



CREATE IT.

# SURGICAL

Surgic Pro / VarioSurg3 / iSD900



# SYNERGY IN IMPLANTOLOGY

**Surgic Pro** × **Variosurg 3**  
Surgical Micromotor System      Ultrasonic Bone Surgery System

Two linked surgical systems that use a single foot control.  
A brand new approach to implant and surgical treatment.





# LINK 2 SYSTEMS

## Surgic Pro and VarioSurg3 Generating Synergies through Link Function

The Link function allows operation between the Surgic Pro oral surgery and implant micromotor system and the VarioSurg3 ultrasonic bone surgery system using a single foot control. A common interface controls each system, allowing synergy in diverse surgical procedures and greatly streamlining treatment. Each system is available separately and is easily linked as required, making the system expandable and very affordable.



### Link function easily connects two systems

The Link function is easy to set up. Just connect the Surgic Pro and VarioSurg3 units with the link cable. The two systems can be installed together using the compact Link Stand.



### Hands-free program adjustments via foot control

The two systems can be operated using the single foot control which offers hands-free operation of functions such as ultrasonic wave ON/OFF, forward and reverse selection, coolant flow selection and program selection.



### Large and clear display for enhanced safety

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

# Surgic Pro

## The Professional Choice

NSK offers advanced technology to greatly enhance clinical performance. Surgic Pro is compact, lightweight and powerful to reliably deliver everything that professionals demand.







Surgic Pro

IMPECCABLE  
ACCURACY

# CALIBRATION

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

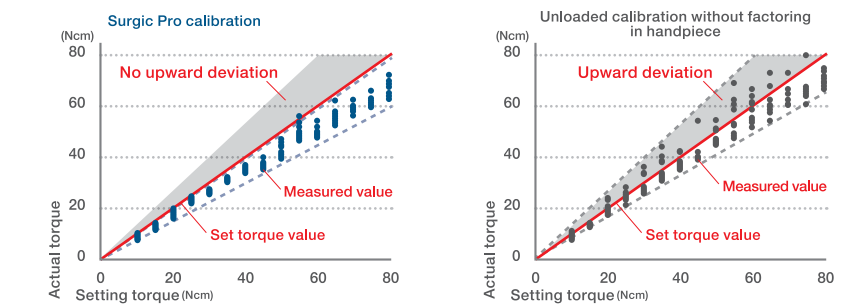
## Maintaining accurate torque with AHC

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 calibration ensures outstanding safety because it minimizes deviations and ensures virtually no upward variations from pre-set values. As the graphs show, no calibration can be accurate without taking handpiece usage conditions into consideration.



# SURGICAL MOTOR

Shorter, Lighter and More Powerful  
Consistently Excellent Clinical Performance



**Surgic Pro SGL70M:**  
**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 80Ncm of torque for diverse surgical procedures, paving the way for an advanced treatment environment.



SGL70M / 81.9 mm, 280 g\*

SGL50M / 98.1 mm, 322 g\*

\*Including motor cord

**Well-balanced, with a compact and lightweight micromotor**

Streamlining efforts reduced the size by 16.2mm and the weight by 42g to improve balance during use the Surgic Pro motor, greatly reducing any strain on clinicians.



**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.



**Superior durability supporting high temperature sterilization**

Autoclave disinfection and thermo-disinfection ensure complete sterilization.

# CONTROL UNIT

Control Unit Incorporating an Array of Sophisticated Functions



## 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.

**8 Steps × 8 Systems = 64 Programs**

Six parameters can be set for each program

## Data log function

The Surgic Pro's data log function 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

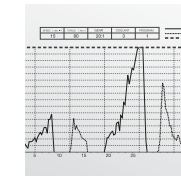


## Data management

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



# VarioSurg3

## EVOLVED POTENTIAL

### Embodying the Pursuit of Perfection

Ultrasonic bone surgery systems are essential in modern surgical and implant treatment. The powerful VarioSurg3 handpiece features a slim and lightweight body that ensures minimal hand fatigue and outstanding visibility. A variety of tips makes procedures easier and stress-free to help provide more precise and efficient treatment.





# TRINITY

## Outstanding Ultrasonic Performance

Wattage is not the only factor determining cutting efficiency and performance in ultrasonic surgery. What is important is the power factor between three elements: control unit frequency, handpiece vibration characteristics and tip design for handling high power and cutting efficiency. The VarioSurg3 effortlessly balances these three elements for the ultimate in ultrasonic performance.



## Stabilizing the Power Balance for More Efficient Procedures

### Maximum power 150%

The VarioSurg3 offers a 50% increase in power in SURG mode compared to previous models, for more effective procedures and shorter treatment times. (Select tips according to clinical and power requirements)

\* For more than 100% power, you must use the relevant tips.

*VarioSurg*



150% High Power!

*VarioSurg3*



## Stable cutting through feedback and auto-tuning functions

### Feedback function

This function constantly checks the performance parameters of the ultrasonic unit during operation. It simultaneously controls power output to optimize the level of power depending on the procedure.

### Auto-Tuning function

The oscillating frequency is automatically controlled to ensure the set output values are always accurately delivered at the tip to maintain ideal vibration.



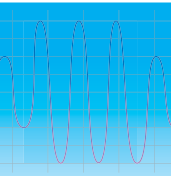
# CONTROL UNIT

## Advanced Control Unit to Manage High Power



### Compact body and large LCD panel

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



### Advanced BURST mode

Switching from SURG mode to BURST mode during procedures creates a hammer drill effect capable of cutting through the hardest of tissues. Select from one of three BURST mode levels according to the procedure or density or hardness of the bone.



### Illumination intensity adjustable LED light

LED handpiece illumination can be adjusted at the push of a button, with a choice of three intensity levels to suit the procedure.



### Three modes

There is a choice of P (PERIO), E (ENDO) and S (SURG) modes to cover a wide range of applications, from bone cutting to post-surgical maintenance.

### Adjustable irrigation flow rate

You can choose from five coolant flow levels with a maximum output of up to 75mL per minute, to suit operating requirements and tips. Effective irrigation protects bone cells by controlling tip heat.

### Memory functions for treatment procedures and program setting

Specific treatment parameters can be stored using the unit's memory function, and are easily accessed using the program button.

Super-Slim Design for  
Maximum Potential

Super-slim ergonomic handpieces

NSK's super-slim LED handpiece offers superior access and outstanding visibility. Excellent balance and ergonomic design facilitate the most accurate procedures and minimise hand and finger fatigue, especially during long procedures.

Effective power transmission with minimal heat generation

By using innovative materials, the VarioSurg3 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.

Superior materials to withstand constant  
decontamination

Compliance with autoclaving and thermo-disinfection requirements to guarantee patient safety.



ULTRASONIC TIPS

Choose from over 50 ultrasonic tips  
for a wide range of applications

BONE SURGERY			
		<p>The tips are designed to preserve tissue, maintain cutting speed and easily cut into bone. Saw like teeth on an uneven blade edge enhances bone cutting. This also reduces clogging to maintain cutting speed.</p>	
SCRAPER		EXTRACTION	
IMPLANT PREPARATION		SOCKET LIFT (CRESTAL APPROACH)	
SCALING		PERIO	
SINUS LIFT		PERIO-CONTROL	
SINUS MEMBRANE DETACHMENT		ENDO	

Visit the following site for tip details: <http://www.nsk-inc.com>



# Surgic Pro

## Surgic Pro<sup>+</sup>

### COMPLETE SET WITH X-DSG20L

**OPTIC** MODEL : Surgic Pro<sup>+</sup> OPT-D (230V)  
ORDER CODE : Y1002096

- 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** MODEL : Surgic Pro OPT (230V)  
ORDER CODE : Y1001933

- 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

### COMPLETE SET WITH SG20

**NON-OPTIC** MODEL : Surgic Pro NON-OPT (230V)  
ORDER CODE : Y1001934

- 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	Micromotor	Foot Control
• Power Supply : 230V 50/60 Hz	• Torque : 5-80 Ncm	• Foot Control Functions :
• Max. Pump Output : 75 mL/min	• Motor Speed : 200~40,000 min <sup>-1</sup>	Program Button, Speed Control Pedal
• Programs : 8 Programs / Implant Systems	• Light Power : over 32,000 LUX (LED Micromotor)	Coolant Solution Flow Volume Button
• Dimensions : W268 x D220 x H100 mm		Forward / Reverse Button
• USB I/F : 1 port (Surgic Pro <sup>+</sup> Only)		
• Built in Memory : 100 min (Surgic Pro <sup>+</sup> Only)		



# VarioSurg3

### COMPLETE SET

**OPTIC** MODEL : VarioSurg3 (230V) ORDER CODE : Y1002726

- Contents :
- Control Unit ● LED Handpiece with 2m cord ● FC-78 Foot Control ● Sterilization Cassette ● Handpiece Stand
  - Irrigation tube (5 pcs.) and other accessories
  - Basic H-S Kit (H-SG1, SG3, SG5, SG6D, SG7D, SG11 and Tip holder)

### COMPLETE SET WITHOUT FOOT CONTROL

**OPTIC** MODEL : VarioSurg3 (230V) Non FT ORDER CODE : Y1002248

- Contents :
- Control Unit ● LED Handpiece with 2m cord ● Sterilization Cassette ● Handpiece Stand
  - Irrigation tube (5 pcs.) and other accessories
  - Basic H-S Kit (H-SG1, SG3, SG5, SG6D, SG7D, SG11 and Tip holder)

Specifications :

Control Unit	
• Frequency : 28-32 kHz	
• Power Supply : 230V 50/60 Hz	
• Irrigation Flow Rate : 10~75 mL / min	
• Programs : SURG x 5, ENDO x 2, PERIO x 2	
• Dimensions : W265 x D220 x H100 mm	



Install Both Systems on a Special Cart

iCart Duo

Install the control unit and accessories on the cart.

MODEL : iCart Duo ORDER CODE : S9090

● Dimensions : H101.65 cm ● Weight : 16.5 kg

SG Link Set  
(Surgic Pro x VarioSurg3)

MODEL : VarioSurg3 Link set (E) ORDER CODE : Y1002729

● SG Link Stand ● SG Link Cable



Foot Control

Control the power switch, coolant water volume, program selection and all other operations by foot without touching the control panel. This enhances hygiene and prevents users from pressing the wrong button.

MODEL : FC-78(Surgic Pro) ORDER CODE : Z1102001  
MODEL : FC-78(VarioSurg3) ORDER CODE : Z1102003

● With 2m cord ● With bundle set for VarioSurg3

Handle Set (Optional for Surgic Pro)

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

MODEL : Handle Set ORDER CODE : Z1027001

Carrying Case (Optional for Surgic Pro)

Carrying case for each component and accessory of Surgic Pro and VarioSurg3

MODEL : Carrying Case (Surgic Pro) ORDER CODE : Y1001952  
MODEL : Carrying Case (VarioSurg3) ORDER CODE : Y1002768

● Dimensions : W534 × D427 × H207 (mm)

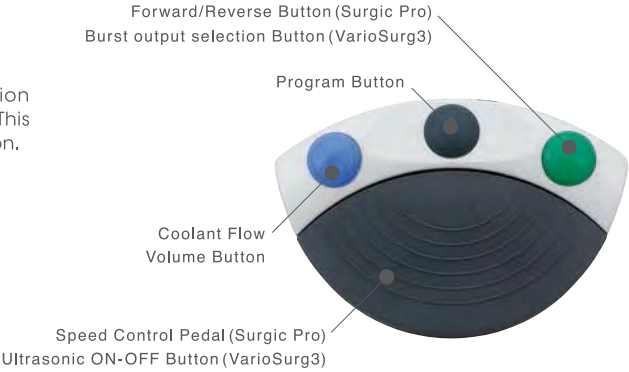
Sterilization Cassette (Optional for Surgic Pro)

The Sterilization Cassette is designed for the safe processing and storage of Surgic Pro / VarioSurg3 components.

MODEL : SG-CASE (Surgic Pro) ORDER CODE : 20001348  
MODEL : VA-SG-CASE (VarioSurg3) ORDER CODE : 20001326

● Dimensions : W281 × D171.5 × H47 mm

Has dedicated compartments (with Surgic Pro) for micromotor with cable, straight and contra-angle handpieces and (with VarioSurg3) for handpiece, cord, tip replacement wrench and tipholders.





# SURGICAL HANDPIECES



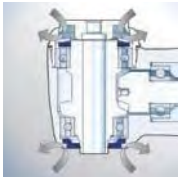
## Dismantable Contra-Angle Handling up to 80 Ncm of Torque

The Ti-Max X-DSG20 series can be easily disassembled for internal cleaning.



### 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.

SURGICAL HANDPIECES IMPLANT

X-DSG20L

OPTIC MODEL : X-DSG20L ORDER CODE : C1068

NON-OPTIC MODEL : X-DSG20 ORDER CODE : C1067

- 20:1 Reduction ● Max. Torque : 80 Ncm ● Max Speed : 2,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics (X-DSG20L) ● Double Sealing System
- Push Button Chuck ● External and internal cooling (Kirschner/Meyer)



X-SG20L

OPTIC MODEL : X-SG20L ORDER CODE : C1003

- 20:1 Reduction ● Max. Torque : 80 Ncm ● Max. Speed : 2,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics ● Double Sealing System
- Push Button Chuck ● External and internal cooling (Kirschner/Meyer)



SG20

NON-OPTIC MODEL : SG20 ORDER CODE : C1010

- 20:1 Reduction ● Max Torque : 80 Ncm ● Max Speed : 2,000 min<sup>-1</sup>
- Stainless Steel Body ● Double Sealing System ● Push Button Chuck
- External and internal cooling (Kirschner/Meyer)



Washable in thermodisinfector



Autoclavable up to 135°C



Can be use up to 80 Ncm

SURGICAL HANDPIECES CONTRA-ANGLE (INCREASING)

X-SG93L

OPTIC MODEL : X-SG93L ORDER CODE : C1004

NON-OPTIC MODEL : X-SG93 ORDER CODE : C1007

- 1:3 Increasing ● Max Speed : 120,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics (X-SG93L) ● Clean Head System
- Push Button Chuck ● External cooling ● For FG burs (φ1.6)



Z-SG45L

OPTIC MODEL : Z-SG45L ORDER CODE : C1107

NON-OPTIC MODEL : Z-SG45 ORDER CODE : C1108

- 1:3 Increasing ● Max. Speed : 120,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURAGRIP
- Cellular Glass Optics (Z-SG45L) ● Clean Head System
- Push Button Chuck ● External cooling ● For FG burs (φ1.6, 20-25 mm)
- Ceramic Bearings ● Anti Heat System ● DLC Coating



SURGICAL HANDPIECES CONTRA-ANGLE (DIRECT DRIVE)

X-SG25L

OPTIC MODEL : X-SG25L ORDER CODE : C1011

- 1:1 Direct Drive ● Max. Speed : 40,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics ● Clean Head System
- Push Button Chuck ● External cooling ● For CA burs (φ2.35)



X-SG65L

OPTIC MODEL : X-SG65L ORDER CODE : H1009

NON-OPTIC MODEL : X-SG65 ORDER CODE : H1038

- 1:1 Direct Drive ● Max Speed : 40,000 min<sup>-1</sup>
- Titanium Body with Scratch Resistant DURACOAT
- Cellular Glass Optics ● Clean Head System
- External cooling ● For HP burs (φ2.35)





SURGICAL HANDPIECES MICRO SURGERY

SGS-ES



NON-OPTIC MODEL : SGS-ES ORDER CODE : H264

- 1:1 Direct Drive
- Max. Speed : 40,000 min<sup>-1</sup>
- Twist chuck
- Straight handpiece
- For surgical burs (φ2.35)



SGS-E2S



NON-OPTIC MODEL : SGS-E2S ORDER CODE : H266

- 1:2 Increasing
- Max. Speed : 80,000 min<sup>-1</sup>
- Twist chuck
- Straight handpiece
- For surgical burs (φ2.35)



SGA-ES



NON-OPTIC MODEL : SGA-ES ORDER CODE : H263

- 1:1 Direct Drive
- Max. Speed : 40,000 min<sup>-1</sup>
- Twist chuck
- 20° Angle Handpiece
- For surgical burs (φ2.35)



SGA-E2S



NON-OPTIC MODEL : SGA-E2S ORDER CODE : H265

- 1:2 Increasing
- Max. Speed : 80,000 min<sup>-1</sup>
- Twist chuck
- 20° Angle Handpiece
- For surgical burs (φ2.35)



Washable in thermoisinfector



Autoclavable up to 135°C

SURGICAL HANDPIECES MICRO SAW

SGR2-E (1.8 mm Reciprocating)



NON-OPTIC MODEL : SGR2-E ORDER CODE : SH162

- 3:1 Reduction
- Max : 12,600 strokes/min
- With External Spray Nozzle



SGO2-E (17° Oscillating)



NON-OPTIC MODEL : SGO2-E ORDER CODE : SH164

- 3:1 Reduction
- Max : 12,800 strokes/min
- With External Spray Nozzle



SGT2-E (3° Sagittal)



NON-OPTIC MODEL : SGT2-E ORDER CODE : SH163

- 3:1 Reduction
- Max : 12,600 strokes/min
- With External Spray Nozzle



Blades for Reciprocating

MODEL : SGR-1  
ORDER CODE : Y900072

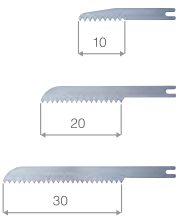
- Blade thickness 0.35 mm
- Pack of 10 blades

MODEL : SGR-2  
ORDER CODE : Y900073

- Blade thickness 0.35 mm
- Pack of 10 blades

MODEL : SGR-3  
ORDER CODE : Y900074

- Blade thickness 0.35 mm
- Pack of 10 blades



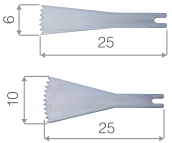
Blades for Sagittal

MODEL : SGT-1  
ORDER CODE : Y900075

- Blade thickness 0.35 mm
- Pack of 10 blades

MODEL : SGT-2  
ORDER CODE : Y900076

- Blade thickness 0.35 mm
- Pack of 10 blades



Blades for Oscillating

MODEL : SGO-1  
ORDER CODE : H174034

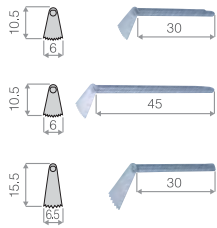
- Blade thickness 0.3 mm
- Single blade

MODEL : SGO-2  
ORDER CODE : H174044

- Blade thickness 0.3 mm
- Single blade

MODEL : SGO-3  
ORDER CODE : H174031

- Blade thickness 0.3 mm
- Single blade



MODEL : SGO-4  
ORDER CODE : H174041

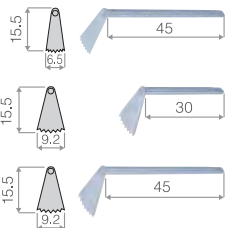
- Blade thickness 0.3 mm
- Single blade

MODEL : SGO-5  
ORDER CODE : H174032

- Blade thickness 0.35 mm
- Single blade

MODEL : SGO-6  
ORDER CODE : H174042

- Blade thickness 0.35 mm
- Single blade



\* Do not exceed the Maximum strokes Allowance.  
\* Blades are sold separately.

# FASTER AND SAFER

## 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.

# iSD900

MODEL : iSD900 (230V) ORDER CODE : Y1001358

- 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

- 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\*

\*May change according to usage environment



Washable in thermidisinfector



Autoclavable up to 135°C

※ Without motor

※ Without motor



### 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.



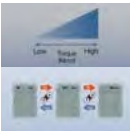
### Accommodating diverse operative fields

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 10Ncm to 40Ncm to ensure precise torque adjustments and settings in 1Ncm or 5Ncm increments according to procedures. The iSD900 offers 15min<sup>-1</sup>, 20min<sup>-1</sup>, and 25min<sup>-1</sup> speeds according to procedure requirements.



### Ergonomic extension ON/OFF switch lever

The extended ON/OFF switch lever makes work easier inside the oral cavities and is removable if necessary. The lever can be autoclaved and thermo-disinfected.



### Advanced non-contact quick charger

The advanced non-contact quick charger charges the instrument in just 90minutes.

**NAKANISHI INC.**  [www.nsk-inc.com](http://www.nsk-inc.com)

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**NSK Europe GmbH**  [www.nsk-europe.de](http://www.nsk-europe.de)

Elly-Beinhorn-Strasse 8, 65760 Eschborn, Germany

Specifications are subject to change without notice.