



固美

# 根管治疗

## Endodontics

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As at October 2019

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## 开髓口

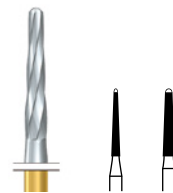


### Access cavity

The creation of a perfect access cavity is the first step of any endodontic treatment. In many cases, this is more complicated than the subsequent preparation of the root canal. The formation of the access cavity is divided into two stages: the preparation of the primary cavity (access to pulp chamber) and the secondary cavity (access to the root canal system). The success of the endodontic treatment largely depends on these two vital first steps - the creation of sufficient space and unobstructed vision. Komet offers a comprehensive range of special instruments for this.

创建完美的开髓口是所有根管治疗的第一步。许多情况下，这比随后预备根管更复杂。开髓口的形成分为两个阶段：准备初级髓腔(进入髓腔)和次级髓腔(进入根管系统)。根管治疗的成功很大程度上取决于这两个关键的最初步骤-创建足够的空间和畅通无阻的视野。Komet(固美)为此提供了范围广博的各类专用器械。

### H 269 GK



		5	5
尺寸 · Size	$\varnothing \frac{1}{10}$ mm	012	016
长度	mm	9,0	9,0

FG - Friction Grip (FG)

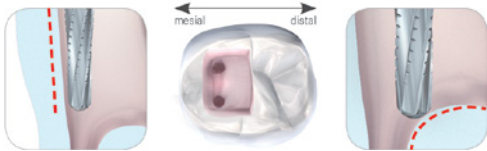


500 314 219295 ...

**H269GK.314. ...**

**+012 #016**

■ =  $\varnothing_{max}$  160000 min<sup>1</sup>/rpm  
+ =  $\varnothing_{max}$  300000 min<sup>1</sup>/rpm  
尖端无切割力的根管扩大钻  
Endo reamer with safe end



## EndoGuard 该产品可帮助实现成功的根管治疗

建立正确的通路，是实现成功的根管治疗的基础。

开髓后立即使用。产品EndoGuard在建立根管治疗通路时非常高效和安全。

- 去除多余牙本质，更方便操作视野和找到根管口
- 根管治疗的直线通路可减少根管侧穿和根管锉折断的风险。
- 光滑非切割尖可保护髓室底
- 有锥度的外形防止形成肩台
- 切割时平滑高效可控，且振动小

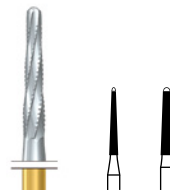
### EndoGuard The course is set for Endo success

The creation of a perfect access cavity is the foundation of any successful endodontic treatment.

Used immediately after opening the pulp chamber, the EndoGuard helps to carry out this important treatment step with optimum efficiency and in perfect safety.

- Removal of dentin overhangs for improved vision and easier detection of the canal entrances
- The straight access to the root canal minimizes the risk of inadvertent canal transportation and fracture of the file
- Smooth, non-cutting tip to protect the floor of the pulp chamber
- Tapered shape to prevent the preparation of undercuts
- Efficient cross-cut tothing for perfectly controlled, yet smooth work with minimum vibration

### H 269 QGK



		5	5
尺寸 · Size	∅ 1/10 mm	012	016
长度	mm	9,0	9,0

FG · Friction Grip (FG)



**H269QGK.314. ...**

012 016

FGL · Friction Grip long (FGL)



**H269QGK.315. ...**

- 016

⊙<sub>max.</sub> 160000 min<sup>-1</sup>/rpm

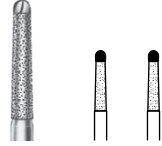
⊙<sub>opt.</sub> 20000 min<sup>-1</sup>/rpm

尖端无切割刃的髓腔扩大钻，带有横切刃齿。

EndoGuard with safe end, with cross cut



383



		5	5
尺寸 · Size	∅ 1/10 mm	012	014
长度	mm	8,0	8,0

FG · Friction Grip (FG)

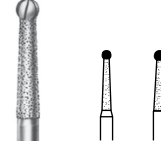


806 314 198020 ...

**383.314. ...** 012 014

○<sub>max</sub> 300000 min<sup>-1</sup>/rpm  
具有金刚砂工作部位和碳化钨尖端的组合车针，用于开髓时清除髓腔侧面牙组织  
Combination bur with diamond coated working part and carbide tip, for lateral substance removal when preparing an access cavity

389



		5	5
尺寸 · Size	∅ 1/10 mm	012	014
长度	mm	8,0	8,0

FG · Friction Grip (FG)



806 314 494020 ...

**389.314. ...** +012 +014

FGXL · Friction Grip extra-long (FGXL)



806 316 494020 ...

**389.316. ...** 012 014

■ = ○<sub>max</sub> 160000 min<sup>-1</sup>/rpm  
+ = ○<sub>max</sub> 300000 min<sup>-1</sup>/rpm  
具有金刚砂工作部位和碳化钨尖端的组合车针，用于开髓时清除髓腔侧面牙组织  
Combination bur with diamond coated working part and carbide tip, for lateral substance removal when preparing an access cavity

6

15802



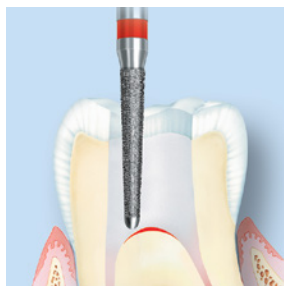
		5
尺寸 · Size	∅ 1/10 mm	014
长度	mm	10,0

FG · Friction Grip (FG)

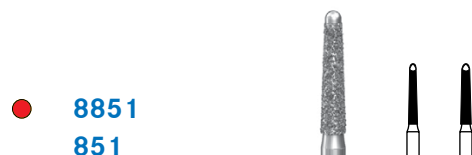


**15802.314. ...** 014

○<sub>max</sub> 160000 min<sup>-1</sup>/rpm  
用于开髓  
For creation of an endo access cavity



根管预备  
安全端  
Root canal preparation  
Safe end



● 8851  
851



		5	5
尺寸 · Size	∅ 1/10 mm	012	016
长度	mm	8,0	8,0
角度 · Angle	α	2°	2°

FG - Friction Grip (FG)



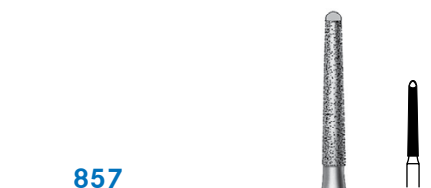
806 314 219514 ...

● 8851.314. ... +012 -

806 314 219524 ...

851.314. ... +012 016

+ =  $\odot_{max}$  300000 min<sup>-1</sup>/rpm  
圆头截锥形，尖端无切割力  
Round end tapered with safe end



857



		5
尺寸 · Size	∅ 1/10 mm	014
长度	mm	10,5
角度 · Angle	α	1,8°

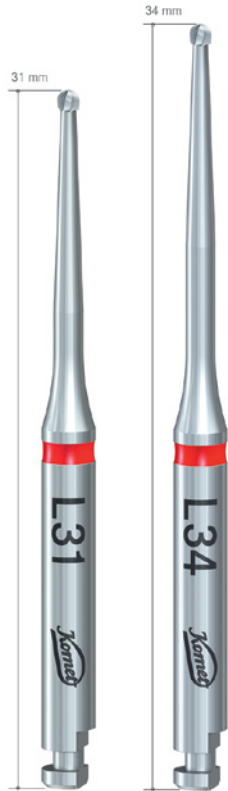
FG - Friction Grip (FG)



806 314 220524 ...

857.314. ... 014

$\odot_{max}$  300000 min<sup>-1</sup>/rpm  
圆头截锥形，尖端无切割力  
Round end tapered with safe end



### EndoTracer

The EndoTracer is an endodontic instrument specially intended for the preparation of the endodontic access cavity, notably for the preparation of isthmuses.

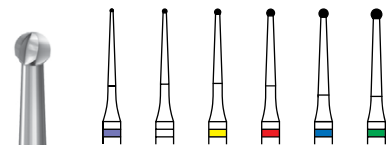
- Thanks to their special design, the petite round burs - especially the sizes 004 and 006 - are ideally suitable for the fine shaping of isthmuses and canal entrances
- The EndoTracer comes in two lengths and in 6 different sizes. This means that the range comprises the perfect instrument for any clinical situation
- Provided with a particularly long, slim neck, the EndoTracer allows unobstructed view past the instrument into the access cavity
- With its total length of 34 mm and an extra 3 mm in neck region, the EndoTracer is now even more suitable for work under a microscope

### EndoTracer根管追踪装置

EndoTracer根管追踪装置是一种根管治疗仪器，专门用于髓腔开扩，尤其是管间峡区髓腔开扩的预处理。

- 小号圆钻针，特别是004号和006号钻针，因其特殊设计而非常适合管间峡区和根管口的精细造型
- EndoTracer根管追踪装置有两种长度和6种不同的尺寸。这意味着，其产品范围包含针对任何临床情形的完美器械
- EndoTracer根管追踪装置颈部特别细长，可通过其清楚地观察髓腔内的情况
- EndoTracer根管追踪装置总长34 mm，颈部加长3 mm，现在甚至更适合在显微镜下工作

H 1 SML 31  
H 1 SML 34



尺寸 · Size	Ø 1/10 mm	004	006	008	010	012	014
RAL · Right-angle long (RAL)		5	5	5	5	5	5
H1SML31.205. ...		004	006	008	010	012	014
H1SML34.205. ...		004	006	008	010	012	014

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm  
⊙<sub>opt</sub> 1500 min<sup>-1</sup>/rpm

EndoTracer根管追踪装置适用于髓腔开扩，尤其是管间峡区髓腔开扩的预处理。

H1SML31, 长31 mm

H1SML34, 长34 mm

EndoTracer for the preparation of the endodontic access cavity, notably for the preparation of isthmuses

H1SML31 length 31 mm

H1SML34 length 34 mm



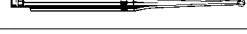

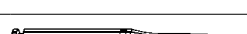
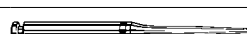



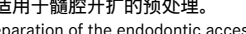




4670.205



EndoTracer根管追踪装置初级套装  
EndoTracer Introductory set

○	<b>H1SML31.205.006</b>	1	
●	<b>H1SML31.205.008</b>	1	
●	<b>H1SML31.205.010</b>	1	
●	<b>H1SML31.205.012</b>	1	
●	<b>H1SML31.205.014</b>	1	
○	<b>H1SML34.205.006</b>	1	
●	<b>H1SML34.205.008</b>	1	
●	<b>H1SML34.205.010</b>	1	
●	<b>H1SML34.205.012</b>	1	
●	<b>H1SML34.205.014</b>	1	

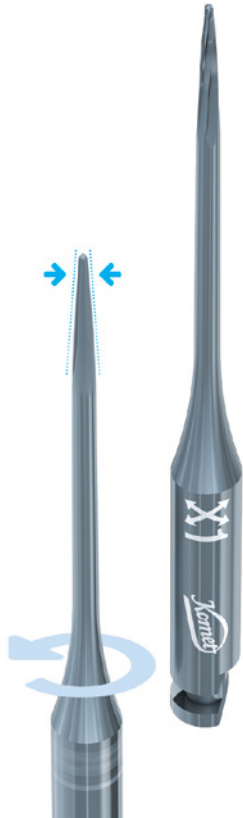
EndoTracer根管追踪装置初级套装4670，适用于髓腔开扩的预处理。  
EndoTracer Introductory set 4670 for the preparation of the endodontic access cavity



### EndoExplorer Form follows function

Developed in close cooperation with the endodontic specialist Dr. Hans-Willi Herrmann, this new instrument set is designed for the ergonomic, tissue-friendly primary and secondary preparation of the endodontic access cavity.

- The instrument design is optimally adapted to the requirements of microscope users
- Petite instrument head in combination with a long, slender neck for unobstructed view
- Controlled, precise work almost without pressure thanks to the sharp toothing
- Tapered instrument head to allow controlled guidance of the instrument and almost non-invasive work
- Completely made of tungsten carbide for maximum runout accuracy even after several uses

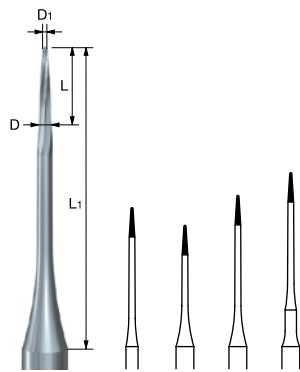


### EndoExplorer根管探针 不同功能不同形状

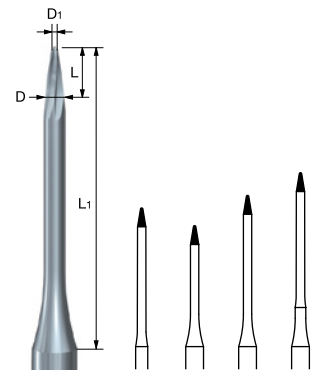
与根管治疗专家Hans-Willi Herrmann博士密切合作研发出的新型仪器组合，产品符合人体工程学原理，便于组织开髓口的初级和次级预备。

- 器械设计最佳满足显微镜用户的要求
- 小巧的器械头与细长颈部结合，使视力畅达无阻
- 由于齿口锋利，因此可精确控制工作，并几乎没有压力
- 锥形器械头允许控制器械的引导，并能微创工作
- 根管探针完全由碳化钨制成，即使多次使用后也能保持最大的同心精度

EX 1 S  
EX 1  
EX 1 L



EX 2 S  
EX 2  
EX 2 L



		5	5	5	5
尺寸 · Size	∅ 1/10 mm	007	007	007	007
长度	mm	3,9	3,9	3,9	3,9
L <sub>1</sub>	mm	18,5	16,0	20,0	23,0
D	∅ 1/10 mm	7,0	7,0	7,0	7,0
D <sub>1</sub>	∅ 1/10 mm	2,8	2,8	2,8	2,8

FGSXL · FGSXL



EX1.310. ... ■007 - - -

RA · Right-angle (RA)



EX1S.204. ... - ◆007 - -

EX1.204. ... - - ◆007 -

EX1L.204. ... - - - ◆007

◆ = ∅<sub>max</sub> 40000 min<sup>-1</sup>/rpm  
■ = ∅<sub>max</sub> 160000 min<sup>-1</sup>/rpm

EndoExplorer 建立正确的通路是实现成功的根管治疗, 钨钢

EndoExplorer for the preparation of the endodontic access cavity, tungsten carbide



		5	5	5	5
尺寸 · Size	∅ 1/10 mm	011	011	011	011
长度	mm	2,5	2,5	2,5	2,5
L <sub>1</sub>	mm	18,5	16,0	20,0	23,0
D	∅ 1/10 mm	11,0	11,0	11,0	11,0
D <sub>1</sub>	∅ 1/10 mm	3,2	3,2	3,2	3,2

FGSXL · FGSXL



EX2.310. ... ■011 - - -

RA · Right-angle (RA)



EX2S.204. ... - ◆011 - -

EX2.204. ... - - ◆011 -

EX2L.204. ... - - - ◆011

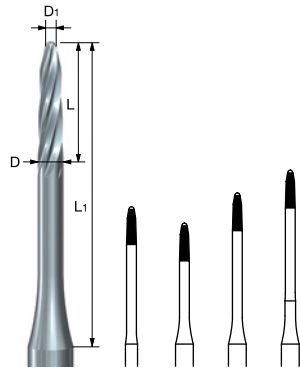
◆ = ∅<sub>max</sub> 40000 min<sup>-1</sup>/rpm  
■ = ∅<sub>max</sub> 160000 min<sup>-1</sup>/rpm

EndoExplorer 建立正确的通路是实现成功的根管治疗, 钨钢

EndoExplorer for the preparation of the endodontic access cavity, tungsten carbide



EX 3 S  
EX 3  
EX 3 L



		5	5	5	5
尺寸 · Size	∅ 1/10 mm	013	013	013	013
长度	mm	5,0	5,0	5,0	5,0
L <sub>1</sub>	mm	18,5	16,0	20,0	23,0
D	∅ 1/10 mm	13,0	13,0	13,0	13,0
D <sub>1</sub>	∅ 1/10 mm	6,0	6,0	6,0	6,0

FGSXL - FGSXL



EX3.310. ... 013 - - -

RA · Right-angle (RA)



EX3S.204. ... - 013 - -

EX3.204. ... - - 013 -

EX3L.204. ... - - - 013

◇ =  $\odot_{max}$  40000 min<sup>-1</sup>/rpm

■ =  $\odot_{max}$  160000 min<sup>-1</sup>/rpm

EndoExplorer 建立正确的通路是实现成功的根管治疗, 钨钢

EndoExplorer for the preparation of the endodontic access cavity, tungsten carbide



4664.204



EndoExplorer 根管入口窝洞制备  
EndoExplorer Introductory set



EndoExplorer4664 根管入口窝洞制备引导组

EndoExplorer Introductory set 4664 for the preparation of the endodontic access cavity

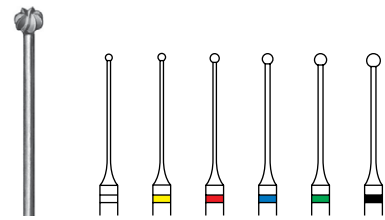


Sortimente:  
Assortments:

### 191.204.S1

1 x 090 - 180

191



13



		6	6	6	6	6	6
尺寸 · Size	∅ $\frac{1}{100}$ mm	090	100	120	140	160	180

RA · Right-angle (RA)



310 204 698001 ...

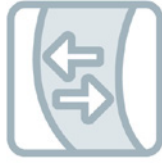
191.204. ...

090 100 120 140 160 180

∅<sub>max</sub> 20000 min<sup>-1</sup>/rpm

“Müller”牙髓钻, 不锈钢

Pulp bur “Müller”, stainless steel



### Coronal reaming

The opening of the root canal system is followed by the preparation of the root canals. Given that most bacteria are found in the coronal third of the root canal, it is particularly important to clean this section of the canal right at the start, making sure that the subsequently used files do not spread the bacteria towards the apex. This step has the added advantage of facilitating the work of the next files and improving the dentist's field of vision. Komet provides a vast line of instruments for this, from the well-established Gates-Glidden burs to openers. These files for the mechanical preparation of root canals are provided with a short working part and large taper to facilitate particularly efficient work.

### 扩孔

预备好根管后打开根管系统。鉴于大多数细菌存在于根管颈部三分之一处，所以在开始时清洁根管的这一部分特别重要，这确保随后使用的根管锉不会将细菌传到顶点。该步骤的另一个好处就是便于下一项根管锉的工作以及扩大牙医的视野范围。Komet(固美)为此提供了广泛的仪器系列，包括完善的G型扩孔钻和扩孔器。用于根管机械预备的根管锉工作部分短、锥度大，这尤其便于高效工作。

### Opener



$\odot_{opt}$  300 min<sup>-1</sup>/rpm  
 Torque: 2,8 Ncm

STERILE R

#### Opener

This Opener is ideally suited for the fast and generous enlargement of the canal entrance zone. It reliably removes most bacteria from the canal right at the start of the treatment. The fast-cutting design of the file ensures quick and thorough removal of the infected coronal tissue. What's more, the construction of the opener opens new perspectives: an improved view of the work field, especially in combination with magnifying glasses or a microscope. The preparatory work done by the Opener relieves the strain on the subsequently used file system and creates ideal conditions for the preparation further down the root canal.

By the way, it does not matter if you prefer working to a reciprocating or rotary method: both versions of the Opener are suitable for universal use and can be combined with any file system and preparation technique.

这一扩口针用于宽敞、快速地扩展根管入口区域。并在治疗开始时就能可靠除去根管的大部分细菌。便于切割的根管锉设计确保快速、彻底地去除冠状感染的组织。此外，其特性为您开辟新的视野：尤其是在与放大镜或显微镜结合使用时，它使您在工作区域具有更好视野。这项准备工作减轻了后续根管锉系统的工作负荷，并为深度制备创建了最佳基础。

您偏爱往复或旋转式工作这并不重要：两种扩口针都普遍适用，并可与任何根管锉系统或制备技术结合使用。

- 可快速扩大根管入口区域
- 具有通用性
- 具有便于切割的根管锉设计
- 能减少随后根管锉系统的工作负荷
- 具有更好的视野
- 无菌

- Quick enlargement of the canal entrance zone
- Suitable for universal use
- Fast-cutting file design
- Less strain on the subsequently used file systems
- Improved vision
- Sterile



● OP 08 L 19

6

尺寸 · Size  $\varnothing$  1/100 mm 025

RA · Right-angle (RA)

● OP08L19.204. ... 025

$\odot_{max}$  500 min<sup>-1</sup>/rpm  
 根管开口锉，锥度.08，长度19 mm，一次性使用，灭菌包装，用于扩大狭窄根管的开口处，镍钛材质  
 Opener, taper .08, length 19 mm, sterile packed, for the straight root canal entrance area with small lumen, nickel-titanium



● OP 10 L 15  
● OP 10 L 19

6

尺寸 · Size  $\varnothing$  1/100 mm 030

RA · Right-angle (RA)

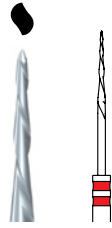
● OP10L15.204. ... 030  
● OP10L19.204. ... 030

$\odot_{max}$  500 min<sup>-1</sup>/rpm  
 根管开口锉，锥度.10，长度15或19 mm，灭菌包装，用于直根管开口处扩口，镍钛材质  
 Opener, taper .10, length 15 or 19 mm, sterile packed, for the straight root canal entrance area, nickel-titanium



**new**

●● **OPR 08 L 19**



6

尺寸 · Size  $\varnothing \frac{1}{100}$  mm 025

RA · Right-angle (RA)



●● **OPR08L19.204. ...**

025

往复扩口针，锥度：.08，长度19 mm，无菌包装，用于带小内腔的根管入口扩展，镍钛材质  
Reciprocating Opener, taper .08, length 19 mm, sterile packed, for the straight root canal entrance area with small lumen, nickel-titanium

**new**

●● **OPR 10 L 19**



6

尺寸 · Size  $\varnothing \frac{1}{100}$  mm 030

RA · Right-angle (RA)



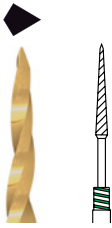
●● **OPR10L19.204. ...**

030

往复扩口针，锥度：.10，长度19 mm，无菌包装，用于根管入口扩展，镍钛材质  
Reciprocating Opener, taper .10, length 19 mm, sterile packed, for the straight root canal entrance area, nickel-titanium

● **AK 10 L 15**

● **AK 10 L 19**



6

尺寸 · Size  $\varnothing \frac{1}{100}$  mm 035

RA · Right-angle (RA)



● **AK10L15.204. ...**

035

● **AK10L19.204. ...**

035

$\varnothing_{max}$  800 min<sup>-1</sup>/rpm  
实用新型专利，专利/Utility model, patents  
EP 1 598 027

根管入口区扩口钻，锥度.10，长度15或19 mm，镍钛合金，带有镍钛涂层  
除德国和奥地利意外，其他国家包装为5支/包，而非6支/包

Reamer for the root canal entrance area, taper .10, length 15 or 19 mm, nickel-titanium with TiN coating  
In countries other than Germany and Austria the packing unit is 5 instead of 6



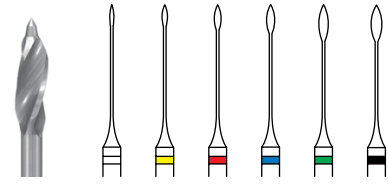


Sortimente:  
Assortments:

### G180.204.S

1 x 050 - 150

### G 180



		6	6	6	6	6	
尺寸 · Size	∅ 1/100 mm	050	070	090	110	130	150
长度	mm	19	19	19	19	19	19

RA · Right-angle (RA)



330 204 679336 ...

G180.204. ...

050 070 090 110 130 150

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm

“G”型扩大钻，不锈钢

Reamer Gates Glidden “G”, stainless steel

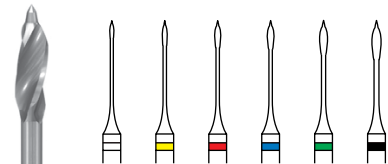


Sortimente:  
Assortments:

### G180A.204.S1

1 x 050 - 150

### G 180 A



		6	6	6	6	6	
尺寸 · Size	∅ 1/100 mm	050	070	090	110	130	150
长度	mm	15	15	15	15	15	15

RA · Right-angle (RA)



G180A.204. ...

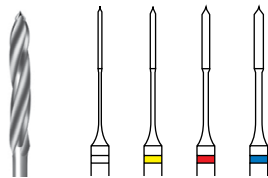
050 070 090 110 130 150

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm

“G”型扩大钻，短，不锈钢

Reamer Gates Glidden “G”, short, stainless steel

### 183 L



		6	6	6	6
尺寸 · Size	∅ 1/100 mm	070	090	110	130

RA · Right-angle (RA)



310 204 682336 ...

183L.204. ...

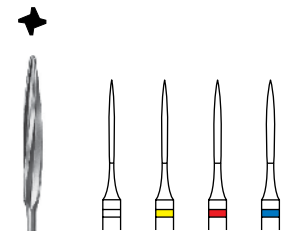
070 090 110 130

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm

“P”型扩大钻，不锈钢

Reamer “P”, stainless steel

### 182



		6	6	6	6
尺寸 · Size	∅ 1/100 mm	090	100	120	140

RA · Right-angle (RA)



330 204 680336 ...

182.204. ...

090 100 120 140

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm

“B1”型扩大钻，不锈钢

Reamer “B1”, stainless steel



### Creation of a glide path

The creation of a glide path is indispensable for ensuring successful endodontic treatments. This step facilitates the correct estimation of the anatomy of the root canal, thus ensuring that the subsequently used files for root canal preparation work safely and efficiently. The glide path can be created manually or mechanically – Komet offers a complete solution for both options.

### 创建下滑通道

创建下滑通道对于确保根管治疗的成功是不可或缺的。该步骤有助于正确估计根管的解剖结构，从而确保随后使用的根管预备用根管锉能安全、有效地工作。下滑通道的创建可手动或机械进行 – Komet(固美)为这两个选项提供完整的解决方案。



$300 \text{ min}^{-1}/\text{rpm}$   
 $0,5 \text{ Ncm}$

STERILE R



## PathGlider

### PathGlider

The PathGlider is intended for the mechanical creation of a glide path. Made of highly flexible nickel titanium and provided with a non-cutting instrument tip, the PathGlider perfectly follows the course of the canal, thereby not only reducing the risk of inadvertent canal transportation and formation of undesirable steps, but also saving precious time. Thanks to its taper of .03, the instrument clears the way for the subsequently used mechanical files (e.g. F360: taper .04), making sure that they work safely and efficiently. The PathGlider can be combined with any file system. Its unique kite-shaped cross-section guarantees smooth canal walls and excellent control of the file inside the canal.

建立直线通路是实现成功的根管治疗的必要步骤。可帮助正确评估根管解剖结构，确保随后的根管锉安全和高效。

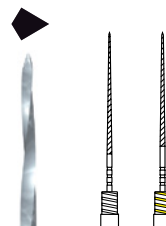
### 手工建立直线通路的优点:

- PathGlider产品非常适合根管通路，能减少根管侧穿和形成肩台的风险
- 省时
- PathGlider独特的风筝形状的横截面设计，有三个切割角度，可确保在根管预备时平滑的根管壁和极佳的操控性
- 过渡锥度为.03，可渐进的过渡到随后使用的根管锉系统。
- 使用前灭菌处理

### Advantages over an exclusively manual creation of a glide path:

- Reduced risk of inadvertent transportation of the canal and creation of undesirable steps
- Economy of time
- Unique kite-shaped cross-section for smooth canal walls and excellent control of the file inside the canal
- Transition taper .03 for a gradual, gentle transition to the subsequently used mechanical file systems
- Sterile

**PG 03 L 21**  
**PG 03 L 25**  
**PG 03 L 31**



		6	6
尺寸 · Size	$\varnothing \frac{1}{100} \text{ mm}$	015	020

RA · Right-angle (RA)



<b>PG03L21.204. ...</b>	<b>015</b>	<b>020</b>
<b>PG03L25.204. ...</b>	<b>015</b>	<b>020</b>
<b>PG03L31.204. ...</b>	<b>015</b>	<b>020</b>

$\varnothing_{\text{max}} 500 \text{ min}^{-1}/\text{rpm}$

根管疏通锉，.03锥度，螺旋色标，一次性使用，灭菌包装，用于疏通根管，镍钛材质

PathGlider file, taper .03, single-use file, sterile packed, for the mechanical establishment of a glide path, nickel-titanium



Sortimente:  
Assortments:

L = 21 mm

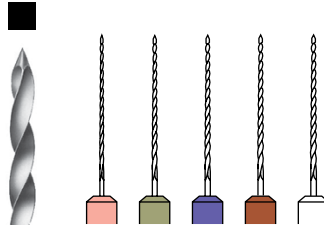
**175(21).654.S1**

2 x 006 - 010

**175 25.654.S1**

2 x 006 - 010

**17521**  
**17525**



		6	6	6	6	6
尺寸 - Size	Ø 1/100 mm	006	008	010	012	015

短把手 · Handle



340 654 645452 ...

**17521.654. ...**

006 008 010 012 015

340 654 645452 ...

**17525.654. ...**

006 008 010 012 015

用于探查和检查开放根管的手用锉，不锈钢，热处理钢

Manual file for probing and checking patency of root canals, stainless, heat-strengthened steel

## 手动预备

### Manual preparation

Three basic types of files are available for the manual preparation of the root canal: K-burs, K-files and Hedstroem files. The preparation of root canals is governed by the standard ISO 3630 which applies to root canal instruments. In compliance with ISO provisions, all manual files come with a taper of .02 and a toothed working part with a length of 16 mm. Beyond the requirements of the standard, manual files made by Komet offer the following additional advantages:

- Radiopaque stoppers preassembled at our works
- Clearly visible depth marks
- Ergonomic handle with knobs to prevent slipping
- Handle provided with a hole to insert a safety chain

K针, K锉和H锉这三种基本根管锉在过去几十年的手动预备根管系统中一直被使用。根管准备都是遵守ISO 3630根管器械标准进行。根据ISO标准,规定了根管锉锥度为2度且所有锉的工作部位长度为16毫米。

固美器械性能优于ISO标准, 具有以下优点:

- 预装具有X线阻色的硅胶定阻圈
- 清晰可见的深度标记
- 特殊的人体工程学设计在手柄旋转时防滑脱
- 可形成一个安全的根管通路



Sortimente:  
Assortments:

### 9107.634.S1

3 x 030  
4 x 035  
3 x 040

### 9107



尺寸 · Size	Ø 1/100 mm	020	025	030	035	040	050	060
塑料把手 · Handle, plastic		10	10	10	10	10	10	10

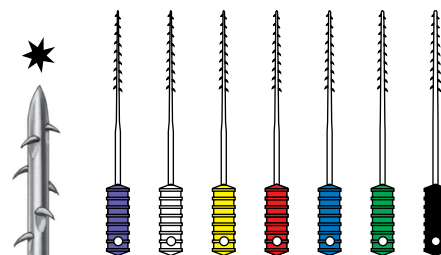


340 634 657455 ...

9107.634. ...

020 025 030 035 040 050 060

拔髓针, 不锈钢弹簧钢  
Nerve broaches, stainless spring steel





Sortimente:  
Assortments:

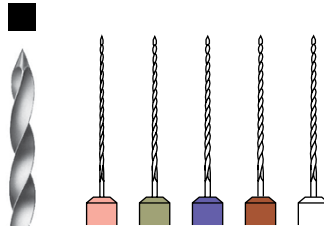
L = 21 mm

**175(21).654.S1**

2 x 006 - 010

**175 25.654.S1**

2 x 006 - 010



**17521**  
**17525**



尺寸 · Size	Ø 1/100 mm	006	008	010	012	015
-----------	------------	-----	-----	-----	-----	-----

短把手 · Handle



340 654 645452 ...

**17521.654. ...** 006 008 010 012 015

340 654 645452 ...

**17525.654. ...** 006 008 010 012 015

用于探查和检查开放根管的手用锉，不锈钢，热处理钢

Manual file for probing and checking patency of root canals, stainless, heat-strengthened steel



Sortimente:  
Assortments:

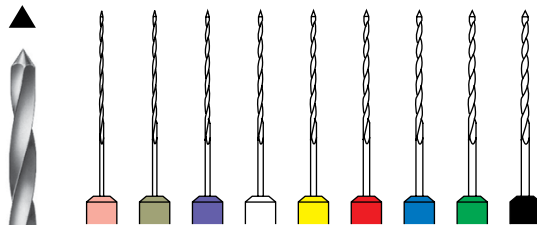
L = 21 mm

**171(21).654.S1**

1 x 015 - 040

**17125.654.S1**

**17131.654.S1**



**17121**  
**17125**  
**17131**



尺寸 · Size	Ø 1/100 mm	006	008	010	015	020	025	030	035	040
-----------	------------	-----	-----	-----	-----	-----	-----	-----	-----	-----

短把手 · Handle



340 654 639451 ...

**17121.654. ...** 006 008 010 015 020 025 030 035 040

340 654 640451 ...

**17125.654. ...** 006 008 010 015 020 025 030 035 040

340 654 642451 ...

**17131.654. ...** 006 008 010 015 020 025 030 035 040

根管预备器械，根管钻孑器“K”，不锈钢弹簧

Instruments for root canal preparation, root canal reamers “K”, stainless spring steel



Sortimente:  
Assortments:

L = 21 mm

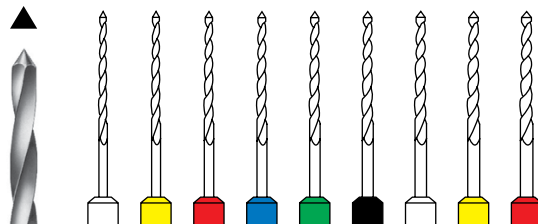
**17121.654.S2**

1 x 045 - 080

**17125.654.S2**

**17131.654.S2**

**17121**  
**17125**  
**17131**



尺寸 · Size	Ø 1/100 mm	045	050	055	060	070	080	090	100	110
短把手 · Handle										
340 654 639451 ...										
<b>17121.654. ...</b>		045	050	055	060	070	080	-	-	-
340 654 640451 ...										
<b>17125.654. ...</b>		045	050	055	060	070	080	090	100	110
340 654 642451 ...										
<b>17131.654. ...</b>		045	050	055	060	070	080	-	-	-

根管预备器械，“K”型根管扩大针，不锈钢  
Instruments for root canal preparation, root canal reamers “K”, stainless spring steel



Sortimente:  
Assortments:

L = 21 mm

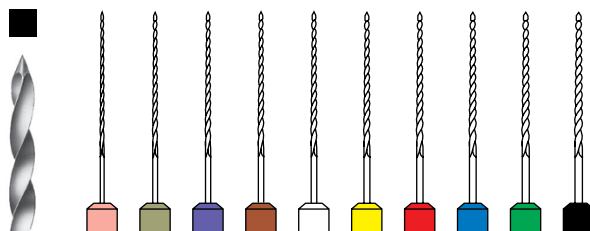
**17321.654.S1**

1 x 015 - 040

**17325.654.S1**

**17331.654.S1**

**17321**  
**17325**  
**17331**



尺寸 · Size	Ø 1/100 mm	006	008	010	012	015	020	025	030	035	040
短把手 · Handle											
340 654 645452 ...											
<b>17321.654. ...</b>		006	008	010	012	015	020	025	030	035	040
340 654 646452 ...											
<b>17325.654. ...</b>		006	008	010	012	015	020	025	030	035	040
340 654 648452 ...											
<b>17331.654. ...</b>		006	008	010	012	015	020	025	030	035	040

用于根管峡部的预备，K型根管锉，不锈钢  
Instruments for root canal preparation, “K” files, stainless spring steel



Sortimente:  
Assortments:

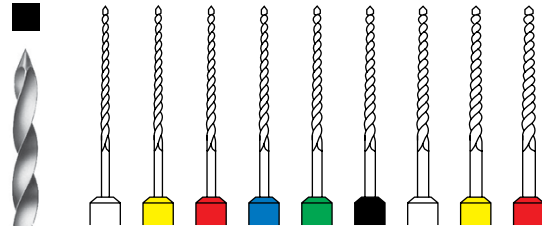
L = 21 mm

**17321.654.S2**

1 x 045 - 080

**17325.654.S2**

**17331.654.S2**



**17321**  
**17325**  
**17331**



尺寸 · Size	Ø 1/100 mm	045	050	055	060	070	080	090	100	110
短把手 · Handle										
340 654 645452 ...										
<b>17321.654. ...</b>		045	050	055	060	070	080	-	-	-
340 654 646452 ...										
<b>17325.654. ...</b>		045	050	055	060	070	080	090	100	110
340 654 648452 ...										
<b>17331.654. ...</b>		045	050	055	060	070	080	-	-	-

根管预备器械, “K”型根管锉, 不锈钢弹簧  
Instruments for root canal preparation, “K” files,  
stainless spring steel



Sortimente:  
Assortments:

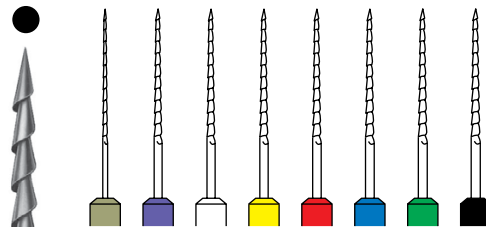
L = 21 mm

**17421.654.S1**

1 x 015 - 040

**17425.654.S1**

**17431.654.S1**



**17421**  
**17425**  
**17431**



尺寸 · Size	Ø 1/100 mm	008	010	015	020	025	030	035	040
短把手 · Handle									
340 654 650453 ...									
<b>17421.654. ...</b>		008	010	015	020	025	030	035	040
340 654 651453 ...									
<b>17425.654. ...</b>		008	010	015	020	025	030	035	040
340 654 653453 ...									
<b>17431.654. ...</b>		008	010	015	020	025	030	035	040

根管预备器械, 根管钻孔器“H”, 不锈钢弹簧  
Instruments for root canal preparation, Hedstroem files  
„H”, stainless spring steel





Sortimente:  
Assortments:

L = 21 mm

**17421.654.S2**

1 x 045 - 080

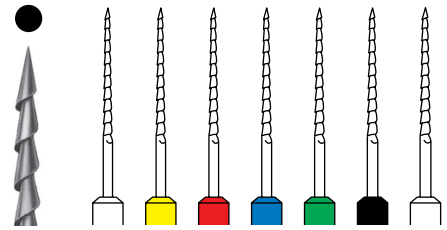
**17425.654.S2**

**17431.654.S2**

**17421**

**17425**

**17431**



尺寸 · Size	∅ 1/100 mm	045	050	055	060	070	080	090
短把手 · Handle								
340 654 650453 ...								
<b>17421.654. ...</b>		045	050	055	060	070	080	-
340 654 651453 ...								
<b>17425.654. ...</b>		045	050	055	060	070	080	090
340 654 653453 ...								
<b>17431.654. ...</b>		045	050	055	060	070	080	-

根管预备器械, “H”型根管锉, 不锈钢  
Instruments for root canal preparation, Hedstroem files  
“H”, stainless spring steel



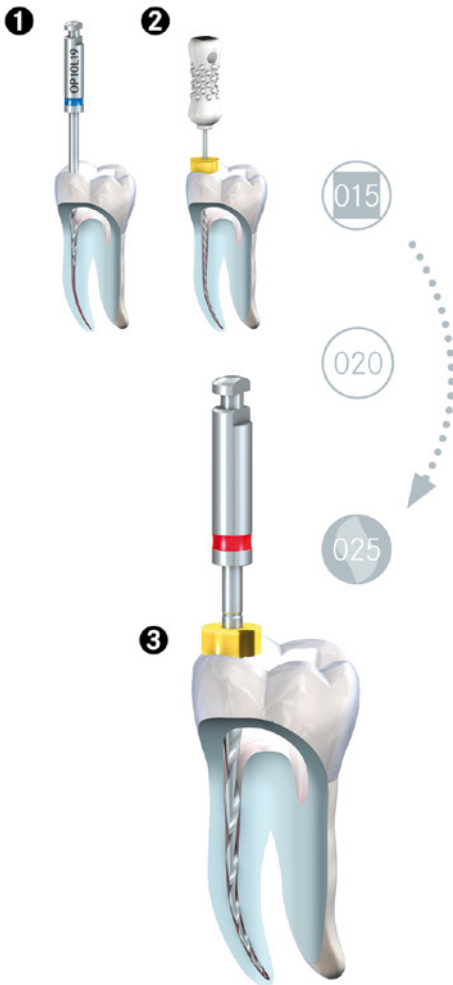
### Mechanical preparation

Apart from the basic task of removing as much infected tissue from the root canals as possible, the mechanical preparation of root canals is focused on providing the canal with a tapered shape. This allows reliable disinfection and tight obturation of the canal. With NiTi instruments, high-quality work can be done in a reliable manner. In the last few years, several power systems for mechanical files have established on the market. Komet's comprehensive range comprises rotary file systems and a system for reciprocating use.

### 机用操作

除了尽可能多地清除根管中受感染组织这一基本任务之外，根管的机械预备注重为根管提供锥形预备形状。这是对根管进行可靠消毒和密闭的前提条件。通过使用镍钛合金器械，可以可靠的方式进行高质量工作。过去几年中，市场上已出现几种用于机械根管锉的电源系统。Komet(固美)综合产品范围包括旋转锉系统和一个可往复使用的系统。

## F6 SkyTaper



### F6 SkyTaper

#### A new level of flexibility

F6 SkyTaper, the single file system with taper .06 files made of nickel-titanium which offers uncompromising flexibility to both endo specialists and general dentists.

- Rotary preparation along the full working length with one taper .06 file
- All-comprehensive range of files: NiTi files in five sizes and three lengths to suit all root canal anatomies
- Efficient double-S cross-section for thorough cleaning
- Excellent preservation of the course of the canal
- Unrestrictive choice of the obturation method thanks to taper .06
- Rotary use in all torque-limited endodontic contra-angles and motors
- Sterile packed single-use files

#### Step by Step

- 1 Generous preparation of the entrance of the root canal, e.g. with the opener OP10L19.
- 2 Creation of a glide path, for example with a K-file in size 015.  
The suitable F6 SkyTaper file is chosen according to the size of the previously used (manual) file.  
Rule: Skip one ISO file size.
- 3 Preparation of the root canal with the F6 SkyTaper file.

### 全新的柔韧性

F6 SkyTaper是有锥度 (.06) 的单根锉。锉采用镍钛材料, 具有极佳的柔韧性, 非常适合用于专科牙医和全科牙医。

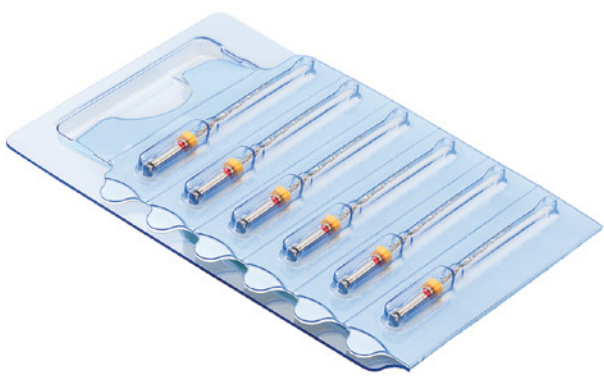
- 按照工作长度进行一种锥度 (.06) 的根管预备
- 包含所需的全部根管锉类型: 有五种尺寸、三种长度的镍钛锉, 满足所有根管解剖结构
- 横截面是双S结构, 高效、清洁彻底
- 极好的保留根管解剖形态
- 良好的锥度 (.06) 可选择各种充填方式
- 适合各种力矩要求的手机和马达
- 灭菌的一次性根管锉

### 操作步骤

- 1 髓腔洞型的预备, 例如用OP10L19预备髓腔
- 2 建立根管治疗的直线通路, 例如用15号的K锉  
所选用的F6 SkyTaper根管锉的尺寸需要根据前一次使用的锉(手动)的尺寸来选择  
原则: 跳过一个ISO尺寸
- 3 用F6 SkyTaper根管锉进行根管预备

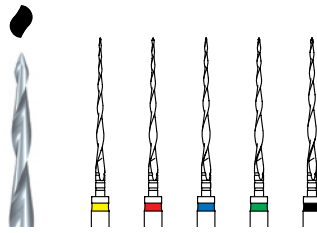
$300 \text{ min}^{-1}/\text{rpm}$   
 020 - 030  
 Torque: 2,2 Ncm  
 035 - 040  
 Torque: 2,8 Ncm

STERILE





F 06 L 21  
F 06 L 25  
F 06 L 31



		6	6	6	6	6
尺寸 · Size	Ø 1/100 mm	020	025	030	035	040

RA - Right-angle (RA)



F06L21.204. ...	020	025	030	035	040
F06L25.204. ...	020	025	030	035	040
F06L31.204. ...	020	025	030	035	040

○<sub>max</sub> 500 min<sup>-1</sup>/rpm

F6 SkyTaper根管锉，.06度锥角，一次性使用，灭菌包装，用于以全长度预备技术和提拉操作方式预备根管，镍钛材质

F6 SkyTaper file, taper .06, single-use file, sterile packed, for canal preparation to the full working length in pecking motion, nickel-titanium



**new**

GPF 06



		100	100	100	100	100
		●	●	●	●	●
尺寸 · Size	Ø 1/100 mm	020	025	030	035	040

GPF06.000. ...	020	025	030	035	040
----------------	-----	-----	-----	-----	-----

F6 SkyTaper牙胶尖  
具有色环标记，标有刻度，X射线阻射  
长度 28 mm  
F6 SkyTaper Guttapercha points  
Colour coded, graduated and radiopaque  
Length 28 mm



Sortimente:  
Assortments:

**GPF06.000.S1**

20 x 020

20 x 025

60

20 x 030



**new**

**PPF 06**

Sortimente:  
Assortments:

**PPF06.000.S1**

20 x 020  
20 x 025  
60 20 x 030



		100	100	100	100	100
		●	●	●	●	●
尺寸 · Size	Ø 1/100 mm	020	025	030	035	040

**PPF06.000. ...**

020 025 030 035 040

F6 SkyTaper纸尖  
具有色环标记, 带有刻度以及不透射线的  
长度 28 mm  
F6 SkyTaper Paper points  
Colour coded, graduated and sterilized  
Length 28 mm

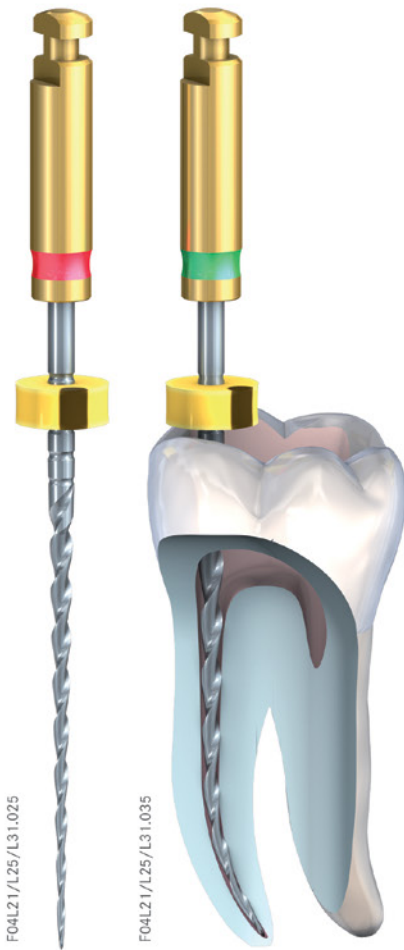


**new**

**PPSF 06.000**



F6 SkyTaper纸尖200个, 无菌包装5个  
具有色环标记, 无菌包装, 带有刻度以及不透射线的, 长度 28 mm  
内容: 60 x 尺寸020, 80 x 尺寸 025, 60 x 尺寸 030  
F6 SkyTaper Paper points, 200 pieces, sterile packed in blister cells à 5 points  
Colour coded, graduated and sterilized, length 28 mm  
Content: 60 x size 020, 80 x size 025, 60 x size 030



**F360 - Anything other than complicated**

- Root canal preparation with only 2 files
- Each file is used in rotary mode to its full working length
- Single-use files
- Sterile-packed

**Applied intelligence**

Prior to using the F360 files, an Opener (e.g. OP10L19) is used to ream the canal access zone to a larger size and remove all infected substance. Subsequently, patency of the canal has to be ensured by means of suitable manual instruments. In most cases, the root canal can now be prepared with just 2 files. The red F360 file in size 025 is first in line, followed by the green F360 file in size 035. The use of the first F360 file in size 025 may be sufficient in case of very narrow canals. On the other hand, the use of additional files in sizes 045 (white) and 055 (red) may be required in case of wide canals.

The F360 files are used in rotary “pecking” motion, i. e. they are moved along the entire working length in a dabbing, pecking manner so that the files are kept moving at all times.

Thanks to their taper of .04, all F360 files are extremely flexible so that they are perfectly able to adapt to different root canal morphologies.



**F360—简单易用**

- 仅用2种根管锉完成根管预备
- 在旋转模式下使每一种根管锉充分发挥其工作长度
- 一次性使用根管锉
- 无菌包装

**应用信息**

在使用F360根管锉之前，使用扩孔器(比如OP10L19)扩张牙髓腔通道并清除所有感染物质。随后，使用合适的手动器械确保根管的开放性。多数情况下，只需要2种根管锉就可预备根管。首先使用尺寸为025的红色F360根管锉，然后使用尺寸为035的绿色F360根管锉。对于极其狭窄的根管，使用尺寸为025的红色F360根管锉可能就足够了。如根管较宽，可能需要使用尺寸为045(白色)和055(红色)的其他根管锉。

F360根管锉在“啄掘式”旋转运动下使用，也就是说，它们在整个工作长度下以轻擦和啄掘方式工作，以便根管锉随时保持移动。

由于它们的锥度为.04，所有F360根管锉均极其灵活，可完全适应不同的根管形态。

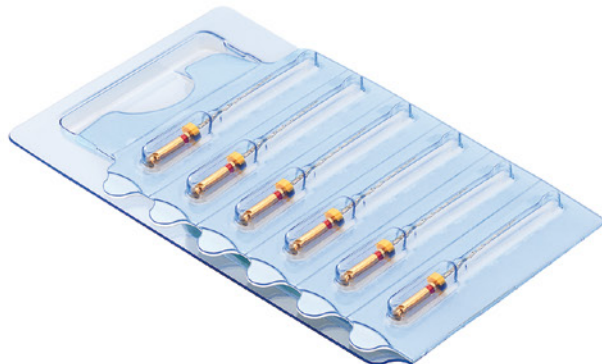
## 深思熟虑的每个细节



### Well thought-out in every detail

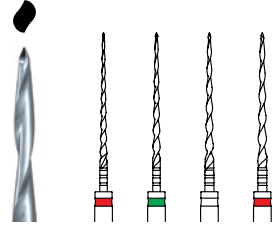
- Manageable file sequence: only 2 files are needed to suit most canal anatomies
- Use in rotary mode in a conventional torque-limited endodontic contra-angle or motor
- All files are used with an identical torque of 1.8 Ncm so that there is no need to adjust the torque of the endodontic contra-angle when changing the file
- Simple use according to the single length principle
- Optimum respect of the original canal anatomy
- Excellent cleaning result and quick mechanical preparation thanks to the innovative instrument design: cross-section in the shape of a double S for increased flexibility, large chip spaces to flush out all debris, blade twist with dynamic increase
- Reduced risk of instrument fracture and no risk of cross-contamination as the F360 files are intended for single use only
- No need to clean, disinfect and sterilise instruments. No need to document and control the number of uses as the F360 single-use files are sterile packed
- Flexible files made of NiTi with small taper .04 assure optimal adaptation to nearly all canal anatomies
- The files are also available in the additional sizes 045 and 055 and come in 3 lengths (L21, L25 and L31) to allow for optimal preparation of all canal anatomies

- 根管锉顺序可控：仅需2种根管锉就可满足多数根管解剖结构
- 可在传统的、扭力受限的根管弯机或治疗仪上以旋转模式使用
- 所有根管锉均在相同的1.8 Ncm扭矩下使用，因此，在更换根管锉时不需要调整根管弯机的扭矩
- 根据单一长度的原则，使用简单
- 极好地顾及了原始的根管解剖结构
- 由于创新的器械设计，可获得极好的清洁效果并快速完成机械预备：双S形横截面增加了器械的灵活性，较大的排屑槽能排除所有碎片，刀刃扭力动态增强
- 由于F360根管锉为一次性用具，所以能降低器械折断的风险，并且无交叉污染的风险
- 不需要清洁、消毒和灭菌的器械。因为F360一次性根管锉采用无菌包装，所以不需要记录和控制使用的次数。
- 由镍钛合金制成的柔性根管锉具有较小的锥度(.04)，确保能极好地适应近乎所有的根管解剖结构。
- 这类根管锉还额外提供045和055的尺寸，并有3种长度(L21、L25和L31)，便于预备符合要求的较宽根管。





F 04 L 21  
F 04 L 25  
F 04 L 31



尺寸 · Size	∅ 1/100 mm	025	035	045	055
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RA · Right-angle (RA)



F04L21.204. ... 025 035 045 055

F04L25.204. ... 025 035 045 055

F04L31.204. ... 025 035 045 055

○<sub>max</sub> 500 min<sup>-1</sup>/rpm  
实用新型专利, 专利/ Utility model, patents  
DE 10 2012 012 986\*  
\* 申请中/\* pending

F360根管锉, .04度锥角, 环形颜色标记  
F360 file, taper .04, single-use file, sterile packed, for canal preparation to the full working length in pecking motion, nickel-titanium



Sortimente:  
Assortments:

**GPF04.000.S1**

20 x 025  
20 x 035  
10 x 045  
10 x 055



60



**4634 C.000**



F360器械初始套装4634C  
F360 Introductory set 4634C

●	F04L25.204.025	6		
●	F04L25.204.035	6		
●	17325.654.010	6		
○	17325.654.015	6		
●	OP10L19.204.030	1		
	595.000.	1		
	GPF04.000.S1	1		
	PPF04.000.S1	1		
	9866.000.	3		



**new**

**GPF 04**



尺寸 · Size	∅ 1/100 mm	025	035	045 055

GPF04.000. ... 025 035 045 055

F360牙胶尖  
具有色环标记, 标有刻度, X射线阻射  
长度 28 mm  
F360 Guttapercha points  
Colour coded, graduated and radiopaque  
Length 28 mm





**new**

### PPF 04



		100	100	100	100
		●	●	○	●
尺寸 · Size	∅ 1/100 mm	025	035	045	055

PPF04.000. ...

025 035 045 055

F360纸尖  
具有色环标记，带有刻度以及不透射线的  
长度 28 mm  
F360 Paper points  
Colour coded, graduated and sterilized  
Length 28 mm



Sortimente:  
Assortments:

### PPF04.000.S1

20 x 025  
20 x 035  
10 x 045  
10 x 055



60

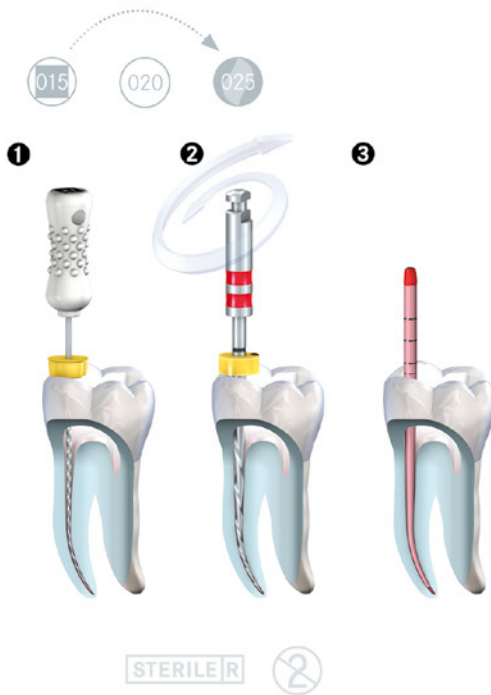


**new**

### PPSF 04.000



F360纸尖, 200个, 无菌包装5个  
具有色环标记, 无菌包装, 带有刻度以及不透射线的, 长度28 mm  
内容 : 60 x 尺寸025, 60 x 尺寸 035, 40 x 尺寸 045, 40 x 尺寸 055  
F360 Paper points, 200 pieces, sterile packed in blister cells à 5 points  
Colour coded, graduated and sterilized, length 28 mm  
Content: 60 x size 025, 60 x size 035, 40 x size 045, 40 x size 055



### R6 ReziFlow Reciprocating treatments have never been so gentle

The design of the R6 ReziFlow is optimally adapted to reciprocating movements. Provided with a reduced number of spirals, the file has a low screw-in effect which allows gentle, yet effective treatments. The operator stays in complete control of the file throughout the session. At the same time, the intelligent cross-section of the file ensures effective substance removal whilst perfectly preserving the original curvature of the canal.

- One file reciprocating system made of NiTi
- Gentle and controlled work, no screw-in effect
- Fast cutting, perfectly flexible double-S cross-section
- Cuts to the left, therefore suited for use in all established reciprocating motors

#### Step by Step

Generous opening of the canal entrance area for example with the Opener OP10L19.

- 1 Creation of a glide path, for example with a K-file in size 015. The appropriate R6 ReziFlow file is chosen depending on the size of the previously used (manual) file.  
General rule: Skip one ISO size.
- 2 Reciprocating preparation of the root canal with the R6 ReziFlow file.
- 3 Obturation with a matching gutta-percha point.

### R6 ReziFlow 往复式治疗从未如此轻柔

R6 ReziFlow的设计最佳适合往复式运动。和减少数量的螺旋一起提供，这种齿锉具有较低的旋入影响，可获得轻柔但依然有效的治疗。整个操作过程中，操作员仍可完全控制齿锉。同时，齿锉的智能横截面可确保有效清除物质，同时完全保留牙根管的原始曲线。

- 一个镍钛齿锉往复式运动系统
- 轻柔和控制性作业，没有旋入影响
- 快速切割，完全柔性的双S横截面
- 切向左边，从而适用于所有确定的往复式电机

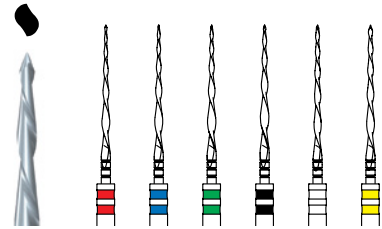
#### 逐步操作

例如，采用根管口扩大针OP10L19在根管入口区开一大口。

- 1例如，采用尺寸015的K齿锉做一下滑道。根据以前使用的(手工)齿锉尺寸，选择适当的R6 ReziFlow齿锉。一般原则：略过一个ISO尺寸。
- 2采用R6 ReziFlow齿锉进行牙根管的往复式处理。
- 3采用匹配杜仲胶尖进行密闭。



R 06 L 21  
R 06 L 25  
R 06 L 31



		6	6	6	6	6	6
尺寸 · Size	Ø 1/100 mm	025	030	035	040	045	050

RA · Right-angle (RA)



R06L21.204. ...	025	030	035	040	045	050
R06L25.204. ...	025	030	035	040	045	050
R06L31.204. ...	025	030	035	040	045	050

R6 ReziFlow, 一次性锉刀, 灭菌包装, 用于整个工作长度上以轻轻擦拭的工作方式(投梭方式)进行往复直根管准备, 镍钛材质  
R6 ReziFlow, size 025-040 with taper .06, size 045-050 with taper .04, single-use file, sterile packed, for the reciprocating preparation of root canals in a "pecking motion" along the entire working length, nickel titanium

**new**

**GPR 06**



Sortimente:  
Assortments:

**GPR06.000.S1**

20 x 025  
10 x 030  
10 x 035  
20 x 040

60



		100	100	100	100	100	100
尺寸 · Size	Ø 1/100 mm	025	030	035	040	045	050

GPR06.000. ...	025	030	035	040	045	050
----------------	-----	-----	-----	-----	-----	-----

R6 ReziFlow牙胶尖  
具有色环标记, 标有刻度, X射线阻射  
长度 28 mm  
R6 ReziFlow Guttapercha points  
Colour coded, graduated and radiopaque  
Length 28 mm



**new**

**PPR 06**



Sortimente:  
Assortments:

**PPR06.000.S1**

- 20 x 025
- 10 x 030
- 10 x 035
- 20 x 040



60



		100	100	100	100	100	100
		●	●	●	●	○	●
尺寸 · Size	Ø 1/100 mm	025	030	035	040	045	050
	<b>PPR06.000. ...</b>	025	030	035	040	045	050

R6 ReziFlow纸尖  
具有色环标记，带有刻度以及不透射线的  
长度 28 mm  
R6 ReziFlow Paper points  
Colour coded, graduated and sterilized  
Length 28 mm



**new**

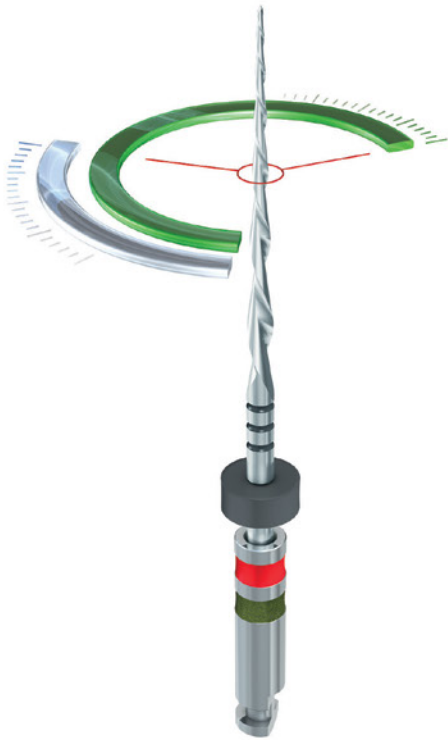
**PPSR 06.000**



R6 ReziFlow纸尖，180个，无菌包装  
具有色环标记，无菌包装，带有刻度以及不透射线的，长度28 mm  
内容：60 x 尺寸025，40 x 尺寸030，32 x 尺寸035，48 x 尺寸040  
R6 ReziFlow Paper points, 180 pieces, sterile packed in blister cells  
Colour coded, graduated and sterilized, length 28 mm  
Content: 60 x size 025, 40 x size 030, 32 x size 035, 48 x size 040



**Procodile**  
绿色、灵活、强劲



**Procodile**

- Unrivalled flexibility even in curved root canals thanks to an innovative, variably tapered file core
- Greater efficiency during preparation thanks to an enlarged chip space
- Increased patient safety thanks to greater resistance to cyclic fatigue
- Suitable for use in all common left-cutting reciprocating power units and with the patented ReFlex movement in the EndoPilot

**Step by Step**

- 1 Generous opening of the canal entrance area for example with the reciprocating Opener OPR08L19
- 2 Creation of a glide path, for example with a K-file in size 015. The appropriate Procodile file is chosen depending on the size of the previously used (manual) file  
General rule: Skip one ISO size
- 3 Preparation of the root canal with the Procodile file

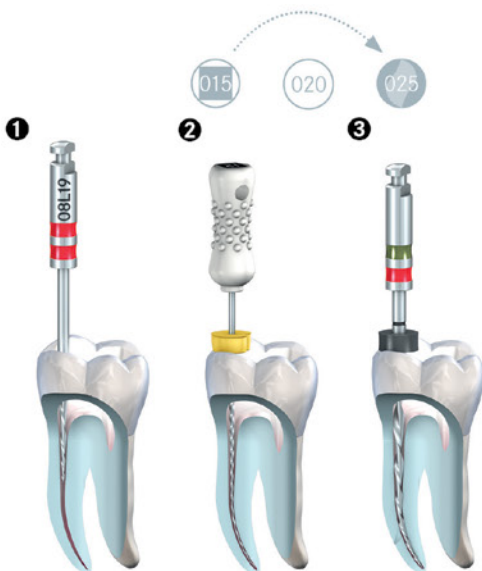
Obturation with a matching guttapercha point

- 凭借创新的、锥形化可变的根管锉核心，即使在弯曲根管中也具有最高的灵活性
- 由于容屑槽被加大，制备时效率更高
- 由于提高对循环疲劳的抵御能力，提高了患者的安全性
- 可用于所有通用的左切驱动系统以及在 EndoPilot一体化根管治疗仪中受专利保护的ReFlex回复运动

**逐步提示**

- 1 根管入口区域对例如用往复扩口针 OPR08L19制备足够宽敞
- 2 例如用大小为015的K型根管锉建立一滑动路径。根据先前使用的(手)锉尺寸选择匹配的Procodile根管锉  
规则：跳过一档ISO锉尺寸
- 3 使用Procodile根管锉进行根管制备

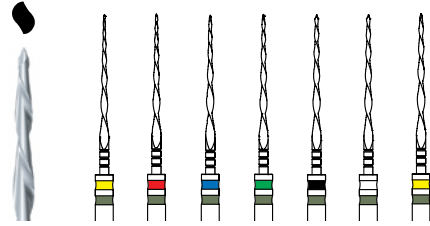
用匹配的GP尖进行充填





**new**

- PROC 6 L 21
- PROC 6 L 25
- PROC 6 L 31
- PROC 5 L 21
- PROC 5 L 25
- PROC 5 L 31
- PROC 4 L 21
- PROC 4 L 25
- PROC 4 L 31



38



尺寸 · Size	∅ 1/100 mm	020	025	030	035	040	045	050
RA · Right-angle (RA)								
PROC6L21.204. ...		020	025	030	-	-	-	-
PROC6L25.204. ...		020	025	030	-	-	-	-
PROC6L31.204. ...		020	025	030	-	-	-	-
PROC5L21.204. ...		-	-	-	035	040	-	-
PROC5L25.204. ...		-	-	-	035	040	-	-
PROC5L31.204. ...		-	-	-	035	040	-	-
PROC4L21.204. ...		-	-	-	-	-	045	050
PROC4L25.204. ...		-	-	-	-	-	045	050
PROC4L31.204. ...		-	-	-	-	-	045	050

Procodile, 尺寸 : 020-030, 锥度 : .06, 尺寸 : 035-040, 锥度 : .05, 尺寸045-050, 锥度 : .04, 一次性根管锉, 无菌包装, 用于沿整个工作长度呈“啄食运动”的往复式根管制备, 镍钛材质  
Procodile, size 020-030 with taper .06, size 035-040 with taper .05, size 045-050 with taper .04, single-use file, sterile packed, for the reciprocating preparation of root canals in a "pecking motion" along the entire working length, nickel titanium



**new**

**GPPR 06**  
**GPPR 05**  
**GPPR 04**



Sortimente:  
Assortments:

**GPPR06.000.S1**

30 x 025  
10 x 030  
10 x 035  
10 x 040



60



		100	100	100	100	100	100	100
		●	●	●	●	●	●	●
尺寸 · Size	∅ 1/100 mm	020	025	030	035	040	045	050
<b>GPPR06.000. ...</b>		020	025	030	-	-	-	-
<b>GPPR05.000. ...</b>		-	-	-	035	040	-	-
<b>GPPR04.000. ...</b>		-	-	-	-	-	045	050

Procodile, 古塔橡胶尖  
彩色标识环, 带有刻度, 辐射无法透过  
长度 28 mm  
Procodile Guttapercha Points  
Colour coded, graduated and radiopaque  
Length 28 mm



Sortimente:  
Assortments:

**PPPR06.000.S1**

30 x 025  
10 x 030  
10 x 035  
10 x 040

60

**new**

**PPPR 06**  
**PPPR 05**  
**PPPR 04**



		100	100	100	100	100	100	100
		●	●	●	●	●	●	●
尺寸 · Size	∅ 1/100 mm	020	025	030	035	040	045	050
	<b>PPPR06.000. ...</b>	020	025	030	-	-	-	-
	<b>PPPR05.000. ...</b>	-	-	-	035	040	-	-
	<b>PPPR04.000. ...</b>	-	-	-	-	-	045	050

Procodile, 纸尖  
彩色标识环, 带有刻度, 无菌  
长度 28 mm  
Procodile Paper Points  
Colour coded, graduated and sterilized  
Length 28 mm





**new**

### PPSPR 06.000

41



Procodile, 纸尖, 200个, 在泡状包装单元中无菌包装, 每个包装含5个工作尖

彩色标识环, 带有刻度及无菌, 长度 28 mm

内容: 120 x 尺寸025, 20 x 尺寸 030, 20 x 尺寸 035, 40 x 尺寸 040

Procodile Paper Points, 200 pieces, sterile packed in blister cells à 5 points  
Colour coded, graduated and sterilized, length 28 mm

Content: 120 x size 025, 20 x size 030, 20 x size 035, 40 x size 040



### Rinsing and activation

About a third of the root canal surface is not reached by mechanical cleaning with files. What's more, mechanical cleaning is not sufficient to reduce the bacterial count enough to create good healing conditions. The chemical disinfection of the endodontium is therefore essential for the successful preparation of the root canal. The activation of the rinsing solution can notably increase the effectiveness of chemical cleaning. Komet offers a NiTi tip specially designed for sound activated rinsing of the root canal.

## 冲洗和激活

在机械清洁中大约三分之一的根管表面不能通过根管锉达到。此外，机械清洁不足以将细菌数降低到建立良好治疗状态所需的水平。因此有必要对牙髓进行化学消毒，从而成功进行根管预备。冲洗液的激活可显著增强化学清洁效果。Komet(固美)提供特别设计的镍钛尖端，以便对根管进行声控清洗。



## SonicLine

### SonicLine

Sonic tip for activating rinsing liquids during endodontic treatments. Thanks to sound activated movements and micro currents, the efficiency of rinsing liquids inside the root canal is greatly increased, safely removing bacteria, residues of pulp tissue, loose dentin chips and the smear layer.

根管治疗期间，通过声波工作尖激活冲洗液。由于声控运动和微电流，根管内冲洗液的效率大大增加，因此能安全清除细菌、牙髓组织残留物、疏松的牙本质碎片和涂层。

#### 优点：

- 更有效冲洗根管
- 由高弹性的镍钛合金构成，带有一氮化钛涂层
- 器械直径小，便于冲洗狭窄的根管
- 相同直径器械用于所有根管，因此无需更换器械
- 顶端安全无刃并且没有锯齿，防止意外除去根管壁上的物质
- 激光刻蚀的深度标记

#### Advantages:

- Even more efficient rinsing of the root canal
- Made of highly flexible nickel titanium, with a titanium-nitride coating
- Small instrument diameter for rinsing narrow root canals
- The same instrument diameter for all canals, thus eliminating the need to change the instrument
- Safe end and absence of toothings to avoid inadvertent removal of substance from the canal wall
- Laser marks to indicate the depth





**SF 65**



		5
尺寸 · Size	∅ 1/100 mm	020
<b>SF65.000. ...</b>		<b>020</b>

根管冲洗液的激活  
Activation of endodontic rinsing liquids



**SF 1981**

		1
<b>SF1981.000. ...</b>		<b>•</b>

实用新型专利, 专利 / Utility model, patents  
DE 10 20 10 033 866\*  
\* 申请中 / \* pending

声波工作尖柄  
不锈钢  
Tip holder  
Stainless steel



**587**



		1
<b>587.000. ...</b>		<b>•</b>

SF1981 声波工作尖柄的夹紧螺母  
Clamping nut for tip holder SF1981

**4615.000**



用以激活根管清洗液的声波工作尖套装  
Set with sonic tips for activation of endodontic rinsing liquids

<b>SF65.000.020</b>	5		
<b>587.000.</b>	1		
<b>SF1981.000.</b>	1		



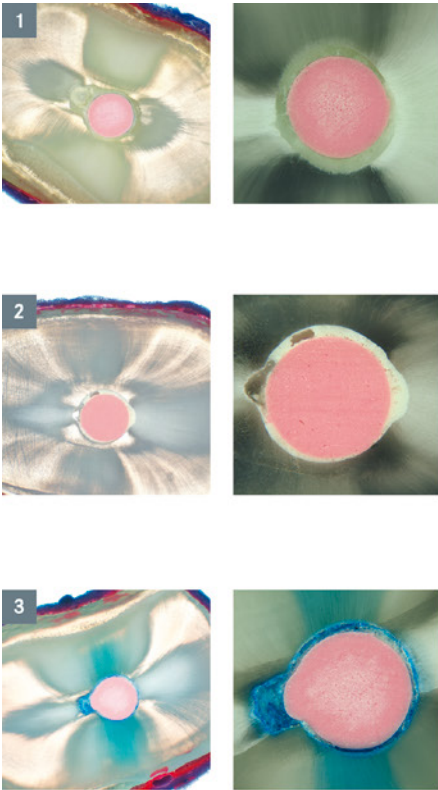
## 填充



### Obturation

After the preparation and chemical cleaning of the root canal system, the canals have to be tightly sealed with a suitable obturation to prevent reinfection. Komet provides a comprehensive range of paper and gutta-percha points as well as F360 Fill, a carrier-based filling system. The line is completed by Easy Seal, a sealer based on epoxy resin.

完成根管系统准备和化学清洁后，必须使用合适的填充物完全密封根管，从而防止再次感染。Komet(固美)提供各种纸尖和牙胶尖，以及F360填充器(一种以载体为基础的填充系统)。该系列由一种基于环氧树脂的密封剂Easy Seal变得更加完整。



### EasySeal - Root filling material on the basis of epoxy resin

After a successful treatment of the root canal, the root filling is responsible for tightly sealing the canal to prevent reinfection.

A permanent apical seal of the root canal can be achieved with EasySeal, a root filling material based on epoxy resin. EasySeal is particularly suitable for orthograde filling techniques, it is radiopaque and dimensionally stable. EasySeal comes in a double-chamber syringe for easy, safe handling without need for previous mixing. The workable time of EasySeal is 15 minutes. Full setting is reached at 37°C body temperature within 24 hours.

Root filling materials based on epoxy resin, such as EasySeal, are classed as gold standard thanks to their outstanding properties, for example excellent adhesion to dentin, low solubility and high thermo stability.

#### Leakage test with dye\*

1. EasySeal (no dye penetration)
2. Commercially available sealer X (no dye penetration)
3. Commercially available sealer Y (dye penetration)

\* Natural tooth, prepared up to ISO 035, filled with different sealers and gutta-percha, immersed in dye penetrant for 48 hours, removed from the dye penetrant, cut in thin slices in intervals of 2–6 mm from the apex and examined for residues of the dye penetrant under a microscope.



### EasySeal—基于环氧树脂的根管填充材料

在成功完成根管治疗后，需要使用根管填充剂紧密填充根管，以防止再度感染。

可使用EasySeal—一种基于环氧树脂的根管填充材料来实现根尖的永久密封。EasySeal尤其适合顺向填充技术，它使X射线无法穿透并大小稳定。EasySeal是一种可方便安全操作的双腔注射器，不需要事先混合。EasySeal的工作时间为15分钟。全部填料在24小时内达到37°C体温。

EasySeal等基于环氧树脂的根管填充材料因其例如优秀的牙本质附着力，低水溶性和良好的热稳定性等卓越性能被纳入黄金标准。

#### 染料渗漏试验\*

1. EasySeal (无染料渗透)
2. 商用密封剂X (无染料渗透)
3. 商用密封剂Y (染料渗透)

\*天然牙齿，根据ISO 035标准预备，用不同的密封剂和牙胶填充，浸入染料渗透液48小时，从染料渗透液中移出，在离根尖2到6毫米处切成薄片，并在显微镜下观察染料渗透液的残留情况。



46

9978.000



EasySeal  
基于环氧树脂的永久根管充填糊剂  
9 g 微型混合枪  
含20个混合头和20个根管充填尖  
EasySeal  
Permanent root filling material on the basis of epoxy polymer  
9 g minimix syringe  
Incl. 20 mixing tips and 20 endo tips

9979



1

9979.000. ...



20 EasySeal混合头  
20 EasySeal mixing tips

9980



1

9980.000. ...



20 EasySeal根管充填尖  
20 EasySeal endo tips



### F360 Fill

F360 Fill is a carrier-based filling system for thermoplastic, three-dimensional root canal fillings. The F360 Fill obturators consist of a plastic core coated with thermoplastic gutta-percha. The obturator is heated in the F360 Fill oven in order to guarantee a tight obturation of the root canal. F360 is a universal carrier based post system that ideally complements our file systems F360, F6 SkyTaper and R6 ReziFlow.

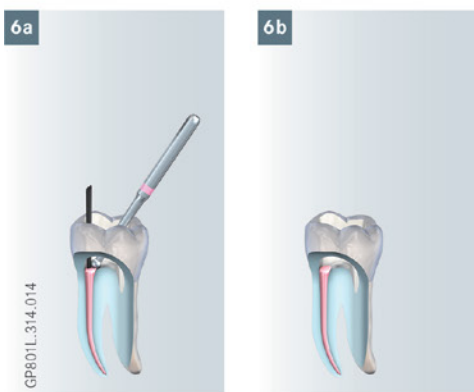
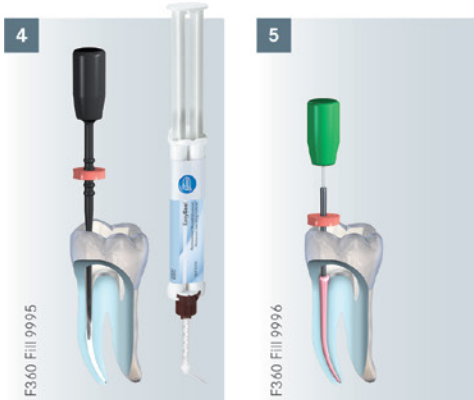
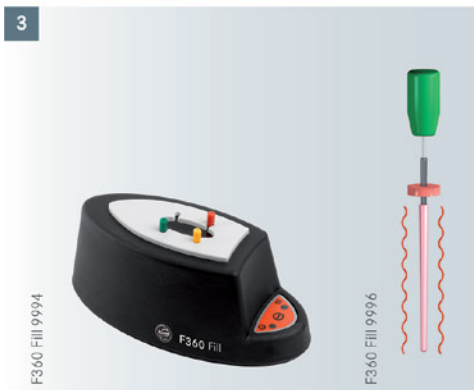
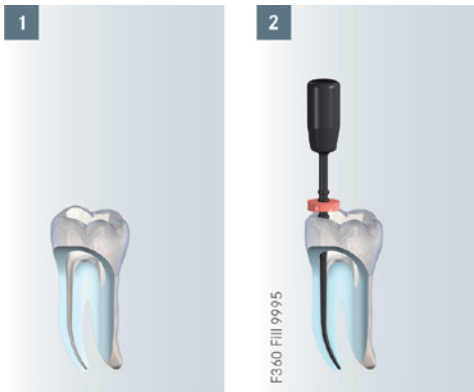
### F360 Fill

F360是一种基于载体的填充系统，用于热塑性塑料三维牙根管填充。F360填料封闭器包含热塑性杜仲胶涂覆的塑料核心。封闭期在F360填料热炉中进行加热，以确保牙根管填塞紧密。F360是一种通用且基于载体的粘合系统，是本公司牙锉系统F360、F6 SkyTaper和R6 ReziFlow的完美补充。



9994.000

F360充填加热炉  
F360 Fill Oven  
用于加热F360填充棒的加热炉  
F360 Fill Oven  
Oven for heating of the F360 Fill Obturators



### Clinical sequence

1. Prepared, rinsed and dried root canal
2. Determination of the size with the F360 Fill Verifier
3. Choose suitable F360 Fill Obturator and heat up in the oven (green light and + acoustic signal when heated)
4. Apply sealer (e.g. EasySeal 9978)
  - with F360 Fill Verifier or paper point
  - Apply a very thin coat of sealer onto the canal walls
  - Unsuitable for Lentulo
5. Insert obturator into the root canal up to the working length, applying low pressure
6. Remove the protruding core of the obturator and any excess gutta-percha
  - Allow gutta-percha to cool for approx. 3-4 minutes
  - Break off handle with plastic core by hand
  - or with a gutta-percha cutter

### 临床使用顺序

1. 预备、冲洗和干燥根管
2. 用F360填充检验器测定尺寸
3. 选择合适的F360充填器并在炉中加热(加热后绿灯亮灯 + 音频信号)
4. 施用填糊剂(例如EasySeal 9978)
  - 采用F360填充检验器或纸尖
  - 将极薄的填糊剂涂覆到管壁上
  - 不适合Lentulo
5. 将充填器插入根管直至工作长度, 并施以低压
6. 清除充填器的突出芯和任何多余的牙胶
  - 牙胶冷却大约3到4分钟
  - 用手折断带塑料芯的手柄
  - 或用牙胶切刀切断





9995



		6	6	6	6	6	6	6
尺寸 · Size	∅ 1/100 mm	020	025	030	035	040	045	055

9995.000. ...

020	025	030	035	040	045	055
-----	-----	-----	-----	-----	-----	-----

F360充填测量器  
用于测定F360填充棒的正确尺寸的器械  
F360 Fill Verifier  
Instruments to determine the correct size of the F360  
Fill Obturators



9996



		6	6	6	6	6	6	6
		●	●	●	●	●	●	●
尺寸 · Size	∅ 1/100 mm	020	025	030	035	040	045	055

9996.000. ...

020	025	030	035	040	045	055
-----	-----	-----	-----	-----	-----	-----

F360填充棒  
填充棒包含一个塑料核心，涂覆了热塑性牙胶，使用前需在F360充填加热炉中加热，以便实现致密充填。  
通用填充系统，适用于诸如F360根管锉系统  
具有色环标记，X射线阻射  
F360 Fill Obturators  
Obturator consisting of a plastic core, coated with thermo plastic gutta-percha, to be heated in the F360 Fill Oven to achieve a tight, three-dimensional filling  
Universal obturator system, suitable for example for F360 files  
Color coded and radiopaque



### GP 02



Sortimente:  
Assortments:

#### GP02.000.S1

- 10 x 045
- 10 x 050
- 10 x 055
- 10 x 060
- 10 x 070
- 10 x 080



60



		100	100	100	100	100	100
		○	●	●	●	●	●
尺寸 · Size	Ø 1/100 mm	015	020	025	030	035	040

#### GP02.000. ...

015 020 025 030 035 040

牙胶尖, 尖端锥度 .02  
彩色标识环, 带有刻度以及不透射线的  
长度 28 mm  
Guttapercha points taper .02  
Colour coded, graduated and radiopaque  
Length 28 mm



### GP 04



		100	100	100	100	100	100
		○	●	●	●	●	●
尺寸 · Size	Ø 1/100 mm	015	020	025	030	035	040

#### GP04.000. ...

015 020 025 030 035 040

牙胶尖, 尖端锥度 .04  
彩色标识环, 带有刻度以及不透射线的  
长度 28 mm  
Guttapercha points taper .04  
Colour coded, graduated and radiopaque  
Length 28 mm



**new**

**GP 05**



		100	100	100	100	100
尺寸 · Size	$\varnothing \frac{1}{100}$ mm	020	025	030	035	040

**GP05.000. ...**      020   025   030   035   040

牙胶尖，尖端锥度 .05  
彩色标识环，带有刻度以及不透射线的  
长度 28 mm  
Guttapercha points taper .05  
Colour coded, graduated and radiopaque  
Length 28 mm



**PP 02**



		200	200	200	200	200	200
尺寸 · Size	$\varnothing \frac{1}{100}$ mm	015	020	025	030	035	040

**PP02.000. ...**      015   020   025   030   035   040

吸潮纸，尖端锥度 .02  
彩色标识环，带有刻度以及不透射线的  
长度 28 mm  
Paper points taper .02  
Colour coded, graduated and sterilized  
Length 28 mm



Sortimente:  
Assortments:

**PP02.000.S1**

- 10 x 045
- 10 x 050
- 10 x 055
- 10 x 060
- 10 x 070
- 10 x 080

60



PP 04



		100	100	100	100	100	100
尺寸 · Size	∅ 1/100 mm	015	020	025	030	035	040

PP04.000. ...

015 020 025 030 035 040

52

吸潮纸, 尖端锥度 .04  
彩色标识环, 带有刻度以及不透射线的  
长度 28 mm  
Paper points taper .04  
Colour coded, graduated and sterilized  
Length 28 mm



NTD 11 T 25.000



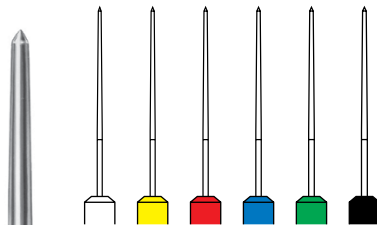
Naviflex 侧向加压器2°, L25 mm, ISO 020, 镍钛合金, 不锈钢柄  
Naviflex Spreader 2°, L25 mm, ISO 020, nickel-titanium alloy, handle stainless steel



NTD 11 T.000



Naviflex 侧向加压器2°, L21 mm, ISO 020, 镍钛合金, 不锈钢柄  
Naviflex Spreader 2°, L21 mm, ISO 020, nickel-titanium alloy, handle stainless steel



17225



Sortimente:  
Assortments:

L = 25 mm

17225.654.S1

1 x 015 - 040



		6	6	6	6	6	6
尺寸 · Size	∅ 1/100 mm	015	020	025	030	035	040

短把手 · Handle



340 654 632467 ...

17225.654. ...

015 020 025 030 035 040

侧向加压器, 不锈钢弹簧钢  
Spreader, stainless spring steel



● GP 801 L



		5
尺寸 · Size	∅ 1/10 mm	014

FG · Friction Grip (FG)



● GP801L.314. ... 014

⊙<sub>max.</sub> 300000 min<sup>-1</sup>/rpm

牙胶尖磨头

当使用载体式密闭装置时，运用于切割牙胶尖或者塑料载体

配合红色增速反角手机一同使用尤佳，不使用喷水冷却，仅施加低接触压力

Guttapercha cutter

For cutting guttapercha or the plastic carrier in case of using a carrier-based obturation system

To be used preferably in the red contra-angle without cooling agent, applying low contact pressure



Sortimente:  
Assortments:

L = 21 mm

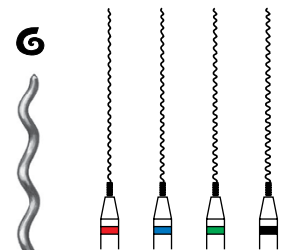
**178(21).204.S1**

3 x 025 1 x 035  
1 x 030 1 x 040

**178 25.204.S1**

3 x 025 1 x 035  
1 x 030 1 x 040

17821  
17825



		6	6	6	6
尺寸 · Size	∅ 1/100 mm	025	030	035	040

RA · Right-angle (RA)



340 204 672458 ...

**17821.204. ...**

025 030 035 040

340 204 673458 ...

**17825.204. ...**

025 030 035 040

“L”型根管输送针，不锈钢

除德国和奥地利意外，其他国家包装为4支/包，而非6支/包

Root filler “L”, stainless spring steel

In countries other than Germany and Austria the packing unit is 4 instead of 6



### Retreatment

In case of a failed endodontic treatment, for example caused by persistent bacteria or a recolonization of the endodontium, a retreatment is often the only chance to save the tooth. The objectives of an orthograde retreatment are to remove the existing filling material to the extent possible, to access parts of the canal that had not yet been reached and to guarantee a complete re-disinfection of the root canal. The range provided by Komet to this end includes instruments for removing all types of different filling material and a special instrument set for removing fractured files that are stuck inside the root canal.

### 修正

如果由于例如持久性细菌或牙髓再生等导致根管治疗失败，修正通常是挽救牙齿的唯一机会。顺向修正的目的是尽可能清除现有填充材料，以接近尚未到达的根管部分并确保根管完全再消毒。Komet(固美)为此提供的产品范围包括用于清除所有不同类型填充材料的器械和用于清除卡在根管内断裂根管锉的一组专用器械。



1



2

### Endo ReStart A new era in retreatment

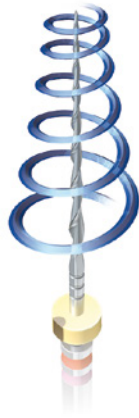
The goal of every retreatment is to correct an existing endodontic therapy. Thanks to the NiTi retreatment files contained in the Endo ReStart system, this task can now be tackled effectively and under perfect control in just a few steps.

- Endo ReStart is a new NiTi file system for efficient retreatments with just 1-2 instruments
- Thanks to their special blades with dynamic twist, the files of the Endo Restart system ensure effective removal of root fillings
- Thanks to its „safe activity“ instrument tip, we can offer an optimized file to users. The new tip is provided with a tapered, non-cutting end permitting easy penetration of the filling material
- The constant taper of .05 ensures a perfect balance between stability and flexibility

○<sub>opt.</sub> 300 min<sup>-1</sup>/rpm

Torque: 1,8 Ncm

STERILE | R



### Endo ReStart 修正的一个新时代

每次复治的目的是纠正现有根管治疗。凭借Endo ReStart系统包含的镍钛复治锉刀，现可在完全掌控情况下，通过很少几个步骤解决处理这一任务。

- Endo ReStart是一个新的镍钛锉刀系统，用于通过一至两台仪器实现高效复治。
- 凭借具有动态扭转特性的特殊刀片，Endo Restart系统的锉刀确保有效清除根部填充物。
- 凭借“安全活动”仪表尖端，我们可为用户提供优化的锉刀。新尖端设置有锥形非切割端，使填充料易于被穿透
- .05的恒定锥度确保了稳定性和灵活性之间的完美平衡



RE 10 L 15



尺寸 · Size	Ø 1/100 mm	030
-----------	------------	-----

RA · Right-angle (RA)



○<sub>max.</sub> 500 min<sup>-1</sup>/rpm

Endo ReStart开口器，锥度.10、长15 mm、无菌包装、用于去除冠状位三分之一处的根管填充物，镍钛合金质地

Endo ReStart Opener, taper .10, length 15 mm, sterile packed, for removing root fillings in the coronal third, nickel-titanium



RE 05 L 21

RE 05 L 25



尺寸 · Size	Ø 1/100 mm	025
-----------	------------	-----

RA · Right-angle (RA)



○<sub>max.</sub> 500 min<sup>-1</sup>/rpm

Endo ReStart锉刀：锥度为.05、一次性锉刀、无菌包装、镍钛合金质地，作用为：在治疗之前，通过挑刺操作，用旋转式锉刀将根管填充物整个移除。

Endo ReStart file, taper .05, single-use file, sterile packed, for the removal of root fillings with rotary files to the full working length in pecking motion prior to retreatment, nickel titanium



56

4680.204



Endo ReStart根管追踪装置初级套装  
Endo ReStart Introductory set

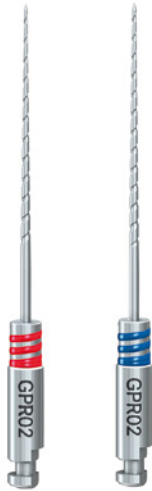


	RE10L15.204.030	2	
	RE05L25.204.025	4	

4680 重新根管充填套组  
Endo ReStart Introductory set 4680 for rotary revision of root fillings



### 用GPR牙胶清除车针去除马来胶

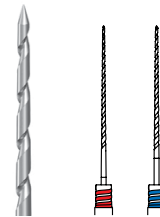


#### Removal of Gutta-percha with the GPR

1. Insert the gutta-percha remover GPR between the gutta-percha and the canal wall, rotating the instrument at an optimal speed of 2000 rpm (without irrigation)
2. Once the gutta-percha has softened, increase the speed to the maximum speed of 4000 rpm and insert the instrument further towards the apex
3. Pull the gutta-percha remover out of the canal. The plasticized gutta-percha adheres to the instrument

1. 在杜仲胶和管壁之间插入杜仲胶去除剂GPR，应以每分钟2000转的最佳速度旋转仪器(无冲洗)
2. 当杜仲胶软化后，将速度增加至每分钟4000转的最高速度，然后进一步在顶端插入仪器。
3. 从牙根管中拉出杜仲胶去除剂。塑化的杜仲胶粘合在仪器上。

#### GPR 2 L 21 GPR 4 L 21



		6	6
尺寸 · Size	∅ 1/100 mm	025	030
RA · Right-angle (RA)			
	GPR2L21.204. ...	025	030
	GPR4L21.204. ...	025	030

○<sub>max.</sub> 4000 min<sup>-1</sup>/rpm

锥度为 .02和.04的无刃牙胶尖去除器

镍钛器械旋转产热引起牙胶尖塑化

除德国和奥地利意外，其他国家包装为5支/包，而非6支/包

Gutta-percha remover in taper .02 and taper .04 without cutting edges

Plastification of gutta-percha due to frictional heat caused by rotation, nickel-titanium alloy

In countries other than Germany and Austria the packing unit is 5 instead of 6

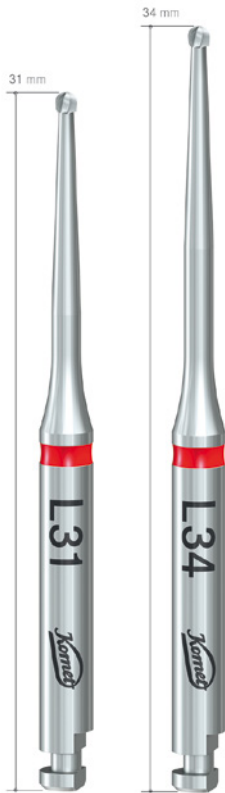


### 清除F360充填器

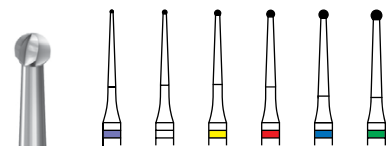
#### Removal of F360 Fill Obturators

Expose the carrier/plastic core at the coronal part of the tooth, i.e. remove the gutta-percha at the top, for example with an EndoTracer in size 010 at an optimum speed of 5000 rpm. After that, the carrier can be pulled out with small pincers or special tweezers for removing fragments (ref. 215 or 216).

将载体/塑料芯暴露在牙齿的冠状部分，即，例如使用尺寸为010的EndoTracer根管追踪装置，以每分钟5000转的最佳速度清除顶部的牙胶。之后，可用小钳子或专用镊子取出载体以清除断针(参考215或216)。



H 1 SML 31  
H 1 SML 34



		5	5	5	5	5	5
尺寸 · Size	∅ 1/10 mm	004	006	008	010	012	014

RAL · Right-angle long (RAL)



H1SML31.205. ... 004 006 008 010 012 014

H1SML34.205. ... 004 006 008 010 012 014

○<sub>max</sub> 20000 min<sup>-1</sup>/rpm

○<sub>opt</sub> 1500 min<sup>-1</sup>/rpm

EndoTracer根管追踪装置适用于髓腔开扩，尤其是管间峡区髓腔开扩的预处理。

H1SML31, 长31 mm

H1SML34, 长34 mm

EndoTracer for the preparation of the endodontic access cavity, notably for the preparation of isthmuses

H1SML31 length 31 mm

H1SML34 length 34 mm

## 取根管断针套装—清除断针



### Endo Rescue Kit - Removal of instrument fragments

The fracture of an instrument during an endodontic treatment not only causes the dentist enormous stress, it also poses an increased risk of post-endodontic complications to the patient. The removal of such fragments is often extremely difficult and almost impossible to plan.

The Endo Rescue Kit provides a simple and systematic solution, providing access to the opening of the root canal and allowing the removal of the fractured instrument. Once straight access to the fragment has been created by means of a conventional endodontic drill and two Gates burs, two specifically developed instruments greatly simplify a previously complicated procedure:


A centre drill (RKP) exposes the coronal part of the fragment. An extremely fine trepan bur (RKT) is then placed onto the fragment which is seized by the bur and held in place by dentin residues. The fragment is then pulled out of the root in an anticlockwise direction. Thanks to the small diameter of these two instruments, the fragment can be extracted whilst removing the absolute minimum of dentin.

根管治疗中，断针不仅给牙科医生带来很大压力，而且还增加了患者根管治疗后并发症的风险。取出这些碎片往往十分困难，有时几乎不可能做到。


取根管断针套装为此提供了一个简单而系统的解决方案，凭其可进入根管的开口，并取出断针。一旦使用传统的根管治疗钻和两种G型车针建立通向断针的直线通道，两种特制的器械可简化以前十分复杂的操作：


中心钻(RKP)暴露碎片的冠状部分。将超细的环钻(RKT)放置在碎片上，随后环钻可抓取被牙本质残留物包围的碎片。然后逆时针方向将碎片拉出牙根。由于这两种器械直径很小，所以可在除去极少量牙本质的情况下将碎片拉出。


#### Endo Rescue Kit 4601

  
H269GK.315.016  
○<sub>opt.</sub> 100 000 min<sup>-1</sup>/rpm

  
● G180A.204.110  
○<sub>opt.</sub> 800 min<sup>-1</sup>/rpm

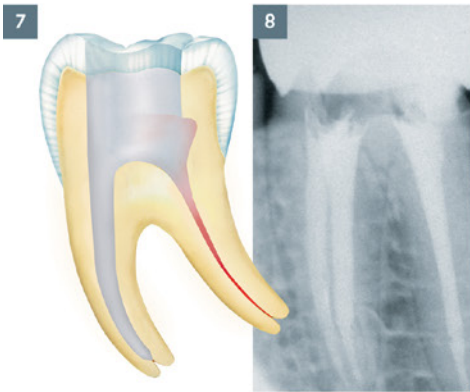
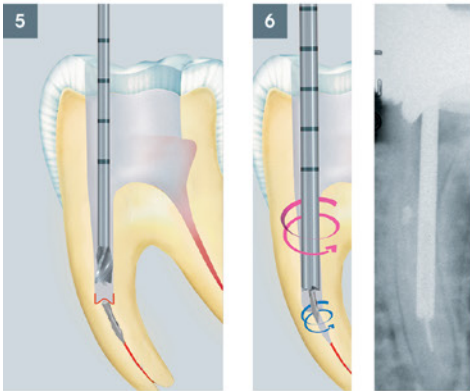
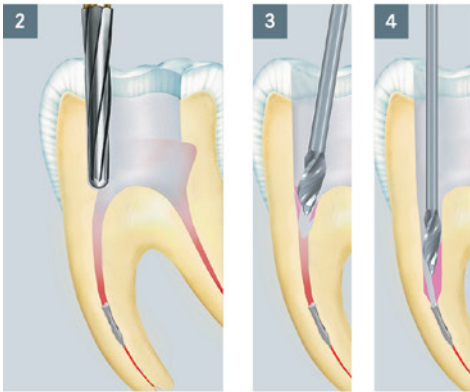
  
● G180.204.090  
○<sub>opt.</sub> 800 min<sup>-1</sup>/rpm

  
● RKP.204.090  
○<sub>opt.</sub> 300 min<sup>-1</sup>/rpm

  
● RKT.204.090  
○<sub>opt.</sub> 300 min<sup>-1</sup>/rpm

  
150.155.000



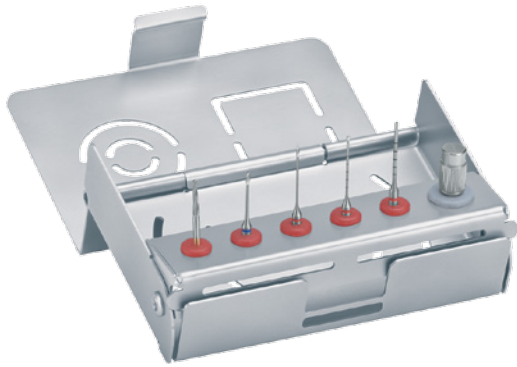


**Clinical sequence**

1. Initial situation. Presence of a fragment of a fractured instrument in a mesial root.
2. Recreation of the access cavity (H269GK.315.016).
3. The coronal curvature is straightened with axial movements to create direct access to the fragment (G180A.204.110).
4. Preparation of the access right down to the fragment (G180A.204.090).
5. Exposure of the fractured surface by drilling around the fragment (RKP.204.090).
6. The fragment is surrounded and seized. Anti-clockwise rotation. Removal of the fragment which is firmly held in the trepan bur by the residues of dentin (RKT.204.090).
7. The last third can now be correctly prepared.
8. Final situation after filling.

**临床使用顺序**

1. 初始状态。一断针的碎片位于一中根内。
2. 重新建立通道腔(H269GK.315.016)。
3. 通过轴向运动拉直牙冠的曲度，建立直达断针的通道(G180A.204.110)。
4. 预备直接通向断针的通道(G180A.204.090)。
5. 在碎片周围钻孔，暴露出断针表面(RKP.204.090)。
6. 包绕并抓住碎片。逆时针旋转。取出被残留牙本质紧紧固定在环钻内的碎片(RKT.204.090)。
7. 现在可正确预备后面的三分之一。
8. 填充后的最终状态。



### 4601.000



**Endo Rescue Kit**  
取断针器械  
Endo Rescue Kit  
For the removal of fractured instruments

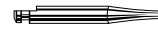
		H269GK.315.016	1
		G180A.204.110	1
		G180.204.090	1
		RKP.204.090	1
		RKT.204.090	1
		155.000.	1

### RKP



		RKP.204. ...	070	090
		RKP.204. ...	070	090
		RKP.204. ...	070	090

RA - Right-angle (RA)



RKP.204. ...

070 090 110

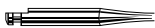
⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm  
⊙<sub>opt</sub> 300 min<sup>-1</sup>/rpm  
Endo Rescue中心钻  
Endo Rescue Centre Drill

### RKT



		RKT.204. ...	070	090
		RKT.204. ...	070	090
		RKT.204. ...	070	090

RA - Right-angle (RA)

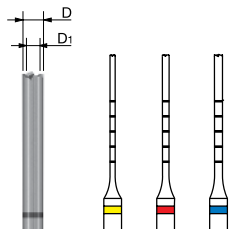


RKT.204. ...

070 090 110

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm  
⊙<sub>opt</sub> 300 min<sup>-1</sup>/rpm

Endo Rescue 环钻  
逆时针旋转使用  
Endo Rescue Trepan bur  
To be used in anticlockwise rotation



### 30013



		30013.204. ...	18	19	20
		30013.204. ...	18	19	20
		30013.204. ...	18	19	20
		30013.204. ...	18	19	20

RA - Right-angle (RA)



30013.204. ...

18 19 20 21

⊙<sub>max</sub> 20000 min<sup>-1</sup>/rpm  
用来暴露根管中断针的环形钻  
Trepan bur for exposing fragments in the root canal



## Post Endo

Root posts are intended for the reconstruction of teeth after successfully concluded endodontic treatments. It is their task to ensure permanent retention of the coronal build-up. What's more, the weakening of the root during preparation and load transmission has to be kept to the absolute minimum.

The comprehensive range offered by Komet includes for example the ER system which has been a mile stone in the post endodontic treatment sector for almost 30 years. It comprises tapered, passive root posts that are available in various different material perfectly adapted to each individual indication.

New additions to the ER system include the two short posts DentinPost X Coated and TitanPost X Coated made of glass fiber reinforces composite and pure titanium. Thanks to their short shanks of merely 6 mm, the root is hardly weakened at all. Our line of root posts is completed by the dual curing post cementation and build-up composite DentinBuild Evo.

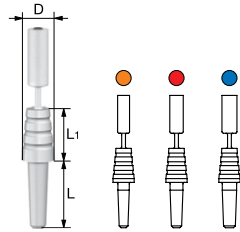
## 根管治疗后

根管桩用于成功完成根管治疗后修复牙齿。根管桩旨在确保永久保留冠状成形。此外，在预备和载荷转移期间，根管的削弱程度必须保持在绝对最小值。

Komet(固美)提供的全面产品系列包括例如ER系统，在30年根管治疗后，该系统已成为该领域的一个里程碑。包括锥形的被动根管桩，其可由完全适用于各单独适应症的不同材料获取。

ER系统的新增功能包括由玻璃纤维强化复合材料和纯钛制成的两个短桩DentinPost X Coated和TitanPost X Coated。由于其短柄只有6 mm，根管几乎未被削弱。

通过双固化桩粘结和复合材料DentinBuild Evo成形完善了我们的根管桩系列。



**DPXCL 6**

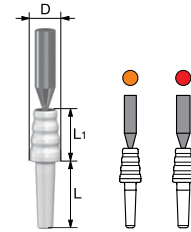


		10	10	10
尺寸 · Size	∅ $\frac{1}{100}$ mm	070	090	110
D	∅ $\frac{1}{10}$ mm	28	28	28
长度	mm	6	6	6
L <sub>1</sub>	mm	4,5	4,5	4,5

DPXCL6.000. ...

070 090 110

DentinPost X带涂层纤维桩，头部由加强型纤维复合树脂和增强粘结力的复合材料制成，长6mm  
DentinPost X Coated posts with head made of fiber reinforced composite with adhesion enhancing polymer layer, length 6 mm



**TPXCL 6**

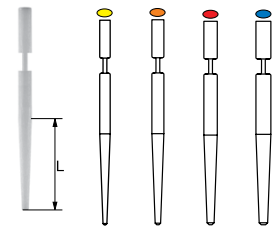


		10	10
尺寸 · Size	∅ $\frac{1}{100}$ mm	070	090
D	∅ $\frac{1}{10}$ mm	28	28
长度	mm	6	6
L <sub>1</sub>	mm	4,5	4,5

TPXCL6.000. ...

070 090

TitanPost X根管桩（涂覆树脂层），具备纯钛合金材质头部，以及用于加强粘附力的复合树脂层，长度6mm。  
TitanPost X Coated posts with head made of pure titanium with adhesion enhancing polymer layer, length 6 mm



**DPC 1 L 12**



		10	10	10	10
尺寸 · Size	∅ $\frac{1}{100}$ mm	050	070	090	110
长度	mm	12	12	12	12

DPC1L12.000. ...

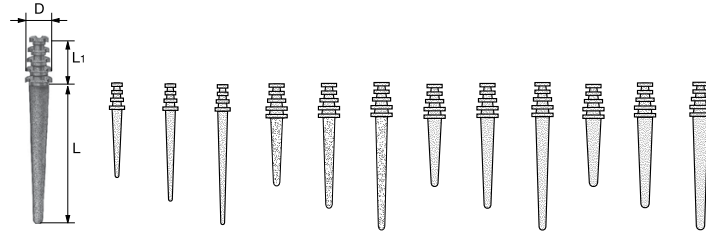
050 070 090 110

实用新型专利、专利 / Utility model, patents  
GM 20 2008 006 129

涂有树脂涂层的DentinPost，由玻璃纤维强化的复合树脂材料制成，并粘有增强聚酯层  
DentinPost Coated made of glass fiber reinforced composite with adhesion enhancing polymer layer



- 48 L 9
- 48 L 12
- 48 L 15
- 228 L 9
- 228 L 12
- 228 L 15
- 49 L 9
- 49 L 12
- 49 L 15
- 50 L 9
- 50 L 12
- 50 L 15



64



		10	10	10	10	10	10	10	10	10	10	10	10
尺寸 · Size	∅ $\frac{1}{100}$ mm	050	050	050	070	070	070	090	090	090	110	110	110
D	∅ $\frac{1}{10}$ mm	20	20	26	28	28	28	28	28	28	28	28	28
长度	mm	9	12	15	9	12	15	9	12	15	9	12	15
L <sub>1</sub>	mm	3,5	3,5	3,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5

●	48L9.000. ...	050	-	-	-	-	-	-	-	-	-	-	-
●	48L12.000. ...	-	050	-	-	-	-	-	-	-	-	-	-
●	48L15.000. ...	-	-	050	-	-	-	-	-	-	-	-	-
●	228L9.000. ...	-	-	-	070	-	-	-	-	-	-	-	-
●	228L12.000. ...	-	-	-	-	070	-	-	-	-	-	-	-
●	228L15.000. ...	-	-	-	-	-	070	-	-	-	-	-	-
●	49L9.000. ...	-	-	-	-	-	-	090	-	-	-	-	-
●	49L12.000. ...	-	-	-	-	-	-	-	090	-	-	-	-
●	49L15.000. ...	-	-	-	-	-	-	-	-	090	-	-	-
●	50L9.000. ...	-	-	-	-	-	-	-	-	-	110	-	-
●	50L12.000. ...	-	-	-	-	-	-	-	-	-	-	110	-
●	50L15.000. ...	-	-	-	-	-	-	-	-	-	-	-	110

使用塑型材料直接铸造冠核用的带上部结构的根管桩，纯金属钛  
Posts with head for direct build-ups using moldable materials, pure titanium





## 复合树脂系统

### Composite System

#### DentinBuild Evo

is a dual curing composite for the cementation of root posts and for core build-ups. DentinBuild Evo is suitable for cementing and building up root posts made of glass fibre reinforced composite, ceramic and titanium.

#### DentinBond Evo

is a self-etching, dual curing adhesive for use with the DentinBuild composite.

#### DentinBuild Evo

这是一种用于根管桩粘结和核成形的双固化复合材料。DentinBuild Evo适用于玻璃纤维增强复合材料、陶瓷和钛构成的根管桩粘结与成形。

#### DentinBond Evo

这是一种自酸蚀、双固化型粘合剂，与DentinBuild复合材料共同使用。





### Sonic tips

The sonic tips from our SonicLine facilitate endodontic treatments with a gentle, conservative touch. Komet not only provides sonic tips for the orthograde preparation of the pulp chamber, but also sonic tips for the retrograde preparation of the root canal as part of an apicoectomy.

#### Important notes:

The sonic tips made by Komet can not only be used in Komet's sonic hand-piece SF1LM/S, but also

- in the Scalers made by the co. W&H (Series Proxeo® ZA-55/L/LM/M/LS and Proxeo® ST ZE-55RM/BC, Series Synea® ZA-55/L/LM/M or series Alegra® ST ZE-55RM/BC)
- in the SONICflex™ hand-piece provided by the company KaVo (Series 2000N/L/X/LX or series 2003N/L/X/LX)
- in the SIROAIR L of the co. Dentsply Sirona
- in the sonic hand-pieces Ti-Max, series S970L/KL/SL, made by NSK

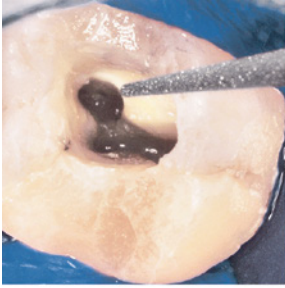
## 声波工作尖

我们的SonicLine声波工作尖便于采用轻柔保守的触摸方式治疗根管。作为根尖切除术的一部分，Komet(固美)不仅提供了顺向预备牙髓腔的声波工作尖，也提供了逆向预备根管的声波工作尖。

#### 重要说明：

Komet(固美)制备的声波工作尖不仅可用于Komet(固美)的声波手机SF1LM / S，而且还可用于

- W&H公司制备的剥离器(Proxeo® ZA-55/L/LM/M/LS和Proxeo® ST ZE-55RM/BC系列， Synea® ZA-55/L/LM/M系列或Alegra® ST ZE-55RM/BC系列)
- KaVo公司提供的SONICflex™手机 (2000N/L/X/LX系列或2003N/L/X/LX系列)
- Dentsply Sirona公司的SIROAIR
- NSK公司制备的声波手机 Ti-Max, S970L/KL/SL系列



### SonicLine 声波工作尖

作为根管治疗的一部分，用于顺向预备牙髓腔和预备根管颈部三分之一处的声波工作尖。

#### SonicLine

Sonic tips for orthograde preparation of the pulp chamber and preparation of the cervical third of the root canal as part of an endodontic treatment.

#### Advantages:

- Quick preparation and removal of old root fillings
- Easier retrieval of root canals
- Enlargement of obliterated canals
- Preparation of straight canal access cavities without weakening the crown
- Useful for removing hard root fillings, cements or posts
- Controlled, gentle preparation without steps and protruding material
- Excellent vision

The sonic tips can be used in the air driven sonic hand piece SF1LM/S (air scaler) and reprocessed with the help of a rinse adapter in a Miele washer/ disinfectant.

#### 优点：

- 快速预备并清除陈旧的根管填充物
- 更容易修复根管
- 扩大闭塞的根管
- 在不削弱全冠的情况下，预备直线牙髓腔通道
- 有利于清除坚硬的根管填充物、粘合剂或植入柱
- 在受控情况下轻柔完成预备过程，不会使材料形成阶梯状和突出
- 视野极佳

此声波工作尖可与空气驱动的声波手机 SF1LM/S(空气剥离器)共同使用，并可借助一冲洗接头，在一Miele洗涤/消毒器中进行处理。



### SF 66



		1
长度	mm	6,0

SF66.000. ...

大圆头  
初步预备牙髓腔通道并清除突出材料  
Large bud  
Initial preparation of the access cavity and removal of protruding substance



**SF 67**



		1
长度	mm	10,0
角度 · Angle	$\alpha$	125°

SF67.000. ...

**锥形头**

修复细小和钙化的根管，在修复时打开根管的上部

Tapered

Retrieval of fine and calcified canals, opening of the upper canal portions during revision



**SF 68**



		1
长度	mm	10,0
角度 · Angle	$\alpha$	112°

SF68.000. ...

**锥形头**

替代带有更大角度的SF67

Tapered

Alternative to the SF67 with a more pronounced angle



**SF 69**



		1
长度	mm	6,0

SF69.000. ...

**小圆头**

精修牙髓腔通道，最小程度刷新新牙本质层，清除残留的根管填充物

Small bud

Finishing of the access cavity, minimal refreshing of the dentin layer and removal of residues of root canal fillings



**SF 70**



		1
长度	mm	10,0
角度 · Angle	$\alpha$	122°

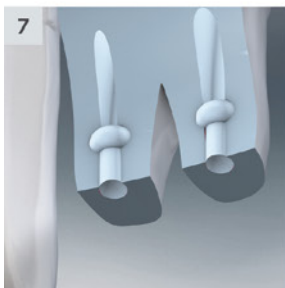
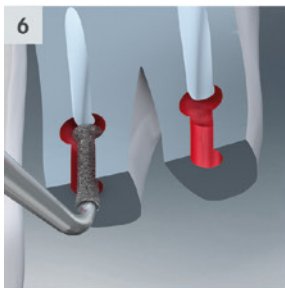
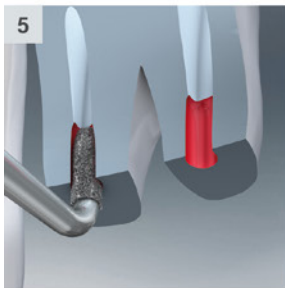
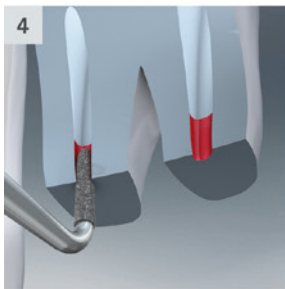
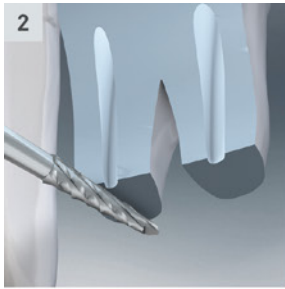
SF70.000. ...

**锥形头**

扩张较长和较宽的根管，清除折断的器械，清除由牙胶和软粘合剂构成的根管填充物

Tapered

Enlargement of long and wide canals, unblocking of fractured instruments, removal of root fillings made of gutta-percha and soft cements



## SonicLine

Sonic tips for retrograde endodontic treatments as part of an apicectomy.

### Clinical sequence:

Preparative surgical steps

1. Create the access through the jaw bone and work on the bone in the periapical region. Prepare a small bone window with a repositionable lid to ensure a proper preparation of the canal with the endodontic tips for retrograde treatments.
2. Remove the root apex in a right angle to the tooth axis, for example with the tungsten carbide bone cutter Komet H254E
3. Remove any diseased tissue by means of a sharp spoon curette and stop the resulting bleeding

Retrograde root preparation with SonicLine sonic tips

4. Retrieval of the root canal and exposure of the canal entrance with the sonic tips SF56 (curved to the left) or SF57 (curved to the right)
  5. Preparation of the cavity up to a depth of 3 mm with the SF16 (curved to the left) or SF17 (curved to the right)
- In case of extremely curved root canals, it might be helpful to open and enlarge the canal with the specially shaped sonic tip SF55
6. Preparation of an undercut in order to prevent loss of the canal filling with the tip SF20 (curved to the left) or SF21 (curved to the right)
  7. Finally, fill the root with a material suitable for retrograde fillings

### Advantages:

- Minimally invasive treatment without need to prepare a large bone window
- Axial work, even in very crowded conditions
- Easier work thanks to double-angled tips
- Slender tips for excellent vision in all jaw regions
- Simplified preparation of undercuts for permanent retention of the retrograde root filling

## SonicLine

用于作为根尖切除术一部分的逆行性根管治疗的声波工作尖

### 临床使用顺序：

手术准备步骤

1. 通过颌骨创建通道，并在根尖周区域的骨头上工作。准备一个带可重定位盖的小骨窗，确保通过根管治疗工作尖适当准备根管进行逆行性治疗。
2. 以与牙齿轴线成直角的方式清除根尖，例如用碳化钨骨切割刀Komet H254E。
3. 用锋利的匙形刮治器清除任何病变组织并止血。

借助SonicLine声波工作尖的逆行性根管准备。

4. 通过声波工作尖SF56(向左弯曲)或SF57(向右弯曲)修复根管并暴露根管口。
  5. 用SF16(向左弯曲)或SF17(向右弯曲)准备深度达3 mm的牙髓腔。
- 对极其曲折的根管，可用特殊形状的声波工作尖SF55帮助打开和扩大根管。
6. 准备根管倒凹以防止用声波工作尖SF20(向左弯曲)或SF21(向右弯曲)进行根管填充时的损失。
  7. 最后，用适合作为逆行性填充物的材料填充根管。

### 优点：

- 微创治疗无需准备大骨窗
- 即使在非常拥挤条件下可实施轴向工作
- 由于双角工作尖工作更方便
- 细长的工作尖使整个下颚区清晰可见
- 永久保留逆行性根管充填物倒凹的简单准备



**SF 56**



		1
长度	mm	3,0

SF56.000. ...

鱼雷形头部，左弯， $\varnothing$  0,7 mm  
打开阻塞根管，开通根管口  
Torpedo shaped, curved to the left,  $\varnothing$  0.7 mm  
Retrieval of the root canal, exposure of the canal entrance



**SF 57**



		1
长度	mm	3,0

SF57.000. ...

鱼雷形头部，右弯， $\varnothing$  0,7 mm  
打开阻塞根管，开通根管口  
Torpedo shaped, curved to the right,  $\varnothing$  0.7 mm  
Retrieval of the root canal, exposure of the canal entrance

70



**SF 16**



		1
长度	mm	3,0

SF16.000. ...

鱼雷形头部，左弯， $\varnothing$  1,0 mm  
窝洞预备/根管预备  
Torpedo shaped, curved to the left,  $\varnothing$  1.0 mm  
Preparation of the cavity/the root canal



**SF 17**



		1
长度	mm	3,0

SF17.000. ...

鱼雷形头部，右弯， $\varnothing$  1,0 mm  
窝洞预备/根管预备  
Torpedo shaped, curved to the right,  $\varnothing$  1.0 mm  
Preparation of the cavity/the root canal



SF 20



		1
长度	mm	3,0
SF20.000. ...		•

T形头部，左弯，Ø 1,0 mm  
预备倒凹，以便根管逆充填材料固位  
T-shaped, curved to the left, Ø 1.0 mm  
Preparation of an undercut to retain the retrograde root filling



SF 21



		1
长度	mm	3,0
SF21.000. ...		•

T形头部，右弯，Ø 1,0 mm  
预备倒凹，以便根管逆充填材料固位  
T-shaped, curved to the right, Ø 1.0 mm  
Preparation of an undercut to retain the retrograde root filling



SF 55



		1
长度	mm	3,0
SF55.000. ...		•

鱼雷形头部，弯曲度极大，Ø 0,7 mm  
打开和预备极为弯曲的根管，特别适于牙根向口内倾斜度很大的情况  
Torpedo shaped, extremely curved, Ø 0.7 mm  
Opening and enlarging of extremely curved root canals, especially apices strongly inclining in an oral direction



### SF 1 LM.000



带有照明和MULTIflex™ 连接的声波手机  
MULTIflex™ 是德国KaVo 公司的注册商标  
Sonic handpiece with light and MULTIflex™ connection, incl. tip changer  
MULTIflex™ is a trademark of KaVo



### SF 1 LS.000



带光声波工作尖手柄, Sirona®接口, 包含工作尖更换扳手  
Sirona®是西诺德公司(Dentsply Sirona)的一个注册品牌  
Sonic handpiece with light and Sirona® connection, incl. tip changer  
Sirona® is a registered trademark of the company Dentsply Sirona



### SF 1975.000



针尖扭力扳手  
Tip changer with torque



### SF 1978.000



冲洗适配器, 用于在Miele清洁和消毒机中清洁消毒声波工作尖  
Rinse adapter for reprocessing of sonic tips in a Miele washer/disinfector



### SF 1978 L.000



长冲洗适配器, 用于在Miele洗涤/消毒器中机器清洁消毒声波工作尖  
Rinse adapter long for the mechanical reprocessing of sonic tips in a Miele washer/disinfector



### SF 1979.000

声波工作尖的冷却适配器, 用于从外部提供无菌生理盐水不锈钢 (cooling liquid)  
Cooling adapter for sonic tips, for external supply of sterile cooling liquid  
Stainless steel





SF 1977.000



用于Komet SF 1979外接冷却适配器或其他内螺纹的超声工作尖（包括 EMS 和卡瓦 PIEZOlux™ 系列）在Miele消毒清洗机的连接适配器，不锈钢材质  
Rinse adapter for reprocessing of the Komet cooling adapter SF1979 or of the ultrasonic tips with internal thread (compatible with EMS and KaVo PIEZOlux™ units) in a Miele washer/disinfector, stainless steel

**new**



SF 1977 L.000



长冲洗适配器，用于在Miele洗涤/消毒器中清洁消毒Komet SF 1979冷却适配器或其他内螺纹超声工作尖(包括EMS和KaVo PIEZOlux™系列)，不锈钢材质

Rinse adapter long for reprocessing of the Komet cooling adapter SF1979 or of the ultrasonic tips with internal thread (compatible with EMS and KaVo PIEZOlux™ units) in a Miele washer/disinfector, stainless steel



9952.000



尺寸 · Dimensions mm 90 x 65 x 22

用于声波工作尖的通用不锈钢车针架，带有7个浅蓝色硅胶插座。  
Bur block made of stainless steel with 7 holders for sonic or ultrasonic tips and preassembled light blue silicone plugs



4602.000

冷却适配器SF1979套装用于安装把手566声波工作尖  
Set cooling adapter SF1979 for sonic tips and mounting wrench 566

SF1979.000.	1	
566.000.	1	



### Endo motors

Special Endo motors are indispensable when it comes guaranteeing a safe mechanical preparation of the root canal. These motors have to meet special requirements, such as reduced speeds and torque control. Komet's endodontic range comprises a torque reduced endodontic contra-angle and a complete endodontic motor capable of combining preparation and electronic determination of the length.

### 根管马达

为了确保根管机械处理的安全性，专用根管电机必不可少。这类电机必须满足如减速和扭矩控制等特殊要求。Komet(固美)的牙髓产品包括减扭矩牙髓反角和全套牙髓电机，能将制备和电子长度检测合二为一。

## EndoPilot

### EndoPilot

The EndoPilot is an endodontic motor and apex locator all in one, ensuring an efficient and safe preparation of the root canal.

This torque and speed controlled endodontic motor is provided with coloured LED lights indicating the direction of rotation, the torque limit or the position of the apex. These features ensure an efficient preparation of the root canal. Thanks to the fully insulated electric contra-angle, the integrated apex locator allows an exact, real-time determination of the length because the operator is always in full control of the actual position of the file.

The EndoPilot is provided with a file library containing the characteristics of the F6 SkyTaper, F360 and Procodile files and other commonly used file systems. What's more, the operator has the option to develop individually adapted sequences.

EndoPilot集根管治疗仪和根尖定位仪为一体，确保根管的有效和安全准备。

这种扭力和速度控制型根管治疗仪配有指示旋转方向、扭力极限值或根尖位置的彩色LED发光二极管指示灯。这些特性确保了根管的高效准备。借助完全绝缘的电动反角功能，集成的根尖定位仪能准确实时地测定根管长度，因为操作者始终能够全面控制根管锉的实际位置。

EndoPilot装备了一个包含F6 SkyTaper, F360和Procodile根管锉以及其他常用根管锉系统特征的根管锉信息库。此外，操作者可选择开发个性化适用的根管锉使用顺序。



EP0014 EndoPilot



The EndoPilot is provided with a large, easy to read touch screen which guides the operator through the menu. All functions are found quickly and easily.

Thanks to the reduced size of the retainer and the wireless, radio-controlled foot switch, the battery-operated EndoPilot is particularly easy to handle and adapts perfectly to the requirements in your dental practice.

**Hardware:**

- Endodontic motor and apex locator all in one
- Modern and attractive design
- Fully insulated electric motor and contra-angle
- 7 inch colour touch-screen display
- Wireless, radio-controlled foot switch
- Can be updated by means of micro SD card to allow for future developments
- Battery-operated
- High-quality metal holder and concealed cable routing

**Software:**

- File library with many preset file systems
- Option to develop individual sequences
- Clearly laid out menu with easy-to-use touch screen
- Precise real-time determination of the length thanks to the patented impulse measuring technique
- The preparation length is manually variable at the apex locator
- The motor stops as soon as the preparation length is reached
- Torque reduction in the vicinity of the apex
- Patented ReFlex motion for use in combination with Procodile files
- ReFlex smart provides extra safety thanks to its particularly sensitive reaction to torsional loads
- ReFlex dynamic works particularly fast, thus offering even greater efficiency during preparation

EndoPilot配有一个易于阅读的大型触控屏，该触控屏通过菜单为操作人员提供指南。所有功能均可快速方便地找到。

由于保持架和无线电遥控脚踏开关的尺寸减小，电池供电的EndoPilot特别容易处理，并且完全符合牙科诊治的要求。

**硬件：**

- 根管电机和根尖定位器合为一体。
- 设计风格既现代又富有魅力
- 全绝缘电机和反角手机
- 7英寸触控屏
- 无线遥控脚踏开关
- 可通过微型SD卡更新，便于未来研发
- 电池供电
- 配有高品质金属支架，并采用隐蔽布线设计

**软件：**

- 锉刀库包括许多预设锉刀系统
- 可选择研发单独序列
- 使用易于使用的触控屏清除显示菜单
- 凭借脉冲测量专利技术精确实时测定长度
- 可手动改变根尖定位器处的制备长度
- 在达到制备长度后，电机立即停机
- 根尖附近的扭矩减小
- 具有专利的ReFlex运动模式结合Procodile锉使用
- 当根管的外露的区域负载时，ReFlex smart由于其格外的敏感反应，可提供格外的安全性能
- 在根管预备过程中，ReFlex dynamic模式操作更迅速，且提供较高的精确性；



**new**

**EP 0014.000**

**77**



EndoPilot  
牙髓治疗仪和根尖定位仪集成一体  
EndoPilot  
Endodontic motor and apex locator in one



**Morita Tri Auto ZX2 - cordless motor with apex locator**

The cordless, ergonomic hand-piece Tri Auto ZX2 is not only a true lightweight - despite the fact that the apex locator is already integrated - but it also ensures safe, reliable and efficient results, thanks to its easy operation and clever automatic functions. Above all, this is made possible by the special safety functions Optimum Torque Reverse (OTR) to prevent file fracture and Optimum Glide Path (OGP) to facilitate the creation of a glide path.

**Product properties:**

- Innovative and attractive design
- Maximum flexibility thanks to the cordless hand-piece with integrated apex locator
- Easy, intuitive operation
- 11 automatic safety functions
- Optimum Torque Reverse (OTR) function to prevent file fracture and micro cracks
- Optimum Glide Path (OGP) function to facilitate the creation of a glide path

**Morita Tri Auto ZX2—一款具有根尖定位仪的无绳马达**

Tri Auto ZX2是一款无绳，符合人体工程学的新型手机，不仅重量轻而且apex根尖定位仪已集成在内，由于其简单的操作系统和自动智能的功能可以确保其安全，稳定及精确的效果。综上所述，专业的安全功能（OTR）防止根管锉断裂及创建最佳的直线通路。

**产品特性：**

- 创新的，精美的外形设计
- 由于其无绳的手机设计及集成的apex根尖定位仪，增强了机器的灵活性能
- 简单，直观的操作
- 11项自动安全的功能
- OTR功能可防止根管锉的断裂和微小的裂纹
- OGP功能可创建最佳的直线通路

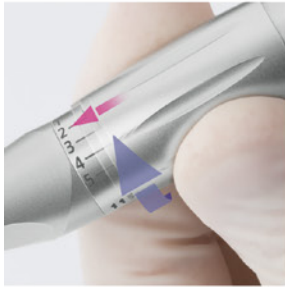
**new**

**TAZX 2.000**



Morita Tri Auto ZX2 扭矩受限，电池手柄  
Morita Tri Auto ZX2 Torque limited battery-powered handpiece





## E-Drive 型根管专用玩手机含扭矩限制

### E-Drive - Torque limited endodontic contra-angle

The E-Drive contra-angle is directly placed on the coupling of the micro motor. It can be used with all commonly used nickel titanium file systems (e.g. F360 and F6 SkyTaper). Due to the fact that the torque can be transmitted at 5 different levels, the mechanical preparation of the root canal can take place in complete safety. Should the file jam in the canal because the torque has been exceeded, it can be released by retro rotation (left-right movements).

#### Advantages:

- The E-Drive can be placed directly onto the coupling of the micro motor
- The torque can be transmitted at 5 different levels
- Optional setting of intermediate levels
- The torque can be set directly at the selection ring of the contra-angle
- Transmission 115 :1
- Maximum speed of the motor: 40,000 rpm
- Performs full rotations 360°
- Safety thanks to retro rotation
- Small head to ensure unobstructed view
- Can be sterilised in the autoclave at up to 135°C

电子驱动反角直接设置在微型电机的联轴器上。可与所有常见的镍钛锉系统(如F360和F6 SkyTaper)一起使用。由于扭矩可按五个不同等级进行传输,因此牙根管机械处理可在完全安全的条件下进行。如果因扭力过大而导致牙锉卡在牙根管中,可反向旋转从而使其脱离(左右运动)。

#### 优点:

- 电子驱动可直接设置在微型电机的联轴器上
- 扭矩可按五个不同等级进行传输
- 中间层可选择设置
- 扭矩可在反角选择环处直接设置
- 传输比115:1
- 电机最高速度:每分钟40000转
- 360度全方位旋转
- 采用逆向旋转,安全可靠
- 采用小型头部,确保视角无阻挡
- 可在高达135°C的高压灭菌器中消毒



9938.000



E-Drive是扭力限制的根管治疗弯机

E-Drive  
Torque limited endodontic contra-angle

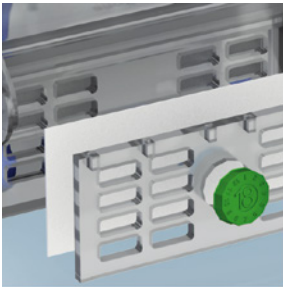


### Auxiliaries

To support the dentist with helpful tools before, during and after the treatment, Komet offers specially matched accessories and instrument blocks, for example interim blocks for the intermediate storage of endodontic files during the preparation of the root canal or bur blocks suitable for cleaning, disinfection and sterilization of instruments in the autoclave.

## 配件

为凭借实用的工具在治疗前、治疗期间和治疗后为牙医提供支持，Komet(固美)提供专门匹配的配件和器械架，例如预备根管时用于存放根管桩的临时器械架或用于仪器清洁、消毒和灭菌的高压灭菌仪器架。



### Insert tray

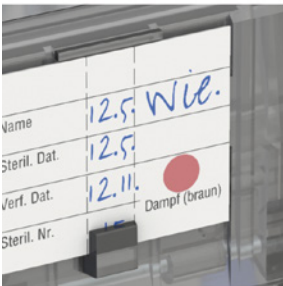
Endodontic instruments can be stored in a clearly arranged treatment tray.

- For 28 endodontic instruments (handpiece and contra-angle)
- PP, 64 x 59 x 19 mm

## 插入盘

根管器械可以被存储在清晰的治疗准备盒内：

- 可存放28个根管器械（手机型或弯机型）
- PP材料，64 x 59 x 19 mm

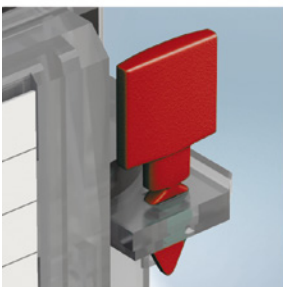


### Sterilization container made of high-performance plastic (PPSU)

- No seals, no maintenance required. More than 2000 sterilization cycles
- Suitable for vacuum steam sterilization
- ePFTe filter. The long-lasting ePFTe filter remains in the sterilization container during reprocessing (manual or mechanical)
- Transparent material - the contents are visible from the outside
- Two or more containers can be laterally connected

### 可消毒的容器盒由PPSU材料制成

- 无需密封，无需维护。可消毒的次数超过2000次；
- 适用于蒸汽灭菌消毒设备；
- ePFTE 保持器。耐用的ePFTE保持器保证器械在再消毒的过程中存储在消毒容器盒内（手用或是机用），
- 透明的消毒盒盖-容器内的器械可清晰可见；
- 2个或多个容器可横向连接组合；







541.000



通用型根管插入式托盘, 适用于28只髓内器械(手柄和反角), PP(无器械)

Universal Endo insert tray, for 28 endodontic instruments (handpiece and contra-angle), PP (without instruments)



556.000



尺寸 · Dimensions	mm	90 x 90 x 55
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灭菌用容器 A8 无密封, 不需维护, 带有可使用100次灭菌周期的滤片, 可叠放, 可连接, 透明PPSU塑料制成

Sterilisation container A8, no seals, no maintenance, with sterilisation filter for 100 sterilisation cycles, stackable, connectable, transparent PPSU plastic

81



4580.000



通用型根管套装灭菌容器和插入式托盘(无器械)

Universal Endo set, sterilisation container and insert tray (without instruments)



9934

适用于消毒盒(A8)的消毒滤网 25 x 61 mm, 应在使用12个月之后或者经过100次消毒后进行更换, ePTFE, 2件

Sterilisation filter 25 x 61 mm for sterilisation container A8, change after 12 months or after 100 sterilisation cycles, ePTFE, 2 pcs.



new

WKIBOX.000

尺寸 · Dimensions	mm	290 x 140 x 70
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根管锉包装盒用于放入根管锉板包含5个分频器  
Storage box for endodontic blister incl. 5 dividers

556.000.	1	灭菌容器 A8 Sterilisation container A8
541.000.	1	通用根管插入式托盘 Universal Endo insert tray

## 清洗盒

### Wash box

The wash box is intended for mechanical cleaning and disinfection of instruments in the thermo disinfectant. Following an initial pre-cleaning step, the instruments to be cleaned are placed into the insert trays that are part of the chosen treatment system. The loaded insert tray can then be put into the wash box. It is then cleaned and disinfected in the thermo disinfectant.

清洗盒用于在热消毒器中对器械进行机械清洁和消毒。在预清洗步骤后，将清洁的器械放入插入盘(作为选择的处理系统的一部分)。接着将装有器械的插入盘置入清洗盒。然后在消毒器中清洁和消毒。

82



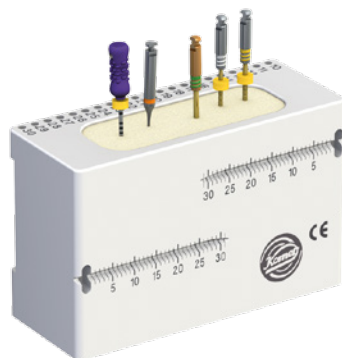
9955.000



尺寸 · Dimensions mm 67 x 50 x 61

清洗盒  
机械清洗和器械的热消毒

Washing box  
For mechanical cleaning and disinfection of instruments in the thermo disinfectant



595.000



带塑胶挡块的根管治疗器械的支撑座 (5孔)  
用于治疗时保证根管器械的卫生安全储存与清洁 (不带器械)  
Intermediate support for endodontic instruments with foam inserts (5 pcs)  
For the hygienic intermediate storage and cleaning of root canal instruments during the treatment (without instruments)



9866



尺寸 · Dimensions mm 50 x 30 x 17

白色泡沫插件, 替换装、25片装  
Foam insert white, refill 25 pcs.



9989.000



尺寸 · Dimensions mm 83 x 45 x 35

不锈钢制成的车针架，带有16个蓝色硅胶塞作为通用型器械的架子，用于最长为33 mm的FG和CA器械

Bur block made of stainless steel with 16 blue silicone plugs as universal instrument holders, for FG and RA instruments with a maximum length of 33 mm



**new**

9933 L 5.000



尺寸 · Dimensions mm 61 x 45 x 50

不锈钢制成的车针架，带有12个蓝色硅胶塞作为通用型器械的架子，用于最长为48 mm的FG和CA器械

Bur block made of stainless steel with 12 blue silicone plugs as universal instrument holders, for FG and RA instruments with a maximum length of 48 mm



**new**

9933 L 7.000



尺寸 · Dimensions mm 61 x 45 x 70

不锈钢制成的车针架，带有12个蓝色硅胶塞作为通用型器械的架子，用于最长为68 mm的FG和CA器械

Bur block made of stainless steel with 12 blue silicone plugs as universal instrument holders, for FG and RA instruments with a maximum length of 68 mm



9891



	1	1	1	1	1	1	1
尺寸 · Size	1	2	3	4	5	6	7

9891.000. ...

1	2	3	4	5	6	7
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硅胶塞，替换装，用于所有带有硅胶塞的车针架，8件

Silicone plug, refill for bur blocks with silicone plugs, 8 pieces



84

9870



尺寸 · Dimensions mm 90 x 52 x 13

Alpha顺序设定器，不锈钢制成的器械架，带有12个特氟龙器械插孔（手柄和直角柄），三种硅胶制成的Sterimeters（黄色、红色、蓝色）用来计算已经进行灭菌次数，盖子上有长度测量计

Alpha Sequencer, instrument block made of stainless steel, teflon insert with 12 instrument holes (handle or right angle shank), 3 Sterimeters (yellow, red, blue) made of silicone for counting the sterilisation cycles already carried out, measurement scale on the inside of the lid



9848

聚丙烯树脂培训块，3件  
Acrylic training bloc, 3 pcs.



**new**

TOOTH 1.000

根管模型牙,磨牙 (4个根管)  
Practice tooth Endo, Molar (4 root canals)



**new**

TOOTH 2.000

根管模型牙,前磨牙 (4个根管), S形  
Practice tooth Endo, Premolar, S-shaped







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