

Air Turbine Handpieces
Ti-Max Z Series

Z990L / Z890L / Z micro



Create it 

NSK

Unprecedented Power

Experience like never before, the unprecedented cutting power of the industry's best-in-class 44W air turbine handpiece as it delivers unprecedented cutting strength.

Makes zirconia removal easy, reducing chairside time and minimizing patient discomfort.

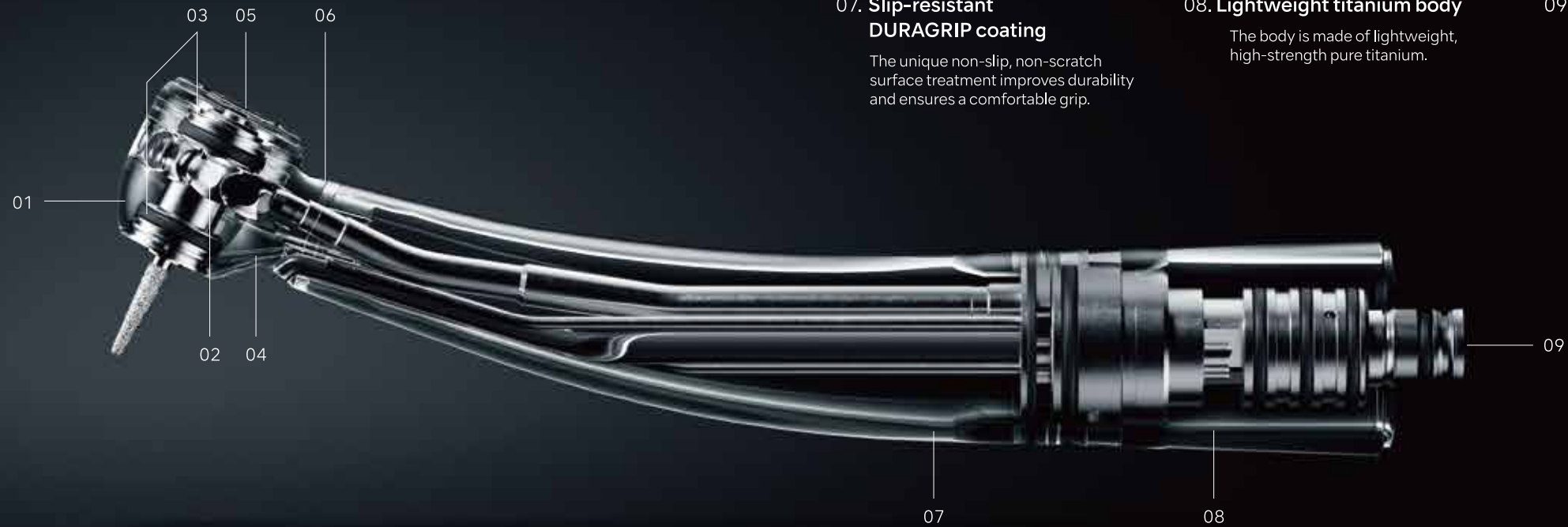
New Ti-Max Z Series Air Turbine Handpieces

Z990L / Z890L



Ti-Max Z Series Air Turbine Handpieces Technology/Function

Inheriting the DNA of the original Z Series, the new "Ti-Max Z" has evolved to feature unrivaled power and functionality. NSK's uncompromising philosophy of development has resulted in the best balance of air turbine handpieces to meet the needs of clinicians.



01. Industry leading 44W of Power

44W of power, the "DYNAMIC POWER SYSTEM" and the open cartridge maintain unprecedented cutting power. The unit is durable enough to withstand air pressure of 0.42 MPa.

02. New chuck mechanism with outstanding bur grip

Equipped with "DURAPOWER CHUCK" - a new chuck* that provides more sustained gripping force. It reduces the risk of bur slipping compared to conventional models.

03. Quick Stop Function

The Quick Stop Function stops high speed rotation in around 1 second. It improves safety in the oral cavity by halting drill spin. The result is efficient, high speed cutting and incredibly safe surgeries.

04. Improved water circuit cleanability

Unlike conventional models, the water circuit is located on the turbine head side, making cleaning easier. Foreign matter can be easily and reliably removed using a dedicated cleaning needle.

05. Easily replaceable cartridge

The cartridge can be easily replaced by the user, eliminating time lost from sending the handpiece in for repair and ensuring a consistently good treatment environment.

06. Easy-access head angle

Improved 100° angle head provides easy access to the molars.

07. Slip-resistant DURAGRIP coating

The unique non-slip, non-scratch surface treatment improves durability and ensures a comfortable grip.

08. Lightweight titanium body

The body is made of lightweight, high-strength pure titanium.

09. Built-in water filter reduces water clogging

Shuts out foreign matter from the water line to reduce water clogging problems.

DYNAMIC POWER SYSTEM

Equipped with the new "DYNAMIC POWER SYSTEM", the handpieces provide revolutionary power. The enlarged exhaust port, optimized nozzle structure, and enlarged rotor bucket achieve the highest rotational power in its category*.

*Power compared with the same handpiece class offered by other major manufacturers (as of July 2023)



Expanded Exhaust Groove

The enlarged exhaust groove quickly discharges air received by the bucket. A smooth exhaust improves torque in the low rpm range.

Extended Cylindrical Nozzle

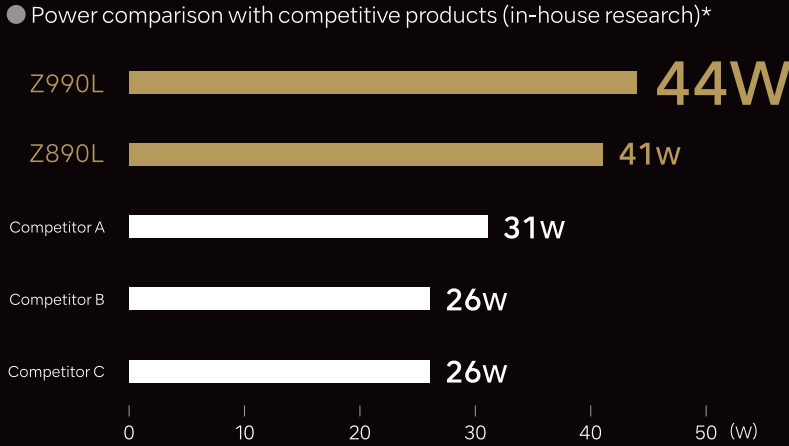
The optimized nozzle structure reduces air. Air power is converted into highly efficient rotational power.

Expanded Rotor Blade Surface

The air exposure area is twice that of conventional models. The large bucket surface takes in air with no waste to achieve high torque.

The best technologies are combined to bring outstanding power.

The "DYNAMIC POWER SYSTEM" has been developed using the latest fluid simulation software. This enables efficient conversion of air into power to achieve a significant increase in power from 26W to 44W*. Packed with NSK's technologies, such as the fusion of unprecedented high torque and power, head angle, and grip, the new model is NSK's flagship air turbine handpiece. *Z990L, air supply pressure at 0.42 MPa



*Air supply pressure specified by each company

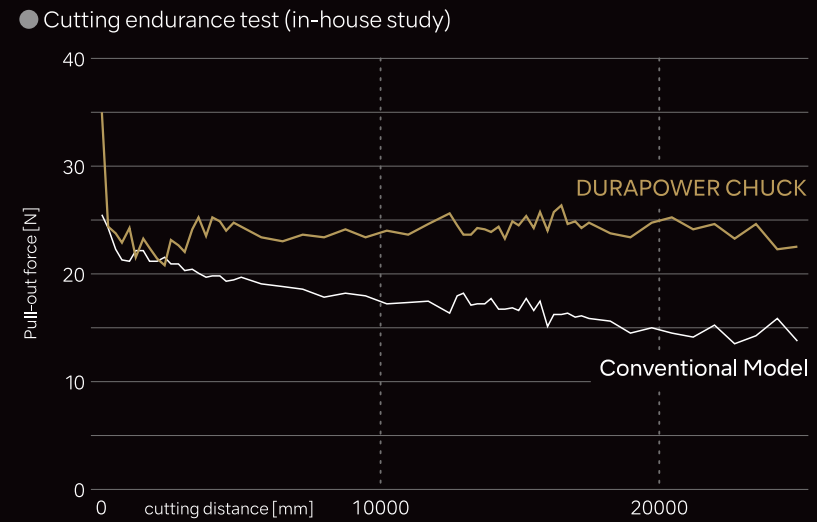


Check out this video that demonstrates its amazing cutting power.

Watch the high power of 44W in the demonstration video of cutting zirconia.

DURAPOWER™ CHUCK

Equipped with "DURAPOWER CHUCK", a new chuck* that provides a more sustained gripping force that reduces the risk of bur slippage compared to conventional models.



◀ Watch the video to experience the durability of DURAPOWER CHUCK.

Powerful grip realized by the wedge effect.

NSK's proprietary technology enhances the chuck function. The wedge-shaped part grips the bur firmly with force generated by the wedge effect (except Z micro / Z micro KL).



USABILITY

Lightweight titanium body and 100° angled head

The internal structure has been revised and the weight has been reduced by more than 20% compared to the S-Max M800L. Considering the physiological curves of the oral cavity (Curve of Spee and Curve of Wilson), the 100° angled head enables easier access and high-torque cutting for efficient treatment in the oral cavity.

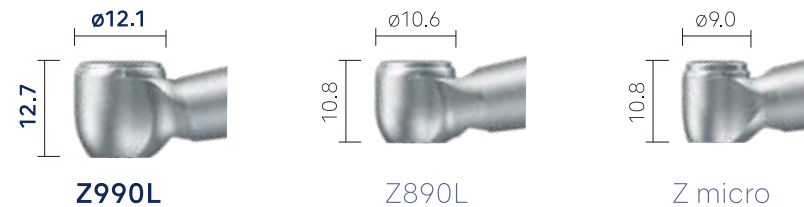


Comparison with the S-Max M800L



Head Size Options

The head size can be selected according to the treatment to support more efficient treatment.

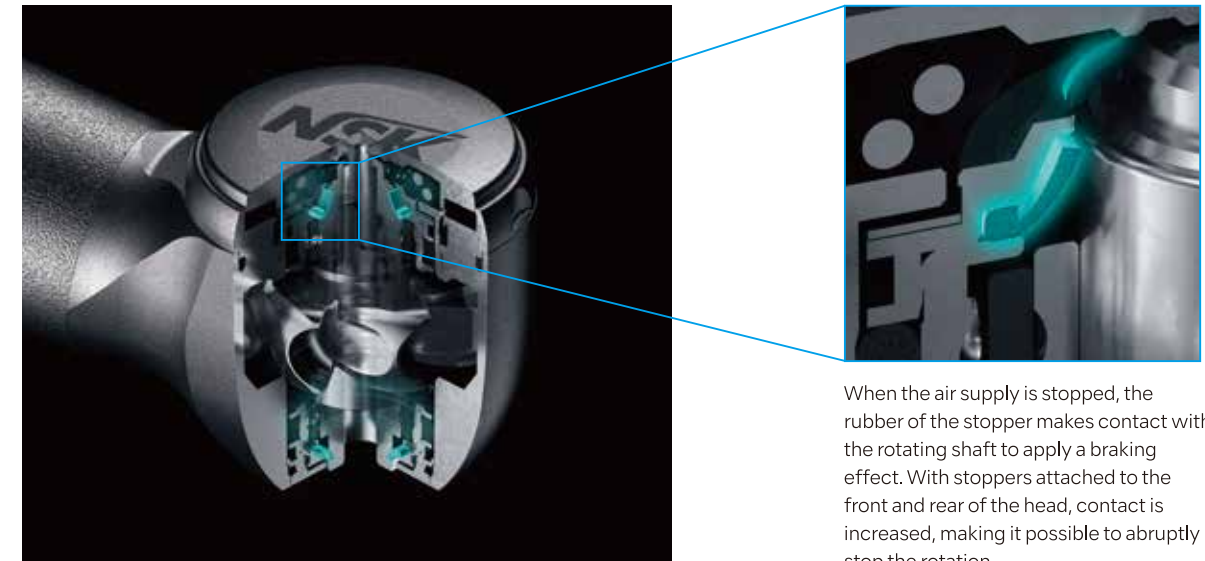


SAFETY & INFECTION CONTROL

Quick Stop

The Quick-stop function, which stops high-speed rotation in approximately 1 second, is mounted on the front and back of the head. The two Quick-stop functions allow for an abrupt stop to prevent inertial rotation and to reduce the risk of intraoral entrapment and suck back, thus ensuring an extremely safe treatment.

*The two Quick-stop functions only Z990L / Z890L.

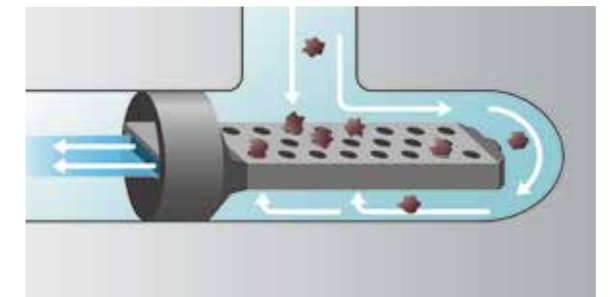


When the air supply is stopped, the rubber of the stopper makes contact with the rotating shaft to apply a braking effect. With stoppers attached to the front and rear of the head, contact is increased, making it possible to abruptly stop the rotation.

Microfilter

Equipped with built-in water filter. The 0.3 mm diameter mesh water filter prevents foreign matter from entering the water line, reducing problems of clogging (except Z micro / Z micro KL).

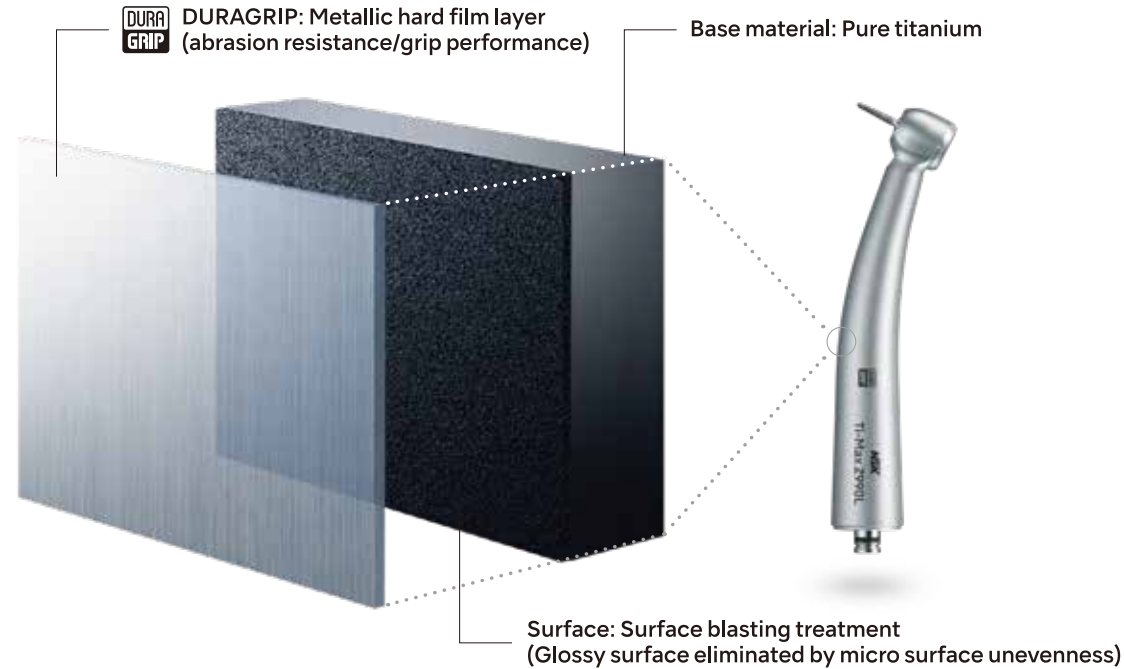
*Only Z990L / Z890L



DURAGRIP

“DURAGRIP” non-slip and scratch-resistant surface treatment technology

The surface of the pure titanium body is blasted to eliminate shiny surfaces by producing micro surface unevenness, and then coated in our original “DURAGRIP” coating. As well as improved scratch resistance and durability, the uneven surface ensures a comfortable, non-slip grip.



MAINTENANCE

Easy 3-step cartridge replacement

Air turbine cartridges are designed to be easily replaced by the user following a simple 3-step procedure, saving time against sending the handpiece in for repair and ensuring a consistently good treatment environment. (See the instruction manual for details.)

- 1** Set the supplied head cap wrench on the head cap and turn it counterclockwise to remove.
- 2** Push up the bur to release the cartridge from the head.
- 3** Insert the new cartridge aligned with the notch. Attach the head cap with the supplied wrench.



Cleaning the water circuit

The cartridge can be removed for easy cleaning around the “water circuit junction” which can easily become clogged with foreign matter.

*Dedicated cleaning wire is included.

LINE UP



- Head at a 100° angle
- Titanium Body with DURAGRIP
- Ceramic Bearings
- Cellular Glass Optics
- Push Button Chuck
- Quattro Spray
- Clean Head System
- Quick Stop
- Microfilter*
- DYNAMIC POWER SYSTEM*
- DURAPOWERC HUCK*
- Simple Cartridge Change

* Only Z990L / Z890L



Z990L

Standard Head

- Power : 44 W
- Speed : 280,000-360,000 min⁻¹
- Head Size : ø12.1 x H 12.7 mm
- DURAPOWERC HUCK



Z890L

Miniature Head

- Power : 41 W
- Speed : 320,000-400,000 min⁻¹
- Head Size : ø10.6 x H 10.8 mm
- DURAPOWERC HUCK



Z micro

Micro Head

- Power : 20 W
- Speed : 380,000-450,000 min⁻¹
- Head Size : ø 9.0 x H 10.8 mm

Fitting Chart

Coupler		NSK	KaVo®	W&H®
Standard Head	MODEL	Z990L	Z990KL	Z990WL*
	ORDER CODE	PA23730001	PA23750001	PA23870001
Miniature Head	MODEL	Z890L	Z890KL	Z890WL*
	ORDER CODE	PA23720001	PA23740001	PA23860001
Micro Head	MODEL	Z micro	Z micro KL	-
	ORDER CODE	PA2357	PA2358	-

*Compatible Turbines with Integral LED

Spare Parts

MODEL	PRODUCTS	ORDER CODE	MODEL	PRODUCTS	ORDER CODE	MODEL	PRODUCTS	ORDER CODE
TiZ9-SU03 Cartridge for Standard head		PA2381X001	TiZ9-SU04 Head cap for Standard head		PA2381X050	TiZ9-SU05 Head cap wrench for Miniature head & Standard head		PA2381X765
TiZ9-MU03 Cartridge for Miniature head		PA2380X001	TiZ9-MU04 Head cap for Miniature head		PA2380X050	SX-NU05 Head cap wrench for Micro Head		PA2307X765
SX3-NU03 Cartridge for Micro head		PA2307X001	SX-NU04 Head cap for Micro head		PA2307X050	Cleaning Wire		Z144101
S970 O-ring Set Z990L, Z890L		Y1001953	PTL O-ring Set Z micro		Y900580			

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Specifications are subject to change without notice.

