

**NSK**  
CREATE IT.

**NLZ**

ELECTRIC MICROMOTOR SYSTEM



# THE NEW STYLE ELECTRIC

## THE COMPACT MAKES A BIG CHANGE

Now in a more compact size, with higher safety and flexibility for different installation styles, NSK's all new "NLZ" can help any user of air driven handpieces convert to electric and enjoy the full benefits of this smart system. The unique technology of "NLZ" employs an all-new micromotor system and expands the possibilities of dental treatment. This original concept from the leading handpiece manufacturer provides cutting-edge features applicable to a wide-range of endodontic treatments with enhanced comfort and safety. A big change in treatment environment is brought with only a minor addition to the current equipment in your office.

- Flexible Installation Style with Superior Visibility & Operability in a Compact Design
- Superior\* Performance with Compact Size
- NSK Safety Functions, 'Contra-Check Function' & 'Contra-SAFE Function'
- Efficient Endodontic Treatment thanks to 'Reciprocating Function' and WAVEONE® GOLD files

## A Totally New Installation Style only from NSK

### Separate control unit from main unit

Every part has been made more compact to minimize the required space for installation. The main unit fits under the counter and as only the control unit is visible, the area around the dentist chair remains neat and tidy.

### Superior visibility, superior operability

A completely new and unique product design provides considerable improvement in visibility and operability of control unit. Easy and intuitive for anyone to use.



Control Unit

Main Unit

Motor

# FLEXIBLE INSTALLATION STYLE

SUPERIOR VISIBILITY &  
OPERABILITY



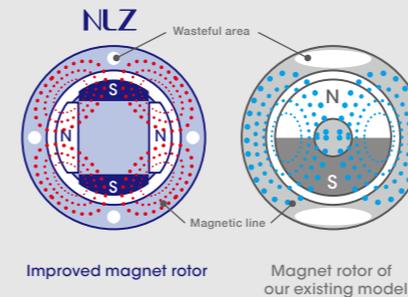
## Superior\* Performance of Motor with Compact Size

### New technology surpasses standard motors

More powerful, yet lighter and with less heat generation than our existing models. This is achieved by several technologies such as newly improved magnet rotor, integrating motor and water/air lines and simplified coils.

#### POWERFUL

The conventional magnet rotor has been replaced with an improved magnet rotor. More powerful rotation is achieved in the same amount of space by reducing weak magnetic areas.

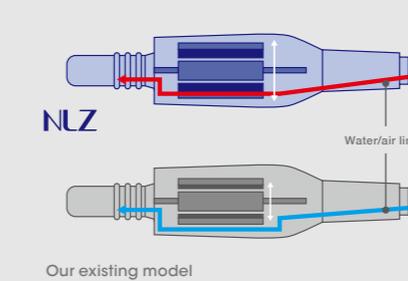


Improved magnet rotor

Magnet rotor of our existing model

#### EFFICIENT

In this unique technology, the water and air lines that used to bypass the motor have now been integrated with the motor. This new, more efficient configuration makes maximum use of the limited space and is lighter and more powerful than before.



Our existing model

#### LESS HEAT

NLZ employs a simple non-layered coil instead of a standard layered coil. The coils are as compact as possible, shortening the pathway for heat generating current. As a result it generates less heat without reducing the output power.

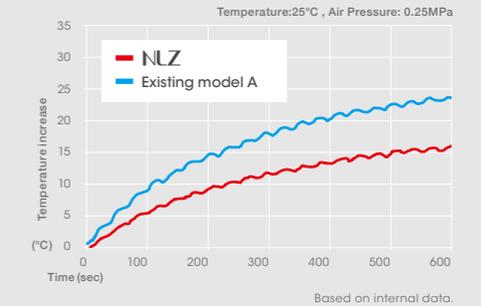
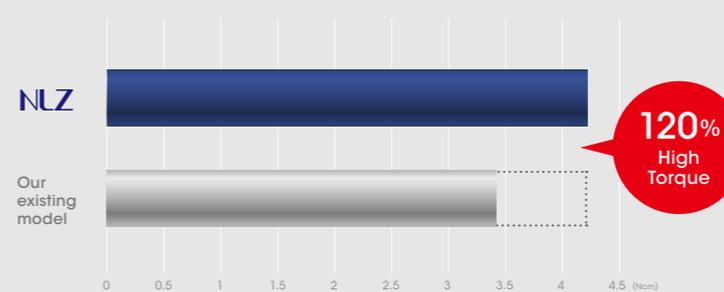


Fig.1 Max Torque comparison



Specs comparison

		Our existing model	NLZ • NLZ E
Motor Specs	Number of rotations	2,000 - 40,000 min <sup>-1</sup>	100 - 40,000 min <sup>-1</sup>
	Max Torque	3.4 Ncm	4.2 Ncm
Corresponding model to endodontic mode		—	○ (NLZ E)

\*Compared to our existing model.

# NSK Safety Functions

One of the possible problems with electric attachment treatment is overheating of the head, which is mainly caused by deterioration of the gears and lack of proper maintenance. However, it was hard to check the electric attachment before use, meaning the problem first emerges when it's used.

## Contra-Check Function (Proprietary to NSK)

"Contra-Check Function" helps detect abnormalities caused by deterioration of the electric attachment and insufficient maintenance before use. Our advanced function is the result of NSK's relentless pursuit of safe treatment.

\*NSK's Ti-Max Z, X and S-Max M electric attachments are compatible with "Contra-Check Function".

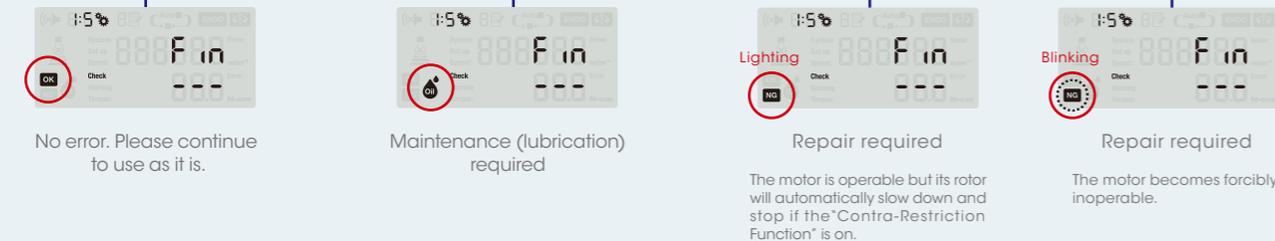
**STEP 01** Connect the electric attachment to the motor, no load applied.



**STEP 02** Press the Check key.



**STEP 03** Check out the result of the Contra-Check Function on the screen.



\*Indication is for reference only. Please make a judgment based on the actual condition of handpiece.  
Safety of handpieces in any environment is not guaranteed. Perform pre-use inspections after the use of Contra-Check Function to ensure safety before use.

## Contra-Restriction Function

If the result of Contra-Check Function shows "Oil" or "NG", the motor will automatically slow down and stop.

## Contra-SAFE Function (1:5 increasing electric attachment only)

It stops the motor if heat generation is estimated on the handpiece.

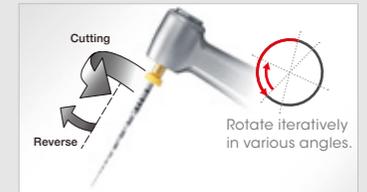
# For Safer and More Efficient Endodontic Treatment \* NLZ E only

In addition to the Auto Reverse and Auto Stop functions, a wide range of new features are incorporated for safer and more efficient endodontic treatment.

## Endodontic reciprocating function

### WaveOne® Gold

Compatible with the Dentsply Sirona Endodontics reciprocating file: WAVEONE™ GOLD. WAVEONE®, from Dentsply Sirona, sets new standards in Endodontics, by bringing simplicity to the root canal shaping procedure, using only one NiTi instrument per root canal in most cases. The global shaping time is thus decreased by up to 40% versus a traditional continuous rotary technique. The new NLZ Endo motor has a reciprocating function which allows to work in the WAVEONE® reciprocating mode. A large rotating angle in the cutting direction provides high efficiency, whereas a smaller angle in the reverse direction allows the WAVEONE® file to safely progress along the canal path, whilst reducing the risk of a screwing effect and file breakage.



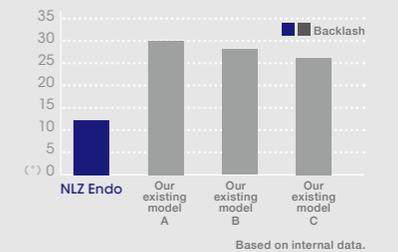
## Reciprocating specialist electric attachment

NLZ Endo (option) 6:1 Reduction



Newly developed reciprocating specialist electric attachment NLZ Endo. Building on our existing handpiece development technology, we have succeeded in reducing the movement loss during reciprocating operations. As a result, it is possible to correctly transmit reciprocating actions for a smooth endodontic treatment.

## Product-by-product SPEC



## Endo torque calibration function

Performing the "Contra-Check Function" shown in the left also enables torque calibration. This function measures the no-load current values and corrects the torque accordingly, resulting in greatly enhanced safety in endodontic treatment.

\*This function cannot completely absorb the individual difference of the actual motor and contra-angle.

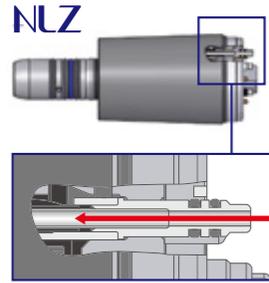


WaveOne® is registered trademark of Dentsply Sirona Endodontics.

# A Unique Technology Reducing the Risk of Water Clogging

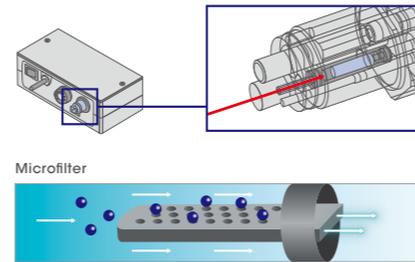
## Simplified pipe configuration

Conventional products include several pipes, which crank the water flow supplied from the rear of the motor. The NLZ uses a simple straight pipe design instead of a crank, reducing the risk of water clogging in the rear section of the motor.



## Contaminants are stopped by a microfilter

There is a water filter with 0.3 mm diameter mesh fitted within the tubing connector at the back of the main unit to catch debris and foreign particles in the water and prevent clogging.



# NSK Electric Attachment Lineup

## For General application



The premium NSK handpieces with high functionality in the small head.

- OPTIC MODEL : Z95L ORDER CODE : C1034
- Max Speed : 200,000 min<sup>-1</sup> For FG burs (φ1.6)
- Head Size : φ8.9 × H13.4 mm
- Titanium Body & DURACOAT

## Straight Handpiece



An easy-to-use and durable straight handpiece.

- OPTIC MODEL : X65L ORDER CODE : H273
- Max Speed : 40,000 min<sup>-1</sup>
- HP burs (φ2.35) / CA burs (φ2.35) \*Need to insert the supplied bur stopper
- Titanium Body & DURACOAT



The world's first 45° electric attachment allowing access to previously unreachable areas.

- OPTIC MODEL : Z45L ORDER CODE : C1064
- Max Speed : 168,000 min<sup>-1</sup> For FG burs (φ1.6)
- Head Size : φ9.6 × H14.5 mm
- Titanium Body & DURACOAT
- Quattro Water Spray (with two way spray function)

## For Endodontic



Newly-developed reciprocating specialist electric attachment that enables even smoother endodontic treatments.

- NON OPTIC MODEL : NLZ Endo ORDER CODE : C1130
- Max Speed : 1,000 min<sup>-1</sup> (Input Max Rotation Speed of the Motor: 6,000 rpm)
- Engine Files (φ2.35) \*For Rotary Endo mode
- Wave-One Reciprocating Files (φ2.35) \*For Recipro Endo Mode
- Head Size : φ8.6 × H11.3 mm
- Push Button Chuck



A constant speed electric attachment that feels like an extension of your hands.

- OPTIC MODEL : Z25L ORDER CODE : C1038
- Max Speed : 40,000 min<sup>-1</sup> For CA burs (φ2.35)
- Head Size : φ8.9 × H13.7 mm
- Titanium Body & DURACOAT

► For more information, please visit the website.

- Quattro Water Spray
- DURACOAT
- Washable in thermodisinfector
- Autoclavable up to 135°C

# Lineup

## NLZ

MODEL : NLZ S120 ORDER CODE : Y1003735

- Contents :
- NLZ U (Control Unit & Main Unit)
  - NE180 (AC adaptor)
  - NLZ (Motor)
  - NLZ CD (Motor Cord)
  - NLZ U BRACKET

## NLZ E

MODEL : NLZ E S120 ORDER CODE : Y1003736

- Contents :
- NLZ E U (Control Unit & Main Unit)
  - NE180 (AC adaptor)
  - NLZ (Motor)
  - NLZ CD (Motor Cord)
  - NLZ U BRACKET



	NLZ	NLZ E
General Application Function	○	○
Rotary Endo Mode Function	—	○
Recipro Endo Mode Function	—	○*

\*The "Reciprocating Endo Mode" can be operated only with the NLZ Endo Contra Angle handpiece and WAVE ONE® file.

## Specifications :

Unit	Dimension Control Unit : W76 × D87.1 × H63.4 mm	Motor	Motor Type : Brushless Micromotor
Dimension Main Unit	: W146 × D75 × H48 mm	Max Torque	: 4.2 Ncm
Power Supply	: 120 v 50/60 Hz	Endodontics Torque	: 0.3 - 6.0 Ncm*
Programs	: General Application Mode / 6 programs	Motor Speed	: 100 - 40,000 min <sup>-1</sup>
	Rotary Endo Mode / 6 programs	Dimension	: φ22 × H68.8 mm
		Weight	: 59 g (motor only)
		Light	: White LED

\*Depending on gear ratio

# Options

MODEL	PRODUCTS	ORDER CODE	MODEL	PRODUCTS	ORDER CODE	MODEL	PRODUCTS	ORDER CODE
NLZ STAY		Z1321	NLZ MOUNTING PLATE		Z1323	NLZ CDL		E1152062

Manufacturer

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

700 Shimohinata, Kanuma, Tochigi 322-8666, Japan

Specifications are subject to change without notice.

**NSK America Corp** [www.nskdental.com](http://www.nskdental.com)

1800 Global Parkway, Hoffman Estates, IL 60192, USA