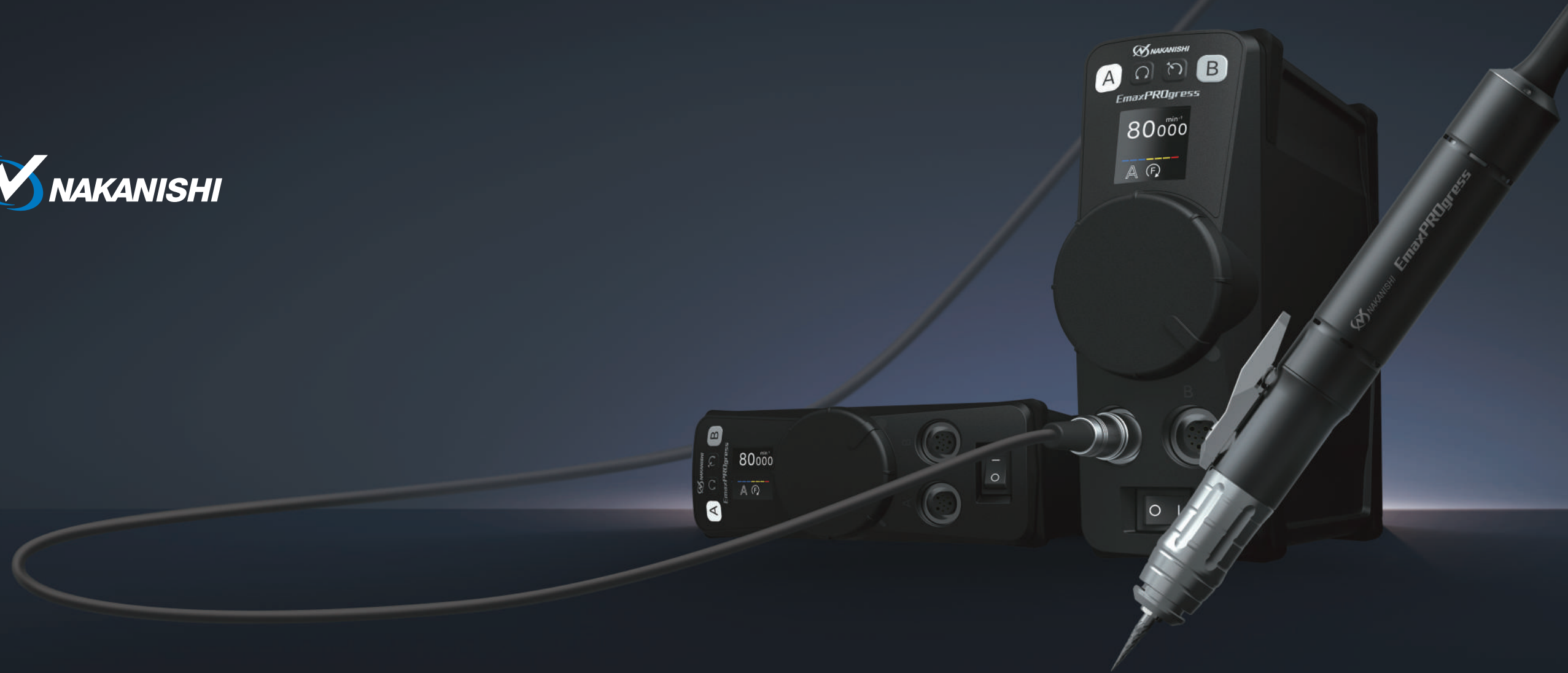


Precision Brushless Micro Grinder

EmaxPROgress

EmaxPROgress



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*Specifications and design are subject to change without notice.



"PROgress": A New Step Beyond EVOlution

80,000 min⁻¹ High-Speed Rotation

Controls up to 80,000 min⁻¹ enables more precise micro-machining than ever before.

Lighter than an Air Grinder at 132 g

The compact body fits comfortably in your hand, and the handpiece is surprisingly light at just 132 g.

Speed Tracking Performance More Than Doubled (compared to conventional models)

Unprecedented smoothness achieved through 180-degree vector control.
With speed tracking performance more than doubled, it delivers the "feeling of grinding exactly as intended."



80,000 min⁻¹ Introducing the High-Speed Motor Handpiece

*Shown In Actual Size.

Equipped
with a Brushless
DC motor



High-Speed Rotation

High-speed rotation of up to 80,000 min⁻¹ enables precise micro-machining. Stable rotation contributes to a precise finish.

Compact and Lightweight

The compact design significantly reduces weight. Weight has been reduced by up to 48% compared to conventional set handpieces.

Reduced Heat Generation

The use of an amorphous core enables smooth machining with low heat generation even at high speeds.

Specifications

- Speed: 1,000–80,000 min⁻¹
- Max. Power: 125 W
- Max. Torque: 4.0 cN·m
- Net Weight: 132 g (excluding cord)
- Cord Length: 1.5 m



Standard Collets

- $\phi 3.0$ mm (CHH-3.0) $\phi 2.35$ mm (CHH-2.35)

Standard Accessories

- Wrench (7 × 5.1): 1 pc.
- L-shaped Wrench (9): 1 pc.

7954 | ESP-800

*Scheduled for release in December 2026

A Major Step Forward
for Professionals (Progress)

Esport 500 50,000 min⁻¹ Motor

Torque Motor



9089 | ENK-500T

Specifications

- Speed: 1,000–50,000 min⁻¹
- Max. Power: 200 W ■ Max. Torque: 8.7 cN·m
- Net Weight: 160 g (excluding cord) ■ Cord Length: 1.5 m
- ON/OFF Smart Switch

Compact Motor



9088 | ENK-500C

Specifications

- Speed: 1,000–50,000 min⁻¹
- Max. Power: 140 W ■ Max. Torque: 6.0 cN·m
- Net Weight: 115 g (excluding cord) ■ Cord Length: 1.5 m
- ON/OFF Smart Switch

Emax EVOlution 40,000 min⁻¹ Motor

Standard Motor

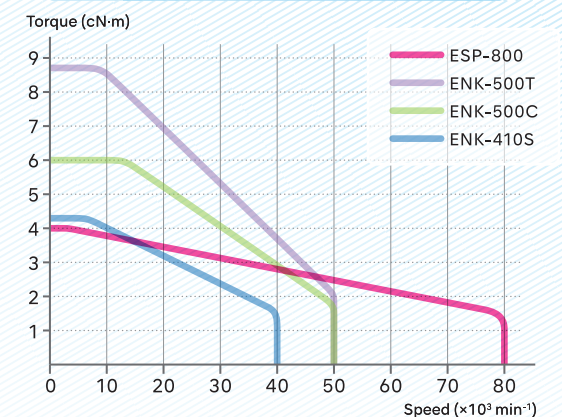


8086 | ENK-410S

Specifications

- Speed: 1,000–40,000 min⁻¹
- Max. Power: 73 W ■ Max. Torque: 4.3 cN·m
- Net Weight: 90 g (excluding cord) ■ Cord Length: 1.5 m
- ON/OFF Smart Switch

Torque Level



Reasons to Choose Brushless DC Motors

1

Long Service Life and Maintenance-Free

While carbon brushes typically need to be replaced after 200 to 500 hours, these motors require no replacement because there is no wear. They are ideal for use on production lines with long continuous operating times.

2

Stable Even at High-Speeds

Capable of operating at high-speeds, with electronic control that minimizes speed fluctuations. This ensures consistent machining quality.

3

Low Vibration and Low Heat Generation

With no mechanical sliding parts, vibration and heat generation are minimal. This enhances the user experience when holding the handpiece.

4

Compact, Lightweight, Yet Powerful

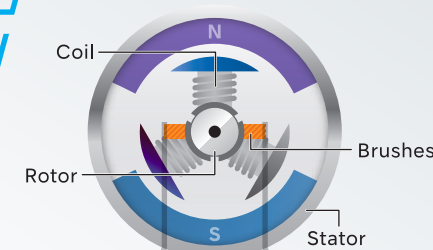
Ideal for creating compact, lightweight handpieces. Achieves higher torque and power density than brushed motors of the same size.

Key Features

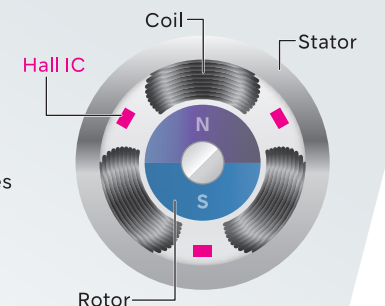
Rotational Position Detection via Hall IC and Electronic Control

In response to increased load, the Hall IC detects the current rotational speed and position. Since the control board immediately increases the electronic current and torque, this motor features outstanding speed stability and strong torque at low speeds.

Conventional Brushed DC Motors



Brushless DC Motor



Motor Cross-Section

Next-Gen Drive Performance with the New Controller

*Shown In Actual Size.



High-Speed Up To 80,000 min⁻¹

Rotation speed can be adjusted between 1,000 and 80,000 min⁻¹ (in 500 min⁻¹ increments). It delivers smooth yet powerful torque across the entire speed range, from low to high speeds.

Outstanding Operability

Features a large-diameter volume knob for excellent operability. It makes adjusting the speed easy and improves work efficiency.

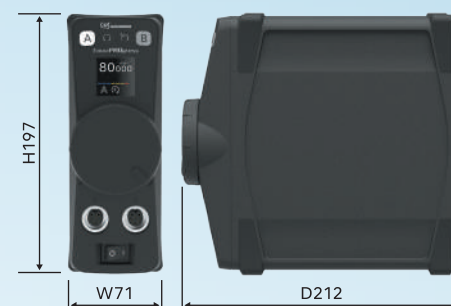
Two Handpieces Can Be Connected

By connecting two sets of handpieces and switching channels according to the task, you can improve efficiency.

*Two sets cannot be used simultaneously.

Specifications

- Input Voltage: AC 100 V–AC 240 V, 50/60 Hz
- Dimensions: 71 (W) × 212 (D) × 197 (H) mm
- Net Weight: 1.25 kg
- Accessories: Handpiece Stand: 1 pc., Power Cord (2 m): 1 pc.



7955 | EmaxPROgress Controller 100V

*120V model (Code No. 7960)

230V model (Code No. 7970) are also available.

*Features a switching power supply compatible with worldwide input voltages.

All-New Control System.
Unrivalled Smoothness.

Completely Redesigned Motor Control System; 180-Degree Vector Control

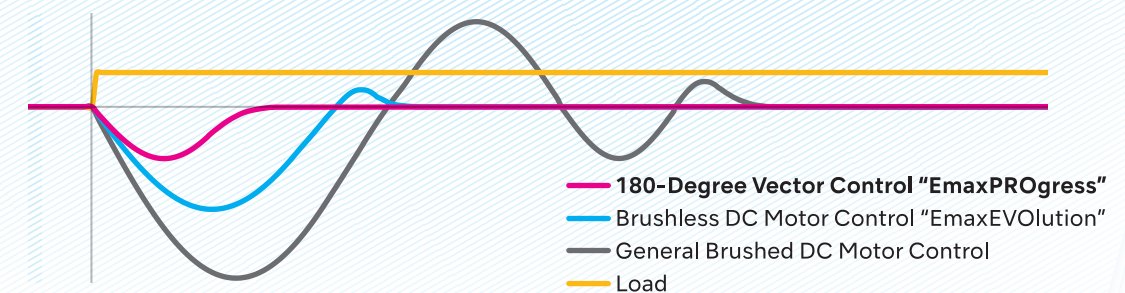
Compared to conventional drive systems, this reduces rotational irregularities and enables quieter, more stable operation. With unprecedented smoothness and responsiveness*, it delivers "the feeling of cutting exactly as intended."

*Compared to conventional control methods: Speed tracking performance is more than double

Speed Tracking Performance Comparison (40,000 min ⁻¹)	EmaxPROgress		EmaxEVolution
	High-Acceleration (FAST)*	Low-Acceleration (SLOW)	
Starting Time	0.45 Sec	0.9 Sec	1.2 Sec
Stopping Time	0.45 Sec	0.9 Sec	1.1 Sec

**High Acceleration" is the default setting at the factory.

[for Reference] Illustration of Speed Variation Based on Load



Load Visualization with a Flash Load Meter

Equipped with a Load Meter that displays load status. It visualizes the load rate, enabling standardization of operations. Additionally, the meter display changes depending on the connected motor, expanding the range of machining applications.

ESP-800 / ENK-410S



ENK-500T / ENK-500C



Lightweight Body

Controller weight: 1.25 kg.
Achieves a significant weight reduction of over 50% compared to previous models.



Display Settings for Vertical or Horizontal Mounting



You can choose to place the controller vertically or horizontally to suit your installation space (layout).



Equipped with Various Safety Features

Equipped with safety features such as overheating protection, load warning audio alert, safety functions, and acceleration selection.



Supports a wide range of finishing applications with a diverse selection of motors and attachments

In addition to the newly introduced 80,000 min⁻¹ high-speed motor handpiece, all motors and attachments for the high-end Expert 500 and the industry-standard EmaxEVolution are compatible.

Expert 500



EmaxEVolution



See pages 9–10 for details on motor and attachment combinations

EP800-100

High Speed Set 100V

Speed 1,000–80,000 min⁻¹

Max. Torque 4.0 cN·m **Max. Power** 125 W

Set Contents

- Controller: 1 pc.
- High Speed Motor Handpiece (ESP-800): 1 pc.

Standard Equipment and Accessories

- Collet ϕ 3.0 mm (CHH-3.0), ϕ 2.35 mm (CHH-2.35)
- Handpiece Stand: 1 pc.
- Wrench (7×5.1): 1 pc.
- L Shaped Wrench (9): 1 pc.



ESP-800 Net Weight 132 g (excluding cord)

7956 | EP800-100

*120V model (Code No. 7961)
230V model (Code No. 7971) are also available.
*Scheduled for release in December 2026

EP50C-HR-100

Compact Torque Set 100V

Speed 1,000–50,000 min⁻¹

Max. Torque 6.0 cN·m **Max. Power** 140 W

Set Contents

- Controller: 1 pc.
- Compact Torque Motor (ENK-500C): 1 pc.
- Ring Type Attachment (EHR-500): 1 pc.

Standard Equipment and Accessories

- Collet ϕ 3.0 mm (CHH-3.0), ϕ 2.35 mm (CHH-2.35)
- Handpiece Stand: 1 pc.
- Wrench (7×5.1): 1 pc. ■ Pin Wrench (K-233): 1 pc.
- L Shaped Wrench (9): 1 pc.



EHR-500 + ENK-500C Net Weight 210 g (excluding cord)

7958 | EP50C-HR-100

*120V model (Code No. 7963)
230V model (Code No. 7973) are also available.

EP50T-HR-100

Torque Set 100V

Speed 1,000–50,000 min⁻¹

Max. Torque 8.7 cN·m **Max. Power** 200 W

Set Contents

- Controller: 1 pc.
- Torque Motor (ENK-500T): 1 pc.
- Ring Type Attachment (EHR-500): 1 pc.

Standard Equipment and Accessories

- Collet ϕ 3.0 mm (CHH-3.0), ϕ 2.35 mm (CHH-2.35)
- Handpiece Stand: 1 pc.
- Wrench (7×5.1): 1 pc. ■ Pin Wrench (K-233): 1 pc.
- L Shaped Wrench (9): 1 pc.



EHR-500 + ENK-500T Net Weight 250 g (excluding cord)

7959 | EP50T-HR-100

*120V model (Code No. 7964)
230V model (Code No. 7974) are also available.

EP410-IR-100

Standard Set 100V

Speed 1,000–40,000 min⁻¹

Max. Torque 4.3 cN·m **Max. Power** 73 W

Set Contents

- Controller: 1 pc.
- Standard Motor (ENK-410S): 1 pc.
- Ring Type Attachment (IR-310): 1 pc.

Standard Equipment and Accessories

- Collet ϕ 3.0 mm (CHH-3.0), ϕ 2.35 mm (CHH-2.35)
- Handpiece Stand: 1 pc.
- Wrench (7×5.1): 1 pc. ■ Pin Wrench (K-233): 1 pc.
- L Shaped Wrench (9): 1 pc.



IR-310 + ENK-410S Net Weight 182 g (excluding cord)

7957 | EP410-IR-100

*120V model (Code No. 7962)
230V model (Code No. 7972) are also available.

EmaxPROgress

80,000 min⁻¹ System

Handpiece

High Speed Motor Handpiece

/ 7954 | ESP-800

*Scheduled for release in December 2026

Controller

/ 7955 | EmaxPROgress Controller

Foot Pedal

/ 8106 | FC-64

Espt 500

50,000 min⁻¹ System

Attachment

Ring Type

/ 9090 | EHR-500

Lever Type

/ 1515 | EHL-401

6 mm Torque Type

/ 1552 | EHG-400

90° Angle Type

/ 1525 | EIC-300

50° Angle Type

/ 1526 | EKC-300

90° Angle Torque Type

/ 1551 | ERA-270

Luster
(Reciprocating motion)

/ 1516 | ELS-100

Mini-Luster
(Reciprocating motion)

/ 1554 | EML-8

Fine Belt Sander

/ 1145 | EBS-101

Speed Reducer

1/4 Speed Reducer

/ 1553 | ERG-01B

*Increases torque by 4 times.

Motor

Torque Motor
with Cord

/ 9089 | ENK-500T

Compact Motor
with Cord

/ 9088 | ENK-500C

Controller

/ 7955 | EmaxPROgress Controller

Foot Pedal

/ 8106 | FC-64

EmaxEVolution attachments can be connected by using these adaptors.

Extension
Adaptor

/ 1518 | ECN-011

1/4 Speed
Reducer

/ 1517 | ERG-01

Learn more about the Espt 500 attachments here



Emax
EVOlution

40,000 min⁻¹ System

Attachment

Ring Type

/ 1147 | IR-310

Lever Type

/ 1005 | IH-300

Long Type

/ 1017 | BMH-300

90° Mini Angle Type

/ 1012 | MFC-300S

90° Mini Angle Type
(Very Small Head)

/ 1013 | MFC-300M

90° Angle Type

/ 1006 | IC-300

50° Angle Type

/ 1014 | KC-300

Luster
(Reciprocating motion)

/ 1302 | LS-100

Mini-Luster
(Reciprocating motion)

/ 1307 | ML-8

Swing-Luster
(Right to Left motion)

/ 1380 | SLS-16

Hammer Action Type

/ 8060 | HA-500

Fine Belt Sander

/ 1146 | KBS-101

Attachment

Luster
(Reciprocating motion)
Built-in Motor

/ 1483 | NLS-110

Speed Reducer / Extension Joint

Extension Joint

/ 1015 | CN-01

1/4 Speed Reducer

/ 1009 | RG-01

*Increases torque by 4 times.

1/15 Speed Reducer

/ 1010 | RG-02

*Increases torque by 15 times.

Motor

Standard Motor
with Cord

/ 8086 | ENK-410S

Controller

/ 7955 | EmaxPROgress Controller

Foot Pedal

/ 8106 | FC-64

Learn more about the EmaxEVolution attachments here

