

endo★*star*

Instruments and materials

endostar.eu

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Everyday thousands of dentists use our files all over the world

For 28 years we have designed and produced instruments for root canal treatment. Our manufacturing facility is located in Poland, country for several years belonging to the European Union. Our machinery is based on a proprietary technology developed in the R&D POLDENT department. It uses modern components, some developed by NASA and allows for an annual production of 1 million packages of instruments shown in our catalogue, currently consisting of 16 000 items.

For many years we have been using multi-stage quality control system, through which each blade of the produced file is precisely controlled. Therefore, an experienced team, imported materials, modern production line and precise control and measuring equipment ensure the best production process and reliability of each our product, certified by ISO and CE.





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Endostar E3 Basic Rotary System

Endostar E3 Rotary System is a set of modern rotary files used for effective and efficient root canal preparation. They are manufactured from a highest quality nickel-titanium alloy, which provides durability and flexibility. The files can easily fit even strongly curved canals, this way minimizing the risk of canal perforation. The modified shape of the NiTi S file with two 90-degree cutting edges ensures efficient cutting, transport of debris up the canal and decreases preparation time. The inactive tip allows safe preparation, minimizing the risk of a via falsa, perforations and zipping. Easy-to-read taper value (number of stripes on the handle) and ISO size (color stripes) enables effortless use of the instruments. The Endostar E3 Basic Rotary System should be used with normal width, straight or slightly curved canals.

| The size, taper and the length of individual files | | | | |
|----------------------------------------------------|-------------------|-----------|----------|-----------------|
| Instrument | Number of stripes | Taper (%) | ISO size | Length |
| No 1 | 1 | 8 | 30 | 18 mm |
| No 2 | 2 | 6 | 25 | 23 / 25 / 28 mm |
| No 3 | 3 | 4 | 30 | 23 / 25 / 28 mm |

| Endostar E3 Basic Rotary System | |
|------------------------------------------------------|------|
| Intro Set, 30/08 (18 mm), 25/06, 30/04, 3 pcs, 23 mm | E323 |
| Intro Set, 30/08 (18 mm), 25/06, 30/04, 3 pcs, 25 mm | E3 |
| Intro Set, 30/08 (18 mm), 25/06, 30/04, 3 pcs, 28 mm | E328 |

| Endostar E3 Basic Rotary System | |
|---------------------------------|----------|
| Refills, 30/08, 6 pcs, 18 mm | E3300818 |
| Refills, 25/06, 6 pcs, 23 mm | E3250623 |
| Refills, 25/06, 6 pcs, 25 mm | E3250625 |
| Refills, 25/06, 6 pcs, 28 mm | E3250628 |
| Refills, 30/04, 6 pcs, 23 mm | E3300423 |
| Refills, 30/04, 6 pcs, 25 mm | E3300425 |
| Refills, 30/04, 6 pcs, 28 mm | E3300428 |

Recommended number of use:

Maximum of 5-10 times, depending on the size (see Table), provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent, deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only once.

| Recommended number of use | | | |
|---------------------------|----|---|---|
| File number | 1 | 2 | 3 |
| | 10 | 5 | 5 |

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Clinical instruction for use

Rinse the canal each time after the file is used. Clean the files of any debris repeatedly.

> **Cavity preparation.**

Prepare the cavity. Use a rubber dam.

> **Location of canals.**

Locate all canal orifices. Lubricate the canals.

> **Specifying the working length of the canal.**

Specify the working length of the canal using your method of choice.

> **Preparing the canal with hand instruments.**

Continue to shape the root canal with hand files up to size 20. This way, you will create a glide path for rotary instruments. This will also reduce the risk of breaking the rotary file.

> **Preparation of the upper part of the root canal.**

Shape the canal orifice with the Endostar E3 Basic File No. 1 (08/30) until you reach a maximum of 1/2 of the total canal depth. Do not use this file when the canal is highly curved (in such cases use the Endostar E3 Small Apical Rotary System).

> **Preparation of the middle part of the root canal.**

Begin to work with file No. 2 (06/25). Perform up-and-down movements. Shape the canal up to 2/3 of the working length. Inspect the working length with the size 15 hand file and apex locator. Next, insert file No. 2 at full working length.

> **Shaping of the apical part of the root canal.**

Use file No. 3 (04/30) to widen the apical portion of the canal until full working length is reached. Confirm that full working length was reached with hand file size 15 and apex locator. Next, finish work with a nickel-titanium hand file size 30. Check if the file can be inserted at full working length without obstructions, and if wedging can be felt. If a wider preparation of the apex is needed, continue to work with larger hand instruments size 35, 40 etc. or consider using the Endostar E3 Big Apical Rotary System.

Recommended torque

| File number | Standard torque (Ncm) | Advanced torque (Ncm) |
|-------------|-----------------------|-----------------------|
| 1 (30/08) | 2.4 | 3.0 |
| 2 (25/06) | 2.1 | 3.0 |
| 3 (30/04) | 0.9 | 2.1 |

Files should be used with motor speed between 150 and 300 rpm. The torque settings indicated in the table above are for example only and may vary according to each user preferences and motor capabilities. Do not exceed the upper torque limit which is different for each instrument. If precise torque settings cannot be set, and only manufacturer-specific torque levels are available, be sure to select one that does not exceed the recommended limit.



Endostar E3 Small Apical Rotary System

The Endostar E3 Small Apical Rotary System is not a separate rotary system. This is an extension of the Endostar E3 Basic Rotary System for use with very narrow and curved canals. The canal should be first shaped with the use of Endostar E3 Basic files.

The size, taper and the length of individual files

| Instrument | Number of stripes | Taper (%) | ISO size | Length |
|------------|-------------------|-----------|----------|-----------------|
| No 1 | 2 | 6 | 20 | 23 / 25 / 28 mm |
| No 2 | 3 | 4 | 25 | 23 / 25 / 28 mm |
| No 3 | 3 | 4 | 20 | 23 / 25 / 28 mm |

Endostar E3 Small Apical Rotary System

| | |
|----------------------------------------------|-------|
| Intro Set, 20/06, 25/04, 20/04, 3 pcs, 23 mm | E3S23 |
| Intro Set, 20/06, 25/04, 20/04, 3 pcs, 25 mm | E3S |
| Intro Set, 20/06, 25/04, 20/04, 3 pcs, 28 mm | E3S28 |

Endostar E3 Small Apical Rotary System

| | |
|------------------------------|----------|
| Refills, 20/06, 6 pcs, 23 mm | E3200623 |
| Refills, 20/06, 6 pcs, 25 mm | E3200625 |
| Refills, 20/06, 6 pcs, 28 mm | E3200628 |
| Refills, 25/04, 6 pcs, 23 mm | E3250423 |
| Refills, 25/04, 6 pcs, 25 mm | E3250425 |
| Refills, 25/04, 6 pcs, 28 mm | E3250428 |
| Refills, 20/04, 6 pcs, 23 mm | E3200423 |
| Refills, 20/04, 6 pcs, 25 mm | E3200425 |
| Refills, 20/04, 6 pcs, 28 mm | E3200428 |

Recommended number of use:

Maximum of 5 times, provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent, deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only once.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Clinical instruction for use

Rinse the canal each time after the file is used. Clean the files of any debris repeatedly.

1. Prepare the cavity, locate the orifices and specify the working length of the canal. Next, prepare the canal with hand instruments as specified in the Endostar E3 Basic Rotary System clinical instruction.

2. Preparation of the upper part of the root canal.

Shape the canal orifice with the use of the Endostar E3 Basic Rotary System No. 1 (08/30) file until delicate resistance is detectable. Do not apply excessive force to the instrument especially in highly curved canals.

3. Preparation of the middle portion of the root canal.

Begin to work with file No. 2 from the Endostar E3 Basic Rotary System (06/25). Perform up and down movements. Work to maximum of 1/2 of working length. Inspect the working length with the size 15 hand file and apex locator. Next, with the use of file No. 3 which is part of the E3 Basic Rotary System (04/30), try to go a few millimeters deeper down the canal. If the file can not go deeper down the canal, do not force it. Finish the preparation with the Endostar E3 Basic Rotary System and continue with the Endostar E3 Small Apical Rotary System.

4. Shaping of the apical part of the root canal.

With the use of file No. 1 from the Endostar E3 Small Apical Rotary System (06/20) shape the canal a few millimeters down. Do not force the instrument down the canal. Take file No. 2 (04/25) and continue to shape the canal. Stop working 2 mm before reaching full working length. Use file No. 3 (04/20) until full working length is reached. File No. 3 (04/20) allows shaping even of very narrow and extremely curved canals. Next, go back to file No. 2 (04/25) and use it until full working length is reached.

5. Widening the root canal.

After checking the apical width with the NiTi file, consider widening the canal with file No. 3, which is part of the Endostar E3 Basic Rotary System (04/30) set. Skip this step in extremely curved canals and finish shaping at size 04/25.

Recommended torque

| File number | Standard torque (Ncm) | Advanced torque (Ncm) |
|-------------|-----------------------|-----------------------|
| 1 (20/06) | 0.9 | 2.1 |
| 2 (25/04) | 0.9 | 2.1 |
| 3 (20/04) | 0.9 | 2.1 |

Files should be used with motor speed between 150 and 300 rpm. The torque settings indicated in the table above are for example only and may vary according to each user preferences and motor capabilities. Do not exceed the upper torque limit which is different for each instrument. If precise torque settings cannot be set, and only manufacturer-specific torque levels are available, be sure to select one that does not exceed the recommended limit.



Endostar E3 Big Apical Rotary System

The Endostar E3 Big Apical Rotary System is not a separate rotary system. This is an extension of the Endostar E3 Basic Rotary System and is used for shaping wide canals, for which final preparation to size 30 is not sufficient. It should always be preceded by initial preparation performed with the Endostar E3 Basic System.

The size, taper and the length of individual files

| Instrument | Number of stripes | Taper (%) | ISO size | Length |
|------------|-------------------|-----------|----------|-----------------|
| No 1 | 3 | 4 | 35 | 23 / 25 / 28 mm |
| No 2 | 3 | 4 | 40 | 23 / 25 / 28 mm |
| No 3 | 3 | 4 | 45 | 23 / 25 / 28 mm |

Endostar E3 Big Apical Rotary System

| | |
|----------------------------------------------|--------------|
| Intro Set, 35/04, 40/04, 45/04, 3 pcs, 23 mm | E3B23 |
| Intro Set, 35/04, 40/04, 45/04, 3 pcs, 25 mm | E3B |
| Intro Set, 35/04, 40/04, 45/04, 3 pcs, 28 mm | E3B28 |

Endostar E3 Big Apical Rotary System

| | |
|------------------------------|-----------------|
| Refills, 35/04, 6 pcs, 23 mm | E3350423 |
| Refills, 35/04, 6 pcs, 25 mm | E3350425 |
| Refills, 35/04, 6 pcs, 28 mm | E3350428 |
| Refills, 40/04, 6 pcs, 23 mm | E3400423 |
| Refills, 40/04, 6 pcs, 25 mm | E3400425 |
| Refills, 40/04, 6 pcs, 28 mm | E3400428 |
| Refills, 45/04, 6 pcs, 23 mm | E3450423 |
| Refills, 45/04, 6 pcs, 25 mm | E3450425 |
| Refills, 45/04, 6 pcs, 28 mm | E3450428 |

Recommended number of use:

Maximum of 5 times, provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent, deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only one.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Clinical instruction for use

Rinse the canal each time after the file is used. Clean the files of any debris repeatedly.

- > After preparation of the canal with the use of file No. 3 from the set of Endostar E3 Basic is completed, evaluate apex width. For this purpose, use a size 30 NiTi hand file. Insert it at full working length and gently twist it. If the file rotates - this means that the canal is wider than size 30 and should be expanded.
- > Shape the canal with instrument No. 1 from the Endostar E3 Big Apical Rotary System (04/35) until full working length is reached.
- > Shape the canal by inserting instrument No. 2 (04/40) at full working length.
- > Check the width of the tip using a size 40 NiTi hand file. Insert the instrument at full working length and apply a gentle twist. If the instrument does not rotate, stop shaping the canal. However if the instrument still rotates - continue with shaping.
- > Shape the canal using instrument No. 3 from the Endostar E3 Big Apical Rotary System (04/45) until you reach full working length.
- > Check the apex width with a size 45 NiTi hand file. Insert the instrument at full working length and apply a gentle twist. If the instrument does not rotate, stop shaping the canal. However if the hand file does rotate, continue shaping with larger-sized NiTi hand files such as size 50, 55, 60 etc.

Recommended torque

| File number | Standard torque (Ncm) | Advanced torque (Ncm) |
|-------------|-----------------------|-----------------------|
| 1 (35/04) | 2.1 | 3.0 |
| 2 (40/04) | 2.1 | 3.0 |
| 3 (45/04) | 2.1 | 3.0 |

Files should be used with motor speed between 150 and 300 rpm.

The torque settings indicated in the table above are for example only and may vary according to each user preferences and motor capabilities. Do not exceed the upper torque limit which is different for each instrument. If precise torque settings cannot be set, and only manufacturer-specific torque levels are available, be sure to select one that does not exceed the recommended limit.



Endostar RE Re Endo Rotary System

Endostar RE Re Endo Rotary System is a rotary system used to efficiently remove old fillings from the canal during root canal retreatment. The kit contains 4 instruments, with tapers from 04 to 12 and size 30. It was designed to work with the crown-down technique.

The kit includes:

- > Two K-type files with a square cross-section, with 4 cutting edges and good elasticity.
- > Two files with a S-type blade with two edges distributed symmetrically 180 degrees to the axis of symmetry and a cutting channel at an angle of 90 degrees. They present with great cutting ability, a non-cutting apex and very good elasticity.

| The size, taper and the length of individual files | | | | |
|----------------------------------------------------|-------------------|-----------|----------|-----------------|
| Instrument | Number of stripes | Taper (%) | ISO size | Length |
| No 1 | 1 | 12 | 30 | 17 mm |
| No 2 | 2 | 08 | 30 | 23 / 25 / 28 mm |
| No 3 | 3 | 06 | 30 | 23 / 25 / 28 mm |
| No 4 | 4 | 04 | 30 | 23 / 25 / 28 mm |

| Endostar RE Re Endo Rotary System | |
|-------------------------------------------------------------|------|
| Intro Set, 30/12 (17 mm), 30/08, 30/06, 30/04, 4 pcs, 25 mm | RE |
| Intro Set, 30/12 (17 mm), 30/08, 30/06, 30/04, 4 pcs, 23 mm | RE23 |
| Intro Set, 30/12 (17 mm), 30/08, 30/06, 30/04, 4 pcs, 28 mm | RE28 |

| Endostar RE Re Endo Rotary System | |
|-----------------------------------|----------|
| Refills, 30/12, 6 pcs, 17 mm | RE301217 |
| Refills, 30/08, 6 pcs, 23 mm | RE300823 |
| Refills, 30/06, 6 pcs, 23 mm | RE300623 |
| Refills, 30/04, 6 pcs, 23 mm | RE300423 |
| Refills, 30/08, 6 pcs, 25 mm | RE300825 |
| Refills, 30/06, 6 pcs, 25 mm | RE300625 |
| Refills, 30/04, 6 pcs, 25 mm | RE300425 |
| Refills, 30/08, 6 pcs, 28 mm | RE300828 |
| Refills, 30/06, 6 pcs, 28 mm | RE300628 |
| Refills, 30/04, 6 pcs, 28 mm | RE300428 |

Sterilization
 steam autoclave 134°C. Recommended
 sterilization time 35-40 minutes.





Clinical instruction for use

Rinse the canal each time after the file is used. Clean the files of any debris repeatedly.

- > Make sure you have proper access to the gutta-percha filled canal.
- > Add a few drops of chloroform or other substance in order to dissolve the gutta percha.
- > Use the Endostar RE Re Endo Rotary System - numbers 1-4 combined with the crown-down technique. Starting with file No. 1, then work your way down to file No. 4.
- > Make sure the old filling is entirely removed from the canal. We recommend that an x-ray image is taken.
- > Perform final cleaning of the canal. Chloroform cannot be used at this stage. Rinse with solutions normally used for canal rinsing during endodontic treatment.

Excessive use of chloroform may pose a certain risk to the patient and should therefore be used with caution.

| Recommended torque | |
|--------------------|--------------|
| File number | Torque (Ncm) |
| 1 (30/12) | 3.0 - 4.0 |
| 2 (30/08) | 2.0 - 3.0 |
| 3 (30/06) | 1.0 - 2.0 |
| 4 (30/04) | 0.5 - 1.0 |

Files should be used with motor speed between 150 and 300 rpm.

The torque settings indicated in the table above table are for example only and may vary according to each user preferences and motor capabilities. Do not exceed the upper torque limit which is different for each instrument. If precise torque settings cannot be set, and only manufacturer-specific torque levels are available, be sure to select one that does not exceed the recommended limit.

Recommended number of use:

Maximum of 5-10 times, depending on the size (see Table), provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent, deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only once.

| Recommended number of use | | | | |
|---------------------------|----|----|---|---|
| File number | 1 | 2 | 3 | 4 |
| | 10 | 10 | 5 | 5 |



Endostar NT2 NiTi Two Rotary System

Endostar NT2 NiTi Two Rotary System is an economical nickel-titanium file system for simple and fast mechanical processing of root canals, mainly with the traditional method. The system consists of 6 files. It is characterized by a constant 02 taper and a non-cutting tip. The set is most commonly used as an extension of the Endostar E3 Rotary System.

The size, taper and the length of individual files

| Instrument | Number of stripes | Taper (%) | ISO size | Length |
|------------|-------------------|-----------|----------|------------|
| No 1 | 2 | 02 | 15 | 23 / 25 mm |
| No 2 | 2 | 02 | 20 | 23 / 25 mm |
| No 3 | 2 | 02 | 25 | 23 / 25 mm |
| No 4 | 2 | 02 | 30 | 23 / 25 mm |
| No 5 | 2 | 02 | 35 | 23 / 25 mm |
| No 6 | 2 | 02 | 40 | 23 / 25 mm |

Endostar NT2 NiTi Two Rotary System

| | |
|-------------------------------------------------------------------|--------------|
| Intro Set, 15/02, 20/02, 25/02, 30/02, 35/02, 40/02, 6 pcs, 25 mm | NT2 |
| Intro Set, 15/02, 20/02, 25/02, 30/02, 35/02, 40/02, 6 pcs, 23 mm | NT223 |

Endostar NT2 NiTi Two Rotary System

| | |
|------------------------------|------------------|
| Refills, 15/02, 6 pcs, 23 mm | NT2150223 |
| Refills, 20/02, 6 pcs, 23 mm | NT2200223 |
| Refills, 25/02, 6 pcs, 23 mm | NT2250223 |
| Refills, 30/02, 6 pcs, 23 mm | NT2300223 |
| Refills, 35/02, 6 pcs, 23 mm | NT2350223 |
| Refills, 40/02, 6 pcs, 23 mm | NT2400223 |
| Refills, 15/02, 6 pcs, 25 mm | NT2150225 |
| Refills, 20/02, 6 pcs, 25 mm | NT2200225 |
| Refills, 25/02, 6 pcs, 25 mm | NT2250225 |
| Refills, 30/02, 6 pcs, 25 mm | NT2300225 |
| Refills, 35/02, 6 pcs, 25 mm | NT2350225 |
| Refills, 40/02, 6 pcs, 25 mm | NT2400225 |

Recommended number of use:

Maximum of 5 times, provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent, deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only one.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Clinical instruction for use

Rinse the canal each time after the file is used. Clean the files of any debris repeatedly.

- > Prepare the cavity. Use a rubber dam.
- > Locate all canal orifices. Fill the canal orifice with a lubricant.
- > Specify the working length of the canal with your method of choice.
- > Make sure all canals are patent up to a depth of 2-3 mm from the apex with the help of the K15 file. For very curved and narrow canals, use a different hand instrument, size 06, 08, or 10.
- > Create access to the canal orifice using rotary files with a greater taper (06, 08) or with the use of Gates-Glidden drills.
- > Start working with the 02/15 or 02/20 file until you reach full working length and then switch to other instruments (02/25, 02/30, etc.) until you reach the desired canal size.

| Recommended torque | |
|--------------------|--------------|
| File number | Torque (Ncm) |
| 1 (15/02) | 0.3 |
| 2 (20/02) | 0.3 |
| 3 (25/02) | 0.3 - 0.4 |
| 4 (30/02) | 0.4 - 0.5 |
| 5 (35/02) | 0.5 - 0.6 |
| 6 (40/02) | 0.6 - 0.7 |

Files should be used with motor speed between 150 and 300 rpm.

The torque settings indicated in the table above are for example only and may vary according to each user preferences and motor capabilities. Do not exceed the upper torque limit which is different for each instrument. If precise torque settings cannot be set, and only manufacturer-specific torque levels are available, be sure to select one that does not exceed the recommended limit.



Endostar S-files

Endostar S-files are the most effective instruments with a very high cutting ability for root canal instrumentation. They are designed as composition of two cutting edges of H-file. The S-files are used to enlarge the canal with a up and down movement or a rotational cutting action.

- > Great cutting ability.
- > Very high removal of dentin debris.
- > Precisely cut shape made of very hard, yet flexible stainless steel alloy.
- > 2 cutting edges angled 90° (edges distributed symmetrically at 180° on the long axis).
- > Cross-section: ●
- > Non cutting tip.
- > Good flexibility.
- > Millimeter scale etched on the blade (18 to 25 mm from the tip), which facilitates the determination of the working length.
- > Ergonomic handle with ISO symbols.

| Endostar S-files, 6 pcs | | | | |
|-------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BSFH154021 | BSFH154025 | BSFH154028 | BSFH154031 |
| Assorted 45-80 | BSFH458021 | BSFH458025 | BSFH458028 | BSFH458031 |
| Assorted 90-140 | BSFH901421 | BSFH901425 | BSFH901428 | on request |
| 6 | BSFH000621 | BSFH000625 | BSFH000628 | BSFH000631 |
| 8 | BSFH000821 | BSFH000825 | BSFH000828 | BSFH000831 |
| 10 | BSFH001021 | BSFH001025 | BSFH001028 | BSFH001031 |
| 15 | BSFH001521 | BSFH001525 | BSFH001528 | BSFH001531 |
| 20 | BSFH002021 | BSFH002025 | BSFH002028 | BSFH002031 |
| 25 | BSFH002521 | BSFH002525 | BSFH002528 | BSFH002531 |
| 30 | BSFH003021 | BSFH003025 | BSFH003028 | BSFH003031 |
| 35 | BSFH003521 | BSFH003525 | BSFH003528 | BSFH003531 |
| 40 | BSFH004021 | BSFH004025 | BSFH004028 | BSFH004031 |
| 45 | BSFH004521 | BSFH004525 | BSFH004528 | BSFH004531 |
| 50 | BSFH005021 | BSFH005025 | BSFH005028 | BSFH005031 |
| 55 | BSFH005521 | BSFH005525 | BSFH005528 | BSFH005531 |
| 60 | BSFH006021 | BSFH006025 | BSFH006028 | BSFH006031 |
| 70 | BSFH007021 | BSFH007025 | BSFH007028 | BSFH007031 |
| 80 | BSFH008021 | BSFH008025 | BSFH008028 | BSFH008031 |
| 90 | BSFH009021 | BSFH009025 | BSFH009028 | on request |
| 100 | BSFH010021 | BSFH010025 | BSFH010028 | on request |
| 110 | BSFH011021 | BSFH011025 | BSFH011028 | on request |
| 120 | BSFH012021 | BSFH012025 | BSFH012028 | on request |
| 130 | BSFH013021 | BSFH013025 | BSFH013028 | on request |
| 140 | BSFH014021 | BSFH014025 | BSFH014028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar NiTi S-files

Endostar NiTi S-files are made of nickel-titanium alloy. They are extremely flexible, universal and safe. Their resistance to bending is around 10 times greater than resistance of stainless steel instruments. NiTi S-files are recommended for treatment of curved root canals, which can't be treated with stainless steel instruments. There is no need to pre-bend Endostar NiTi S-files. They are very efficient in root canal instrumentation and have a great cutting ability.

- > Precisely cut shape.
- > Made of nickel-titanium alloy with shape memory.
- > Great cutting ability.
- > Two cutting edges angled 90° (edges distributed symmetrically at 180° on the long axis).
- > Cross-section: ●
- > Great dentin debris extraction.
- > Great flexibility ensured by nickel-titanium alloy.
- > Non cutting tip.
- > Millimeter scale etched on the blade (18 to 25 mm from the tip), which facilitates the determination of the working length.
- > Ergonomic handle with ISO symbols.

| Endostar NiTi S-files, 6 pcs | | | | |
|------------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BNFH154021 | BNFH154025 | BNFH154028 | on request |
| Assorted 45-80 | BNFH458021 | BNFH458025 | BNFH458028 | on request |
| 10 | BNFH001021 | BNFH001025 | BNFH001028 | on request |
| 15 | BNFH001521 | BNFH001525 | BNFH001528 | on request |
| 20 | BNFH002021 | BNFH002025 | BNFH002028 | on request |
| 25 | BNFH002521 | BNFH002525 | BNFH002528 | on request |
| 30 | BNFH003021 | BNFH003025 | BNFH003028 | on request |
| 35 | BNFH003521 | BNFH003525 | BNFH003528 | on request |
| 40 | BNFH004021 | BNFH004025 | BNFH004028 | on request |
| 45 | BNFH004521 | BNFH004525 | BNFH004528 | on request |
| 50 | BNFH005021 | BNFH005025 | BNFH005028 | on request |
| 55 | BNFH005521 | BNFH005525 | BNFH005528 | on request |
| 60 | BNFH006021 | BNFH006025 | BNFH006028 | on request |
| 70 | BNFH007021 | BNFH007025 | BNFH007028 | on request |
| 80 | BNFH008021 | BNFH008025 | BNFH008028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar H-files

Endostar H-files are very effective and invasive hand instruments for root canal instrumentation. The H-file has a great cutting ability and it is designed in a shape proposed by Dr Hedström.

The Hedström file is designed to be used with longitudinal filing and rotary cutting (up to 1/4 turn) actions. It is particularly recommended in pediatric dentistry.

- > Great cutting ability.
- > One cutting edge angled at 90°.
- > Cross-section: ●
- > Extraction of dentin debris improved by increasing feed of cutting edge.
- > Precisely cut shape made of very hard, yet flexible stainless steel alloy.
- > Flexibility increased by cylindrical shape.
- > Ergonomic handle with ISO symbols.

| Endostar H-files, 6 pcs | | | | |
|-------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BHFH154021 | BHFH154025 | BHFH154028 | BHFH154031 |
| Assorted 45-80 | BHFH458021 | BHFH458025 | BHFH458028 | BHFH458031 |
| Assorted 90-140 | BHFH901421 | BHFH901425 | BHFH901428 | on request |
| 6 | BHFH000621 | BHFH000625 | BHFH000628 | BHFH000631 |
| 8 | BHFH000821 | BHFH000825 | BHFH000828 | BHFH000831 |
| 10 | BHFH001021 | BHFH001025 | BHFH001028 | BHFH001031 |
| 15 | BHFH001521 | BHFH001525 | BHFH001528 | BHFH001531 |
| 20 | BHFH002021 | BHFH002025 | BHFH002028 | BHFH002031 |
| 25 | BHFH002521 | BHFH002525 | BHFH002528 | BHFH002531 |
| 30 | BHFH003021 | BHFH003025 | BHFH003028 | BHFH003031 |
| 35 | BHFH003521 | BHFH003525 | BHFH003528 | BHFH003531 |
| 40 | BHFH004021 | BHFH004025 | BHFH004028 | BHFH004031 |
| 45 | BHFH004521 | BHFH004525 | BHFH004528 | BHFH004531 |
| 50 | BHFH005021 | BHFH005025 | BHFH005028 | BHFH005031 |
| 55 | BHFH005521 | BHFH005525 | BHFH005528 | BHFH005531 |
| 60 | BHFH006021 | BHFH006025 | BHFH006028 | BHFH006031 |
| 70 | BHFH007021 | BHFH007025 | BHFH007028 | BHFH007031 |
| 80 | BHFH008021 | BHFH008025 | BHFH008028 | BHFH008031 |
| 90 | BHFH009021 | BHFH009025 | BHFH009028 | on request |
| 100 | BHFH010021 | BHFH010025 | BHFH010028 | on request |
| 110 | BHFH011021 | BHFH011025 | BHFH011028 | on request |
| 120 | BHFH012021 | BHFH012025 | BHFH012028 | on request |
| 130 | BHFH013021 | BHFH013025 | BHFH013028 | on request |
| 140 | BHFH014021 | BHFH014025 | BHFH014028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar NiTi H-files

Endostar NiTi H-files are flexible, safe and invasive. They are made of nickel-titanium alloy. Their resistance to bending is around 10 times greater than resistance of stainless steel instruments.

Endostar NiTi H-files are recommended for treatment of curved root canals, which can't be treated with stainless steel instruments. There is no need to pre-bend NiTi H-files. They are very effective and they have great cutting ability.

- > Precisely cut shape.
- > Made of nickel-titanium alloy with shape memory.
- > Very good cutting ability.
- > One cutting edge angled 90°.
- > Cross-section: ●
- > Extraction of dentin debris improved by increasing feed of cutting edge.
- > Very good flexibility greater than stainless steel instruments.
- > Ergonomic handle.

| Endostar NiTi H-files, 6 pcs | | | | |
|------------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BNHH154021 | BNHH154025 | BNHH154028 | on request |
| Assorted 45-80 | BNHH458021 | BNHH458025 | BNHH458028 | on request |
| 15 | BNHH001521 | BNHH001525 | BNHH001528 | on request |
| 20 | BNHH002021 | BNHH002025 | BNHH002028 | on request |
| 25 | BNHH002521 | BNHH002525 | BNHH002528 | on request |
| 30 | BNHH003021 | BNHH003025 | BNHH003028 | on request |
| 35 | BNHH003521 | BNHH003525 | BNHH003528 | on request |
| 40 | BNHH004021 | BNHH004025 | BNHH004028 | on request |
| 45 | BNHH004521 | BNHH004525 | BNHH004528 | on request |
| 50 | BNHH005021 | BNHH005025 | BNHH005028 | on request |
| 55 | BNHH005521 | BNHH005525 | BNHH005528 | on request |
| 60 | BNHH006021 | BNHH006025 | BNHH006028 | on request |
| 70 | BNHH007021 | BNHH007025 | BNHH007028 | on request |
| 80 | BNHH008021 | BNHH008025 | BNHH008028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar K-files

Endostar K-files are safe instruments with four cutting edges. They are recommended for finding and shaping of narrow canals. Traditionally, this group of instruments have been made from stainless steel and they were designed in a shape proposed by Dr Kerr.

- > 4 cutting edges.
- > Made of stainless steel.
- > Cross section: ■
- > Good flexibility.
- > Safe, noninvasive (not too aggressive).
- > Ergonomic handle with ISO symbols.

| Endostar K-files, 6 pcs | | | | |
|-------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BKFH154021 | BKFH154025 | BKFH154028 | BKFH154031 |
| Assorted 45-80 | BKFH458021 | BKFH458025 | BKFH458028 | BKFH458031 |
| Assorted 90-140 | BKFH901421 | BKFH901425 | BKFH901428 | on request |
| 6 | BKFH000621 | BKFH000625 | BKFH000628 | BKFH000631 |
| 8 | BKFH000821 | BKFH000825 | BKFH000828 | BKFH000831 |
| 10 | BKFH001021 | BKFH001025 | BKFH001028 | BKFH001031 |
| 15 | BKFH001521 | BKFH001525 | BKFH001528 | BKFH001531 |
| 20 | BKFH002021 | BKFH002025 | BKFH002028 | BKFH002031 |
| 25 | BKFH002521 | BKFH002525 | BKFH002528 | BKFH002531 |
| 30 | BKFH003021 | BKFH003025 | BKFH003028 | BKFH003031 |
| 35 | BKFH003521 | BKFH003525 | BKFH003528 | BKFH003531 |
| 40 | BKFH004021 | BKFH004025 | BKFH004028 | BKFH004031 |
| 45 | BKFH004521 | BKFH004525 | BKFH004528 | BKFH004531 |
| 50 | BKFH005021 | BKFH005025 | BKFH005028 | BKFH005031 |
| 55 | BKFH005521 | BKFH005525 | BKFH005528 | BKFH005531 |
| 60 | BKFH006021 | BKFH006025 | BKFH006028 | BKFH006031 |
| 70 | BKFH007021 | BKFH007025 | BKFH007028 | BKFH007031 |
| 80 | BKFH008021 | BKFH008025 | BKFH008028 | BKFH008031 |
| 90 | BKFH009021 | BKFH009025 | BKFH009028 | on request |
| 100 | BKFH010021 | BKFH010025 | BKFH010028 | on request |
| 110 | BKFH011021 | BKFH011025 | BKFH011028 | on request |
| 120 | BKFH012021 | BKFH012025 | BKFH012028 | on request |
| 130 | BKFH013021 | BKFH013025 | BKFH013028 | on request |
| 140 | BKFH014021 | BKFH014025 | BKFH014028 | on request |

Sterilization
 Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar NiTi K-files

Endostar NiTi K-files are made of nickel-titanium alloy and are very flexible and safe. Their resistance to bending is around 10 times greater than the resistance of stainless steel instruments.

They are recommended for treatment of curved root canals, which can't be treated with stainless steel instruments. There is no need to pre-bend NiTi K-files. Great flexibility of NiTi instruments decreases the tendency to straighten the root canal. The risk of wedging instruments or perforation of the root canal is lower.

- > Made of nickel-titanium alloy with shape memory.
- > 4 cutting edges.
- > Cross-section: ■
- > Very good flexibility.
- > Very safe, noninvasive.
- > Ergonomic handle.

| Endostar NiTi K-files, 6 pcs | | | | |
|------------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BNKH154021 | BNKH154025 | BNKH154028 | on request |
| Assorted 45-80 | BNKH458021 | BNKH458025 | BNKH458028 | on request |
| 15 | BNKH001521 | BNKH001525 | BNKH001528 | on request |
| 20 | BNKH002021 | BNKH002025 | BNKH002028 | on request |
| 25 | BNKH002521 | BNKH002525 | BNKH002528 | on request |
| 30 | BNKH003021 | BNKH003025 | BNKH003028 | on request |
| 35 | BNKH003521 | BNKH003525 | BNKH003528 | on request |
| 40 | BNKH004021 | BNKH004025 | BNKH004028 | on request |
| 45 | BNKH004521 | BNKH004525 | BNKH004528 | on request |
| 50 | BNKH005021 | BNKH005025 | BNKH005028 | on request |
| 55 | BNKH005521 | BNKH005525 | BNKH005528 | on request |
| 60 | BNKH006021 | BNKH006025 | BNKH006028 | on request |
| 70 | BNKH007021 | BNKH007025 | BNKH007028 | on request |
| 80 | BNKH008021 | BNKH008025 | BNKH008028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar K-reamers

Endostar K-reamers are used to enlarge root canals. K-reamers are most effective as a rotary cutting instruments.

- > Very high ability of dentin debris removal.
- > High ability of enlarge the root canal.
- > 3 cutting edges.
- > Cross-section: ▲
- > Made of stainless steel.
- > Ergonomic handle with ISO symbols.

| Endostar K-reamers, 6 pcs | | | | |
|---------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BKRH154021 | BKRH154025 | BKRH154028 | BKRH154031 |
| Assorted 45-80 | BKRH458021 | BKRH458025 | BKRH458028 | BKRH458031 |
| Assorted 90-140 | BKRH901421 | BKRH901425 | BKRH901428 | on request |
| 6 | BKRH000621 | BKRH000625 | BKRH000628 | BKRH000631 |
| 8 | BKRH000821 | BKRH000825 | BKRH000828 | BKRH000831 |
| 10 | BKRH001021 | BKRH001025 | BKRH001028 | BKRH001031 |
| 15 | BKRH001521 | BKRH001525 | BKRH001528 | BKRH001531 |
| 20 | BKRH002021 | BKRH002025 | BKRH002028 | BKRH002031 |
| 25 | BKRH002521 | BKRH002525 | BKRH002528 | BKRH002531 |
| 30 | BKRH003021 | BKRH003025 | BKRH003028 | BKRH003031 |
| 35 | BKRH003521 | BKRH003525 | BKRH003528 | BKRH003531 |
| 40 | BKRH004021 | BKRH004025 | BKRH004028 | BKRH004031 |
| 45 | BKRH004521 | BKRH004525 | BKRH004528 | BKRH004531 |
| 50 | BKRH005021 | BKRH005025 | BKRH005028 | BKRH005031 |
| 55 | BKRH005521 | BKRH005525 | BKRH005528 | BKRH005531 |
| 60 | BKRH006021 | BKRH006025 | BKRH006028 | BKRH006031 |
| 70 | BKRH007021 | BKRH007025 | BKRH007028 | BKRH007031 |
| 80 | BKRH008021 | BKRH008025 | BKRH008028 | BKRH008031 |
| 90 | BKRH009021 | BKRH009025 | BKRH009028 | on request |
| 100 | BKRH010021 | BKRH010025 | BKRH010028 | on request |
| 110 | BKRH011021 | BKRH011025 | BKRH011028 | on request |
| 120 | BKRH012021 | BKRH012025 | BKRH012028 | on request |
| 130 | BKRH013021 | BKRH013025 | BKRH013028 | on request |
| 140 | BKRH014021 | BKRH014025 | BKRH014028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar NiTi K-reamers

Endostar NiTi K-reamers made of nickel-titanium alloy are used to enlarge root canals. They are more flexible than stainless steel instruments (more than 10 times). NiTi K-reamers are the first instruments to enter the root canals. They are recommended to check patency and width of root canals.

NiTi K-reamers are used as a rotary cutting instruments more than NiTi K-files. The nickel-titanium alloy is more resistance than steel, therefore instruments which are made of this alloy can enlarge 2-3 times more root canals.

- > Very good dentin debris removal.
- > 3 cutting edges.
- > Cross-section: ▲
- > Made of nickel-titanium alloy with shape memory.
- > Relatively low flexibility better than stainless instruments.
- > Ergonomic handle.

| Endostar NiTi K-reamers, 6 pcs | | | | |
|--------------------------------|------------|------------|------------|------------|
| Size | 21 mm | 25 mm | 28 mm | 31 mm |
| Assorted 15-40 | BNRH154021 | BNRH154025 | BNRH154028 | on request |
| Assorted 45-80 | BNRH458021 | BNRH458025 | BNRH458028 | on request |
| 15 | BNRH001521 | BNRH001525 | BNRH001528 | on request |
| 20 | BNRH002021 | BNRH002025 | BNRH002028 | on request |
| 25 | BNRH002521 | BNRH002525 | BNRH002528 | on request |
| 30 | BNRH003021 | BNRH003025 | BNRH003028 | on request |
| 35 | BNRH003521 | BNRH003525 | BNRH003528 | on request |
| 40 | BNRH004021 | BNRH004025 | BNRH004028 | on request |
| 45 | BNRH004521 | BNRH004525 | BNRH004528 | on request |
| 50 | BNRH005021 | BNRH005025 | BNRH005028 | on request |
| 55 | BNRH005521 | BNRH005525 | BNRH005528 | on request |
| 60 | BNRH006021 | BNRH006025 | BNRH006028 | on request |
| 70 | BNRH007021 | BNRH007025 | BNRH007028 | on request |
| 80 | BNRH008021 | BNRH008025 | BNRH008028 | on request |

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Endostar Unique S-files

Endostar Unique S-files are very special endodontic instruments. Unique S-file has a 'S file' configuration in cross section and it has non-standard ISO sizes- so-called 'half-size'. It helps to match the file to specific clinical case.

- > Non-standard ISO-sizes: 12.5, 17.5 and 22.5.
- > Great cutting ability.
- > Great removal of dentin debris.
- > 2 cutting edges angled 90° (edges distributed symmetrically at 180° on the long axis).
- > Cross-section: ●
- > Precisely cut shape made of very hard, yet flexible stainless steel alloy,
- > Avoidance of making steps in root canal.
- > Non cutting tip.
- > Millimeter scale etched on the blade (18 to 25 mm from the tip), which facilitates the determination of the working length.

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar Unique S-files, 6 pcs

| Size | 25 mm |
|----------------------|------------|
| Set 12.5, 17.5, 22.5 | BUSF122225 |
| 12.5 | BUSF001225 |
| 17.5 | BUSF001725 |
| 22.5 | BUSF002225 |



Endostar Barbed Broaches

Endostar Barbed Broaches are basic hand instruments. These instruments represent the oldest forms of root canal instruments. Broaches are used to extirpate the vital pulp. The working part consists of 40 spirally arranged flexible barbs.

- > Great pulp removal.
- > Working part made of soft stainless steel.
- > Cross-section: ★
- > Spirally arranged barbs.
- > Ergonomic handle with ISO symbols.

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Barbed Broaches, 6 pcs

| Size | 25 mm | Size | 25 mm |
|-----------|------------|------|------------|
| Set 01-06 | BBBR010625 | 03 | BBBR000325 |
| 00 | BBBR000025 | 04 | BBBR000425 |
| 01 | BBBR000125 | 05 | BBBR000525 |
| 02 | BBBR000225 | 06 | BBBR000625 |



Endostar Unique K-files

Endostar Unique K-files are very special endodontic instruments. Unique K-file has a 'K file' configuration in cross section and it has non-standard ISO sizes- so-called 'half-size'. It helps to match the file to specific clinical case. Using of Unique K-files helps to avoid steps during the root canal preparation. There are following sizes of the instruments: 12,5; 17,5 and 22,5. Endostar Unique K-files are safe instruments with four cutting edges. Traditionally, this group of instruments have been made from stainless steel and they were designed in a shape proposed by Dr Kerr.

- > Non-standard ISO-sizes: 12,5; 17,5 and 22,5.
- > 4 cutting edges.
- > Made of stainless steel.
- > Square cross section: ■
- > Good flexibility.
- > Safe, noninvasive (not too aggressive).

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar Unique K-files, 6 pcs

| Size | 25 mm |
|----------------------|------------|
| Set 12.5, 17.5, 22.5 | BUKF122225 |
| 12.5 | BUKF001225 |
| 17.5 | BUKF001725 |
| 22.5 | BUKF002225 |



Endostar Canal Locator

Endostar Canal Locator are special endodontic instruments recommended for finding, localizing and penetrating root canals. Endostar Canal Locators are thin, flexible and firm. They are very efficient in narrow and curved root canals.

- > Cross-section: ●
- > Good flexibility, non cutting tip.
- > Millimeter scale etched on the blade which facilitates the determination of the working length.
- > Safe, noninvasive (not too aggressive).

Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar Canal Locator, 6 pcs

| Size | 18 mm | 21 mm |
|--------------|------------|------------|
| Set 6, 8, 10 | BCLH061018 | BCLH061021 |
| 6 | BCLH000618 | BCLH000621 |
| 8 | BCLH000818 | BCLH000821 |
| 10 | BCLH001018 | BCLH001021 |



Endostar Spreader Sonic Files

Endostar Spreader Sonic Files are instruments recommended for irrigation and disinfection of root canals. They can be used also during the removal of broken instruments from root canal. Sonic Files can be used only with ultrasound devices.

- > Made of special stainless steel.
- > Use of cavitation.
- > Sonic files are designed to be used: up and down.
- > Activation of root canals irrigants.

Important warnings:

- > Endostar Spreader Sonic files are designed for devices like Endo-Chuck 120° or 95° (f.e. Endostar Sonic File Holder 120° or 95°).
- > It is not recommended to use Endostar Spreader Sonic Files for enlarging root canals.
- > It is recommended to rinse the canal with sodium hypochlorite.
- > It is recommended to use ultrasound with minimum power to control the possibility of breakage the file in the canal.
- > File in canal should be passively move up and down (never by force) not to succumb to its curvature or stucked in the canal.
- > It is not recommended to use other energy source while using ultrasonic device.
- > Ultrasonic files should be placed into the root canal always in standby mode, approx. 1-2 mm shorter than the working length. Only then we could turn on ultrasound device.

Endostar Spreader Sonic Files, 6 pcs

| Size | 33 mm |
|-------------|------------|
| Set 25 - 35 | ESSF253533 |
| 25 | ESSF002533 |
| 30 | ESSF003033 |
| 35 | ESSF003533 |

Instruction for irrigation and disinfection of root canal:

- > Fill the root canal with wash solution - sodium hypochlorite (circa 1-2 ml).
- > Enter the file to the canal - 2 mm shorter than the working length (leave a small gap, a small space at the tip/apex).
- > Turn on ultrasound device.
- > Activate hypochlorite for 20 seconds, moving with a small amplitude moves (1-2 mm) with a file Endostar Spreader Sonic Files in the canal. Replace hypochlorite for the fresh one (about 1-2 ml). Reactivate the solution for 20 seconds. Again, replace solution for the fresh one. For the third time activate hypochlorite for 20 seconds.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.





Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar Finger Pluggers

Endostar Finger Pluggers are used for vertical (apical) condensation of gutta-percha. Pluggers can be used also for application paste - like materials into the root canal.

- > Made of stainless steel.
- > Slightly tapered and flat-ended metal instruments.
- > Ergonomic handle with ISO symbols.

| Endostar Finger Pluggers, 6 pcs | |
|---------------------------------|------------|
| Size | 25 mm |
| Set 15-40 | BPLG154025 |
| 15 | BPLG001525 |
| 20 | BPLG002025 |
| 25 | BPLG002525 |
| 30 | BPLG003025 |
| 35 | BPLG003525 |
| 40 | BPLG004025 |



Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar NiTi Finger Pluggers

Endostar NiTi Finger Pluggers are used for vertical (apical) condensation of gutta-percha. They are made of nickel-titanium alloy and they are very flexible. NiTi pluggers are recommended for obturation of curved root canals. Pluggers can be used also for application paste - like materials into the root canal.

- > Slightly tapered and flat-ended metal instruments.
- > Ergonomic handle with ISO symbols.

| Endostar NiTi Finger Pluggers, 6 pcs | |
|--------------------------------------|------------|
| Size | 25 mm |
| Set 15-40 | BPTG154025 |
| 15 | BPTG001525 |
| 20 | BPTG002025 |
| 25 | BPTG002525 |
| 30 | BPTG003025 |
| 35 | BPTG003525 |
| 40 | BPTG004025 |



Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar Finger Spreaders

Endostar Finger Spreaders are used for lateral condensation of gutta-percha. Instruments are produced from stainless steel and special quality plastic materials, which guarantee high products quality.

- > Tapered and pointed instruments.
- > Ergonomic handle with ISO symbols.

| Endostar Finger Spreaders, 6 pcs | |
|----------------------------------|-------------------|
| Size | 25 mm |
| Set 15-40 | BSPD154025 |
| 10 | BSPD001025 |
| 15 | BSPD001525 |
| 20 | BSPD002025 |
| 25 | BSPD002525 |
| 30 | BSPD003025 |
| 35 | BSPD003525 |
| 40 | BSPD004025 |



Sterilization

Steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



Endostar NiTi Finger Spreaders

Endostar NiTi Finger Spreaders are used for lateral condensation of gutta-percha. They are made of nickel-titanium alloy and they are very flexible. NiTi spreaders are recommended for obturation of curved root canals.

- > Tapered and pointed instruments.
- > Ergonomic handle with ISO symbols.

| Endostar NiTi Finger Spreaders, 6 pcs | |
|---------------------------------------|-------------------|
| Size | 25 mm |
| Set 15-40 | BSTD154025 |
| 15 | BSTD001525 |
| 20 | BSTD002025 |
| 25 | BSTD002525 |
| 30 | BSTD003025 |
| 35 | BSTD003525 |
| 40 | BSTD004025 |



Endostar Paste Fillers with safety spring (PFL)

Endostar Paste Fillers with safety spring (also called lentulo spirals, a spiral filler or a paste carrier) are used to introduce paste - like materials, cements, sealers into the root canals. The working part is conically shape and its consist of loosely coiled spiral made of thin wire. Paste Fillers with safety spring have an additional, tight spring at the metal handle, for better flexibility and protection from the breaking during the rotational movements in the canal.

- > Golden colour of handles allows easily to distinguish lentulo spirals from other instruments.
- > Application of materials is performed by clockwise movement.
- > Rotation speed - under 800 rpm.
- > Cross-section:


Sterilization
 steam autoclave 134°C. Recommended sterilization time 35-40 minutes.

| Endostar Paste Fillers with safety spring, 4 pcs | | | | |
|--------------------------------------------------|------------|------------|------------|------------|
| Size | 17 mm | 21 mm | 25 mm | 29 mm |
| Assorted 25-40 | EPFL254017 | EPFL254021 | EPFL254025 | EPFL254029 |
| 25, 1 pc of each 17, 21, 25, 29 mm | EPFL002500 | | | |
| 25 | EPFL002517 | EPFL002521 | EPFL002525 | EPFL002529 |
| 30 | EPFL003017 | EPFL003021 | EPFL003025 | EPFL003029 |
| 35 | EPFL003517 | EPFL003521 | EPFL003525 | EPFL003529 |
| 40 | EPFL004017 | EPFL004021 | EPFL004025 | EPFL004029 |



Endostar Paste Fillers without spring (PFN)

Endostar Paste Fillers without spring (also called lentulo spirals, a spiral filler or a paste carrier) are used to introduce paste - like materials, cements, sealers into the root canals. The working part is conically shape and its consist of loosely coiled spiral made of thin wire.

- > Golden colour of handles allows easily to distinguish lentulo spirals from other instruments.
- > Application of materials is performed by clockwise movement.
- > Rotation speed - under 800 rpm.
- > Cross-section: 

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



| Endostar Paste Fillers without spring, 4 pcs | | | | |
|----------------------------------------------|------------|------------|------------|------------|
| Size | 17 mm | 21 mm | 25 mm | 29 mm |
| Assorted 25-40 | EPFN254017 | EPFN254021 | EPFN254025 | EPFN254029 |
| 25, 1 pc of each 17, 21, 25, 29 mm | EPFN002500 | | | |
| 25 | EPFN002517 | EPFN002521 | EPFN002525 | EPFN002529 |
| 30 | EPFN003017 | EPFN003021 | EPFN003025 | EPFN003029 |
| 35 | EPFN003517 | EPFN003521 | EPFN003525 | EPFN003529 |
| 40 | EPFN004017 | EPFN004021 | EPFN004025 | EPFN004029 |



Endostar Gates Glidden

Endostar Gates Glidden drills are engine-driven instruments and they are used to enlarge root canals orifice and coronal third of the canals. These instruments represent the oldest forms of root canal instruments. Gates Glidden drills are small - flame shaped cutting instruments used in conventional hand piece.

- > Slightly flexible.
- > Rotation speed: 450-800 rpm.
- > Non cutting tip.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



| Endostar Gates Glidden, 6 pcs | |
|-------------------------------|------------|
| Size | 19 mm |
| Set 01-06 | BGAE010619 |
| 01 | BGAE000119 |
| 02 | BGAE000219 |
| 03 | BGAE000319 |
| 04 | BGAE000419 |
| 05 | BGAE000519 |
| 06 | BGAE000619 |



Endostar Peeso Reamers

Endostar Peeso Reamers drills are engine-driven instruments and they are used to enlarge root canals orifice and coronal third of the canals. Peeso reamers differ from Gates Glidden drills in that the blades spread over a wide surface and the shape is cylindrical.

- > Slightly flexible.
- > Rotation speed: 800-1200 rpm.
- > Non cutting tip.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



| Endostar Peeso Reamers, 6 pcs | |
|-------------------------------|------------|
| Size | 19 mm |
| Set 01-06 | BPPE010619 |
| 01 | BPPE000119 |
| 02 | BPPE000219 |
| 03 | BPPE000319 |
| 04 | BPPE000419 |
| 05 | BPPE000519 |
| 06 | BPPE000619 |



Endostar ENDObox without/with instruments

ENDObox is used for holding endodontic instruments and for their sterilization. A two piece box (bottom and top part) is made out of anodized aluminium and has a movable endodontic insert.

ENDObox with instruments consists 28 endodontic instruments for root canal treatment:

- > 9 rotary files - Endostar E3 Rotary System (Basic, Big Apical, Small Apical).
- > 12 K-files with endostops, length 25 mm and sizes: 06 rose, 08 grey, 10 violet, 15 white, 20 yellow, 25 red.
- > 6 NiTi K-files with endostops, length 25 and sizes: 25 red, 30 blue, 35 green, 40 black, 45 white.
- > 1 Endostar Canal locator, length 18 and size: 10 violet.

Sterilization

steam autoclave 134°C. Recommended sterilization time 35-40 minutes.



| Endostar ENDObox with instruments | | EEB1 |
|-----------------------------------|--|--------|
| Endobox | | 1 pc |
| Instruments | | 28 pcs |

| Endostar ENDObox without instruments | | EEB |
|--------------------------------------|--|------|
| Endobox | | 1 pc |

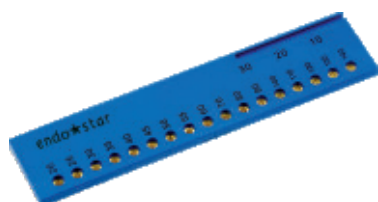
Endostar ENDOstand

Hinged stand with lid holds endodontic files and reamers. Stand with a ruler to measure stop positions easily from either direction.

Sterilization in steam autoclave 134°C.



| Endostar ENDOstand | | EES |
|--------------------|--|------|
| ENDOstand | | 1 pc |

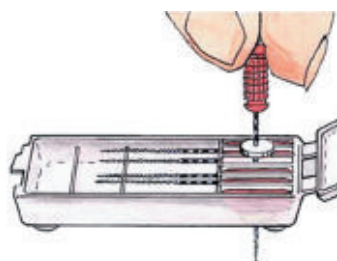


Endostar ENDOcalibrator

Gauge is used to customize accessory sized gutta percha to ISO sizes, and to measure files, gutta percha points and absorbent points.

Sterilization in steam autoclave 132°C.

| ENDOCalibrator | EEC |
|----------------|------|
| Calibrator | 1 pc |



ENDOstops

Round, white silicon rubber, stoppers, used for marking the working length on a file or reamer. Easily visible on RTG.

Sterilization in steam autoclave 134°C.

| ENDOstops | ESW |
|-----------|---------|
| Box | 100 pcs |



ENDOgrips

Ergonomical sleeves used for increasing handle diameter. Made of a sterilizable silicon rubber, for easier grip of an endodontic instrument, especially when working in surgical gloves.

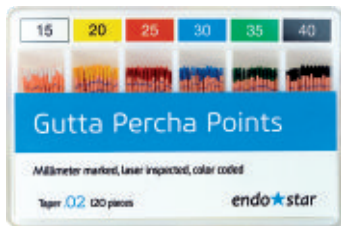
| ENDOgrops | EGP |
|-----------|--------|
| Box | 12 pcs |



Multigrip

Multigrip is a multi-purpose instrument for facilitating many dental procedures. Made of aluminum, very light, can be used with Endostar Canal Locator when localizing root canal or with many other small instruments (brushes, dental picks etc.), when working in hard-to-reach mouth areas.

| Multigrip | MGP |
|-----------|------|
| Box | 1 pc |



Endostar Gutta Percha Points

For root canal obturation. ISO coded.

- > Ideal for vertical and lateral root canal obturation.
- > Biocompatible and hygienic.
- > With high dimensional stability.
- > Firm and elastic.
- > Available in 12 sizes (15, 20, ..., 80) and/or assorted 15-40, 45-80, packed in compartment boxes, with standard 2% taper, 120 pcs/box or with taper 4% and 6%, 60 pcs/box.
- > Calibrated, with the length marking on the point.

| Gutta Percha Points | | CE 0120 |
|---------------------|-------------------------|------------|
| Size / ISO | 15-80 | |
| Taper | 2% / 4% / 6% | |
| Packing | Single size or assorted | |
| Quantity in package | 120 pcs / 60 pcs | |



Endostar Paper Points

Paper points for drying the root canal with a very high absorption capacity.

- > Used for drying root canal.
- > ISO coded.
- > Highly absorbent.
- > Firm and elastic.
- > Available in 12 sizes (15, 20, ..., 80) and/or assorted 15-40, 45-80, packed in compartment boxes, with standard 2% taper, 200 pcs/box or with taper 4% and 6%, 100 pcs/box.

| Paper Points | | CE 0120 |
|---------------------|-------------------------|------------|
| Size / ISO | 15-80 | |
| Taper | 2% / 4% / 6% | |
| Packing | Single size or assorted | |
| Quantity in package | 200 pcs / 100 pcs | |



Endostar PROendo

Cordless endodontic handpiece. Compatible with all rotary systems, designed and programmed specifically for Endostar E3 system.

- > Mobile, narrow, ergonomic.
- > Automatic stop and autoreverse functions ensure safe work in patient's mouth.
- > Easy-to-read LCD panel.
- > Memory with 6 adjustable programs.
- > Contra-angle head is steam autoclavable at 135 °C.
- > Adjustable Rotary speed (min-1): 120-2000 rpm.
- > Torque (N/cm): 0.1-4.0
- > Operating time on a full charge: approx. 80 minutes.
- > Fast charging: approx. 90 minutes.
- > Handpiece turns off after 10 minutes of inactivity.

| | |
|---------------------------|---------|
| Endostar ProEndor | PROENDO |
| Wireless Endostar ProEndo | 1 pc |

Parameters of Endostar ProEndo

| Speed Range (min) | Gear Ratio | Torque Level (Ncm) |
|-------------------|------------|--------------------|
| 550 - 2000 | 4:1 | 0.1 - 1.0 |
| 230 - 800 | 10:1 | 0.2 - 2.0 |
| 140 - 500 | 16:1 | 0.3 - 3.0 |
| 120 - 400 | 20:1 | 0.4 - 4.0 |

Endostar ProEndo settings for Endostar E3 Rotary System

| System | File number | Standard torque | Advanced torque | ProEndo setting |
|----------|-------------|-----------------|-----------------|-----------------|
| E3 BASIC | 1 (8/30) | 2.4 | 3.0 | 1 |
| | 2 (6/25) | 2.1 | 3.0 | 2 |
| | 3 (4/30) | 0.9 | 2.1 | 3 |
| E3 SMALL | 1 (6/20) | 0.9 | 2.1 | 3 |
| | 2 (4/25) | 0.9 | 2.1 | 3 |
| | 3 (4/20) | 0.9 | 2.1 | 3 |
| E3 BIG | 1 (4/35) | 2.1 | 3.0 | 2 |
| | 2 (4/40) | 2.1 | 3.0 | 2 |
| | 3 (4/45) | 2.1 | 3.0 | 2 |

Recommended number of use

Recommended number of use

Depending on the size (see Table), provided that visual inspection performed by the practitioner prior to use shows that the instrument remains undamaged, is not bent (does not apply to bending the instrument by dentist to the curvature of the canal - stainless steel hand files), deformed, does not show signs of blade wear and can be securely attached to the handpiece. If the file has been subjected to high torsion force, especially in highly curved canals the instrument should be used only once (rotary instruments).

- > Prolonging the life of the instrument more than recommended may result in the blade breaking.
- > Dispose of file which appears to be defective.

| Endostar E3 Rotary System | | | | | | | | | |
|---------------------------|----------|---|---|---------------|---|---|-----------------|---|---|
| File number | E3 Basic | | | E3 Big Apical | | | E3 Small Apical | | |
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

| Endostar RE Re Endo Rotary System | | | | |
|-----------------------------------|----|----|---|---|
| File number | 1 | 2 | 3 | 4 |
| | 10 | 10 | 5 | 5 |

| Endostar NT2 NiTi Two Rotary System | | | | | | |
|-------------------------------------|---|---|---|---|---|---|
| File number | 1 | 2 | 3 | 4 | 5 | 6 |
| | 5 | 5 | 5 | 5 | 5 | 5 |

| Endostar Unique S-files / Endostar Unique K-files | | | |
|---------------------------------------------------|------|------|------|
| File number | 12.5 | 17.5 | 22.5 |
| | 1-2 | 1-2 | 1-2 |

| Endostar Spreader Sonic Files | | | |
|-------------------------------|-----|-----|-----|
| File number | 25 | 30 | 35 |
| | 1-2 | 2-3 | 2-3 |

| Endostar Barbed Broaches | | | | | | | |
|--------------------------|----|-----|-----|-----|-----|-----|-----|
| File number | 00 | 01 | 02 | 03 | 04 | 05 | 06 |
| | 1 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 |

| Endostar Gates Glidden / Endostar Peeso Reamers | | | | | |
|-------------------------------------------------|---|---|---|----|----|
| File number | 1 | 2 | 3 | 4 | 5 |
| | 5 | 5 | 5 | 10 | 10 |

Recommended number of use

| Endostar Hand Files | | | | | | | | | | | | | | | |
|----------------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Name / ISO | 06 | 08 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 70 | 80 |
| S-files | 1 | 1 | 1 | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| NiTi S-files | - | - | 2 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 |
| H-files | 1 | 1 | 1 | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| NiTi H-files | - | - | - | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 |
| K-files | 1 | 1 | 1 | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| NiTi K-files | - | - | - | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 |
| K-reamers | 1 | 1 | 1 | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| NiTi K-reamers | - | - | - | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 | 6-8 |
| Canal Locator | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Finger Pluggers | - | - | - | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | - | - | - | - | - | - |
| NiTi Finger Pluggers | - | - | - | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | - | - | - | - | - | - |
| Finger Spreaders | - | - | 1 | 1-2 | 1-2 | 1-2 | 2-3 | 2-3 | 2-3 | - | - | - | - | - | - |
| NiTi Finger Spreaders | - | - | - | 2-3 | 2-3 | 2-3 | 4-5 | 4-5 | 4-5 | - | - | - | - | - | - |
| Paste Fillers without spring (PFN) | - | - | - | - | - | 1-2 | 4-5 | 4-5 | 4-5 | - | - | - | - | - | - |
| Paste Fillers with safety spring (PFL) | - | - | - | - | - | 1-2 | 4-5 | 4-5 | 4-5 | - | - | - | - | - | - |

| Endostar Hand Files | | | | | | |
|----------------------------------------|------|------|------|------|------|------|
| Name / ISO | 90 | 100 | 110 | 120 | 130 | 140 |
| S-files | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 |
| NiTi S-files | - | - | - | - | - | - |
| H-files | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 |
| NiTi H-files | - | - | - | - | - | - |
| K-files | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 |
| NiTi K-files | - | - | - | - | - | - |
| K-reamers | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 | 8-10 |
| NiTi K-reamers | - | - | - | - | - | - |
| Canal Locator | - | - | - | - | - | - |
| Finger Pluggers | - | - | - | - | - | - |
| NiTi Finger Pluggers | - | - | - | - | - | - |
| Finger Spreaders | - | - | - | - | - | - |
| NiTi Finger Spreaders | - | - | - | - | - | - |
| Paste Fillers without spring (PFN) | - | - | - | - | - | - |
| Paste Fillers with safety spring (PFL) | - | - | - | - | - | - |

Cleaning, disinfecting and sterilizing instruments

Instructions for cleaning, disinfecting and sterilizing all instruments

All instruments produced by Poldent Sp. z o.o. which are designed for endodontic treatment are not sterile. Before first-time use and after each use the instruments have to be cleaned, disinfected and sterilized according to the following instructions.

INTRODUCTION

Warning

- > The user is responsible for the sterility of the product before first and each subsequent use of the product.
- > For your own safety, we recommend that you use protective equipment such as gloves.
- > You should only use cleaning and sterilizing products which are intended for cleaning dental instruments.
- > Always follow solution manufacturer's instructions when soaking instruments in chemical solutions.
- > Excessive solution concentrations and soaking time (not in accordance with the solution manufacturer's instructions) may lead to damage of the instruments.
- > Plastic handles may melt or deform at temperatures above 200°C.

Recommendations

- > Repeated sterilization of instruments does not affect their condition. The lifetime of the instrument depends on the frequency of its use.
- > Do not exceed the recommended maximum limit of instrument use.
- > Instruments can be disinfected with mild disinfectants and washed in ultrasonic washers.

INSTRUCTIONS FOR CLEANING, DISINFECTING AND STERILIZING INSTRUMENTS

Manual cleaning

- > Remove the dentin residue manually using a soft cloth.
- > Rinse off all larger debris.

Automatic cleaning

- > Place the instruments in an appropriate basket and next place the basket in an ultrasonic cleaner. Follow the device's instructions of use.
- > Use a device that meets ISO 15883 requirements.

Disinfection

- > Place the instruments in the disinfectant solution. Be sure to follow the fluid manufacturer's recommendations regarding the disinfection time.
- > Rinse the files in distilled or demineralised water in order to remove any residual cleaning solution.
- > Dry the instruments.

Evaluation

- > Check the instruments carefully. Discard all instruments which are damaged, broken or bent.

Sterilization

- > All instruments can be repeatedly sterilized in a steam autoclave at 134°C.
- > The recommended sterilization time is 35-40 minutes.
- > Use devices that meet ISO 13060 and ISO 285 requirements.
- > Perform the sterilization procedure in accordance with ISO 17665 standards.

WARNING

Prolonging the life of the instrument more than recommended may result in the blade breaking.



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