, screw of abutment can be easily removed.















1. Insert \varnothing 1.4 screw remover (SR14) counterclockwise by below 80 rpm to remove the screw. (Picture 1->2)

2. In case the screw remover runs by itself not with the screw, then use \varnothing 1.4 reverse drill (RCD14) to the hex and run 1,200~ 1,300rpm counterclockwise and make 1~1.5mm hole and then use \varnothing 1.4 screw remover(SR14) again. (Picture 1->2->3->1->2)













※ Notices

1. Read the purpose of the product and how to use thoroughly before using.
2. If you select a Tool wrong, the fixture may be damaged. So, after checking the size of screw desired to remove or fixture connection, select the proper Guide, Reverse Drill, and Reverse Tap to use.
3. If Perfect Guide is not attached well, do not force to attach it but select the proper guide suitable for the fixture connection among External Guide, Conical Guide, and Internal Guide. If you force to attach the Perfect Guide, the fixture may be damaged.
4. Reverse Drill and Screw Remover should be used at optimal rpm.
5. If the used tool is left alone, it may cause the rust or corrosion. Be sure to dry thoroughly after washing and store it in the dry place at ambient temperature.

Perfect Guide screw removal sequence.












Fractured screw size	Step 1(Perfect Guide selection)		Step 2(Reverse Drill)		Step 3(Screw Remover)				
M1.6 screw		Product Name	PG0816		Product Name	RCD08		Product Name	SR08
		Standard	ϕ 0.8 / M1.6		Standard	ϕ 0.8		Standard	ϕ 0.8 ~ ϕ 1.1
M1.8 screw		Product Name	PG1018		Product Name	RCD10		Product Name	SR10
		Standard	ϕ 1.0 / M1.8		Standard	ϕ 1.0		Standard	ϕ 1.0 ~ ϕ 1.3
M2.0 screw (Method 1)		Product Name	PG1220		Product Name	RCD10		Product Name	SR10
		Standard	ϕ 1.2 / M2.0		Standard	ϕ 1.0		Standard	ϕ 1.0 ~ ϕ 1.3
M2.0 screw (Method 2)		Product Name	PG1220		Product Name	RCD12		Product Name	SR12
		Standard	ϕ 1.2 / M2.0		Standard	ϕ 1.2		Standard	ϕ 1.2 ~ ϕ 1.5

※ When you use the Perfect Guide, in case of M2.0 and M2.5, you can remove the fractured screw by sequence of method1 and 2.










Fractured screw size	Step 1(Perfect Guide selection)		Step 2(Reverse Drill)		Step 3(Screw Remover)																
M2.5 screw (Method 1)		Product Name	PG1425		Product Name	RCD12		Product Name	SR12												
		Standard	ϕ 1.4 / M2.5		Standard	ϕ 1.2		Standard	ϕ 1.2 ~ ϕ 1.5												
M2.5 screw (Method 2)		Product Name	PG1425		Product Name	RCD14		Product Name	SR14												
		Standard	ϕ 1.4 / M2.5		Standard	ϕ 1.4		Standard	ϕ 1.4 ~ ϕ 1.7												
How to using	Use a PG Driver to attach the Perfect Guide which corresponds to the size of female screw of fixture to the female screw of the fixture by the hand force. (Torque: About 10Ncm)			Connect the Reverse Drill with the contra angle of surgical engine and then insert it in the Perfect Guide installed in the fixture and turn it at 1,200~1,300 rpm to form the 1~2mm hole on the fractured screw.			After removing the attached guide, select the Screw Remover suitable for the hole formed by a Reverse Drill and attach it to the contra angle of surgical engine and then press the Screw Remover on the formed hole with the proper force and turn it less than 80 rpm to loosen the screw.														
	<table border="1"> <thead> <tr> <th colspan="3">Auxiliary tool</th> </tr> </thead> <tbody> <tr> <td rowspan="2"></td> <td>Product Name</td> <td>PG Driver</td> </tr> <tr> <td>Standard</td> <td>2.5Hex</td> </tr> </tbody> </table>			Auxiliary tool				Product Name	PG Driver	Standard	2.5Hex	<table border="1"> <thead> <tr> <th colspan="3">Auxiliary tool</th> </tr> </thead> <tbody> <tr> <td rowspan="2"></td> <td>Product Name</td> <td>Shank Driver</td> </tr> <tr> <td>Standard</td> <td>for hand or ratchet</td> </tr> </tbody> </table>			Auxiliary tool				Product Name	Shank Driver	Standard
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	Product Name	PG Driver																			
	Standard	2.5Hex																			
Auxiliary tool																					
	Product Name	Shank Driver																			
	Standard	for hand or ratchet																			

※ In case of removing M2.0 and M2.5 size screw, if you fail to remove the screw by sequence of the method1, you can have one more chance removing the screw by sequence of the method2.

External, Internal, Conical Guide screw removal sequence

Fractured screw size	Step 1(Perfect Guide selection)	Step 2(Reverse Drill)	Step 3(Screw Remover)								
M1.6 screw	<p>Conical Guide</p> 	 <table border="1"> <tr> <td>Product Name</td> <td>RCD08</td> </tr> <tr> <td>Standard</td> <td>φ 0.8</td> </tr> </table>	Product Name	RCD08	Standard	φ 0.8	 <table border="1"> <tr> <td>Product Name</td> <td>SR08</td> </tr> <tr> <td>Standard</td> <td>φ 0.8 ~ φ 1.1</td> </tr> </table>	Product Name	SR08	Standard	φ 0.8 ~ φ 1.1
Product Name	RCD08										
Standard	φ 0.8										
Product Name	SR08										
Standard	φ 0.8 ~ φ 1.1										
M1.8 screw	<p>Internal Guide</p> 	 <table border="1"> <tr> <td>Product Name</td> <td>RCD10</td> </tr> <tr> <td>Standard</td> <td>φ 1.0</td> </tr> </table>	Product Name	RCD10	Standard	φ 1.0	 <table border="1"> <tr> <td>Product Name</td> <td>SR10</td> </tr> <tr> <td>Standard</td> <td>φ 1.0 ~ φ 1.3</td> </tr> </table>	Product Name	SR10	Standard	φ 1.0 ~ φ 1.3
Product Name	RCD10										
Standard	φ 1.0										
Product Name	SR10										
Standard	φ 1.0 ~ φ 1.3										
M2.0 screw (Method 1)	<p>External Guide</p> 	 <table border="1"> <tr> <td>Product Name</td> <td>RCD10</td> </tr> <tr> <td>Standard</td> <td>φ 1.0</td> </tr> </table>	Product Name	RCD10	Standard	φ 1.0	 <table border="1"> <tr> <td>Product Name</td> <td>SR10</td> </tr> <tr> <td>Standard</td> <td>φ 1.0 ~ φ 1.3</td> </tr> </table>	Product Name	SR10	Standard	φ 1.0 ~ φ 1.3
Product Name	RCD10										
Standard	φ 1.0										
Product Name	SR10										
Standard	φ 1.0 ~ φ 1.3										
M2.0 screw (Method 2)	<p>According to Fixture connection, select one paper guide among External Guide, Conical Guide, and Internal Guide and install the selected guide on the Guide Holder and then attach it to the fixture.</p>	 <table border="1"> <tr> <td>Product Name</td> <td>RCD12</td> </tr> <tr> <td>Standard</td> <td>φ 1.2</td> </tr> </table>	Product Name	RCD12	Standard	φ 1.2	 <table border="1"> <tr> <td>Product Name</td> <td>SR12</td> </tr> <tr> <td>Standard</td> <td>φ 1.2 ~ φ 1.5</td> </tr> </table>	Product Name	SR12	Standard	φ 1.2 ~ φ 1.5
Product Name	RCD12										
Standard	φ 1.2										
Product Name	SR12										
Standard	φ 1.2 ~ φ 1.5										

※ In case of a internal fixture, you can use the Internal Guide or Conical Guide

Fractured screw size	Step 1(Perfect Guide selection)	Step 2(Reverse Drill)	Step 3(Screw Remover)								
M2.5 screw (Method 1)	<p>Conical Guide</p> 	 <table border="1"> <tr> <td>Product Name</td> <td>RCD12</td> </tr> <tr> <td>Standard</td> <td>φ 1.2</td> </tr> </table>	Product Name	RCD12	Standard	φ 1.2	 <table border="1"> <tr> <td>Product Name</td> <td>SR12</td> </tr> <tr> <td>Standard</td> <td>φ 1.2 ~ φ 1.5</td> </tr> </table>	Product Name	SR12	Standard	φ 1.2 ~ φ 1.5
Product Name	RCD12										
Standard	φ 1.2										
Product Name	SR12										
Standard	φ 1.2 ~ φ 1.5										
M2.5 screw (Method 2)	<p>External Guide  Internal Guide </p>	 <table border="1"> <tr> <td>Product Name</td> <td>RCD14</td> </tr> <tr> <td>Standard</td> <td>φ 1.4</td> </tr> </table>	Product Name	RCD14	Standard	φ 1.4	 <table border="1"> <tr> <td>Product Name</td> <td>SR14</td> </tr> <tr> <td>Standard</td> <td>φ 1.4 ~ φ 1.7</td> </tr> </table>	Product Name	SR14	Standard	φ 1.4 ~ φ 1.7
Product Name	RCD14										
Standard	φ 1.4										
Product Name	SR14										
Standard	φ 1.4 ~ φ 1.7										
How to using	<p>Use a PG Driver to attach the Perfect Guide which corresponds to the size of female screw of fixture to the female screw of the fixture by the hand force. (Torque : About 10Ncm)</p>	<p>Connect the Reverse Drill with the contra angle of surgical engine and then insert it in the Perfect Guide installed in the fixture and turn it at 1,200~1,300rpm to form the 1~2mm hole on the fractured screw.</p>	<p>After removing the attached guide, select the Screw Remover suitable for the hole formed by a Reverse Drill and attach it to the contra angle of surgical engine and then press the Screw Remover on the formed hole with the proper force and turn it less than 80rpm to loosen the screw.</p>								
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		 <table border="1"> <tr> <td>Product Name</td> <td>Shank Driver</td> </tr> <tr> <td>Standard</td> <td>for hand or ratchet</td> </tr> </table>		Product Name	Shank Driver	Standard	for hand or ratchet				
Product Name	Shank Driver										
Standard	for hand or ratchet										

※ In case of removing M2.0 and M2.5 size screw, if you fail to remove the screw by sequence of the method1, you can have one more chance removing the screw by sequence of the method2.