SURGICAL

Surgic Pro2 × VarioSurg 4

SYNERGY IN IMPLANTOLOGY

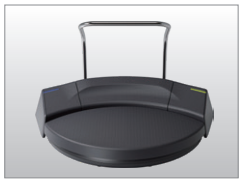
Two devices. One solution. Unlimited potential.

The Bluetooth®-enabled link function* allows for wireless connectivity between the surgical micromotor system, Surgic Pro2, and the ultrasonic bone surgery system, VarioSurg 4, enabling control of both instruments with a single foot control. This integration of both systems with a common interface allows for complete synergy, facilitating a wide range of procedures for simple and stress-free operation. This cohesive design contributes to a more refined and unified system.

*With the Link Stand3 the two units can be safely stacked to save space.

Link Function Easily Connects Two Systems

VarioSurg 4 features built-in Bluetooth® functionality, allowing it to be easily linked with the surgical micromotor system, Surgic Pro2. This enables the operation of both units with one single wireless foot control. Easily switch between the two systems, ensuring a smooth and efficient workflow.



Hands-free Program Adjustments Via Foot Control

Bluetooth® connectivity allows selection of the optimal position without worrying about cable length. The "Coolant Solution Flow Level Button", "Program Button" and "Burst Mode Button" are also located on the foot control which allows you to focus on the treatment.

Large and Clear Display for Enhanced Safety

The user-friendly display clearly indicates which system is active and ensures safe and accurate operation.

Link Stand3

With the NSK link stand the two units can be safely stacked to save space.

Surgic Pro2

GO BEYOND

The internationally acclaimed Surgic Pro surgical micromotor system has evolved into “Surgic Pro2”.
There are 3 developments, in operation, safety and wireless extensibility.
As well as further improving the basic performance of Surgic Pro,its supreme adaptability in connecting to various external devices offers improved safety, efficiency and operator comfort during treatment.
Professionals depend on the reliability of their equipment on a daily basis. With Surgic Pro2 NSK have taken reliability to the next level.

3 Developments

OPERABILITY | SAFETY | WIRELESS EXTENSIBILITY

OPERABILITY

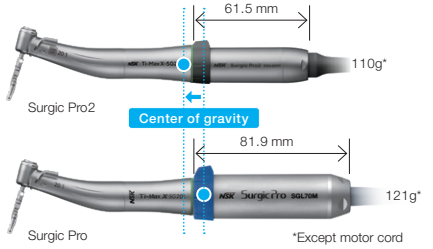
There are a range of upgrades to ensure even greater comfort during implant treatment. These specifications put the needs of professionals first.

Improved operability A more compact new motor.

Significant size and weight reductions were achieved for the motor with NSK's proprietary micro-motor technology. Operability during treatment has been greatly improved by moving the center of gravity closer to the head of the handpiece. This increases efficiency and alleviates the stress during prolonged operation for strain-free, effortless operation.

Length 24.9% DOWN

Weight 9.1% DOWN



Superb visibility and operability Large color LCD panel

Visibility is guaranteed with the large, back-lit, high-contrast, LCD panel. The display can be adjusted in 10 brightness levels. The display's intuitive and easy-to-understand icons allow for smooth operation.

Easy-clean flat screen display

The sensitivity of the touch panel can be adjusted to reliably respond when surgical gloves and surgical barrier sheets are in use. Ultra narrow bezel of the display makes cleaning easier. The new design takes into account the latest treatment and cross-infection control requirements.

Visibility is significantly improved with the high-resolution color LED.

Use of high-resolution color LED allows blood and gums to be seen as if naturally-lit, thereby providing increased visibility during treatment.
The LED light source generates a minimal amount of heat and has excellent life expectancy.

High color rendering LED

Standard White LED

Silent and Smooth Irrigation Pump

The irrigation pump provides consistent and steady flow operating quietly in the background. Irrigation tube set-up is simple and straight-forward and the pump fits seamlessly in the compact and elegant design of Surgic Pro2.

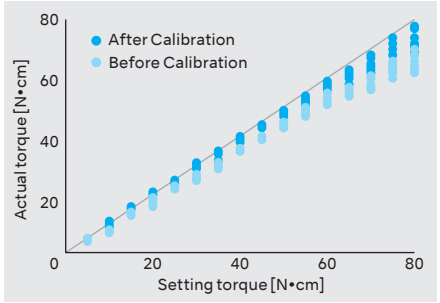
SAFETY

Synonymous with Surgic Pro safer procedures are made possible with increased torque precision combined with the Osseo 100+, measuring the stability of dental implants.

NSK's Drive for Accuracy Ensure Safe Treatment through Accurate Torque Correction

The displayed torque value accuracy is dependent on the state of handpiece bearings and gear abrasion. Surgic Pro2 torque calibration allows for this to be taken into account to display more accurate values.

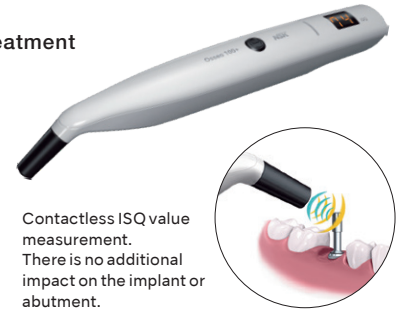
NSK's 'Advanced Handpiece Calibration' (AHC) function corrects the differences in actual handpiece condition using automatic calibration with no load current and load-bearing calibration to achieve accurate torque values for succesful implant surgery.



Minimizing the discrepancy between the set torque value and the actual output helps improve treatment outcomes.

Osseo 100+, for more predictable treatment

Osseo 100+ measures implant stability to support decision making about when to load. Especially important when using protocols with shorter treatment time and treating risk patients.
By connecting with the Surgic Pro2 it is possible to share and manage the measured ISQ value on external terminals.



Contactless ISQ value measurement.
There is no additional impact on the implant or abutment.

WIRELESS EXTENSIBILITY

Wireless connection with multiple devices significantly broadens the scope of implant treatment.

Linked with Osseo 100+

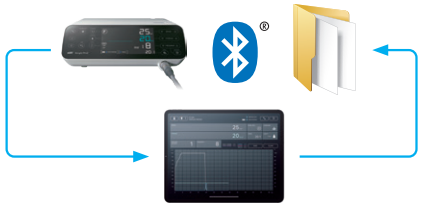
Osseo 100+ measures the implant stability quotient contactlessly and can be connected using Bluetooth®, permitting ISQ confirmation over a shared interface. You can share and manage the data of those measured ISQ scores on other terminals through Surgic Pro2. Surgic Pro2 itself offers such high extensibility as like this ISQ function is already equipped inside. It only takes 3 easy steps to use the Osseo 100+.

Linked with the "VarioSurg 4" ultrasonic bone surgery system

VarioSurg 4 features built-in Bluetooth® functionality, allowing it to be easily linked with the surgical micromotor system, Surgic Pro2. This enables the operation of both units with one single wireless foot control. Easily switch between the two systems, ensuring a smooth and efficient workflow.

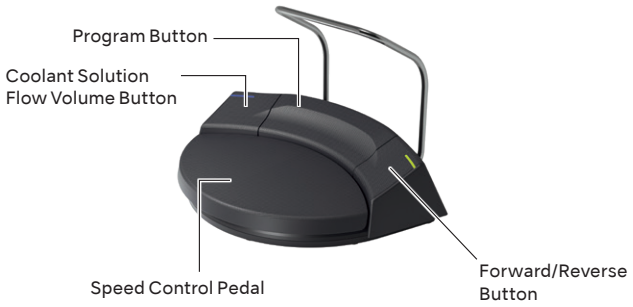
Linked with iPads

Installing a dedicated application and connecting an iPad to the control unit enables real-time display of detailed procedural data, such as the rotation speed and the torque range. Procedural data can also be saved. Data can also be displayed and saved when connecting with Osseo 100+. Traceability data management of procedural details allows implant treatment to be tailored to individual patients.



Linked with a wireless foot control

Bluetooth connectivity allows selection of the optimal position without worrying about cable length. The foot controller is 400g lighter than the previous model (hangar included) making it easy to reposition. You can keep your focus on the treatment. The "Coolant Solution Flow Volume Button", "Program Button" and "Forward/Reverse Button" may be customized using the 3 installed buttons allowing the operator to choose their preferred mode of operation. The energy-efficient power supply uses 3 AAA batteries, which last about 6 months. A flashing light indicates when the batteries are running low.



Surgic Pro2

Complete Set with X-SG20L

Optic	MODEL	ORDER CODE
●	**Surgic Pro2 OPT**	**Y1004195**

Contents

- Control Unit
- SGL80M Optic Micromotor
- X-SG20L Optic Handpiece (20:1 Reduction)
- FOOT CONTROL WIRELESS
- Irrigation tube (Pack of 3) and other accessories

Complete Set with SG20

Optic	MODEL	ORDER CODE
–	**Surgic Pro2 NON-OPT**	**Y1004196**

Contents

- Control Unit
- SG80M Non-Optic Micromotor
- SG20 Handpiece (20:1 Reduction)
- FOOT CONTROL WIRELESS
- Irrigation tube (Pack of 3) and other accessories

Specifications :

Control Unit with AHC	Micromotor	FOOT CONTROL WIRELESS
• Power Supply: AC 100-240V 50/60 Hz • Max. Pump Output: 75 mL/min • Programs: 8 Programs / Implant Systems • Dimensions: W 245×D 235×H 90 (mm)	• Torque: 5-80 Ncm • Motor Speed: 200-40,000 min^{-1} • Light Power: over 32,000 LUX (Optic Micromotor)	• Foot Control Functions: Coolant Solution Flow Volume Button, PRG(Program) Button, Forward/Reverse Button, Speed Control Pedal

OPTION

FOOT CONTROL

Wireless foot control for Surgic Pro2

MODEL	ORDER CODE
FC-81	**Z1401001**

Sterilisation Cassette

Designed for processing the NSK surgical motor/cord and surgical handpieces.

- Dimensions : W 279 x D 183 x H 34 (mm)

MODEL	ORDER CODE
SG-CASE	**S900040**

Carrying Case for Surgic Pro2

Carrying case for componets and accessories of Surgic Pro2

- Dimensions : W 534 x D 427 x H 207 (mm)

MODEL	ORDER CODE
Carrying Case	**Y1004219**

Link Stand3

with the Link Stand3 the Surgic Pro2 and VarioSurg 4 can be safely stacked to save space.

MODEL	ORDER CODE
Link Stand3	**ZA16230001**

iCart Duo

The Surgic Pro2 and VarioSurg 4 surgical systems and their accessories are efficiently and functionally housed in specialist carts.

MODEL	ORDER CODE
iCart Duo	**S9090**

Surgic Pro+

Calibration

NSK's Drive for Accuracy Ensures Safe Treatment Through Accurate Torque Correction

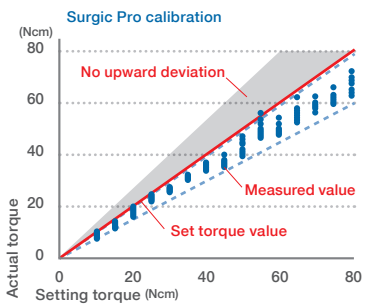
Maintaining Accurate Torque with AHC

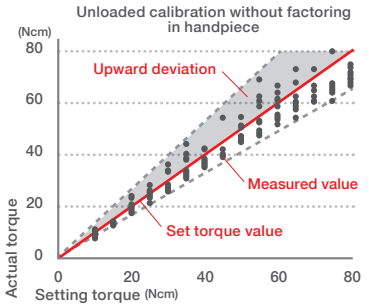
NSK's proprietary Advanced Handpiece Calibration (AHC) ensures the correct torque value required for specific treatments.
There is normally a small misalignment between pre-set and actual torque values owing to friction between bearings and contra-angle gear. AHC corrects this misalignment to guarantee accurate torque values.

High-precision Calibration

Unloaded, loaded and speed level adjustments improve the precision of calibration, which can be according to handpiece usage.

NSK's Safe Calibration Approach Factors in Handpiece Usage Conditions





An Advanced Surgical Motor for Demanding Clinical Environments

NSK developed the Surgic Pro SGL70M by analyzing feedback from clinicians to ensure that this 5th generation surgical micromotor satisfies professional requirements. The light and compact Surgic Pro SGL70M features an LED light for high visibility, with up to 80 Ncm of torque for diverse surgical procedures, paving the way for an advanced treatment environment.

LED Optics for Safer, More Accurate Treatment

NSK LEDs generate natural daylight-quality light to illuminate the treatment area, enabling more precise surgery and shortened operation times. The lights increase safety because they do not overheat and are long-lasting.

Optic	MODEL	ORDER CODE
●	**SGL70M**	**E1023**
–	**SG70M**	**E1025**

- Solid titanium body
- with Cord 2 m

Compact Body and Large LCD Display

The compact control unit features a sophisticated design including a large, high visibility backlight LCD panel and intuitive control buttons to contribute a safer and user friendly working environment.

Advanced Irrigation Pump

The pump allows easy set-up of irrigation tubes and is extremely quiet during operation.

Memorises Eight Different Implant Systems

The Surgic Pro memorises eight different implant systems and a total of 64 programs. The programmable parameters are gear ratio, speed, rotation direction, torque limit, coolant solution volume and illumination intensity. This is extremely useful when using two or more implant brands. Once you complete programming, simply push a button to call procedures up.

Data Log Function

The Data Log function (Surgic Pro+ model only) can record and store speed, torque values, and other patient treatment data. Such efficient data management helps ensure safe clinical practices.

*Maximum internal memory capacity is 100 minutes

Data Management

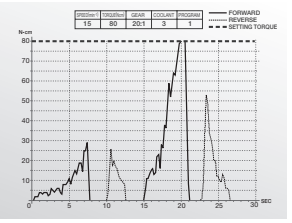
Treatment data can be easily accessed and downloaded using a USB stick. Files can be transferred and added to patient records.

*USB memory stick not included.

Easy Treatment Data Handling

No specific software is required to display CSV or bitmap files.

*File formats : csv or bmp



Washable in the thermodisinfector

Autoclavable up to 135°C

Surgic Pro+

Surgic Pro+ Complete Set with X-DSG20L Optic Handpiece

Optic	MODEL	ORDER CODE
●	**Surgic Pro + OPT-D**	**Y1003585**

Contents
- Control Unit with data storage facility
- SGL70M LED Micromotor
- FC-78 Foot Control
- X-DSG20L Optic Handpiece (20:1 Reduction)
- Irrigation tube (5 pcs.) and other accessories

Surgic Pro Complete Set with X-SG20L Optic Handpiece

Optic	MODEL	ORDER CODE
●	**Surgic Pro OPT**	**Y1003586**

Contents
- Control Unit without data storage facility
- SGL70M LED Micromotor
- FC-78 Foot Control
- X-SG20L Optic Handpiece (20:1 Reduction)
- Irrigation tube (5 pcs.) and other accessories

Surgic Pro Complete Set with SG20 Handpiece

Optic	MODEL	ORDER CODE
—	**Surgic Pro NON-OPT**	**Y1003587**

Contents
- Control Unit without data storage facility
- SG70M Non-Optic Micromotor
- FC-78 Foot Control
- SG20 Handpiece (20:1 Reduction)
- Irrigation tube (5 pcs.) and other accessories

Specifications

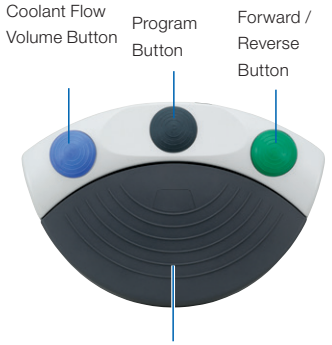
Control Unit with AHC
- Power Supply : AC 230 V 50/60 Hz
- Max. Pump Output : 75 mL/min
- Programs : 8 Programs / Implant Systems
- Dimensions : W 265 x D 220 x H 100 (mm)

Micromotor
- Torque : 5-80 Ncm
- Motor Speed : 200-40,000 min^{-1}
- Light Power (LED Micromotor) : over 32,000 LUX

Foot Control
- Foot Control Functions : Program Button, Speed Control Pedal
  Coolant Flow Volume Button
  Forward / Reverse Button

Foot Control

The Foot Control is user friendly and allows operation of all functions within the preset parameters without touching the control panel to avoid accidental activation of the micromotor outside the preset limits. The Surgic Pro/Surgic Pro+ is certificated according to IPX8.



MODEL	ORDER CODE
FC-78	**Z1102001**

- With 2 m cord

Handle Set (Optional)

Easy to attach foot control handle. Hanger can easily be moved with the foot control.

MODEL	ORDER CODE
Handle Set	**Z1027001**

Optional

Carrying Case

The NSK Carrying Case can accommodate all Surgic Pro components as well as the optional sterilization cassette.

MODEL	ORDER CODE
Carrying Case (Surgic Pro)	**Y1001952**

- Dimensions : W 534 x D 427 x H 207 (mm)

iCart Duo

Install the control unit and accessories on the cart.

MODEL	ORDER CODE
iCart Duo	**S9090**

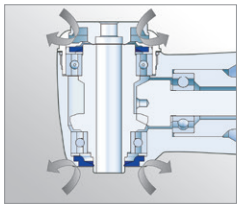
- Dimensions : H 101.65 cm
- Weight : 16.5 kg

Implant Handpieces

Dismantlable Contra-angle Handling up to 80 Ncm of Torque

Easy to Disassemble and Clean

The DSG20 contra-angle can be disassembled with a simple twist for easy internal cleaning.
NSK's unique locking mechanism prevents accidental disassembly during operation.



Double Sealing System

NSK's unique double sealing system prevents blood and other contaminants from entering the instrument head to ensure longevity of the instruments.

Ti-Max X-DSG20L

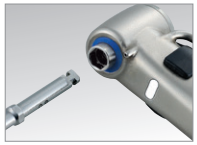
Dismantling Surgical Handpiece

- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics
- Push Button Chuck
- External and internal cooling (Kirschner and Meyer)
- Double Sealing System
- Max. Torque : 80 Ncm
- Max. Speed : 2,000 min^{-1}

	Optic	MODEL	ORDER CODE
20:1 Reduction	●	X-DSG20L	C1068
	–	X-DSG20	C1067

Ti-Max X-DSG20Lh

Dismantling Surgical Handpiece Hexagon Chucking System



Hexagon Chucking System
Hexagon chucking system maintains high bur holding power at a high torque, enabling safe and stable operation. Can be used with regular burs as well.

- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics • Push Button Chuck
- External and internal cooling (Kirschner and Meyer)
- Double Sealing System
- Max. Torque : 80 Ncm
- Max. Speed : 2,000 min^{-1}

	Optic	MODEL	ORDER CODE
20:1 Reduction	●	X-DSG20Lh	C1076
	–	X-DSG20h	C1075

- This handpiece is used only for the NSK Surgical Unit with torque calibration. (eg. Surgic Pro series)

80N Can be use up to 80 Ncm
Washable in the thermodisinfector
135°c Autoclavable up to 135°C

Implant Handpieces

Ti-Max X-SG20L

- Titanium Body with Scratch Resistant DURAGRIP
- Cellular Glass Optics
- Push Button Chuck
- External and internal cooling (Kirschner and Meyer)
- Double Sealing System
- Max. Torque : 80 Ncm
- Max. Speed : 2,000 min^{-1}

	Optic	MODEL	ORDER CODE
20:1 Reduction	●	**X-SG20L**	**C1003**

S-Max SG20

- Stainless Steel Body
- Push Button Chuck
- External and internal cooling (Kirschner and Meyer)
- Double Sealing System
- Max. Torque : 80 Ncm
- Max. Speed : 2,000 min^{-1}

	Optic	MODEL	ORDER CODE
20:1 Reduction	–	**SG20**	**C1010**

- This handpiece is used only for the NSK Surgical Unit with torque calibration. (eg. Surgic Pro series)

SGX-E20R

- Stainless Steel Body
- Max. Speed : 2,000 min^{-1}
- Max. Torque : 50 Ncm
- Twist Chuck
- Angle Handpiece
- External cooling
- For Osteotomy preparation / insertion of Zygoma implants for Maxillofacial / oral surgery

	Optic	MODEL	ORDER CODE
20:1 Reduction	–	**SGX-E20R**	**HA1200**

Implant Handpieces

Ti-Max X-SG93L

Triple Spray

- Titanium Body with Scratch Resistant DURAGRIP
- For FG burs (ø1.6)
- Cellular Glass Optics (X-SG93L)
- Clean Head System
- Push Button Chuck
- External cooling
- Max. Speed : 120,000 min^{-1}

	Optic	MODEL	ORDER CODE
1:3 Increasing	●	**X-SG93L**	**C1004**
	–	**X-SG93**	**C1007**

Ti-Max X-SG25L

- Titanium Body with Scratch Resistant DURAGRIP
- For CA burs (ø2.35)
- Cellular Glass Optics
- Clean Head System
- Push Button Chuck
- External cooling
- Max. Speed : 40,000 min^{-1}

	Optic	MODEL	ORDER CODE
1:1 Direct Drive	●	**X-SG25L**	**C1011**

Ti-Max X-SG65L

Straight Handpiece

- Titanium Body with Scratch Resistant DURAGRIP
- For HP burs (ø2.35)
- Cellular Glass Optics (X-SG65L)
- Clean Head System
- External cooling
- Max. Speed : 40,000 min^{-1}

	Optic	MODEL	ORDER CODE
1:1 Direct Drive	●	**X-SG65L**	**H1009**
	–	**X-SG65**	**H1038**

Ti-Max Z-SG45L

Triple Spray

- Titanium Body with Scratch Resistant DURAGRIP
- Cellular Glass Optics (Z-SG45L)
- Ceramic Bearings
- Clean Head System
- Push Button Chuck
- External cooling
- For FG burs (ø1.6 / 20-25 mm)
- Anti Heat System
- DLC Coating
- Max. Speed : 120,000 min^{-1}

	Optic	MODEL	ORDER CODE
1:3 Increasing	●	**Z-SG45L**	**C1107**
	–	**Z-SG45**	**C1108**

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Implant Handpieces

SGM-ER20i

- External and internal cooling (Kirschner and Meyer)
- with Wrench for handpiece attachment
- Max. Speed : 2,000 min^{-1}

	MODEL	ORDER CODE
20:1 Reduction	**SGM-ER20i**	**Y110127**

SGMS-ER20i With Depth Indicator

2 types of Depth Indicators are available. Both are easy to attach and detach for smooth operation.

- External and internal cooling (Kirschner and Meyer)
- with two Depth Indicators, Wrench for handpiece attachment, Ruler
- Max. Speed : 2,000 min^{-1}

	MODEL	ORDER CODE
20:1 Reduction	**SGMS-ER20i**	**Y110147**

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Micro Surgery Handpieces

Straight Handpieces

- For surgical burs (ø2.35)
- Twist chuck
- Max. Speed : 40,000 min^{-1}

	MODEL	ORDER CODE
1:1 Direct Drive	**SGS-ES**	**H264**

- For surgical burs (ø2.35)
- Twist chuck
- Max. Speed : 80,000 min^{-1}

	MODEL	ORDER CODE
1: 2 Increasing	**SGS-E2S**	**H266**

20˚ Angle Handpieces

- For surgical burs (ø2.35)
- Twist chuck
- Max. Speed : 40,000 min^{-1}

	MODEL	ORDER CODE
1:1 Direct Drive	**SGA-ES**	**H263**

- For surgical burs (ø2.35)
- Twist chuck
- Max. Speed : 80,000 min^{-1}

	MODEL	ORDER CODE
1: 2 Increasing	**SGA-E2S**	**H265**

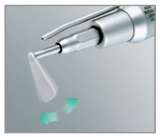
Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Micro Saw Handpieces

- 1.8 mm Reciprocating
- With External Spray Nozzle

	MODEL	ORDER CODE
3.2:1 Reduction	**SGR2-E**	**SH162**



- 17° Oscillating
- With External Spray Nozzle

	MODEL	ORDER CODE
3.5:1 Reduction	**SGO2-E**	**SH164**

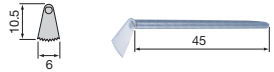
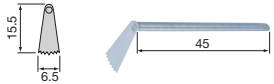
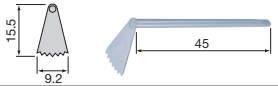
- 3° Sagittal
- With External Spray Nozzle

	MODEL	ORDER CODE
3.2:1 Reduction	**SGT2-E**	**SH163**

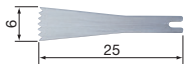
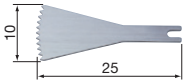
SGR2-E Blades for Reciprocating

MODEL			ORDER CODE
SGR-1		• **Blade thickness 0.35 mm** • **Pack of 10 blades**	**Y900072**
SGR-2		• **Blade thickness 0.35 mm** • **Pack of 10 blades**	**Y900073**
SGR-3		• **Blade thickness 0.35 mm** • **Pack of 10 blades**	**Y900074**

SGO2-E Blades for Oscillating

MODEL			ORDER CODE
SGO-1		• **Blade thickness 0.3 mm** • **Single blade**	**H174034**
SGO-2		• **Blade thickness 0.3 mm** • **Single blade**	**H174044**
SGO-3		• **Blade thickness 0.3 mm** • **Single blade**	**H174031**
SGO-4		• **Blade thickness 0.3 mm** • **Single blade**	**H174041**
SGO-5		• **Blade thickness 0.35 mm** • **Single blade**	**H174032**
SGO-6		• **Blade thickness 0.35 mm** • **Single blade**	**H174042**

SGT2-E Blades for Sagittal

MODEL			ORDER CODE
SGT-1		• **Blade thickness 0.35 mm** • **Pack of 10 blades**	**Y900075**
SGT-2		• **Blade thickness 0.35 mm** • **Pack of 10 blades**	**Y900076**

* Blades are sold separately.

Washable in the thermodisinfector

Autoclavable up to 135°C

Osseo 100+

Removes Doubt

Osseo 100+ measures implant stability and osseointegration to support decision on when to load an implant.
Especially important when working with shorter treatment time or managing risk patients.

The uncomplicated procedure that measures ISQ allows the implant loading period to be planned in advance. The reconstruction of crowns and bridges can be monitored to optimize timing to decrease the risk for failures. Measurements can be made without unnecessary impact since the equipment does not come into physical contact with the implant or abutment.

Wireless connection with Surgic Pro2

Osseo 100+

Connectivity with Surgic Pro2
The ISQ value is transferred automatically when connected with Surgic Pro2. The Bluetooth® connection means that clinical procedures will be undisturbed.

Wireless data management
The measured ISQ can be shared and processed with data on external terminals via Surgic Pro2.

3-step procedure

1. The MulTipeg™ is attached to the implant. It screws effortlessly into the implant's internal threads. (approximately 6-8 Ncm of torque).
2. Just aim for the magnet on top of the MulTipeg™. Non-invasive, objective, accurate and repeatable. The peg is excited by magnetic pulses and vibrates due to the stiffness in the contact area between the bone and the implant surface.
3. An ISQ value is generated and shown on the display. This reflects the level of stability on the universal ISQ scale – from 1 to 99. The higher the ISQ value, the more stable the implant.

About ISQ

*The below is not a clinical recommendation from NSK.

Decreasing micro mobility with increasing ISQ values.

By taking a baseline value at implant placement and another before loading, the degree of osseointegration can be measured.

- **More time required for implant osseo-integration**
- **Remeasure**

ISQ values measured for one or two stage full or partial cases

ISQ values measured for single tooth one stage and/or immediate loading cases

1 . Sennerby L Prof., Implantologie 2013; 21(1): 21-23
2 . Kokovic V, Jung R, Feloutzis A, Todovoric V, Jurisic M, Hämmerle C. Clinical Oral Implants Research, 00, 2013, 1-6
3 . M Bornstein, C Hart, S Halbritter, D Morton, D Buser, Prof. Dr. med. dent. Clin Implant Dent Relat Res 2009
4 . Serge Baltayan, Joan Pi-Anfruns, Tara Aghaloo, Peter Moy. J Oral Maxillofac Surg 74:1145-1152, 2016
5 . P O Östman, Private practitioner, Falun- and Biomaterial Group, Sahlgrenska Academy Gothenburg. Clinical Implant Dentistry and Related Research, Volume 7, Supplement 1, 2015
6 . Daniel Rodrigo, Luis Aracil, Conchita Martin, Mariano Sanz. Clin. Oral Impl. Res. 21, 2010; 255-261
7 . Pagliani L, Sennerby L, Petersson A, Verrocchi D, Volpe S & Andersson P. Journal of Oral Rehabilitation 2012
8 . P Trisi Phd, T Carlesi DDS, M Colagiovanni DDS, G Perfetti MD, DDS. Journal of Osteology and Biomaterials, Volume 1, Number 3, 2010
9 . S Hicklin, E Schneebeli, V Chappuis, S Francesco, M Janner, D Buser, U Brägger. Clin. Oral Impl. Res. 00, 2015; 1-9
10. L. Milillo, C. Fiandaca, F. Giannoulis, L. Ottria, A. Lucchese, F. Silvestre, M. Petruzzi. Oral & Implantology - anno IX - n. 3/2016

Reusable MulTipeg™

- For all major implant systems*
- Tissue friendly, durable titanium
- Autoclavable appx. 20 times
- Optimal platform fit
- ISQ Standard Calibrated

*There are different MulTipegs™ available made to fit different implant system and types.
Please refer to the updated list from the supplier.

Wireless connection with Surgic Pro2
Osseo 100+

Contents

- Osseo 100+ Instrument
- MulTipeg Driver
- Mains adapter and plugs

MulTipeg™ is not included, sold separately.

MODEL	ORDER CODE
Osseo 100+	**Y1004176**

Specifications

- Power input : 5VDC, 1 VA
- Charger input : 100-240 VAC, 5 VA
- Instrument weight : 100 g
- Battery full charge time : appx. 3 hours.*
- Battery continuous drive time : appx. 1 hour.*

*Varies depending on usage situations.

iSD900

Advantages

- Universal to major implant systems
- Reliable and durable contra-angle handpiece with excellent accessibility
- Audible beeping noise to indicate reverse rotation
- Standard battery (AAA Ni-MH) is easily replaced on site
- LCD control panel offering outstanding visibility and operability

Faster and Safer Implant Treatments

NSK's iSD900 cordless screwdriver helps to safely place and remove cover screws, healing caps and abutments during dental implant procedures, making treatment up to 50% faster.

Faster Treatment

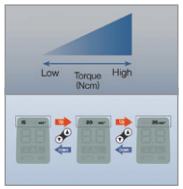
NSK's iSD900 cordless screwdriver safely inserts and removes cover screws, healing caps and abutments during implant procedures, making treatment up to 50% faster.

Accommodating Diverse Operative Fields

It can be difficult to maintain good visibility of the operating field when retracting the buccal mucosa when using a conventional ratchet wrench with both hands. The iSD900 allows single-handed operations to ensure better visibility across the whole operating field.

Torque Calibration System to Guarantee Safety

The unique torque calibration system (TCS) of the iSD900 ensures accurate torque values at all times.



Torque Range Accommodating Diverse Procedures and Three Rotation Speeds

NSK's iSD900 has a torque range of 10 Ncm to 40 Ncm to ensure precise torque adjustments and settings in 1 Ncm or 5 Ncm increments according to procedures. The iSD900 offers 15 min^{-1}, 20 min^{-1}, and 25 min^{-1} speeds according to procedure requirements.

Torque Calibrator

iSD900 Complete Set

MODEL	ORDER CODE
iSD900	**Y1001358**

- iSD900 Motor • iSD-HP
- Quick Charger for iSD900
- Torque Calibrator
- On/Off Switch Lever

Specifications

- Torque: 10 – 40 Ncm in 1 or 5 Ncm increments
- Speed: 15, 20, 25 min^{-1}
- Weight: 148 g (iSD900 Motor + iSD-HP)
- Charging Time : Around 90 min*
- Continuous Operation Time : Max 72 min*

*these may change according to the usage environment.

VarioSurg 4

The Essential Ultrasonic Bone Surgery System

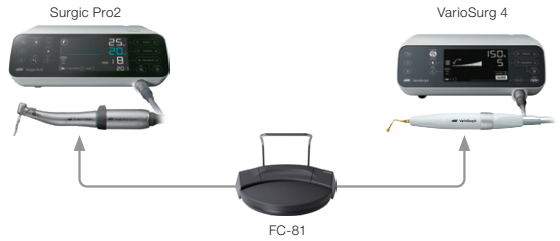
The development of the VarioSurg ultrasonic bone surgery system continues with the introduction of the VarioSurg 4. With pioneering high power ultrasonic technology and a diverse lineup of tips for various procedures, the VarioSurg 4 allows for swift and intricate bone removal and shaping.
It minimizes damage to surrounding soft tissue and reduces invasiveness compared to conventional bone and micro saws. With new advantages like wireless foot control integration, compatibility with Surgic Pro2, and a refined, stylish design, the VarioSurg 4 is set to exceed clinicians' expectations while creating a stress-free environment.

Smart and Intuitive Control Panel

The control unit features a harmonious design that works technologically and aesthetically with the Surgic Pro2, allowing for a wide range of functionality for various procedures. Also, with wireless foot control integration and Bluetooth® connectivity with Surgic Pro2, there's no need for cables or wires. The control unit includes a programmable memory function that can be personalized to match the preferences and usage conditions of individual clinicians. The incorporation of a large, backlit LCD screen and touch panel with intuitive icon buttons, ensures excellent visibility and smooth operation.

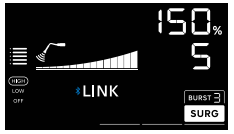
Surgic Pro2 and VarisSurg 4 Link Function

VarioSurg 4 features built-in Bluetooth® functionality, allowing it to be easily linked with the surgical micromotor system, Surgic Pro2. This enables the operation of both units with one single wireless foot control. Easily switch between the two systems, ensuring a smooth and efficient workflow.



Safe Operation

The user-friendly display clearly indicates which system is active and ensures safe and accurate operation.

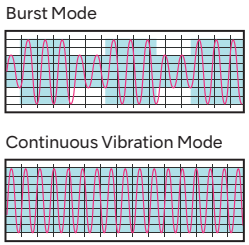


VarioSurg 4's display indicates that Surgic Pro2 is active.

Press the 'LINK' button* to switch between VarioSurg 4 and Surgic Pro2.

*This button is located on the Surgic Pro2, on the left side of the panel.

Control Unit



Burst Mode With Three Different Frequency Levels

Burst Mode delivers small, periodic vibrations in response to a consistent vibration, creating a suitable 'hammer effect' for cutting hard cortical bone by introducing variations in vibration. This mode is switchable during procedures, and with three adjustable Burst Mode levels, it allows for easy mode and level selection based on the needs of the surgical procedure and bone conditions.

Feedback & Auto-Tuning Functions for Consistent Cutting Performance and Stability

Optimal power is supplied to the tip as it automatically senses the condition of the surgical site. Oscillation frequency is also automatically controlled, maintaining the specified output value at the tip and sustaining the vibration effect. These features ensure a stable, consistent power supply and enhance the efficiency of the procedure.

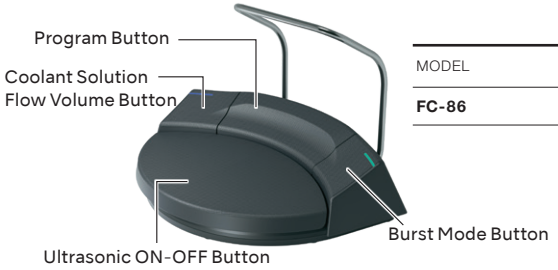
Adjustable Light Intensity

Switch effortlessly between three levels of light intensity.

Foot Control

Linked with a wireless foot control

Bluetooth® connectivity allows selection of the optimal position without worrying about cable length. The foot control is 400g lighter than the previous model (hanger included) making it easy to reposition.
The "Coolant Solution Flow Level Button", "Program Button" and "Burst Mode Button" are also located on the foot control which allows you to focus on the treatment. The energy-efficient power supply uses 3 AAA batteries, which last about 6 months. A flashing light indicates when the batteries are running low.



MODEL	ORDER CODE
FC-86	**ZF16040001**

Handpiece

The Powerful Handpiece with a Super-Slim Design

This super-slim, lightweight handpiece with twin LEDs provides exceptional accessibility and visibility.
It's well-balanced ergonomic design minimises hand fatique during extended treatments.
These innovative features allow the VarioSurg 4 to faithfully reflect the operator's intentions with extraordinary comfort and precision. Advanced ultrasonic technology produces oscillation of the tip that eliminates heat at the operation site, allowing for minimally invasive procedures.

Effective Power Transmission with Minimal Heat Generation

By using innovative materials, the VarioSurg 4 handpiece delivers appropriate power from the generator to the tip without loss while minimising heat generation.

LED Illumination for More Precise Treatments

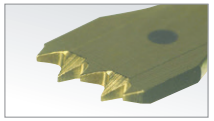
NSK LEDs generate natural daylight-quality light to perfectly illuminate the treatment area, enabling more precise treatments and shortening treatment times. LEDs are safe and do not overheat, even during extended use, and are economical due to their long life. Proprietary twin LED lights eliminate shadows in the treatment area, allowing excellent visibility.

Optic	MODEL	ORDER CODE
●	**VS4-LED-HPSC**	**EA14170001**

• with 2m cord

Tips - Products of NSK's Precision Manufacturing

We maximize the sharpness of our tips through three-dimensional-cutting (toothing) of the blade's edge.



Washable in the thermodisinfector
135°c Autoclavable up to 135°C

VarioSurg 4

Variosurg 4 Complete Set

Optic	MODEL	ORDER CODE
●	**VarioSurg 4 (230V)**	**Y1500706**

Contents :

- Control Unit
- LED Handpiece with 2m cord
- FC-86 Foot Control (cordless)
- Sterilization Cassette
- Handpiece Stand
- Irrigation tube (3 pcs.) and other accessories
- Basic H-S Kit (H-SG1, SG3, SG5, SG6D, SG7D, SG11 and Tip holder)

Variosurg 4 Complete Set without Foot Control

Optic	MODEL	ORDER CODE
●	**VarioSurg 4 w/o FC (230V)**	**Y1500712**

Contents :

- Control Unit
- LED Handpiece with 2m cord
- Sterilization Cassette
- Handpiece Stand
- Irrigation tube (3 pcs.) and other accessories
- Basic H-S Kit (H-SG1, SG3, SG5, SG6D, SG7D, SG11 and Tip holder)

Specifications :

Control Unit	• Max. Pump Output : 76 mL / min
• Frequency : 28-32 kHz	• Programs : SURG x 5, ENDO x 2, PERIO x 2
• Power Supply : AC100 - 240V 50/60 Hz	• Dimensions : W 245 x D 235 x H 90 mm

OPTION

Foot Control

MODEL	ORDER CODE
FC-86	**Z1401001**

MODEL	ORDER CODE
FC-78	**Z1102003**

• With 2m cord

Link Stand

MODEL	ORDER CODE
Link Stand 3	**ZA16230001**

Sterilization Cassette

MODEL	ORDER CODE
VA-SG-CASE	**Z313102**

- Dimensions : W 281 x D 171.5 x H 47 mm
- Has dedicated compartments for handpiece, cord, tip replacement wrench and tip holders

Carrying Case

MODEL	ORDER CODE
Carrying Case (VarioSurg 4)	**Y1500783**

• Dimensions : W 534 x D 427 x H 207 (mm)

iCart Duo

MODEL	ORDER CODE
iCart Duo	**S9090**

• Dimensions : H 101.65 cm • Weight : 16.5 kg

Ultrasonic Surgery Tips

Choose from over 50 ultrasonic tips according to the clinical procedure.

Bone Surgery

Extraction

Scraper

Socket Lift (Crestal Approach)

Sinus Lift

Implant Preparation

Sinus Membrane Detachment

Perio (Root Planing)

Scaling

Endodontics

Maintenance (V-Tip)

Perio-Control

Bone Surgery (TIN coating)

POWER LEVEL	MODEL	ORDER CODE
–	**SG1**	**Z305101**
SURG 150%	**H-SG1**	**Z305151**

• Dots mark 3, 6 and 9 mm from top of tip
• Five teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
–	**SG1A**	**Z305138**

• Dots mark 3, 6, 9,12 and 15 mm from top of tip
• Five teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
–	**SG2R**	**Z305102**

• Right curved tip*
• Three teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
–	**SG2L**	**Z305103**

• Left curved tip*
• Three teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
–	**SG8**	**Z305109**
SURG 150%	**H-SG8**	**Z305155**

• Dots mark 3, 6 and 9 mm from top of tip
• Three teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
–	**SG8A**	**Z305139**

• Dots mark 3, 6, 9,12 and 15 mm from top of tip
• Three teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
SURG 150%	**H-SG8R**	**Z305156**

• Marking every 2 and 4 mm from top of tip (Single side)
• Right curved tip* • Three teeth; 0.6 mm thick

POWER LEVEL	MODEL	ORDER CODE
SURG 150%	**H-SG8L**	**Z305157**

• Marking every 2 and 4 mm from top of tip (Single side)
• Left curved tip* • Three teeth; 0.6 mm thick

* The direction of the tip's curve is defined by the tip's anterior view.

Washable in the thermodisinfector
Autoclavable up to 135°C

Bone Surgery (TIN coating)

MODEL	ORDER CODE
SG14R	**Z305122**

- Right curved tip*
- Five teeth; 0.6 mm thick

MODEL	ORDER CODE
SG14L	**Z305123**

- Left curved tip*
- Five teeth; 0.6 mm thick

MODEL	ORDER CODE
SG19	**Z305135**

- Dot mark 3 mm from top of tip
- Five teeth; 0.8 mm thick

MODEL	ORDER CODE
SG30	**Z305137**

- Sharp edge
- 0.5 mm thick

MODEL	ORDER CODE
SG58	**Z305141**

- Dots mark 3, 6 and 9 mm from top of tip
- Three teeth; 0.6 mm thick

MODEL	ORDER CODE
SG68	**Z305143**

- Marking every 2 and 4 mm from top of tip (Single side)
- Three teeth; 0.6 mm thick

Scraper (TIN coating)

MODEL	ORDER CODE
SG3	**Z305104**

- Triple sided edge spatula tip

MODEL	ORDER CODE
SG4	**Z305105**

- Edge spatula tip

MODEL	ORDER CODE
SG5	**Z305106**

- Rounded edge spatula tip

Extraction (TIN coating)

MODEL	ORDER CODE
SG17	**Z305132**

- 0.7 mm thick

MODEL	ORDER CODE
SG18R	**Z305133**

- Right angled tip* • 0.7 mm thick

MODEL	ORDER CODE
SG18L	**Z305134**

- Left angled tip* • 0.7 mm thick

* The direction of the tip's angle is defined by the tip's anterior view.

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

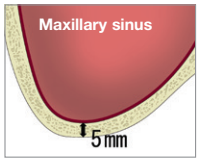
Specialty Tips Exclusively for Sockets

Used as part of the socket lift method to swiftly perform sinus lift procedures, NSK's new tip lineup is designed for minimal surgical invasiveness.

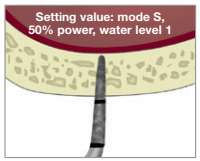
Process example for elevation of maxillary sinus membrane

A type of implant preparation site for a regular size implant ø4.0 mm.

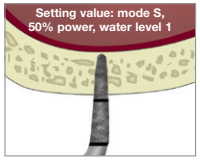
At the case of using VarioSurg



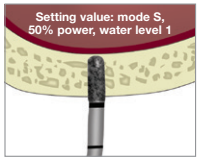
*A case of around 5 mm from the base of cortical bone to maxillary sinus.
*Bone tissue is type 3 and good condition.
*In addition to positive diagnosis by CT image, the vertical bone width should be diagnosed well and the implant preparation site could be formed until the base of maxillary antrum.



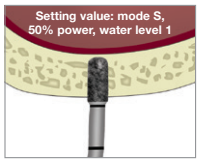
1. Bone cutting to within 1 mm to the base of maxillary antrum by using SG15A tip.Please be careful not to push the tip too much.



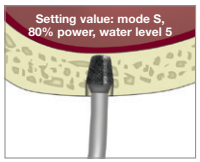
2. Repeat bone cutting using SG15B tip to increase width.
Please be careful not to push the tip too much.



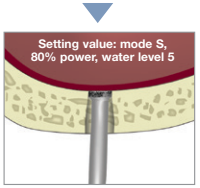
3. Bone cutting by using SG16A tip.
The implant preparation site is formed until little of the base of cortical bone remains.



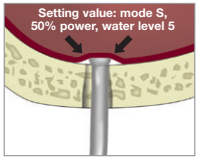
4. Repeat bone cutting by using SG16B tip.
The implant preparation site is formed until little of the base of cortical bone remains.



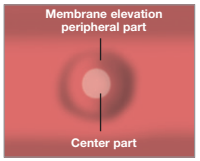
5. Using sufficent water irrigation, the implant preparation site is formed by using SCL2D tip.
The water level is set to 5.
Please be careful not to force the tip into the implant preparation site. Too much water pressure may exert on the maxillary antrum membrane.
At the case of using drilling, this step is excluded.



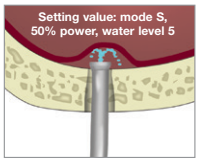
6. Using sufficent water irrigation, the implant preparation site is continued to be formed by using SCL1D tip. The water level is set to 5. The cavity floor of the implant preparation site is cut by using the edge of the top of the tip. Please be careful not to force the tip into the implant preparation site. Too much water pressure may exert on the maxillary antrum membrane.



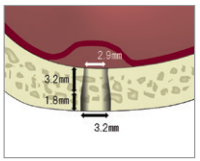
7. The maxillary antrum membrane is exfoliated by using SCL1 tip.
The water level is set to 5.
Slowly insert the top of the tip between the membrane and bone. Moving the tip along the wall of the implant preparation site will exfoliate the membrane. Please be careful, since the membrane can be torn at the edge (arrow part) between the bone and the membrane.



This image shows the elevated membrane which you will see from the maxillary antrum side. Please check the condition of maxillary antrum membrane using the endoscope.



8. The Maxillary antrum membrane can now be elevated by using SCL1 tip.



9. The completed formation of the implant preparation site.
At the case of using drilling, the straight implant preparation site of 3.2 mm is formed.

Socket Lift (Crestal Approach)

MODEL	ORDER CODE
SCL1	**Z305170**

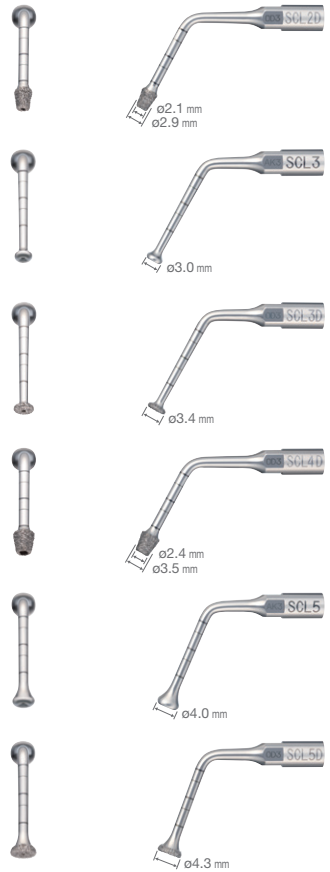
• Internal irrigation

MODEL	ORDER CODE
SCL1D	**Z305171**

• Internal irrigation • Diamond coating

Washable in the thermodisinfector
135°c Autoclavable up to 135°C

Socket Lift (Crestal Approach)



MODEL	ORDER CODE
SCL2D	**Z305182**

- Internal irrigation
- Diamond coating

MODEL	ORDER CODE
SCL3	**Z305172**

- Internal irrigation

MODEL	ORDER CODE
SCL3D	**Z305173**

- Internal irrigation
- Diamond coating

MODEL	ORDER CODE
SCL4D	**Z305184**

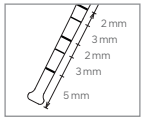
- Internal irrigation
- Diamond coating

MODEL	ORDER CODE
SCL5	**Z305174**

- Internal irrigation

MODEL	ORDER CODE
SCL5D	**Z305175**

- Internal irrigation
- Diamond coating



The estimated depth of the implant preparation site can be measured with the scale on the Tip.

Sinus Lift

MODEL	ORDER CODE
SG6D	**Z305107**

MODEL	ORDER CODE
SG7D	**Z305108**

Sinus Membrane Detachment

MODEL	ORDER CODE
SG9	**Z305110**

- Flat circular convex elevator
- Angled at 90°

MODEL	ORDER CODE
SG10	**Z305111**

- Flat circular convex elevator
- Angled at 135°

MODEL	ORDER CODE
SG11	**Z305112**

- Cone compressor

Washable in the thermodisinfector

Autoclavable up to 135°C

Washable in the thermodisinfector

Autoclavable up to 135°C

Implant Preparation

MODEL	ORDER CODE
SG15A	**Z305124**

• Diameter of the tip end; 0.7 mm

MODEL	ORDER CODE
SG15B	**Z305125**

• Diameter of the tip end; 1.3 mm

MODEL	ORDER CODE
SG15C	**Z305126**

• Diameter of the tip end; 0.9 mm

MODEL	ORDER CODE
SG15D	**Z305127**

• Diameter of the tip end; 1.3 mm

MODEL	ORDER CODE
SG16A	**Z305128**

• Diameter; 2.0 mm

MODEL	ORDER CODE
SG16B	**Z305129**

• Diameter; 2.6 mm

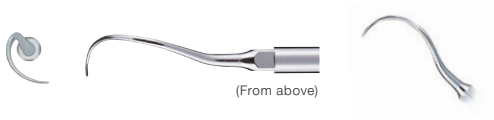
Scaling

MODEL	ORDER CODE
G1-S	**Z305113**

Perio (Root Planing)

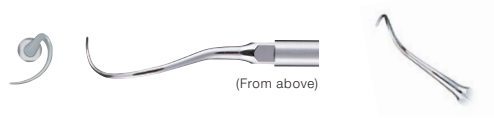
MODEL	ORDER CODE
P20-S	**Z305114**

• Straight tip



MODEL	ORDER CODE
P25R-S	**Z305115**

• Right curved tip*



MODEL	ORDER CODE
P25L-S	**Z305116**

• Left curved tip*

* The direction of the tip's curve is defined by the tip's anterior view.

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Washable in the thermodisinfector

135°c Autoclavable up to 135°C

Maintenance (V-Tip)

Perio-Control

V-Tip Holder

MODEL	ORDER CODE
V10-S	**Z305117**

- Includes E-Tip replacement wrench
- Plastic Tip is not included

MODEL	ORDER CODE
V-P10	**Y900184**

- Pack of 3
- V10-S holder is not included

MODEL	ORDER CODE
V-P12	**Y1002167**

- Pack of 3
- V10-S holder is not included

MODEL	ORDER CODE
V-P11R	**Y1002165**

- Right curved type* • Pack of 3
- V10-S holder is not included

MODEL	ORDER CODE
V-P11L	**Y1002166**

- Left curved type* • Pack of 3
- V10-S holder is not included

■ V-P11R, V-P11L, V-P12 can be used only for VarioSurg 3.

Endodontics

MODEL	ORDER CODE
E30RD-S	**Z305118**

- For posterior teeth (right angled)

MODEL	ORDER CODE
E30LD-S	**Z305119**

- For posterior teeth (left angled)

MODEL	ORDER CODE
E31D-S	**Z305120**

- For anterior and posterior teeth (70°)

MODEL	ORDER CODE
E32D-S	**Z305121**

- For anterior teeth (90°)

Washable in the thermodisinfector

Autoclavable up to 135°C

* The direction of the tip's curve is defined by the tip's anterior view.

Washable in the thermodisinfector

Autoclavable up to 135°C

Tip Kits

•Bone Surgery •Scraper •Sinus Lift
•Sinus Membrane Detachment

MODEL	ORDER CODE
Basic H-S Kit	**Y1002775**

Contents
• H-SG1, SG3, SG5, SG6D, SG7D, SG11
• Tip holder

•Bone Surgery

MODEL	ORDER CODE
Bone Cut Kit	**Y900688**

Contents
• SG1, SG2R, SG4, SG2L, SG6D
• Tip holder

•Sinus Lift

MODEL	ORDER CODE
Sinus Lift Kit	**Y900689**

Contents
• SG1, SG3, SG6D, SG9, SG10, SG11
• Tip holder

•Endodontics

MODEL	ORDER CODE
Endo-S Kit	**Y900691**

Contents
• G1-S, E30RD-S, E30LD-S, E31D-S, E32D-S
• Tip holder

Washable in the thermodisinfector
Autoclavable up to 135°C

Tip Kits

•Implant Preparation

MODEL	ORDER CODE
Implant Preparation Kit	**Y900774**

Contents
• SG15A, SG15B, SG16A, SG16B
• Tip holder

•Socket Lift Tips (Crestal Approach)

MODEL	ORDER CODE
Socket Lift Kit for Regular Size Implant	**Y1002841**

Contents
• SCL1D, SCL2D, SCL1
• VS Tip Wrench • Tip holder • Manual

•Socket Lift Tips (Crestal Approach)

MODEL	ORDER CODE
Socket Lift Kit for Wide Size Implant	**Y1002842**

Contents
• SCL2D, SCL3D, SCL4D, SCL3
• VS Tip Wrench • Tip holder • Manual

Washable in the thermodisinfector
Autoclavable up to 135°C