

Emax EVolution

ULTRA-PRECISION BRUSHLESS MICRO-GRINDER



Electrically Driven
EmaxEVO
ESPERT

Air Driven
ROTUS
IMPULSE
PRESTO II

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NAKANISHI
Emax EVolution
ENK-410S 0J800010 MADE IN JAPAN

ADVANCED HIGH PERFORMANCE BRUSHLESS MICRO-GRINDER

Emax **EVolution Series**

Emax **EVolution SERIES** ◀◀

“Tough Torque”

“Flashing Live Load Indicator”

“No need of changing carbon brushes”
(Brushless motor)



1,000~40,000 min⁻¹

Emax **EVolution Standard Set**

Code No.	8233 (120V)	Model	EV410-120
Code No.	8225 (230V)	Model	EV410-230

*Please check the power source plug type (P.58).

Standard Equipment

- Micro Grinder (IR-310+ENK-410S) : 1 pc.
- Collet ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35) : 1 pc. each
- Controller (NE249) : 1 pc.
- Accessories : Handpiece Holder : 1 pc., Handpiece Stand : 1 pc.
Power Supply Cord : 1 pc., Spanner (7 x 5.1) : 1 pc.
Pin Spanner (K-233) : 2 pcs., L Shaped Spanner (9) : 1 pc.

*Torque set → P.22



Application Examples



Tool : Electroplated Diamond Burs
→ Please see the NAKANISHI "POLISHING TOOLS" Catalog.



Tool : Diamond Grinding Discs
→ Please see the NAKANISHI "POLISHING TOOLS" Catalog.



Tool : Flap Wheels
→ Please see the NAKANISHI "POLISHING TOOLS" Catalog.



Tool : Abrasive Belts → P.72



Tool : Sand Paper Disk → P.69



Tool : Felt Bobs
→ Please see the NAKANISHI "POLISHING TOOLS" Catalog.

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ADVANCED HIGH PERFORMANCE CONTROLLER

Emax EVolution Controller

Advanced Control Function

Upgraded Digital Display. EVOLUTION on Speed Control Volume with Flash Load Indicator.



Motor speed digital display

Load Meter

- Continuous load area
- Intermittent load area
- Overload

Forward / Reverse Select Switch
Forward/Reverse rotation can be selected.

ø12mm Speed Control Volume
Easy to operate by one finger

Motor A
ON/OFF Function



Memory Speed Function FiXspeed®

Motor B
ON/OFF Function

Emax EVolution Controller

Code No.	8224 (120V)	Model	NE249 120
Code No.	8227 (230V)	Model	NE249 230

Specifications

Description	Emax EVolution Controller
Power Source	AC120/230V, 50-60Hz
Dimensions	W130 x D254 x H97 mm
Weight	2.3 kg

Accessories : Handpiece Holder : 1 pc., Handpiece Stand : 1 pc.
Power Supply Cord : 1 pc.

⚠ Never connect to E-max Series motor.
*Please check the power source plug type (P.58).

Memory Speed Function FiXspeed®

An exclusive new feature of the Emax EVolution, the FiXspeed® system allows everyone easily to fix speed of motor A and B independently prior to operate. For example motor A can be set to maintain the speed set by the FiXspeed® system while motor B has variable control using a foot controller. This function brings for unprecedented workability.

Auto Cruise Function

The controller is equipped with an Auto Cruise Function. While using foot controller for work, anyone could fix the motor at any speed by the embedded motor switch. Once speed is set, foot controller is not required. This function eliminates foot fatigue during operation.

Diversity for work efficiency

2 Motors of A and B can be connected, and select the suited motor for work situation.
(Simultaneous motor operation is not allowable)



Advanced User Friendly Design

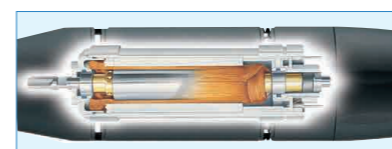
New Industrial Design. EVOLUTION from Tower-type solid E-Max to User-oriented Identity. Design meets Performance.



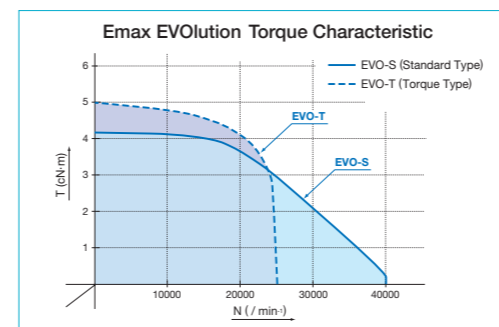
ADVANCED HIGH PERFORMANCE BRUSHLESS MOTOR

Emax EVolution Motor

Excellent Durability



- High performance brushless motor eliminates the need of changing carbon brushes.
- RPM variation is minimal even when load changes. Allowing difficult and stable cutting in stress free motion. Suitable performance for finish grinding.
- Provides superior quietness and smoothness from low speed to high speed.



2 Types of Motors

Provides choice of various applications.

- Standard Type Motor 1,000~40,000 min⁻¹ (ENK-410S) **Blue**
- Torque Type Motor 1,000~25,000 min⁻¹ (ENK-250T) **Green**

*Exclusive use for Emax EVolution

NAKANISHI Smart Switch

The switch provides a click sensation. A confirmation tone is reacted by the controller when the switch is operated. The motor type is distinguishable by the switch color.



Standard Type Motor

Code No.	8086
Model	ENK-410S

1,000~40,000 min⁻¹

• Excellent combination of high speed, lightweight, small diameter and high torque. This lightweight and compact general-use type is perfect for precision work.

- ◆ Max. Power : 73W
- ◆ Max. Torque : 4.3 cN·m
- ◆ With Straight Cord : 1.5 m
- ◆ Weight : 90 g (w/o cord)

Standard Accessories
• Pin Spanner (K-233) : 1 pc.

⚠ Never connect to E-max Series controller.



Torque Type Motor

Code No.	8087
Model	ENK-250T

1,000~25,000 min⁻¹

• Combines the best of both high speed and high torque. It is perfect for applications requiring large burs.

- ◆ Max. Power : 76 W
- ◆ Max. Torque : 4.8 cN·m
- ◆ With Straight Cord : 1.5 m
- ◆ Weight : 147 g (w/o cord)

⚠ Never connect to E-max Series controller.



Code No.	Model
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Attachment

*Interchangeable with attachments form the E-max and ROTUS system.

1147 IR-310 (P.13)



Ring Type

1005 IH-300 (P.21)



Lever Type

2811 IG-400 (P.21)



Straight Type

1016 HG-200 (P.21)



6 mm Torque Type*

1017 BMH-300 (P.14)



Long Type

1012 MFC-300S (P.15)



90° Mini Angle Type

1013 MFC-300M (P.15)



90° Mini Angle Type (Very Small Head)

1006 IC-300 (P.16)



90° Angle Type

1014 KC-300 (P.16)



50° Angle Type

LUSTER
1302 LS-100 (P.21)



Pistol-Type Polisher (Reciprocating motion)

MINI-LUSTER
1307 ML-8 (P.17)



Pencil-Type Reciprocating Polishing Finisher (Reciprocating motion)

SWING-LUSTER
1380 SLS-16 (P.18)



Pencil-Type Reciprocating Polishing Finisher (Right to Left motion)

Hammer Action Type
8060 HA-500 (P.21)



Engraving and Ornament Processing Work Hammer

FINE BELT SANDER
1146 KBS-101 (P.19)



Small-sized Handy Belt Sander



LUSTER
1483 NLS-110 (P.20)

Exclusive use for Emax EVOLUTION

- Wide selection of attachments available depending on the application.

Speed Reducer·Extension Joint

Extension Joint
1015 CN-01 (P.22)

1/4 Speed Reducer
1009 RG-01 (P.22)

1/15 Speed Reducer
1010 RG-02 (P.22)

- May be connected between the motor and the attachment when required increased torque.

Motor

Emax EVolution Series



• Standard Type Motor with Cord (P.10)
8086 ENK-410S 1,000-40,000 min⁻¹



• Torque Type Motor with Cord (P.10)
8087 ENK-250T 1,000-25,000 min⁻¹

Exclusive use for Emax EVOLUTION

ROTUS Series



• Air Motor with Hose 360° Twist-Free Joint Mechanism (P.40)
1004 IM-301 3,000-30,000 min⁻¹

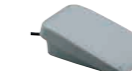
Controller

Emax EVolution



8224 (120V) NE249 120
8227 (230V) NE249 230 (P.9)

• Foot Controller



8106 FC-64 (P.22)

Sets



Emax EVolution Standard Set

Code No.	Model
8233 (120V)	EV410-120
8225 (230V)	EV410-230

Standard Equipment

- Micro Grinder (IR-310+ENK-410S) : 1 pc.
- Collet ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35) : 1 pc. each
- Controller (NE249) : 1 pc.
- Accessories : Handpiece Holder : 1 pc. Handpiece Stand : 1 pc. Power Supply Cord : 1 pc. Spanner (7 x 5.1) : 1 pc. Pin Spanner (K-233) : 2 pcs. L Shaped Spanner (9) : 1 pc.

Electrically Driven

Air Driven

• Air Line Kit



4507 AL-H1207F (P.44)

• Foot Controller



1064 AFC-45 (P.44)

* This air line kit is designed for use with the AFC-45 foot controller, Code No.1064.



ROTUS Standard Set

Code No.	Model
1163	ROTUS-IR

Standard Equipment

- Air Grinder (IR-310+IM-301) : 1 pc.
- Collet ø3.0mm (CHH-3.0), ø2.35 mm (CHH-2.35) : 1 pc. each
- Air Line Kit (AL-H1207F) : 1 pc.
- Foot Controller (AFC-45) : 1 pc.
- Accessories : Piping Hose 2m (K-275) : 1 pc. Lubricating Oil (K-211) : 1 pc. Spanner (7x5.1) : 1 pc. Pin Spanner (K-233) : 2 pcs. L Shaped Spanner (9) : 1 pc.

<Caution>
* 1 : Use 6 mm Torque Type HG-200 to connect ENK-250T

⚠ Details of Maximum Allowable speed on intermittent use or continuous use P.13-22

Electrically Driven

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Air Driven

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RING TYPE MICRO-GRINDER ◀◀

PRECISION MICRO-GRINDER

Ring Type Attachment

Ring Type Chucking System

- One-touch ring type bur replacement.
- High precision and high reliability is realized by micron precision.
- Slim, lightweight design allows for fine finishing of delicate parts.



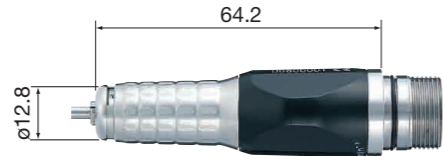
40,000 min⁻¹ Max.

◆ Weight : 92 g

Standard Size Collet

ø3.0 mm (CHH-3.0) ø2.35 mm (CHH-2.35)

Optional Collets : CHH group are shown in page (P.55)

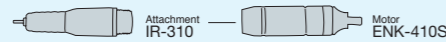


Code No. **1147** Model **IR-310**

Standard Accessories
 • Spanner (7x5.1) : 1 pc. • Pin Spanner (K-233) : 1 pc.
 • L Shaped Spanner (9) : 1 pc.

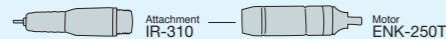
Ring Type Attachment + Standard Type Motor Combination Example

1,000~40,000 min⁻¹



Ring Type Attachment + Torque Type Motor Combination Example

1,000~25,000 min⁻¹



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	d	D	L1	L2	L3	Weight	Max. Torque	Speed Range	Collet
1147+8086	ø12.8	ø24.5	64.2	97	161.2	182 g (*)	4.3 cN·m	1,000~40,000 min ⁻¹	ø0.3~ø3.175 mm CHH Group (P.55)
1147+8087	ø12.8	ø28.4	64.2	108	172.2	239 g (*)	4.8 cN·m	1,000~25,000 min ⁻¹	ø0.3~ø3.175 mm CHH Group (P.55)

* Weight (w/o Straight Cord)

LONG TYPE MICRO-GRINDER ◀◀

PRECISION MICRO-GRINDER

Long Type Attachment

Tip diameter ø13 mm

- This unique slim body makes it ideal for cutting and grinding the bottom surface of deep ribs or holes.
- Collet is tightened by a spanner.
- The tip diameter of attachment is Ø13 mm.



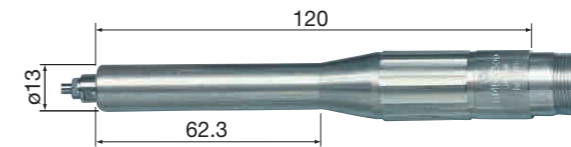
35,000 min⁻¹ Max.

◆ Weight : 156 g

Standard Size Collet

ø3.0 mm (CHM-3.0)

Optional Collets : CHM group are shown in page (P.56)



Code No. **1017** Model **BMH-300**

Standard Accessories
 • Spanner (7 x 5.1), (6 x 4.5) : 1 pc. each
 • Pin Spanner (K-233) : 1 pc.

Long Type Attachment + Standard Type Motor Combination Example

1,000~35,000 min⁻¹



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	Outside Diameter	Weight	Max. Torque	Speed Range	Collet
1017+8086	Refer to the dimensions	246 g (*)	4.3 cN·m	1,000~35,000 min ⁻¹	ø0.3~ø3.175 mm CHM Group (P.56)

* Weight (w/o Straight Cord)

Electrically Driven

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Air Driven

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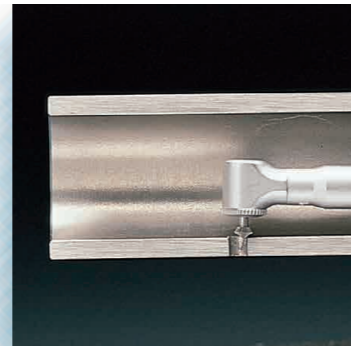
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Protective Equip.

MINI ANGLE TYPE MICRO-GRINDER ◀◀

ANGLE TYPE GRINDER

Mini Angle Type Attachment



For Chamfering Deep Hole | Bur Only $\phi 1.6$ mm | Exclusive Tools P.71

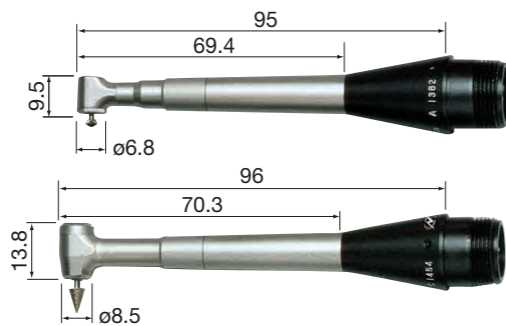
- Suitable for chamfering and deburring the inside of the slit pipe.
- The world's smallest angle type attachment.
- Various $\phi 1.6$ mm exclusive tools are also available.

15,000 min⁻¹ Max.
 ◆ Minimum Inner Diameter : $\phi 13$ mm
 ◆ Holding tool width : 7.2 mm ◆ Weight : 47 g
 ◆ Speed Reduction Ratio : 10/11

Standard Size Collet | Exclusive Tools P.71
 $\phi 1.6$ mm (K-253) P.56

◆ Minimum Inner Diameter : $\phi 20$ mm
 ◆ Holding tool width : 11.9 mm ◆ Weight : 50 g
 ◆ Speed Reduction Ratio : 10/11

Standard Size Collet | Exclusive Tools P.71
 $\phi 1.6$ mm (K-252) P.56



Mini Angle Type (Very Small Head)

Code No. **1013** Model **MFC-300M**

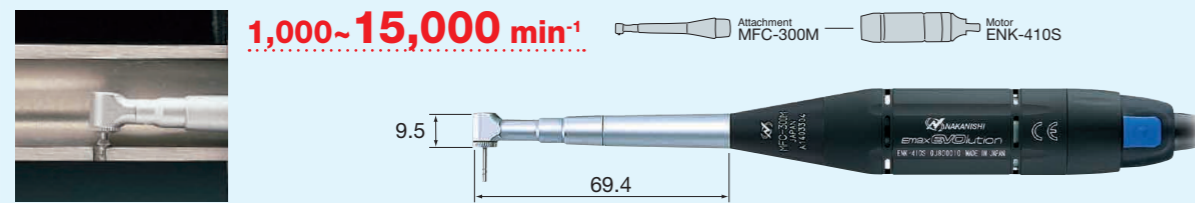
Standard Accessories
 • Chuck Wrench (K-232) : 1 pc. • Pin Spanner (K-233) : 1 pc.

Mini Angle Type

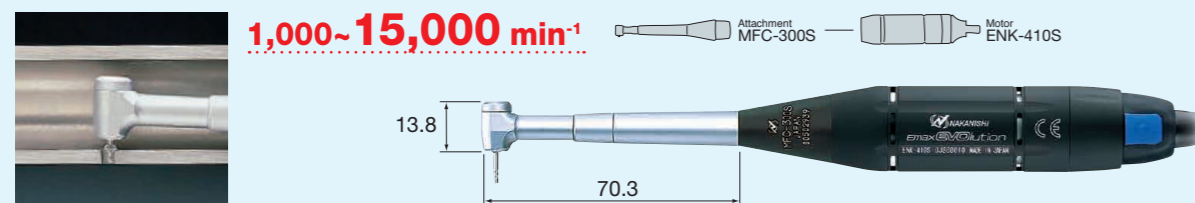
Code No. **1012** Model **MFC-300S**

Standard Accessories
 • Chuck Wrench (K-232) : 1 pc. • Pin Spanner (K-233) : 1 pc.

Mini Angle Type Attachment + Standard Type Motor Combination Example



Mini Angle Type Attachment + Standard Type Motor Combination Example



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	d	D	L1	L2	L3	Weight	Max. Torque	Speed Range	Collet
1013+8086	$\phi 6.8$	$\phi 24.5$	95	97	192	137 g (*)	4.3 cN·m	1,000~15,000 min ⁻¹	$\phi 1.6$ mm (K-253) (P.56)
1012+8086	$\phi 8.5$	$\phi 24.5$	96	97	193	140 g (*)	4.3 cN·m	1,000~15,000 min ⁻¹	$\phi 1.6$ mm (K-252) (P.56)

* Weight (w/o Straight Cord)

TOOL : $\phi 1.6$ mm Please see the NAKANISHI "POLISHING TOOLS" Catalog.

Electroplated Diamond Burs

Carbide Cutters

Mounted Points

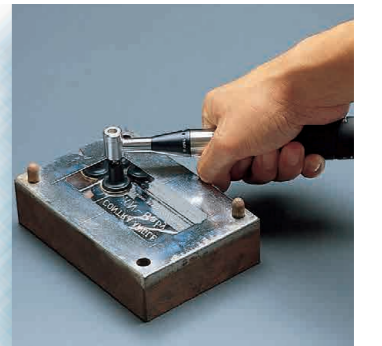
Rubberized Abrasives

Steel Cutters (P.71)

ANGLE TYPE MICRO-GRINDER ◀◀

ANGLE TYPE GRINDER

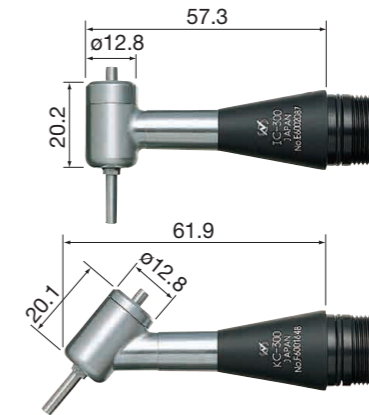
Angle Type Attachment



Most suitable for polishing flat surfaces at speed | Exclusive Tools P.69~71

- Suitable for polishing a flat surface at speed with a grinding disk pad.
- Perfect for finishing bottom surfaces and other tight, hard to reach areas.

30,000 min⁻¹ Max.
 ◆ Weight : 45 g
 ◆ Speed Reduction Ratio : 3/4
 Standard Size Collet | Exclusive Tools P.69~71
 $\phi 3.0$ mm (CHC-3.0)
 Optional Collets : CHC group are shown in page (P.55)



Angle Type (90°)

Code No. **1006** Model **IC-300**

Standard Accessories
 • Chuck Wrench (K-231) : 1 pc. • Pin Spanner (K-233) : 1 pc.
 • Standard Accessories : 1 set

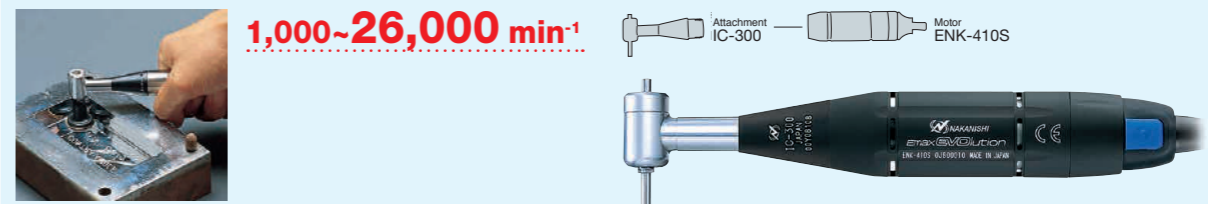
Angle Type (50°)

Code No. **1014** Model **KC-300**

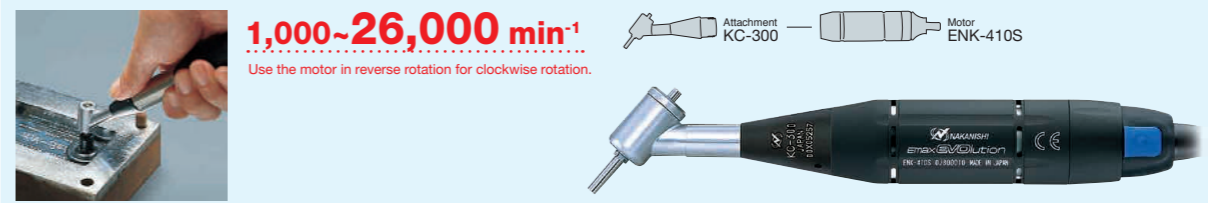
Standard Accessories
 • Chuck Wrench (K-231) : 1 pc. • Pin Spanner (K-233) : 1 pc.
 • Standard Accessories : 1 set

◆ Weight : 45 g
 ◆ Speed Reduction Ratio : 3/4
 Use the motor in reverse rotation for clockwise rotation.
 Standard Size Collet | Exclusive Tools P.69~71
 $\phi 3.0$ mm (CHC-3.0)
 Optional Collets : CHC group are shown in page (P.55)

90° Angle Type Attachment + Standard Type Motor Combination Example



50° Angle Type Attachment + Standard Type Motor Combination Example



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	d	D	L1	L2	L3	Weight	Max. Torque	Speed Range	Collet
1006+8086	20.2	$\phi 24.5$	57.3	97	154.3	135 g (*)	4.3 cN·m	1,000~26,000 min ⁻¹	$\phi 1.0 \sim \phi 3.175$ mm
1014+8086	20.1	$\phi 24.5$	61.9	97	158.9	135 g (*)	4.3 cN·m	1,000~26,000 min ⁻¹	CHC Group (P.55)

* Weight (w/o Straight Cord)

Code No.	Description	Package
64101	Rubber Pad (Small) O.D. $\phi 10$ mm	1 pc./pack
64102	Rubber Pad (Med) O.D. $\phi 20$ mm	
64103	Rubber Pad (Large) O.D. $\phi 30$ mm	
64133	Sand Paper Disk for small pad $\phi 11$ #180	5 pcs./pack
64137	Sand Paper Disk for small pad $\phi 11$ #600	

Code No.	Description	Package
64153	Sand Paper Disk for med. pad $\phi 21$ #180	5 pcs./pack
64157	Sand Paper Disk for med. pad $\phi 21$ #600	
64173	Sand Paper Disk for large pad $\phi 31$ #180	
64177	Sand Paper Disk for large pad $\phi 31$ #600	

• Exclusive tools for Angle Type Attachment P.69~71

Electrically Driven

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Air Driven

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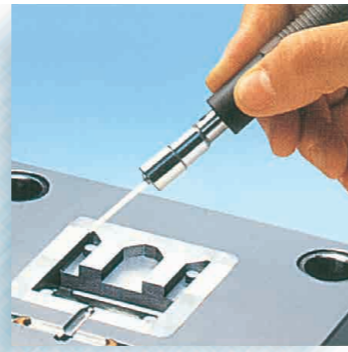
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Protective Equip.

MINI-LUSTER ◀◀

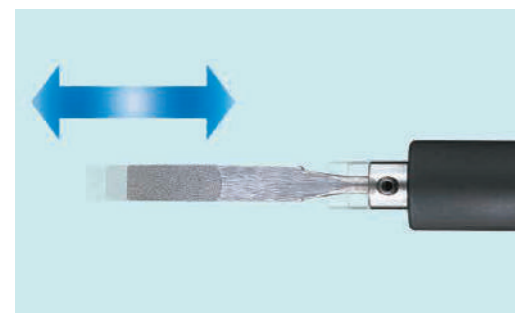
PENCIL-TYPE RECIPROCATING POLISHING FINISHER

MINI-LUSTER Attachment



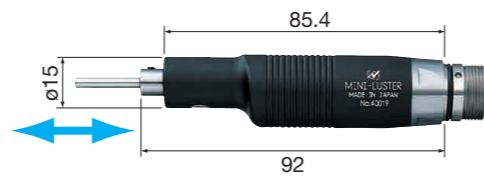
Stroke Range 0.8 mm Reciprocating Motion Exclusive Tools P.67 ~ 69

- Due to pencil type grip, it is most suitable for polishing narrow grooves, details, etc.
- Lightweight, compact design and minimal vibration keep the hand free from fatigue for long continuous operation.
- By using the grindstone holder provided, various tools such as oil stone, super stone, diamond files, etc. can be used.



25,000 min⁻¹ Max.
 ◆ Stroke Range (Fixed) : 0.8 mm
 ◆ Reciprocating Stroke (Variable) : 0~6,380 times/min.
 ◆ Weight : 130 g
 ◆ Max. tool shank diameter ø3.2 mm, Screw clamp type

Exclusive Tools P.67 ~ 69



Code No. **1307** Model **ML-8** Stroke (0.8 mm)

Standard Accessories
 • Allen Wrench (1.5 mm) : 1 pc.
 • Standard Accessories : 1 set

MINI-LUSTER Attachment + Standard Type Motor Combination Example

Reciprocating Stroke
0~6,380 times/min.



PENCIL-TYPE RECIPROCATING POLISHING FINISHER

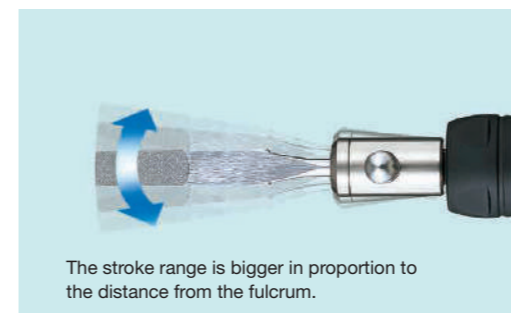
SWING-LUSTER Attachment

SWING-LUSTER ◀◀



Stroke Range 0~1.6 mm Right to Left Motion Exclusive Tools P.67 ~ 69

- High speed grinding and polishing operations can be performed while maintaining the fine and delicate feeling of hand polishing.
- Lightweight pencil type design makes it easy to work in tight areas.
- Ergonomically designed to provide high sensitivity for precision work.
- Easily adjustable stroke length allows efficient work on minute areas of large sections.



30,000 min⁻¹ Max.
 ◆ Reciprocating Stroke (variable) : 0~7,650 times/min.
 ◆ Stroke Range (variable) : 0~1.6 mm
 ◆ Weight : 127 g
 ◆ Max. tool shank diameter ø5.0 mm, Screw clamp type.

Exclusive Tools P.67 ~ 69

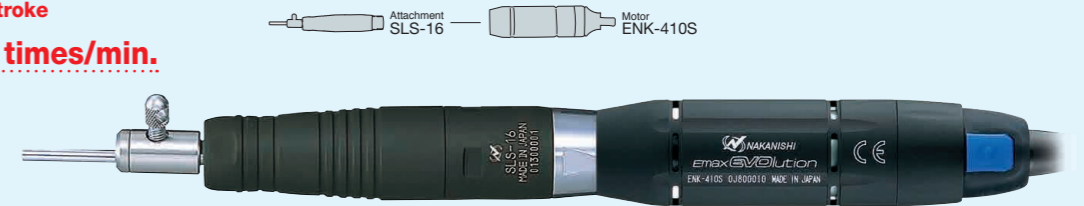


Code No. **1380** Model **SLS-16**

Standard Accessories
 • Spanner (16 x 18), (20 x 24) : 1 pc. each
 • Allen Wrench (1.5 mm) : 1 pc.
 • Standard Accessories : 1 set

SWING-LUSTER Attachment + Standard Type Motor Combination Example

Reciprocating Stroke
0~7,650 times/min.



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	Outside Diameter	Weight	Max. Torque	Reciprocating Stroke	Max. Tool Shank
1307+8086	Refer to the dimensions	220 g (*)	4.3 cN·m	0~6,380 times/min.	ø3.2 mm (screw clamp type)

Standard Accessories

Code No.	Description	Package
62751	Spring Holder	1 pc. each
62510	Ceramic Fiber Grindstone Holder	
62814	Electroplated Diamond File 1.2 x 4 x 50 #100	
60737	Ceramic Fiber Grindstone 1 x 6 x 50 #1200	

* Exclusive tools P.67-69

Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.

Combination Example	Outside Diameter	Weight	Max. Torque	Reciprocating Stroke	Max. Tool Shank
1380+8086	Refer to the dimensions	217 g (*)	4.3 cN·m	0~7,650 times/min.	ø5.0 mm (screw clamp type)

Standard Accessories

Code No.	Description	Package
60737	Ceramic Fiber Grindstone 1 x 6 x 50 #1200	1 pc. each
62814	Electroplated Diamond File 1.2 x 4 x 50 #100	
62510	Ceramic Fiber Grindstone Holder	

* Exclusive tools P.67-69

Electrically Driven

EmaxEVO ESPERT

Air Driven

ROTUS IMPULSE PRESTO II

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Protective Equip.

FINE BELT SANDER ◀◀

SMALL-SIZED HANDY BELT SANDER

FINE BELT SANDER Attachment

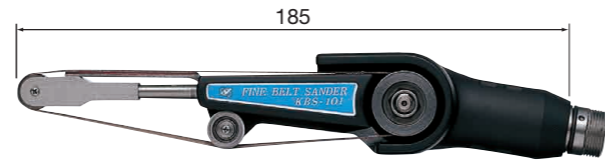


Exclusive Tools P.72-73

- Very high belt speed, ideal for applications from deburring to finishing.
- Belt runs Approx. 0~705 m/min.
- Lightweight, compact, minimal vibration and a small diameter grip design keep the hand free from fatigue for long, continuous operation.
- The angle of the belt section is fully adjustable.
- Exchanging the belt is simply done by lever release.
- 4, 6, 8 mm width belts are available.



30,000 min⁻¹ Max.
 ◆ Belt Speed : 0-705 m/min.
 ◆ Weight : 350 g ◆ Belt Sizes : 4, 6, 8 mm Wide x 300mm long
 Exclusive Tools P.72-73

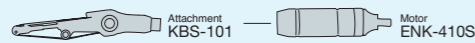


Code No. **1146** Model **KBS-101**

Standard Accessories
 • Allen Wrench (3 mm) : 1 pc. • Standard Accessories : 1 set

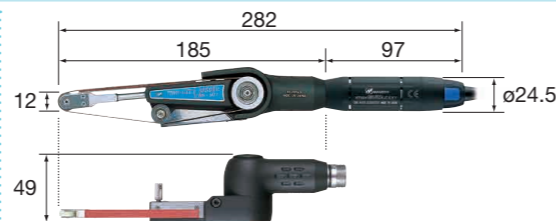
FINE BELT SANDER Attachment + Standard Type Motor Combination Example

0~705 m/min.



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.



Combination Example	Outside Diameter	Weight	Max. Torque	Belt Speed	Belt Width
1146+8086	Refer to the dimensions	440 g (*)	4.3 cN·m	0~705 m/min.	4 mm, 6 mm, 8 mm

* Weight (w/o Straight Cord)

Code No.	Description	Package
64902	Abrasive Belt Width 4mm #120	2 pcs. each
64904	Abrasive Belt Width 4mm #240	
64906	Abrasive Belt Width 4mm #400	
64912	Abrasive Belt Width 6mm #120	
64914	Abrasive Belt Width 6mm #240	
64916	Abrasive Belt Width 6mm #400	
64922	Abrasive Belt Width 8mm #120	
64924	Abrasive Belt Width 8mm #240	
64926	Abrasive Belt Width 8mm #400	

Spare Parts

Product	Description	Code No.	Model
	Tension Pulley	1103	TP-12A
	Tension Pulley Assembly	1104	TPA-12A

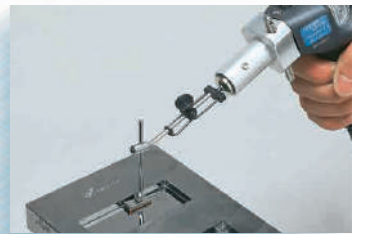
LUSTER ◀◀

PISTOL-TYPE RECIPROCATING POLISHING FINISHER

LUSTER Emax EVolution

With Motor ON/OFF Switch Reciprocating Motion Exclusive Tools P.67-69

- Powerful reciprocating stroke polisher equipped with 1/4 Speed Reducer to multiply the torque by 4 times.
- Reciprocating speed and stroke can be easily and continuously controlled.
- LUSTER NLS has a built-in motor. Insert the cord plug into the controller.



LUSTER Emax EVolution

Reciprocating Stroke
 0~6,300 times/min.

Code No. **1483**
 Model **NLS-110**



Stroke Range : 0~6 mm adjustable by allen wrench.

The grinding surface can be set at any angle between 0 and 360° enabling grinding of bottom, right, left and top surfaces without moving the machine itself.
 Mountable tool : Screw clamp type. Max. Tool Shank ø6.4 mm

Designed with comfortable rubber-grip. Well balanced, rubber-grip absorbs vibration from reciprocating strokes reducing fatigue and allowing long, continuous operation.

With Motor ON/OFF Switch

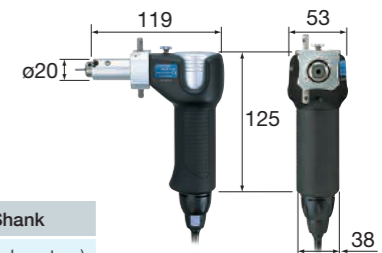
25,000 min⁻¹ Max.
 Specifications
 Stroke Range : 0~6 mm (variable)
 Reciprocating Stroke : 0~6,300 times/min. (variable)
 Max. Torque : 17.2 cN·m
 Weight : 800 g (w/o cord)
 With Straight Cord : 1.5 m
 Standard Accessories
 • Allen Wrench (2 mm), (3 mm) : 1 pc. each
 • Lubricating Oil
 • Lubrication Nozzle for LUSTER
 • Standard Accessories : 1 set

Exclusive Tools P.67-69



Emax EVolution Controller (P.9)
 <Code No. : 8224 (120V) · Model : NE249 120>
 <Code No. : 8227 (230V) · Model : NE249 230>

⚠ Never connect to E-max Series Controller.



Code No.	Outside Diameter	Weight	Max. Torque	Reciprocating Stroke	Max. Tool Shank
1483	Refer to the dimensions	800 g (*)	17.2 cN·m	0~6,300 times/min.	ø6.4 mm (screw clamp type)

* Weight (w/o Straight Cord)

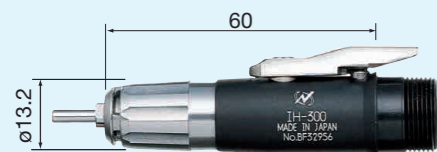
Code No.	Description	Package
62502	Stone Holder	1 pc./pack
62505	Stone Holder	
62751	Spring Holder	
62525	Rectangular Pad	
62526	Rod for Rectangular Pad	

Code No.	Description	Package
62527	Angle Rod	1 pc./pack
62552	Sand Paper Tip #120	10 pcs./pack
62555	Sand Paper Tip #320	
62557	Sand Paper Tip #600	
62559	Sand Paper Tip #1000	

• Exclusive tools for LUSTER P.67-69

Lever Type Attachment

Code No. **1005** Model **IH-300**



40,000 min⁻¹ Max.

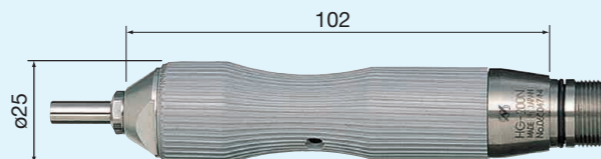
- High precision and high reliability is realized by micron precision.
- Slim, lightweight design allows for fine finishing of delicate parts.
- Lever Type one touch bur release.



◆ Weight : 62 g
 Standard Size Collet
 ø3.0 mm (CHH-3.0) ø2.35 mm (CHH-2.35)
 Optional Collets : CHH group are shown in page (P.55)
 Standard Accessories
 • Spanner (7x5.1) : 1 pc. • Pin Spanner (K-233) : 1 pc.

6 mm Torque Type Attachment

Code No. **1016** Model **HG-200**



Use ENK-250T to connect HG-200.

30,000 min⁻¹ Max.

- Permits the use of ø6.0 mm shank burs.
- The resistance produced by cutting and grinding is absorbed by a special rubber grip to eliminate slipping.
- Collet is tightened by a spanner.



◆ Weight : 210 g
 Standard Size Collet
 ø6.0 mm (CHG-6.0)
 Optional Collets : CHG group are shown in page (P.55)
 Standard Accessories
 • Spanner (10 x 10) : 1 pc. • Bar Wrench (K-212) : 1 pc.
 • Pin Spanner (K-233) : 1 pc.

Straight Type Attachment

Code No. **2811** Model **IG-400**



40,000 min⁻¹ Max.

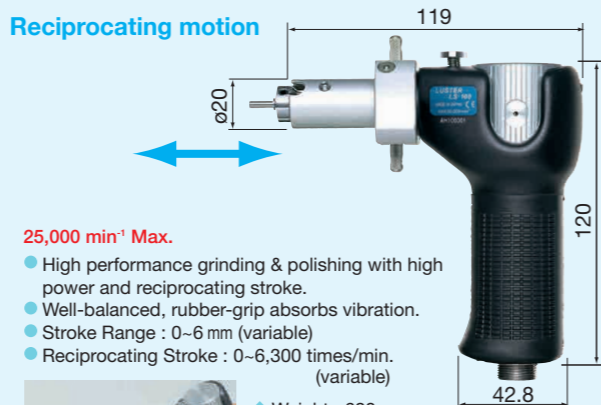
- Lightweight ergonomically designed with minimal vibration for extended use.
- NK Micron Collet permits strong retention and high precision performance.



◆ Weight : 55 g
 Standard Size Collet
 ø3.0 mm (NKM6-3.0)
 Optional Collets : NKM6 group are shown in page (P.56)
 Standard Accessories
 • Collet Nut (CHN-6) • Bar Wrench (PCR-30) : 1 pc.
 • Spanner (9 x 9), (15 x 17) : 1 pc. each

LUSTER Attachment (Pistol-Type Polisher)

Code No. **1302** Model **LS-100**



Reciprocating motion

25,000 min⁻¹ Max.

- High performance grinding & polishing with high power and reciprocating stroke.
- Well-balanced, rubber-grip absorbs vibration.
- Stroke Range : 0-6 mm (variable)
- Reciprocating Stroke : 0-6,300 times/min. (variable)



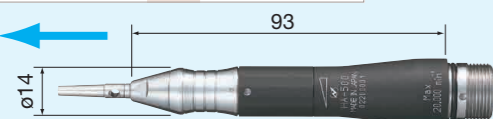
◆ Weight : 680 g
 ◆ Max. tool shank diameter ø6.4 mm, Screw clamp type
 Standard Accessories
 • Allen Wrench (2 mm), (3 mm) : 1 pc. each
 • Lubricating Oil • Lubrication Nozzle for LUSTER
 • Standard Accessories : 1 set

Exclusive Tools P.67 ~ 69

Code No.	Description	Package
62502	Stone Holder	1 pc./pack
62505	Stone Holder	
62751	Spring Holder	
62525	Rectangular Pad	
62526	Rod for Rectangular Pad	10 pcs./pack
62527	Angle Rod	
62552	Sand Paper Tip #120	
62555	Sand Paper Tip #320	
62557	Sand Paper Tip #600	
62559	Sand Paper Tip #1000	

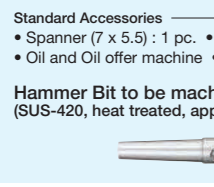
Hammer Attachment

Code No. **8060** Model **HA-500**



16,000 min⁻¹ Max.

- A wide variety of patterns can be produced by varying the spring pressure and hammer speed.
- Light weight, pencil type grip makes the handpiece very comfortable to hold and easy to use.
- Adjustable spring pressure. ◆ Weight : 95 g
- Self lubricating hammer mechanism ensure excellent durability.
- Stroke Range : 0.4mm ◆ Stroke Times : 25-4,000 times/min.
- Stroke Spring Pressure : 4.4-7.1 N (Ring Adjustment Type)

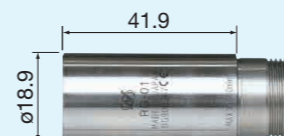


Standard Accessories
 • Spanner (7 x 5.5) : 1 pc. • Bar Wrench (K-212) : 1 pc.
 • Oil and Oil offer machine • Hammer Bit (For replacement) : 2 pcs.
 Hammer Bit to be machined to required shapes (SUS-420, heat treated, approx. HRC50)

Code No.	Package
65301	3 pcs./pack

1/4 Speed Reducer

Code No. **1009** Model **RG-01**



30,000 min⁻¹ Max.

- Mounted between an attachment and a motor.
- The speed is reduced to 1/4 but the torque is multiplied by 4 times.
- Suitable for high torque grinding process or drilling.

◆ Weight : 68 g
 Standard Accessories
 • Pin Spanner (K-233) : 1 pc.

1/15 Speed Reducer

Code No. **1010** Model **RG-02**



30,000 min⁻¹ Max.

- Mounted between an attachment and a motor.
- The speed is reduced to 1/15 but the torque is multiplied by 15 times.
- Suitable for high torque grinding process or drilling.

◆ Weight : 93 g
 Standard Accessories
 • Pin Spanner (K-233) : 1 pc.

Extension Joint

Code No. **1015** Model **CN-01**



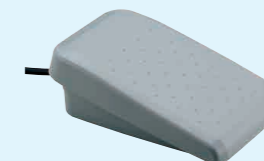
35,000 min⁻¹ Max.

- Speed Ratio 1 : 1
- This is a joint to be connected between a motor and an attachment to extend the total length of the attachment.

◆ Weight : 83 g
 Standard Accessories
 • Pin Spanner (K-233) : 1 pc.

Foot Controller

Code No. **8106** Model **FC-64**



- Used as an ON/OFF switch as well as a variable speed control.
- For Emax EVolution (NE249)

Emax EVolution Torque Set

1,000~25,000 min⁻¹



For heavy duty and larger tools, Torque type promises to extend operation ranges. One-touch ring type bur replacement.

Ring Type IR-310 is the standard attachment for Emax EVolution torque set EV250-120, EV250-230.

Code No. **8234** (120V) Model **EV250-120**

Code No. **8226** (230V) Model **EV250-230**

*Please check the power source plug type (P.58).

- Standard Equipment
- Micro Grinder (IR-310+ENK-250T) : 1 pc.
 - Collet ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35) : 1 pc. each
 - Controller (NE249) : 1 pc.
 - Accessories : Handpiece Holder : 1 pc., Handpiece Stand : 1 pc.
 Power Supply Cord : 1 pc., Spanner (7 x 5.1) : 1 pc.
 Pin Spanner (K-233) : 1 pc., L Shaped Spanner (9) : 1 pc.

Precautions for using Nakanishi Tools

For safe use of the tools

- Please read operation manuals before using any tools.
- Please keep all operation manuals on hand for reference whenever necessary.

Caution Incorrect use of the tools, or ignoring 'CAUTIONS for safety' described in the operating manuals, could cause fatal or serious bodily injury.

CAUTIONS





 <p>Always use safety glasses, mask, face guard for your safety.</p>	 <p>Fasten the collet firmly. Make sure the tool is fully installed in the collet to avoid tool slippage.</p>
 <p>Do not touch the tools when in operation. Make sure the work area is neat and there is sufficient light.</p>	 <p>Do not use damaged or broken electric cords and air hoses.</p>
 <p>Do not use the tool where flammable liquids or gases exist.</p>	 <p>Start at low speed and increase gradually to insure safe work. This is particularly important for the use of new tools, large cutting tools and elastic tools such as rubber grindstone, sander and brush tools.</p>
 <p>Do not leave operating tools. Confirm that the tool has stopped completely after switching off.</p>	 <p>Keep the tools and products in a cool, dry place.</p>
 <p>Select proper tools and products for your application. Select tools carefully considering the performance of the tools, work procedure and type/shape of the material.</p>	 <p>Check the tools carefully before use. Confirm that the tools are free of chips, cracks, splits, scratches, irregular bondings, and out of round shanks, etc.</p>
 <p>Fix the work material firmly in a vise and/or other clamping fixture.</p>	 <p>Stop grinding or polishing immediately whenever unusual sounds, vibrations, or wear are found. Restart the work only after the problem is found and corrected.</p>
 <p>Do not wear loose clothing and/or accessories that may be caught in machinery. Long hair should be secured prior to machine operation.</p>	 <p>Only use attachments, parts, consumable articles and accessories produced by NAKANISHI.</p>
 <p>Check all tools carefully before use. Clean the inside of the collet and tool shank, chips or fine metals inside the collet could cause tool slippage and result in damage to machinery or bodily injury.</p>	 <p>Do not apply high pressure to or pry with the tools. This can break and/or bend the tools. Use the tools within their design limitation. Excessive pressure will decrease the efficiency of your work and cause excessive wear of the tools.</p>

The tools should be used by taking care of the overhang and below maximum allowable speed.
The catalogue shows the maximum allowable speed at 13 mm overhang (distance between the face of the collet and the top of the tool shank).

Decrease the speed as shown in the table below, if you are using a longer overhang than 13 mm.

Overhang	Maximum allowable speed (min ⁻¹)
Less than 13 mm	Shown in the catalogue (A)
Less than 20 mm	(A) x 0.5
Less than 25 mm	(A) x 0.3
Less than 50 mm	(A) x 0.1

Symbols used in NAKANISHI Tools Catalogue

	<p>Shank Diameter Shows shank diameter of the tools. Nakanishi produces tools with several shank diameters. * Nakanishi micro grinders utilize a collet system, which insures maximum precision. Therefore, please use the collet that best corresponds to the tool shank diameter.</p>
	<p>Standard Package One package is the minimum shipping unit. This number shows the number of pieces in the standard package (bag, box and etc.). Please order the number of packages needed for the desired quantity.</p>
	<p>Maximum allowable speed Do not exceed the maximum allowable tool speed. For your safety, use the tools below the indicated allowable speed. Start at low speed and increase gradually to insure safety. The preceding is particularly important for the use of new tools and machines. * Maximum allowable speed assumes an overhang of less than 13mm. Decrease speed if the overhang is more than 13mm. Refer to "Precautions for using Nakanishi Tools" on the next page. * Check the tools and machinery for mechanical defects prior to each use.</p>
	<p>Grit This shows grain size of various grinding tools. Rough Cutting..... 46, 54, 60, 70, 80, 90 Medium Cutting..... 100, 120, 150, 180 Pre Finishing..... 220, 240, 280, 320, 400 Finishing..... 500, 600, 700, 800, 1000 Fine Finishing and Mirror Polishing..... 1200, 1500, 1800, 2000, 3000, 4000, 6000, 8000 ...</p>

Code No. **62801~** End Code number on each page

NAKANISHI's EXCLUSIVE TOOLS

1 pc./pack Electroplated Diamond File

<p>Flat taper 1 Thickness 1.4 Grit # 200 62801 # 400 62802 # 600 62803</p>	<p>Angular 2 Grit # 200 62804 # 400 62805 # 600 62806</p>
<p>Flat taper 1 Thickness 1.4 Grit # 200 62805 # 400 62806 # 600 62807</p>	<p>Round ø1 Grit # 200 62808 # 400 62809 # 600 62810</p>
<p>Flat 1.5 Grit # 150 62811 # 200 62812 # 400 62813</p>	<p>Round ø2 Grit # 150 62814 # 200 62815 # 400 62816</p>
<p>Flat (Single side electroplating) 1.2 Grit # 100 62814</p>	<p>Round ø3 Grit # 100 62817 # 200 62818 # 400 62819</p>
<p>Flat 1.4 Grit # 150 62815 # 200 62816 # 400 62817</p>	<p>Round taper ø1.5 Grit # 150 62820 # 200 62821 # 400 62822</p>
<p>Flat (Single side electroplating) 1 Grit # 150 62821 # 200 62822 # 400 62823</p>	<p>Half-round 1.5 Grit # 150 62824 # 200 62825 # 400 62826</p>
<p>Flat (Single side electroplating) 1.5 Grit # 150 62825 # 200 62826 # 400 62827</p>	<p>Half-round 2 Grit # 150 62828 # 200 62829 # 400 62830</p>
<p>Flat (Single side electroplating) 1.5 Grit # 150 62825 # 200 62826 # 400 62827</p>	<p>Triangular 2.5 Grit # 150 62831 # 200 62832 # 400 62833</p>

Code number (Order number)

Standard package quantity

Shank diameter of the tool

Maximum allowable speed

Total length of the tool (mm)

Exclusive Tools of "50° & 90° ANGLE"
Special tools for Nakanishi Micro-grinder "Angle Attachment".
Highly efficient for grinding, polishing, finishing, etc.

Special Rubber Pad For Abrasive and

Note : Specifications may be changed without notice. Colors of the tools in this catalogue may not be the same as actual colors due to printing limitations.

Line up



Exclusive Tools of "LUSTER"
(P.67~69)



Exclusive Tools of "MINI-LUSTER"
(P.67~69)



Exclusive Tools of "SWING-LUSTER"
(P.67~69)



Exclusive Tools of
"Angle Type Attachment" (P.69~71)



Exclusive Tools of
"Mini Angle Type Attachment" (P.71)



Exclusive Tools of
"FINE BELT SANDER" (P.72~73)

NAKANISHI Exclusive Tools

- Exclusive Tools of Electromotive Polisher "LUSTER" P.67~69
- Exclusive Tools of Electromotive Polisher "MINI-LUSTER" P.67~69
- Exclusive Tools of Electromotive Polisher "SWING-LUSTER" P.67~69
- Exclusive Tools of "50° & 90° Angle Type Attachment" P.69~71
- Exclusive Tools of "Mini Angle Type Attachment" P.71
- Exclusive Tools of "IMPULSE" P.72
- Exclusive Tools of "FINE BELT SANDER" P.72~73

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NAKANISHI's EXCLUSIVE TOOLS

NAKANISHI's EXCLUSIVE TOOLS

Exclusive Tools of Electromotive Polisher "LUSTER", "MINI-LUSTER", "SWING-LUSTER"



LUSTER

Best for finishing large open work areas.

SHANK $\phi 3.0$

1 pc./pack Electroplated Diamond File

File Type	Thickness	Grit	Part No.
Flat taper	1.4	# 200	62301
		# 400	62302
		# 600	62303
Flat taper	1.4	# 200	62305
		# 400	62306
		# 600	62307
Flat	1.4	# 150	62311
		# 200	62312
		# 400	62313
Half-round	2	# 150	62315
		# 200	62316
		# 400	62317
Round	2	# 150	62318
		# 200	62319
		# 400	62320
Angular	2.5	# 150	62321
		# 200	62322
		# 400	62323

1 pc./pack Diamond File Flat Type

* Use with stone holder No.62502.

File Type	Grit	Part No.
Flat Type	# 150	62351
	# 200	62352
	# 400	62353
Flat Type	# 150	62355
	# 200	62356
	# 400	62357
Flat Type	# 150	62361
	# 200	62362
	# 400	62363

SHANK $\phi 3.0, \phi 3.5$

3 pcs./pack Precision Finishing Files (Flat, Round, Angular, Triangular, Half-Round)

File Type	Total length The length of file	140mm		180mm	
		Standard	Fine	Standard	Fine
Flat	1.3(1.5)	57301	57311	57321	57331
		57302	57312	57322	57332
		57303	57313	57323	57333
Round	3.3(4.1)	57304	57314	57324	57334
		57305	57315	57325	57335
		57306	57316	57326	57336
Angular	2	57307	57317	57327	57337
		57308	57318	57328	57338
		57309	57319	57329	57339

* (Figures) means dimensions for standard file total length 180mm.

SHANK $\phi 3.0$

3 pcs./pack Rasps for plastics and wood working (Flat, Round, Angular, Triangular, Half-Round)

Rasp Type	Grit	Part No.
Flat	# 150	57401
	# 200	57402
	# 400	57403
Triangular	# 150	57404
	# 200	57405
	# 400	57406
Half-round	# 150	57407
	# 200	57408
	# 400	57409

* Rasps set for plastics and wood working (No.57401~No.57405 : 1pc. each) ----- 57410

1 pc./pack Stone Holder

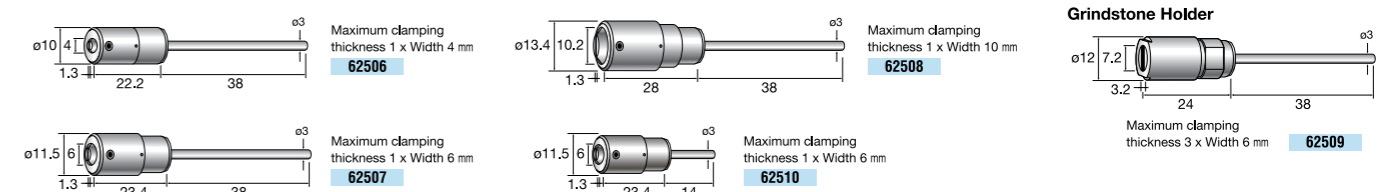


2 pcs./pack Ceramic Fiber Grindstone (Total Length 50 mm)

Alumina fiber abrasive with the strength and the flexibility for rough or fine finishing.

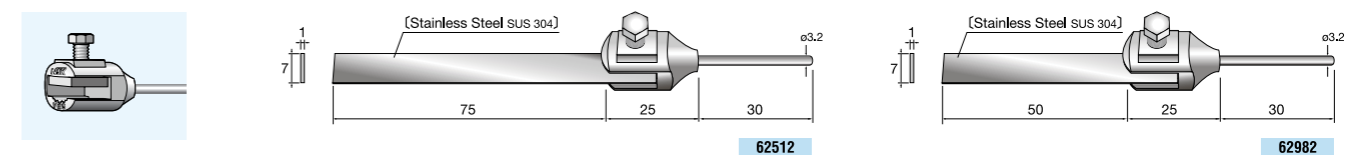
Flat	Round																																																																																
<table border="1"> <thead> <tr> <th>Grit</th> <th>Color</th> <th>W = 4 mm</th> <th>W = 6 mm</th> <th>W = 10 mm</th> </tr> </thead> <tbody> <tr><td># 180</td><td>Ivory</td><td>60701</td><td>60711</td><td>60721</td></tr> <tr><td># 300</td><td>Brown</td><td>60702</td><td>60712</td><td>60722</td></tr> <tr><td># 400</td><td>Orange</td><td>60703</td><td>60713</td><td>60723</td></tr> <tr><td># 600</td><td>Black</td><td>60704</td><td>60714</td><td>60724</td></tr> <tr><td># 800</td><td>Blue</td><td>60705</td><td>60715</td><td>60725</td></tr> <tr><td># 1,000</td><td>White</td><td>60706</td><td>60716</td><td>60726</td></tr> <tr><td># 1,200</td><td>Pink</td><td>60707</td><td>60717</td><td>60727</td></tr> </tbody> </table>	Grit	Color	W = 4 mm	W = 6 mm	W = 10 mm	# 180	Ivory	60701	60711	60721	# 300	Brown	60702	60712	60722	# 400	Orange	60703	60713	60723	# 600	Black	60704	60714	60724	# 800	Blue	60705	60715	60725	# 1,000	White	60706	60716	60726	# 1,200	Pink	60707	60717	60727	<table border="1"> <thead> <tr> <th>Grit</th> <th>Color</th> <th>W = 4 mm</th> <th>W = 6 mm</th> <th>W = 10 mm</th> </tr> </thead> <tbody> <tr><td># 180</td><td>Ivory</td><td>60731</td><td>60732</td><td>60733</td></tr> <tr><td># 300</td><td>Brown</td><td>60734</td><td>60735</td><td>60736</td></tr> <tr><td># 400</td><td>Orange</td><td>60737</td><td>60738</td><td>60739</td></tr> <tr><td># 600</td><td>Black</td><td>60740</td><td>60741</td><td>60742</td></tr> <tr><td># 800</td><td>Blue</td><td>60743</td><td>60744</td><td>60745</td></tr> <tr><td># 1,000</td><td>White</td><td>60746</td><td>60747</td><td>60748</td></tr> <tr><td># 1,200</td><td>Pink</td><td>60749</td><td>60750</td><td>60751</td></tr> </tbody> </table>	Grit	Color	W = 4 mm	W = 6 mm	W = 10 mm	# 180	Ivory	60731	60732	60733	# 300	Brown	60734	60735	60736	# 400	Orange	60737	60738	60739	# 600	Black	60740	60741	60742	# 800	Blue	60743	60744	60745	# 1,000	White	60746	60747	60748	# 1,200	Pink	60749	60750	60751
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1 pc./pack Ceramic Fiber Grindstone Holder - Grindstone Holder



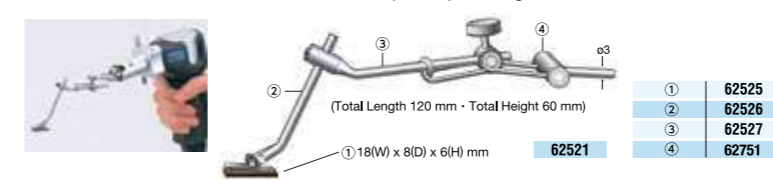
1 pc./pack Flat Holder

Tip for use with abrasive sheets.



1 pc./pack Angular Pad Holder

Holder for use with abrasive tips for polishing flat surfaces.



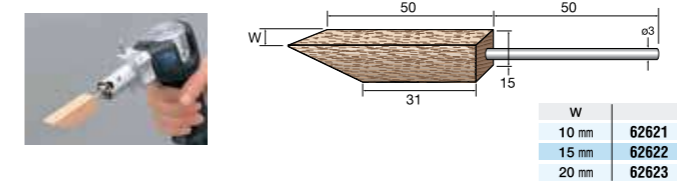
Abrasive Tip (For Flat Holder and Angular Pad Holder)

100 pcs./pack Sand Paper Tip

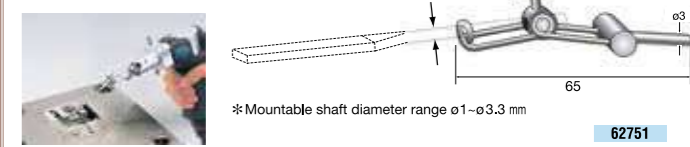
Grit	Part No.	Grit	Part No.
# 120	62552	# 1,000	62559
# 320	62555	# 1,500	62560
# 600	62557		

Adhesive Back

3 pcs./pack Wood Tip Holder



1 pc./pack Spring Holder



NAKANISHI's EXCLUSIVE TOOLS

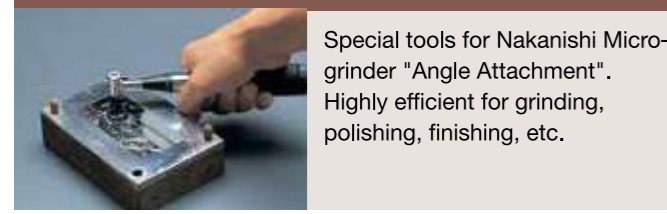
SHANK $\phi 3.0$

1 pc./pack Electroplated Diamond File

Profile	Thickness	Grit	Code	Profile	Grit	Code
Flat taper	1.4	0.5 mm	# 200	Angular	# 150	62831
		0.4 mm	# 400		# 200	62832
		0.35 mm	# 600		# 400	62833
Flat taper	1.4	0.5 mm	# 200	Round	# 100	62840
		0.4 mm	# 400		# 150	62841
		0.35 mm	# 600		# 200	62842
Flat	1.5	# 150	62811	Round	# 150	62845
		# 200	62812		# 200	62846
		# 400	62813		# 400	62847
Flat (Single side electroplating)	1.25	# 100	62814	Round	# 150	62851
		# 150	62815		# 200	62852
		# 200	62816		# 400	62853
Flat	1.2*	# 150	62815	Round taper	# 150	62855
		# 200	62816		# 200	62856
		# 400	62817		# 400	62857
Flat (Single side electroplating)	1	# 150	62821	Half-round	# 150	62865
		# 200	62822		# 200	62866
		# 400	62823		# 400	62867
Flat (Single side electroplating)	1.8	# 150	62825	Half-round	# 150	62871
		# 200	62826		# 200	62872
		# 400	62827		# 400	62873
Triangular	2.6	# 150	62881	Triangular	# 150	62881
		# 200	62882		# 200	62882
		# 400	62883		# 400	62883

*62815 is thickness 1.4mm.

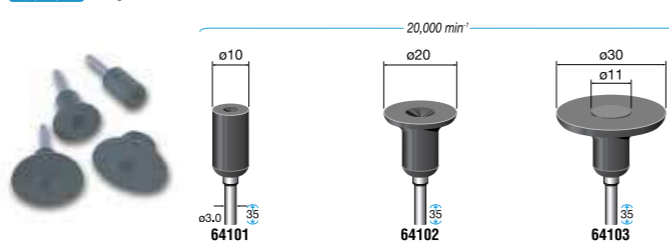
Exclusive Tools of "60° & 90° ANGLE"



Special tools for Nakanishi Micro-grinder "Angle Attachment". Highly efficient for grinding, polishing, finishing, etc.

SHANK $\phi 3.0$

5 pcs./pack Special Rubber Pad For Abrasive and Felt Disks



100 pcs./pack Sand Paper Disk

Cloth Type
• For Metals ... Both for dry and wet finishing (Adhesive is resistant to water and oil)

Grit	$\phi 11$	$\phi 21$	$\phi 31$
# 60	64111	64121	64141
# 80	64112	64122	64142
# 120	64113	64123	64143
# 180	64114	64124	64144
# 240	64115	64125	64145
# 320	64116	64126	64146
# 400	64117	64127	64147
# 600	64118	64128	64148
# 800	64119	64129	64149
# 1,000	64120	64130	64150

Adhesive Back

Paper Type
• For Metals ... Both for dry and wet finishing (Adhesive is resistant to water and oil)

Grit	$\phi 11$	$\phi 21$	$\phi 31$
# 80	64131	64151	64171
# 120	64132	64152	64172
# 180	64133	64153	64173
# 240	64134	64154	64174
# 320	64135	64155	64175
# 400	64136	64156	64176
# 600	64137	64157	64177
# 800	64138	64158	64178
# 1,000	64139	64159	64179
# 1,500	64140	64160	64180

Adhesive Back

Paper Type
• Dry type ... For Metal, Woodwork, Paint, Putty polishing, Dry use

Grit	$\phi 11$	$\phi 21$	$\phi 31$
# 80	64201	64211	64221
# 120	64202	64212	64222
# 180	64203	64213	64223
# 240	64204	64214	64224
# 320	64205	64215	64225
# 400	64206	64216	64226
# 600	64207	64217	64227

Adhesive Back

NAKANISHI's EXCLUSIVE TOOLS

100 pcs./pack Zirconium Disk

• Best for finishing aluminum, stainless steel, copper alloy, brass, etc.

Grit	$\phi 11$	$\phi 21$	$\phi 31$
# 60	64251	64261	64271
# 80	64252	64262	64272
# 120	64253	64263	64273
# 150	64254	64264	64274

Adhesive Back

20 pcs./pack Fiber Disk

• Soft finishing can be done on flat & curved surfaces, due to superior flexibility.

Grit	Color	$\phi 11$	$\phi 21$	$\phi 31$
# 120	Brown	64281	64291	64301
# 240	Violet	64282	64292	64302
# 320	Red Brown	64283	64293	64303
# 600	Dark Blue	64284	64294	64304
# 800	Gray	64285	64295	64305
# 1,000	Orange	64286	64296	64306

*Thickness 3 mm Adhesive Back

20 pcs./pack Felt Disk

• Ideal for finishing using abrasives and diamond compounds.

Description	$\phi 11$	$\phi 21$	$\phi 31$
Soft Type Felt Disk (1mm thickness)	64331	64332	64333
Soft Type Felt Disk (2mm thickness)	64335	64336	64337

Adhesive Back

20 pcs./pack Felt Disk Chromium Oxide (Blue Rouge) Embedded Type.

• Useful for speedy finishing because of Chromium Oxide (Blue Rouge) Embedded.

Description	$\phi 11$	$\phi 21$	$\phi 31$
Felt Disk Chromium Oxide (Blue Rouge) Embedded Type. (2mm thickness)	64341	64342	64343

Adhesive Back

20 pcs./pack Rubber Points Disk

• Best for coarse finishing, pre-finishing with great polishing power.

Grit	Color	$\phi 20$	$\phi 30$
# 60	Brown	64391	64401
# 80	Red	64392	64402
# 120	Dark Green	64393	64403
# 180	Olive	64394	64404
# 220	Green	64395	64405
# 320	Brown	64396	64406

*Thickness 3 mm Adhesive Back

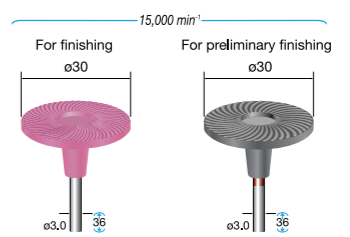
SHANK $\phi 3.0$

5 pcs./pack Mounted Rubber Disks (Rubber Pad Integration)

• Moderately hard abrasive grain have great polishing ability.



Grit	Color	WA	GC
# 80	Pink	64411	—
# 80	Purple	—	64421
# 120	Blue	64412	64422
# 180	Yellow	64413	—
# 180	Green	—	64423
# 220	Green	64414	64424
# 320	Purple	64415	64425
# 500	Orange	64416	—
# 500	Brown	—	64426



Grit	Color	WA
# 80	Black (Red Line)	64431
# 120	Black (Blue Line)	64432

1 pc./pack Diamond Disk (Fully Electroplated Type)

• Superior in sharpness and durability.

Grit	$\phi 11$	$\phi 21$	$\phi 31$
# 100	64451	64461	64471
# 140	64452	64462	64472
# 200	64453	64463	64473
# 280	64454	64464	64474
# 400	64455	64465	64475
# 600	64456	64466	64476
# 800	64457	64467	64477
# 1,000	64458	64468	64478

Adhesive Back

1 pc./pack Diamond Disk (Dot Electroplated Type, Wet Type)

• Electroplated nickel-alloy pellet is strongly adhered to resin base.

Grit	Color	$\phi 11$	$\phi 21$	$\phi 31$
# 60	Green	64501	64511	64521
# 120	Black	64502	64512	64522
# 200	Red	64503	64513	64523
# 400	Yellow	64504	64514	64524
# 800	Gray	64505	64515	64525

Adhesive Back

NAKANISHI's EXCLUSIVE TOOLS

3 pcs./pack Resin Bond Diamond Disk Star Pattern

Grit	o11	o21	o31
# 80	64531	64541	64551
# 120	64532	64542	64552
# 180	64533	64543	64553
# 240	64534	64544	64554
# 400	64535	64545	64555
# 600	64536	64546	64556
# 800	64537	64547	64557
# 1,000	64538	64548	64558
# 2,000	64539	64549	64559

Adhesive Back

*Patterns may be changed without notice

3 pcs./pack Lapping Film Disk Diamond Abrasive

Grit	Color	o11	o21	o31
# 400	Ivory	64601	64606	64611
# 800	Ivory	64602	64607	64612
# 1,500	Ivory	64603	64608	64613
# 3,000	Ivory	64604	64609	64614

Adhesive Back

50 pcs./pack Lapping Film Disk WA Abrasive

Grit	Color	o11	o21	o31
# 320	Pink	64621	64626	64631
# 600	Green	64622	64627	64632
# 1,000	Orange	64623	64628	64633
# 1,500	Olive	64624	64629	64634
# 3,000	Violet	64625	64630	64635

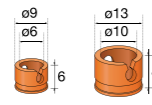
Adhesive Back

SHANK o3.0 Lap Ring



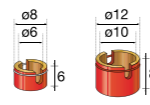
• Plastic and brass lapping rings for use with abrasive and diamond compounds.

10 pcs./pack Replacement Plastic Ring



64713 64717

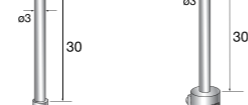
5 pcs./pack Replacement Brass Ring



64723 64727

1 pc./pack Replacement Holder

For internal diameter o6 mm For internal diameter o10 mm



64731 64732

Exclusive Tools of "90° MINI ANGLE TYPE ATTACHMENT"



Steel cutters for radius grinding of deep cross holes for "Mini-Angle attachment". Ideal for radius grinding of holes or removing burrs from cross jigs, precision parts and inside surfaces of pipes.



MINI ANGLE TYPE Attachment (Very Small Head)
MINI ANGLE TYPE Attachment

SHANK o1.6 Steel Cutters For Deep Cross Hole Finishing

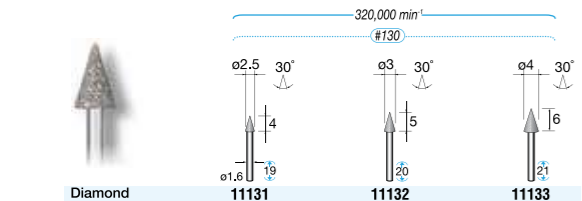
1 pc./pack Steel Cutters For Deep Cross Hole Finishing



15,000 min⁻¹
o2.1 110°
o1.6 1.5
64801

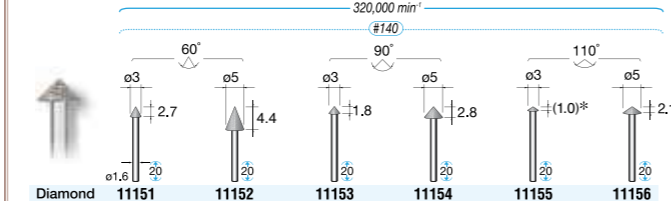
SHANK o1.6 Diamond Coated Burs For Deep Cross Hole Finishing

1 pc./pack Diamond Coated Burs For Deep Cross Hole Finishing



320,000 min⁻¹ #130
o2.5 30° 4
o3 30° 5
o4 30° 6
o1.6 19
Diamond 11131 11132 11133

5 pcs./pack Diamond and CBN Coated Burs For Deep Cross Hole Finishing



320,000 min⁻¹ #140
o3 60° 2.7
o5 30° 4.4
o3 90° 1.8
o5 2.8
o3 110° (1.0)* 2.1
o5 2.1
Diamond 11151 11152 11153 11154 11155 11156
CBN 11161 11162 11163 11164 11165 11166
*11165 is Cut Length 1.4mm.

NAKANISHI's EXCLUSIVE TOOLS

Exclusive Tools of "IMPULSE"

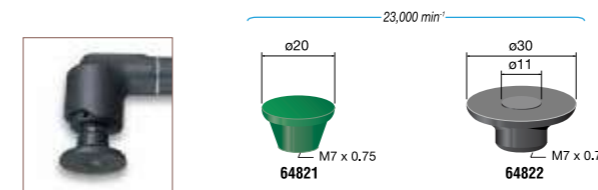


Special tools for Nakanishi Micro-grinder "IMPULSE". Excellent for grinding or polishing flat surfaces, edges with Nakanishi's high-power air grinder.



90° ANGLE IMPULSE · NA90-230
60° ANGLE IMPULSE · NA45-230

5 pcs./pack Special Rubber Pad for Disk Abrasives



23,000 min⁻¹
o20 M7 x 0.75 64821
o30 M7 x 0.75 64822

12 pcs./pack Cup Wheel

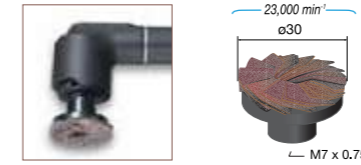


23,000 min⁻¹

Grit	Grade Hardness	o20	o30
# 36	Standard	64830	64835
# 46	Hard	64831	64836
# 80	Standard	64832	64837
# 80	Hard	—	64838

5 pcs./pack Polishing Sander

• Abrasive Disk for high speed rotation is made from overlapping abrasive cloths.



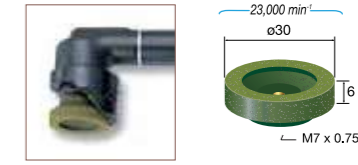
23,000 min⁻¹
o30 M7 x 0.75

Grit	
# 80	64842
# 120	64844
# 180	64846
# 240	64847
# 400	64849

• Convenient Assorted set for trial polishing
All grain size (5 types x each 1 pc.)
Total 5 pcs.-pack 64850

10 pcs./pack Rubber Cup Wheel

• Rubber Cup Wheel with high elasticity for grinding & polishing.



23,000 min⁻¹
o30 M7 x 0.75

Grit	Color	o30
# 60	Brown	64851
# 80	Red	64852
# 120	Blue	64853
# 180	Olive	64854
# 320	Green	64855
# 220	Brown	64856

• Convenient Assorted set for trial polishing
All grain size (6 types x each 2 pcs.)
Total 12 pcs.-pack 64859

Exclusive Tools of "FINE BELT SANDER"



FINE BELT SANDER Attachment

30 pcs./pack Abrasive Belts

• High Quality Abrasive Belts are superior in grinding & durability.



For Grinding or Polishing of Metals (Length 300 mm)

Grit	W = 4 mm	W = 6 mm	W = 8 mm
# 80	64901	64911	64921
# 120	64902	64912	64922
# 180	64903	64913	64923
# 240	64904	64914	64924
# 320	64905	64915	64925
# 400	64906	64916	64926
# 600	—	—	64927
# 800	—	—	64928

• Assorted set for preliminary finishing (● Mark)
Grain size (4 types x each 10 pcs.), W = 8 mm
Total 40 pcs.-pack 64931

• Assorted set for finishing (● Mark)
Grain size (4 types x each 10 pcs.), W = 8 mm
Total 40 pcs.-pack 64932



For Woodwork (Length 300 mm)

Grit	8 mm Width
# 80	64941
# 120	64942
# 240	64943

• Assorted set for woodwork
All grain size (3 types x each 10 pcs.)
Total 30 pcs.-pack 64955

NAKANISHI's EXCLUSIVE TOOLS

3 pcs./pack Diamond Belt

• For grinding and polishing of Carbide, Hardened steel, Steel, Special steels, Ceramic, FRP, etc.



Hard Type (Length 300 mm)

Grit	8 mm Width
# 80	65011
# 120	65012
# 240	65014
# 320	65015
# 600	65017

• **Assorted set**
All grain size (5 types x each 1 pc.)
Total 5 pcs.-pack **65019**



Soft Type (Length 300 mm)

Grit	8 mm Width	Grit	8 mm Width
# 120	65021	# 600	65025
# 180	65022	# 800	65026
# 240	65023	#1,000	65027
# 320	65024		
# 400	65028		

• **Assorted set**
All grain size (8 types x each 1 pc.)
Total 8 pcs.-pack **65030**

30 pcs./pack Zirconium Belt

• Best for polishing aluminum, stainless steel, brass



(Length 300 mm)

Grit	8 mm Width
# 80	64971
# 100	64972
# 120	64973

• **Assorted set**
All grain size (3 types x each 10 pcs.)
Total 30 pcs.-pack **64975**

Electrically Driven
EmaEVO ESPERT
Air Driven
ROTUS IMPULSE PRESTO II
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