

Precision Brushless Micro Grinder

EmaxPROgress

EmaxPROgress





80,000 min⁻¹ High-Speed Rotation

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

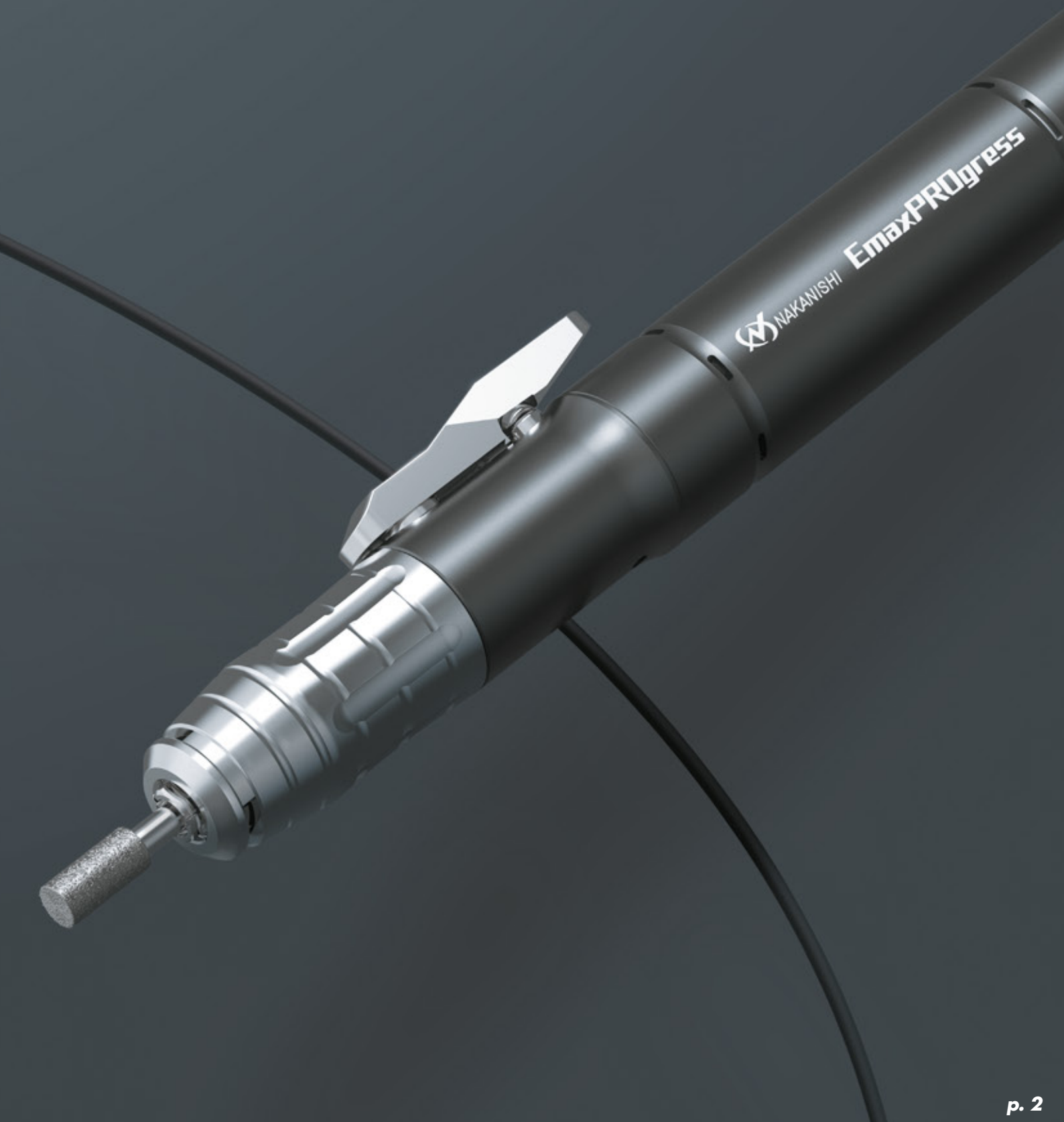
Lighter than an Air Grinder at 132 g

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.”

"PROgress": A New Step Beyond EVOlution



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

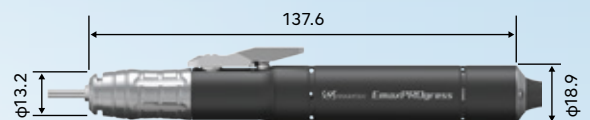
The compact design significantly reduces weight. Weight has been reduced by up to 48% compared to conventional set handpieces.

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

- φ3.0 mm (CHH-3.0) φ2.35 mm (CHH-2.35)

Standard Accessories

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

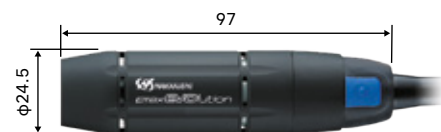
A Major Step Forward
for Professionals (Progress)

/ **7954** | **ESP-800**

*Scheduled for release in December 2026

Esport 500**50,000 min⁻¹ Motor****Torque Motor****9089** | ENK-500T**Specifications**

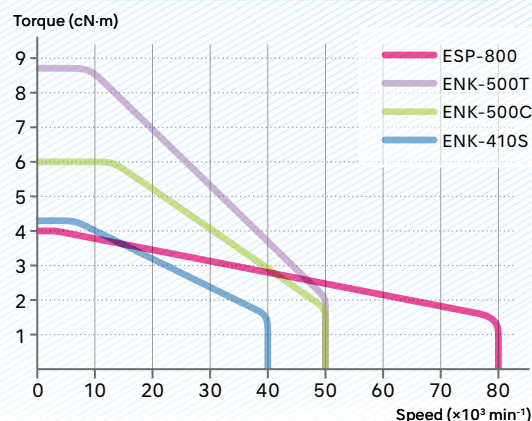
- Speed: 1,000–50,000 min⁻¹
- Max. Power: 200 W ■ Max. Torque: 8.7 cN·m
- Net Weight: 160 g (excluding cord) ■ Cord Length: 1.5 m
- ON/OFF Smart Switch

**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

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

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**

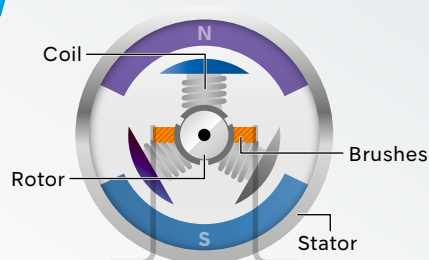
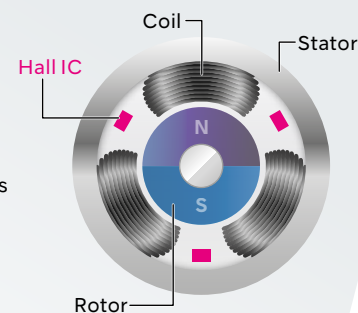
With no mechanical sliding parts, vibration and heat generation are minimal. This enhances the user experience when holding the handpiece.

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.

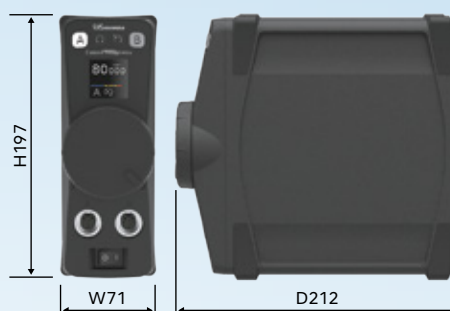
Two Handpieces Can Be Connected

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.



7960 | EmaxPROgress Controller 120V

7970 | EmaxPROgress Controller 230V

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

*Please choose the plug type of main Power Cord.

All-New Control System.
Unrival Smoothness.

Completely Redesigned Motor Control System; 180-Degree Vector Control

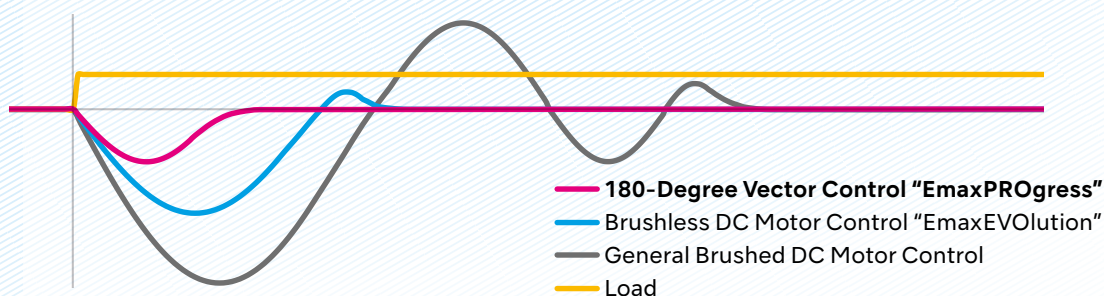
Compared to conventional drive systems, this reduces rotational irregularities and enables quieter, more stable operation. With unprecedented smoothness and responsiveness*, it delivers "the feeling of cutting exactly as intended."

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

Speed Tracking Performance Comparison (40,000 min ⁻¹)	EmaxPROgress		Emax EVOlution
	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



Display Settings for Vertical or Horizontal Mounting

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



Lightweight Body

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



Equipped with Various Safety Features

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



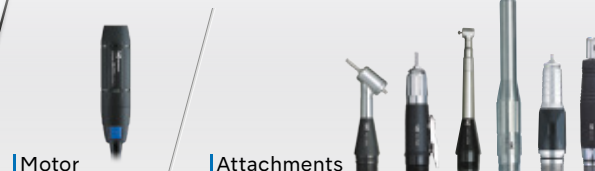
Supports a wide range of finishing applications with a diverse selection of motors and attachments

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

Espert 500



Emax EVOlution



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

High Speed Set

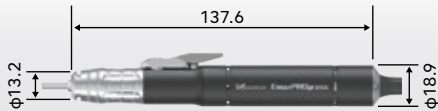
Speed
1,000–80,000 min⁻¹
**Max.
Torque**
4.0 cN·m
**Max.
Power**
125 W

Set Contents

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

Standard Equipment and Accessories

- Collet $\phi 3.0$ mm (CHH-3.0), $\phi 2.35$ mm (CHH-2.35)
- Handpiece Stand: 1 pc. ■ Power Cord (2 m): 1 pc.
- Wrench (7×5.1): 1 pc.
- L Shaped Wrench (9): 1 pc.


ESP-800 Net Weight / 132 g (excluding cord)

7961 | EP800-120 (Plug type: 120V)

7971 | EP800-230 (Plug type: 230V)

*Please choose the plug type of main Power Cord.

*Scheduled for release in December 2026

Torque Set

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 $\phi 3.0$ mm (CHH-3.0), $\phi 2.35$ mm (CHH-2.35)
- Handpiece Stand: 1 pc. ■ Power Cord (2 m): 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)

7964 | EP50T-HR-120 (Plug type: 120V)

7974 | EP50T-HR-230 (Plug type: 230V)

*Please choose the plug type of main Power Cord.

Compact Torque Set

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 $\phi 3.0$ mm (CHH-3.0), $\phi 2.35$ mm (CHH-2.35)
- Handpiece Stand: 1 pc. ■ Power Cord (2 m): 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)



7963 | EP50C-HR-120 (Plug type: 120V)

7973 | EP50C-HR-230 (Plug type: 230V)

*Please choose the plug type of main Power Cord.

Standard Set

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 $\phi 3.0$ mm (CHH-3.0), $\phi 2.35$ mm (CHH-2.35)
- Handpiece Stand: 1 pc. ■ Power Cord (2 m): 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)



7962 | EP410-IR-120 (Plug type: 120V)

7972 | EP410-IR-230 (Plug type: 230V)

*Please choose the plug type of main Power Cord.

EmaxPROgress

80,000 min⁻¹ System

Handpiece

High Speed
Motor Handpiece

/ **7954** | ESP-800

*Scheduled for release in December 2026



Controller

/ **7960** | EmaxPROgress Controller 120V

/ **7970** | EmaxPROgress Controller 230V

*Please choose the plug type of main Power Cord.



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



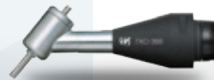
90° Angle Type

/ **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

/ **7960** | EmaxPROgress Controller 120V

/ **7970** | EmaxPROgress Controller 230V

*Please choose the plug type of main Power Cord.



Foot Pedal

/ **8106** | FC-64



EmaxEVOLution attachments can be connected by using these adaptors.

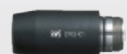
Extension
Adaptor

/ **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.

MotorStandard Motor
with Cord

/ 8086 | ENK-410S

**Controller**

/ 7960 | EmaxPROgress Controller 120V

/ 7970 | EmaxPROgress Controller 230V

*Please choose the plug type of main Power Cord.

Foot Pedal

/ 8106 | FC-64

Learn more about the EmaxEVOLution
attachments here >>



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*Specifications and design are subject to change without notice.

