

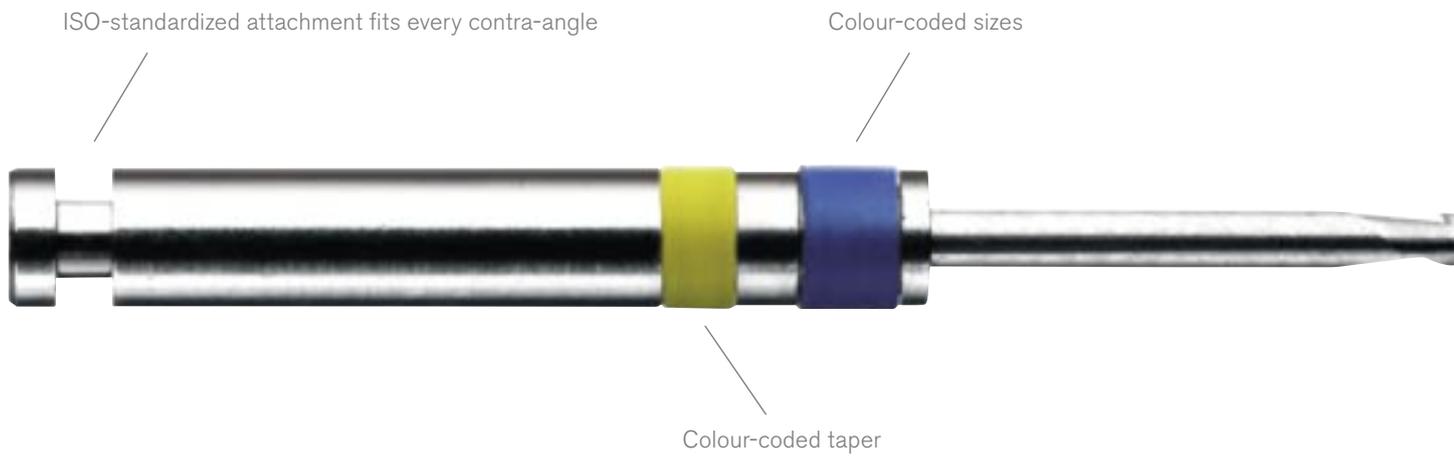
# Sendoline®

PERFECT ENDO

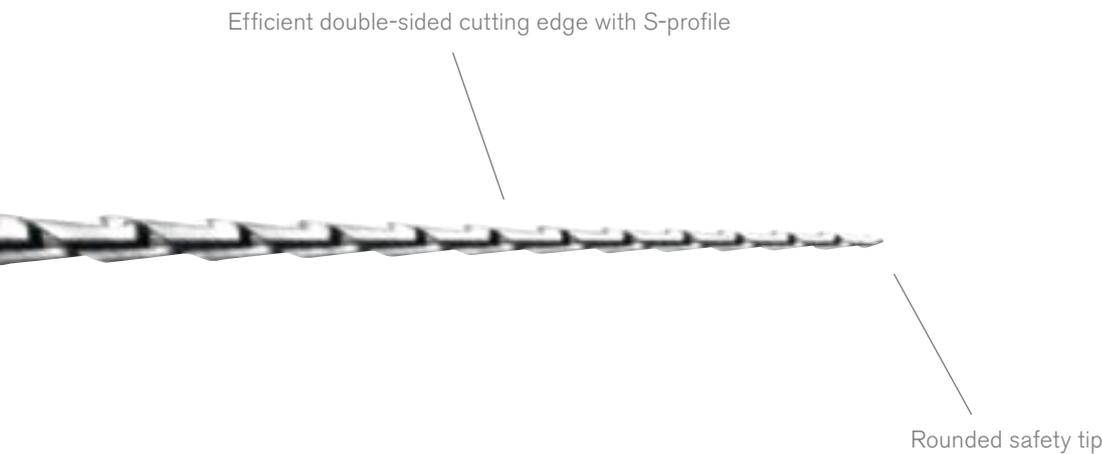


**NITI-TEE® ROTARY FILES**  
A SMALL REVOLUTION THAT MAKES A BIG DIFFERENCE

# AFTER NINETY YEARS IN THE DENTA OUR HORIZONS, SO WE DEVELOPED



# AL SECTOR WE WANTED TO BROADEN SOMETHING FOR THE HANDS



The NiTi-TEE® file measures a mere 38 mm x 0.2 mm. It's a small revolution that makes a big difference in your daily work – both ergonomically and economically.

The NiTi alloy (46% nickel and 45% titanium) is known as a "memory metal," which means that it does not become deformed when bent, but reverts to its original, straight shape – an excellent property for a root canal file, since it is often twisted and turned in tricky positions. Just like your hands.

The NiTi-TEE® file enables you to work safely, efficiently, and conveniently, in all types of canals – benefiting both you and your patients.

NiTi is not only kind to your hands: the cutting edge is sharper and stays sharp longer than stainless steel files, making it an economic choice, which simplifies life.



# WE BUILT OUR BUSINESS ON A SOLID FOUNDATION: SWEDISH STEEL

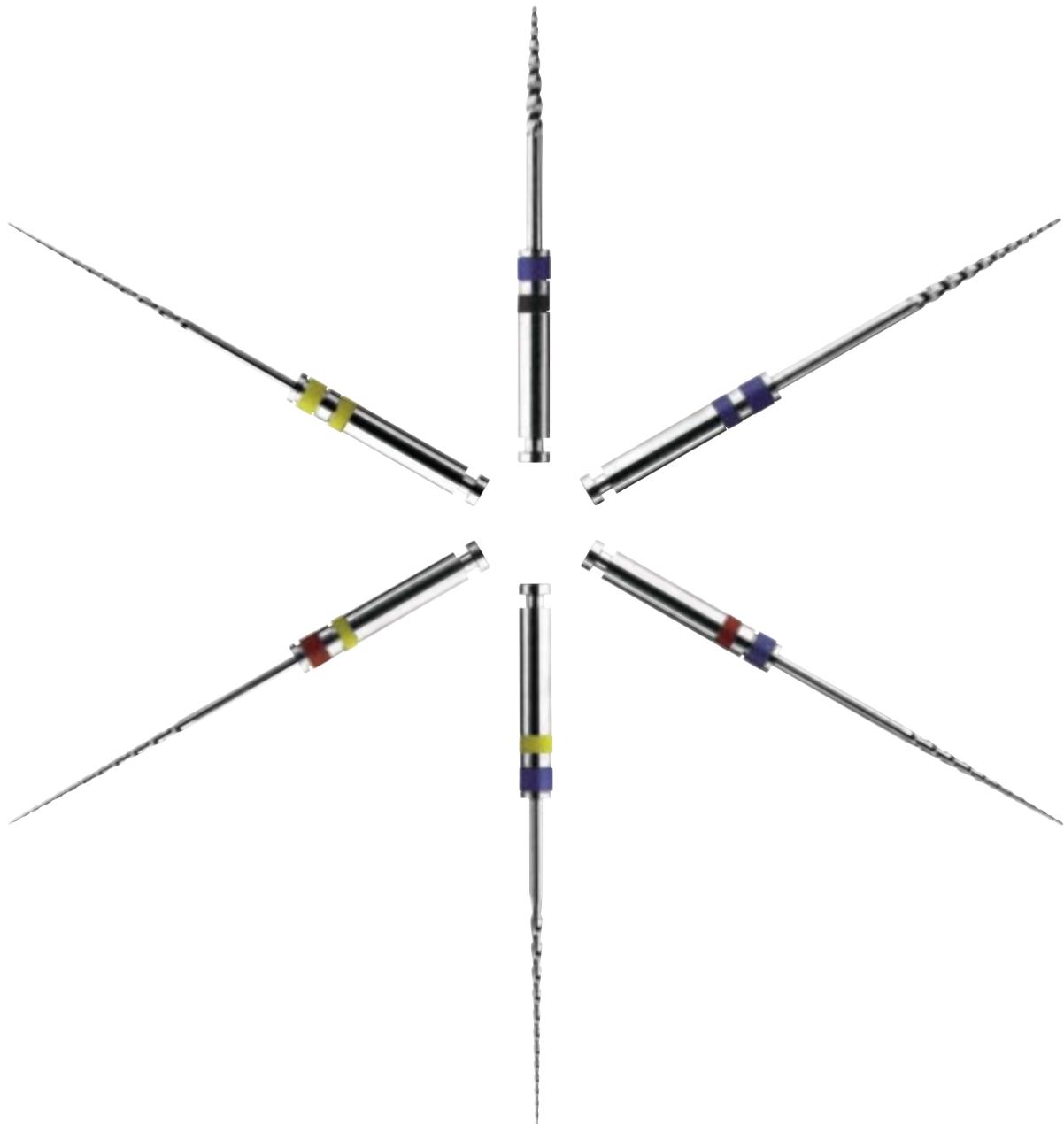
We've launched many innovations since the company started, all based on the same foundation: Sandvik steel. H-file introduced a new way for dentists to work and with S-file® we raised the bar on safety and effectiveness. And now our unique NiTi-TEE®-system is revolutionizing endodontics once again.

Sendoline is now an international company with distributors in over 50 countries, but our history dates back to 1917, when dental technician John Sjöding started Sjödings Dentalprodukter in Stockholm. During the 1940s Sjödings achieved great success with the Hedström file (named after dentist Gustav Hedström) which paved the way for several new products, including the S-file®, which the company developed in-house.

The launch of the patented S profile became an instant success. The model is based on a double H-file and is so efficient and flexible that in most cases it can replace both the K- and the H-files. In 1990 a new nickel titanium alloy was introduced, now known as Sjödings Sendoline. Among the features of this unique material is that it allows mechanical rinsing – a major innovation for both dentists and patients.

In 2005 Sendoline AB was purchased by W&H, one of the dental sector's oldest and most respected companies. The change made it even easier to strictly adhere to our simple philosophy: to revolutionize endodontics.

# OUR STARS



The NiTi-TEE® Rotary File System was developed in cooperation with leading endodontists. The concept was specially designed for modern endodontics, based on simplicity, efficiency, and ergonomics.

# S-PROFILE



®

The cutting edge of the S-file® has the patented S-profile for fast and safe rinsing, since the file is always centred in the canal, thanks to the double-edged blade.

# PERFECT ENDO

## THE PERFECT PARTNERSHIP OF ENDODONTICS AND ERGONOMICS

New NiTi-TEE® consists of six files with varying tapers for use with the Crown Down method of endodontics.

The first three NiTi-TEE® files (12/30, 8/30 and 6/30) are mainly used as coronal shapers. The next three files (4/30, 4/25 and 4/20) have the unique S-profile. They quickly and effectively shape the apical portion of the canal.

Nickel-titanium combined with a safety tip make the files extremely flexible and elastic for convenient use even in heavily curved canals. The mechanical approach is ergonomic for you and easy on the patient.

The new NiTi-TEE® system can be used with all rotating contra-angles for endodontics with 300 rpm, such as the W&H WD-74M and the Tri Auto ZX.

The NiTi-TEE® system consists of the following sizes:

Taper, with narrow color coding	Size ISO, with broad color coding	Length in mm
12 ● black	30 ● blue	17
8 ● blue	30 ● blue	23
6 ● red	30 ● blue	23
4 ● yellow	30 ● blue	23
4 ● yellow	25 ● red	23
4 ● yellow	20 ● yellow	23

Order no: 44230000

For a larger apical size than ISO 30, use the NiTi-TEE® taper 2 – its apical size goes all the way up to ISO 55.



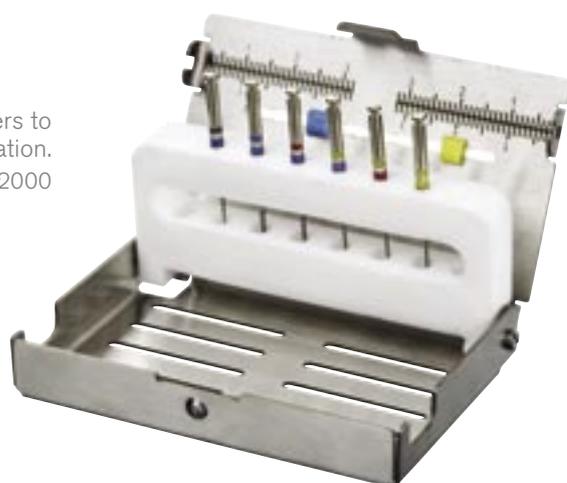
CE  
0510

# ENDODONTIC HANDPIECE

## SAFETY AND EFFICIENCY IN A SINGLE PACKAGE



Tri Auto ZX, apex locator with torque control. Cordless and convenient endodontic treatment handpiece.  
Order no: 103200



Sterilizable rack with markers to simplify file organization.  
Order no: 1092000

Sendoline - W&H WD-74 M, endo contra-angle for 40,000 rpm motors, delivery incl. 2 packages of NiTi-TEE® files.  
Order no: 10217404

Sendoline - W&H WD-73 M, endo contra-angle for 20,000 rpm motors, delivery incl. 2 packages of NiTi-TEE® files.  
Order no: 10217304





NITI FILE: FLEXIBLE, SO YOU DON'T HAVE TO BE.

# A CLINICAL STYLE STUDY OF SENDOLINE NITI-TEE<sup>®</sup>

The following text is an abstract from a comparative study between NiTi-TEE<sup>®</sup> and K3 rotary Ni-Ti instruments. The study was published in the "International Endodontic Journal" in 2006.

## A comparative study of root canal preparation with NiTi-TEE<sup>®</sup> and K3 rotary Ni-Ti instruments.

**B. Jodway & M. Hülsmann**

Department of Operative Dentistry, Preventive Dentistry and Periodontology, University of Göttingen, Germany.

---

### Abstract

**Jodway B, Hülsmann M.** A comparative study of root canal preparation with NiTi-TEE<sup>®</sup> and K3 rotary Ni-Ti instruments. *International Endodontic Journal*, 39, 71–80, 2006.

**Aim** To evaluate and compare several parameters of curved root canal preparation using two different Ni-Ti systems: NiTi-TEE<sup>®</sup> (Sjöding Sendoline, Kista, Sweden) and K3 (Sybron Endo, Orange County, CA, USA).

**Methodology** Fifty extracted mandibular molars with mesial root canal curvatures ranging from 20 to 40 were divided into two groups. In one group, 50 root canals were instrumented using NiTi-TEE<sup>®</sup> files to an apical size 30; 0.04 taper (the largest available size at the time of this study). In the other group, 50 root canals were prepared with K3 instruments to an apical size 45; 02 taper. Both systems were used in a crowdown manner, with copious NaOCl (3%) irrigation and a chelating agent (Calcinase Slide, Ige artis, Dettenhausen, Germany), employing torque-controlled motors. For assessment of shaping ability, pre- and postinstrumentation radiographs and cross-sectional photographs of canals were taken and changes in canal curvature and root canal diameter documented. Cleaning ability was evaluated by investigating specimens of the apical, medial and coronal third of the root canal wall under a scanning electron microscope using 5-score indices for debris and smear layer. Procedural errors (instrument separations, perforations, apical blockages, loss of working length) and working time were recorded. Nonparametric anova was used to compare straightening of canal curvatures, canal cross-sections and canal wall cleanliness ( $P < 0.05$ ), whereas working time was analysed using the parametric anova ( $P < 0.05$ ).

**Results** Both Ni-Ti systems maintained curvature well: the mean degree of straightening was 0.2 for NiTi-TEE<sup>®</sup> and 0.4 for K3 with no statistical significance between the groups. Post-instrumentation cross-sections of the root canals revealed an acceptable contour (round or oval) in 50.6% of cases for the NiTi-TEE<sup>®</sup> group and in 65.3% of cases for the K3 group. The difference was not significant. The SEM investigation of canal walls showed equally good debris removal for both systems: NiTi-TEE<sup>®</sup> prepared canal walls in 74.7% of cases with scores I and II; K3 achieved these scores in 78.7% of cases. For smear layer, NiTi-TEE<sup>®</sup> and K3 only received good scores (I and II) in 38.7% and 40% of canal wall specimens, respectively. For both parameters, no significant differences were found between groups. File fractures did not occur, but loss of working length was observed in one case following the preparation with NiTi-TEE<sup>®</sup> and in three cases during K3 instrumentation. Mean working time was significantly shorter for NiTi-TEE<sup>®</sup> (170 s) than for K3 (208 s).

**Conclusions** Both systems maintained original canal curvature well and were safe to use. Whilst debridement of canals was considered satisfactory, both systems failed to remove smear layer sufficiently.

**Keywords:** automated root canal preparation, K3, Ni-Ti instruments, NiTi-TEE<sup>®</sup>.

Received 9 April 2005; accepted 27 September 2005.

# Sendoline®

Box 7037 Tillverkarvägen 6 SE-187 11 Täby Sweden  
Phone +46 8 445 88 30 Fax +46 8 445 88 33 info@sendoline.se www.sendoline.se

