

# Surgic Pro2 X 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.



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



#### 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.



### Surgic Pro2



#### **GO BEYOND**

 $\label{thm:conditional} The internationally acclaimed Surgic Pro surgical micromotor system has evolved into "Surgic Pro2".$ 

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.

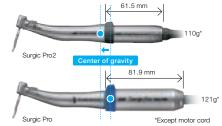


#### Improved operability A more compact new motor.

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

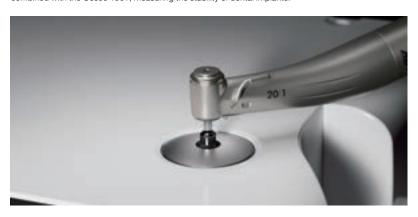
#### Silent and Smooth Irrigation Pump

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**

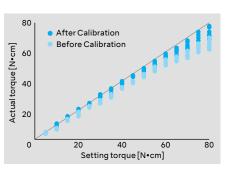
Synonymous with Surgic Pro safer procedures are made possible with increased torque precision combined with the Osseo 100+, measuring the stability of dental implants.



#### 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.

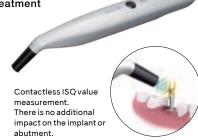


Minimizing the discrepancy between the set torque value and the actual output helps improve treatment outcomes.

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.



#### 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.





#### Complete Set with X-SG20L

Optic MODEL ORDER CODE	•	Surgic Pro2 OPT	Y1004195
	Optic	MODEL	ORDER CODE

#### 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

-	Surgic Pro2 NON-OPT	Y1004196
Optic	MODEL	ORDER CODE

#### 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 • Power Supply: AC 100-240V 50/60 Hz

- Max. Pump Output: 75 mL/min
- Dimensions: W 245×D 235×H 90 (mm)
- Micromotor
- Torque: 5-80 Ncm
- Motor Speed: 200-40,000 min-1

#### FOOT CONTROL WIRELESS

• 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



N	ODEL	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
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#### Carrying Case for Surgic Pro2





0	V4004040
MODEL	ORDER CODE

#### 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
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#### iCart Duo

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



MODEL ORDER CODE	iCart Duo	Sanan
	MODEL	ORDER CODE

Carrying case for componets and accessories of Surgic

m)	150		
	m		П
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	Q		

Carrying Caso	V1004210

#### Calibration

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



#### Maintaining Accurate Torque with AHC

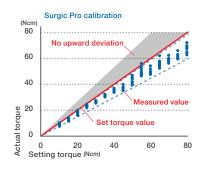
NSK's proprietary Advanced Handpiece Calibration (AHC) ensures the correct torque value required for specific treatments.

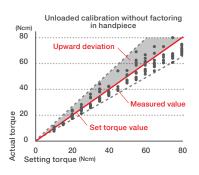
There is normally a small misalignment between pre-set and actual torque values owing to friction between bearings and contra-angle gear. AHC corrects this misalignment to guarantee accurate torque values.

#### **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





# Surgic Pro+

#### 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.

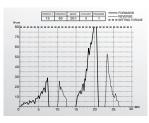
\*USB memory stick not included.



#### Easy Treatment Data Handling

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

\*File formats : csv or bmp



#### Surgic Pro+



#### Surgic Pro+ Complete Set with X-DSG20L Optic Handpiece

•	Surgic Pro + OPT-D	Y1003585
Optic	MODEL	ORDER CODE

#### 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 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)
- $\bullet$  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<sup>-1</sup> 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

#### Surgic Pro Complete Set with X-SG20L Optic Handpiece

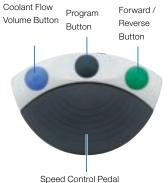
Optic	MODEL	ORDER CODE
	Surgic Pro OPT	Y1003586

#### 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

#### 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
	Speed Control Pedal	

#### Handle Set (Optional) Fasy to attach foot control h

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



Handle Set	Z1027001
MODEL	ORDER CODE

#### Optional

MODE

• With 2 m cord

#### **Carrying Case**

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



ODDED CODE

Carrying Case (Surgic Pro)	Y1001952
WODEL	ONDEN OODE

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

#### iCart Duo

Install the control unit and accessories on the cart.



iCart Duo	S9090
MODEL	ORDER CODE

• Dimensions : H 101.65 cm

• Weight : 16.5 kg

#### 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



- 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

#### Dismantling Surgical Handpiece



	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
0:1 Reduction	•	X-DSG20Lh	C1076
	_	X-DSG20h	C1075

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

#### 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<sup>-1</sup>

201		MC TAN	BON
	Optic	MODEL	ORDER CODE

X-SG20L C1003

20:1 Reduction

#### 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<sup>-1</sup>

201	A		80N)
	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
- Max. Torgue : 50 Ncm
- Twist Chuck
- Angle Handpiece
- External cooling
- For Osteotomy preparation / insertion of Zygoma implants for Maxillofacial / oral surgery



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













#### 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<sup>-1</sup>



	Optic	MODEL	ORDER CODE
1:3 Increasing	•	X-SG93L	C1004
1:5 increasing	-	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<sup>-1</sup>



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

#### 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<sup>-1</sup>



	Optic	MODEL	ORDER CODE
1:1 Direct Drive	•	X-SG65L	H1009
1:1 Direct Drive	-	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<sup>-1</sup>



	Optic	MODEL	ORDER CODE
4.0 (	•	Z-SG45L	C1107
1:3 Increasing	-	Z-SG45	C1108

#### SGM-ER20i



- External and internal cooling (Kirschner and Meyer)
- · with Wrench for handpiece attachment
- Max. Speed: 2,000 min<sup>-1</sup>

	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<sup>-1</sup>

20:1 Reduction	SGMS-ER20i	Y110147
	MODEL	ORDER CODE

#### Micro Surgery Handpieces

#### Straight Handpieces



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



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



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

1: 2 Increasin	g SGS-E2S	H266
	MODEL	ORDER CODE

#### 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
		MODEL	ORDER CODE



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

1: 2 Increasing	SGA-E2S	H265
	MODEL	ORDER CODE





## JRGICAL

#### Micro Saw Handpieces







 MODEL
 ORDER CODE

 3.2:1 Reduction
 SGR2-E
 SH162



17° Oscillating
 With External Spray Nozzle



3.5:1 Reduction	SGO2-E	SH1	164
	MODEL	ORE	ER CODE



• 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	10	Blade thickness 0.35 mm     Pack of 10 blades	Y900072
SGR-2	20	Blade thickness 0.35 mm     Pack of 10 blades	Y900073
SGR-3	30	Blade thickness 0.35 mm     Pack of 10 blades	Y900074

#### SGO2-E Blades for Oscillating

MODEL				ORDER CODE
SGO-1	10.5	30	Blade thickness 0.3 mm     Single blade	H174034
SGO-2	0.5	45	Blade thickness 0.3 mm     Single blade	H174044
SGO-3	6.5	30	Blade thickness 0.3 mm     Single blade	H174031
SGO-4	(2.5) (6.5)	45	Blade thickness 0.3 mm     Single blade	H174041
SGO-5	9,2	30	Blade thickness 0.35 mm     Single blade	H174032
SGO-6	9.2	45	Blade thickness 0.35 mm     Single blade	H174042

#### SGT2-E Blades for Sagittal

MODEL			ORDER CODE
SGT-1	ω 25	Blade thickness 0.35 mm     Pack of 10 blades	Y900075
SGT-2	25	Blade thickness 0.35 mm     Pack of 10 blades	Y900076

# 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.

ISQ Value 6	0	70
<ul> <li>More time required for implant osseo-integration</li> <li>Remeasure</li> </ul>	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

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- 7. Pagliani L, Sennerby L, Petersson A, Verrocchi D, Volpe S & Andersson P. Journal of Oral Rehabilitation 2012
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- 9. S Hicklin, E Schneebeli, V Chappuis, S Francesco, M Janner, D Buser, U Brägger. Clin. Oral Impl. Res. 00, 2015; 1-9
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#### 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.



Osseo 100+	Y1004176
MODEL	ORDER CODE

#### **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 · 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.



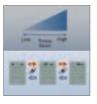
#### **Accommodating Diverse Operative Fields**

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<sup>-1</sup>, 20 min<sup>-1</sup>, and 25 min<sup>-1</sup> speeds according to procedure requirements.



#### 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<sup>-1</sup>
- 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.



#### 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.



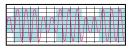
switch between VarioSurg 4 and Surgic Pro2.

\*This button is located on the

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

#### **Control Unit**

#### **Burst Mode**



Continuous Vibration Mode



#### **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.



#### 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.





•	VS4-LED-HPSC	EA14170001
Optic	MODEL	ORDER CODE

#### Tips - Products of NSK's Precision Manufacturing

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



# VarioSurg 4

#### Variosurg 4 Complete Set

•	VarioSurg 4 (230V)	Y1500706
Optic	MODEL	ORDER CODE

#### 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)	V1500712
	Optic	MODEL	ORDER CODE

#### 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	
Frequency : :	2

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

#### **OPTION**

#### **Foot Control**



FC-86	Z1401001
MODEL	ORDER CODE



FC-78	Z1102003
MODEL	ORDER CODE

• With 2m cord

#### Link Stand



Link Stand 3	ZA16230001
MODEL	ORDER CODE

#### Sterilization Cassette



MODEL	ORDER CODE
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• 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**



Carrying Case (VarioSurg 4)	Y1500783
MODEL	ORDER CODE

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

#### iCart Duo

VA-SG-CASE



Z313102

iCart Duo	\$9090
MODEL	ORDER CODE

• 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**



Scraper



Sinus Lift



Sinus Membrane Detachment



Scaling



Maintenance (V-Tip)



Extraction



Socket Lift (Crestal Approach)



**Implant Preparation** 



Perio (Root Planing)



**Endodontics** 



#### Bone Surgery (TIN coating)



POWER LEVEL	MODEL SG1	Z305101
SURG 150%	H-SG1	Z305151

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

THE SOURCE STATE OF THE PARTY NAMED IN	POWER LEVEL	MODEL	ORDER CODE
	_	SG1A	Z305138
	• Dots mark 3, 6, 9,	12 and 15 mm from to	op of tip

• Five teeth; 0.6 mm thick

_	SG2R	Z305102
	Juzii	2003102

- Right curved tip\*
- Three teeth; 0.6 mm thick

	POWER LEVEL	MODEL	ORDER CODE
M 900	_	SG2L	Z305103

- · Left curved tip\*
- Three teeth; 0.6 mm thick

<b>SURG</b> 150%	H-SG8	Z305155
_	SG8	Z305109
POWER LEVEL	MODEL	ORDER CODE

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

- NR (900A)	POWER LEVEL	MODEL
	_	SG8A
	• Dots mark 3, 6, 9, • Three teeth; 0.6 m	

-			
	POWER LEVEL	MODEL	ORDER CODE

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

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

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



225

ORDER CODE Z305139

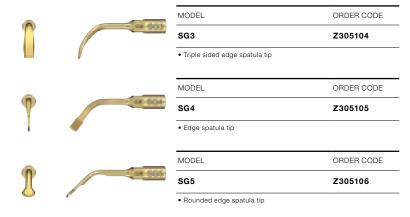
#### Bone Surgery (TIN coating)



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

- Three teeth; 0.6 mm thick

#### Scraper (TIN coating)



#### **Extraction (TIN coating)**











#### 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.

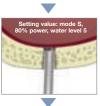


5. Using sufficent water irrigation, the implant preparation site is formed by using SCL2D

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)

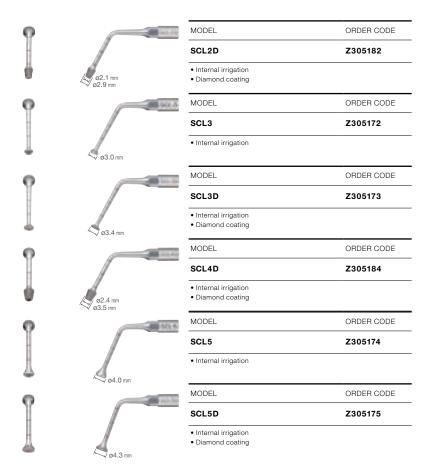


MODEL ORDER CODE SCL1 Z305170

· Internal irrigation



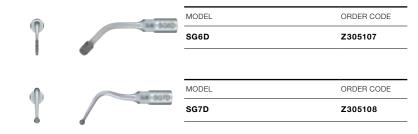
#### Socket Lift (Crestal Approach)



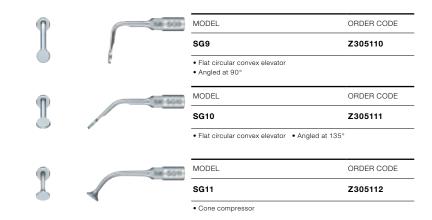


The estimated depth of the implant preparation site can be measured with the scale on the Tip.

#### Sinus Lift



#### Sinus Membrane Detachment





#### Implant Preparation



#### Scaling



Z305113

#### Perio (Root Planing)



MODEL	ORDER CODE
P20-S	Z305114
Straight tip	

ORDER CODE

Z305115



(From above)

Left curved tip\*

MODEL

P25R-S







#### Maintenance (V-Tip)

#### Perio-Control



V-Tip Holder



V10-S	Z305117
MODEL	ORDER CODE

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



(From above)

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

ORDER CODE

Z305121

• For anterior teeth (90°)

MODEL E32D-S





#### Tip Kits



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

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

#### Contents

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



·Bone Surgery

Bone Cut Kit	Y900688
MODEL	ORDER CODE

#### Contents

- SG1, SG2R, SG4, SG2L, SG6D
- Tip holder



•Sinus Lift

Sinus Lift Kit	Y900689
MODEL	ORDER CODE

#### Contents

- SG1, SG3, SG6D, SG9, SG10, SG11
- Tip holder



Endodontics

Endo-S Kit	Y900691
MODEL	ORDER CODE

#### Contents

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

#### Tip Kits



•Implant Preparation

Implant Preparation Kit	Y900774
MODEL	ORDER CODE

#### Contents

- SG15A, SG15B, SG16A, SG16B
- Tip holder



•Socket Lift Tips (Crestal Approach)

Socket Lift Kit for Regular Size Implant	Y1002841
MODEL	ORDER CODE

#### 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