

HIGH TORQUE BRUSHLESS MICRO-GRINDER

Esperit 500 Series

ESPERT 500 SERIES



Esperit 500 Standard Set

Code No.	9881 (120V)	Model	ES50C-HR
	9882 (230V)		



- Speed : 1,000~50,000 min⁻¹
- NAKANISHI Smart Switch
- Max. Output : 200W

Low Noise, Low Vibration

The brushless motor and incorporated cooling fan have reduced the vibration and noise levels models, resulting in a quieter, more comfortable work environment. Dramatically compared with conventional.

Wide Range of Collet Available

Collet sizes range from a tiny 0.3 mm up, with a wide variety of sizes available. (P.55)
Tools can be changed without the use of any spanners.



Esperit 500 Compact Motor Handpiece

Code No.	9091	Model	ENK50C-HR
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Standard Size Collet : ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)

Features of Motor Handpiece

Speed : 1,000~50,000 min⁻¹

Speed is steplessly variable from 1,000~50,000 min⁻¹. Smooth and powerful torque is delivered at both high and low speeds. The extremely high maximum speed of 50,000 min⁻¹ allows high precision micro-machining.

2 Types of Motors

Very high torque from compact motors.

		NAKANISHI Smart Switch Color
• Compact Type	(ENK-500C)	140W Blue
• Torque Type	(ENK-500T)	200W Gray

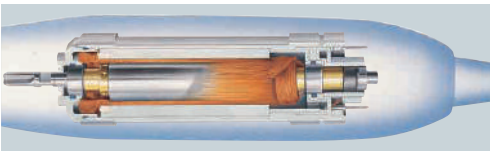
NAKANISHI Smart Switch

The switch provides a click sensation and a confirmation tone is produced by the Controller when the switch is operated. The motor type is distinguishable by the switch color.



Excellent Durability

High performance brushless motor eliminates the need to change carbon brushes. NAKANISHI's internal load test has proven continuous use for more than 5,000 hours.



High Precision

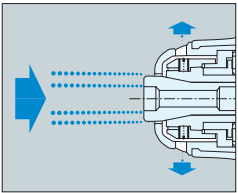
NAKANISHI's ultra-precision technology ensures bur concentricity of 0.02 mm or less, which allows for very high precision finishing.

Simple Screw on Attachments



Special Dust-Proof Mechanism

Then handpiece has a patented built-in dust protection system to prevent the infiltration of dust and debris into the front bearings. This NAKANISHI patented design assures long-term durability.



Micro Grinder & Handpiece Stand

This specially designed micromotor stand allows easy pick-up and set-down of the micro-grinder. Strong, but soft to the touch, the micro-grinder stand contains convenient, integrated storage compartments for adjustment spanners and a spare chuck.



9 Types of Attachments Available

9 different types of attachments making an almost infinite number of applications possible.



ADVANCED HIGH PERFORMANCE CONTROLLER

Esper 500 Series

ESPERT 500 SERIES



Esper 500 Torque Set

Code No.	9883 (120V)	Model	ES50T-HR
	9884 (230V)		



Portable Controller with Carrying Handle

Very convenient to be carried.



Features of Controller

Optimal Control via Microcomputer

The operation of all Esper 500 functions is controlled by a high performance microcomputer (CPU) that is programmed with NAKANISHI's proprietary technology. NAKANISHI's CPU has direct control of the brushless micro-grinder allowing smooth and highly precise cutting and polishing of a wide variety of materials. Bur "chatter" has been eliminated. The system automatically senses which micromotor is attached (ENK-500C or ENK-500T) and self adjusts to provide optimum micro-grinder performance.

Auto Cruise Function

The controller is equipped with an auto cruise function that operates the micro-grinder at a preset speed without the need to use the foot pedal. This function eliminates foot fatigue during prolonged operation.

Simplified Hand and Foot Pedal Control

You no longer need to push a switch on the controller to switch between hand and foot pedal control. If you want to operate the motor handpiece by hand simply push the NAKANISHI Smart Switch, if you want to use foot pedal control simply depress the foot pedal.

Memory Speed Function FiXspeed®

An exclusive new feature of the Esper 500 system, the FiXspeed® system allows the user to independently preset the speed of motor A and motor B. 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 pedal. This function allows for unprecedented flexibility.

Eco-Friendly Design

The electronic circuits are designed using NAKANISHI's proprietary technology to meet eco-friendly expectations by minimizing power consumption. Since power demands are minimal, no significant heat is generated and no cooling fan is required.

Error Code Display Function

Detects trouble and failures occurring within the motor or unit and displays them as one of seven types of error codes (E0-E6). This reassuring function permits the user to correct the problem. Possible errors are overload, open circuit, motor lock, controller overheat, etc.



Other Features

- Self Check Function (Maintenance Mode)
- Smooth Operation • Operation Check Sound
- Highly Visible and easy to operate front panel
- 2-Digit Digital Display
- A/B 2 Motors Can Be Connected (Simultaneous motor operation is not allowable)

Code No.	9793 (120V)
	9794 (230V)
Model	NE96

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

Specifications

Description	Esper 500 Controller
Power Source	AC 120/230V, 50-60 Hz
Dimensions	W172 x D230 x H94 mm
Weight	2.6 kg

Accessories : Handpiece Holder : 1 pc.
Handpiece Stand : 1 pc.

PRECISION BRUSHLESS MICRO-GRINDER

Espert 500 Sets

With Motor ON/OFF Switch

- Speed Range : 1,000~50,000 min⁻¹
- Microprocessor controlled for optimal motor control
- Hand Switch [NAKANISHI Smart Switch]
- Memory Speed Function [Fixspeed®]

High Power &
High Torque !!



Espert 500 Standard Set



1,000~50,000 min⁻¹

140w

- High Power System.
<Max. Output 140W>

Code No.	9881 (120V)
	9882 (230V)
Model	ES50C-HR

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

- Standard Equipment
- Controller (NE96) : 1 pc.
 - Compact Motor Handpiece (ENK50C-HR) : 1 pc.

- Standard Accessories
- Collet ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
 - Handpiece Holder : 1 pc. • Handpiece Stand : 1 pc.
 - Spanner (7 x 5.1) : 1 pc. • Pin Spanner (K-233) : 1 pc.
 - L Shaped Spanner (9) : 1 pc.

Espert 500 Torque Set



1,000~50,000 min⁻¹

200w

- Highest Power in its Class.
<Max. Output 200W>

Code No.	9883 (120V)
	9884 (230V)
Model	ES50T-HR

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

- Standard Equipment
- Controller (NE96) : 1 pc.
 - Torque Motor Handpiece (ENK50T-HR) : 1 pc.

- Standard Accessories
- Collet ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
 - Handpiece Holder : 1 pc. • Handpiece Stand : 1 pc.
 - Spanner (7 x 5.1) : 1 pc. • Pin Spanner (K-233) : 1 pc.
 - L Shaped Spanner (9) : 1 pc.

PRECISION BRUSHLESS MICRO-GRINDER

Espert 500 Motor Handpiece

With Motor ON/OFF Switch

1,000~50,000 min⁻¹

- Speed Range : 1,000~50,000 min⁻¹
- Microprocessor controlled for optimal motor control
- Hand Switch [NAKANISHI Smart Switch]
- Memory Speed Function [Fixspeed®]

MOTOR-HANDPIECE



Espert 500 Compact Motor Handpiece

1,000~50,000 min⁻¹

140w

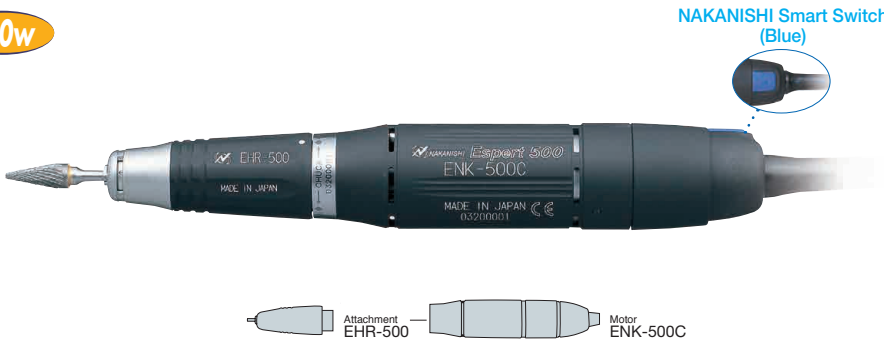
Code No.	9091
Model	ENK50C-HR

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.
 - L Shaped Spanner (9) : 1 pc.



Espert 500 Torque Motor Handpiece

1,000~50,000 min⁻¹

200w

Code No.	9092
Model	ENK50T-HR

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.
 - L Shaped Spanner (9) : 1 pc.



Code No.	d	D	L1	L2	L3	Weight	Max. Output	Speed Range	Collet
9091	ø13.3	ø26.8	59.4	107.8	167.2	210 g (*)	140W	1,000~50,000 min ⁻¹	ø0.3~ø3.175 mm
9092	ø13.3	ø28.3	59.4	121.4	180.8	250 g(*)	200W	1,000~50,000 min ⁻¹	CHH Group (P.55)

* Weight (w/o Coiled Cord)

◆ Order by Code No.

Espert 500 Series System Chart

Code No.

Model

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

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

Motor

Compact Motor and Cord

9088

ENK-500C

1,000~50,000 min⁻¹

Torque Motor and Cord

9089

ENK-500T

1,000~50,000 min⁻¹

Controller

Espert 500 Controller

9793 (120V)

9794 (230V)

NE96

Sets

Espert 500 Standard Set

Code No.

Model

9881 (120V)

9882 (230V)

ES50C-HR

Standard Equipment

Controller (NE96) : 1 pc.

Compact Motor Handpiece (ENK50C-HR) : 1 pc.

Collet ϕ 3.0 mm (CHH-3.0), ϕ 2.35 mm (CHH-2.35)

Standard Accessories

Handpiece Holder : 1 pc.

Handpiece Stand : 1 pc.

Spanner (7 x 5.1) : 1 pc.

Pin Spanner (K-233) : 1 pc.

L Shaped Spanner (9) : 1 pc.

Emax EVOLUTION, ELECTER E-max and ROTUS attachments can be connected using these adaptors.

Extension Adaptor

1518

ECN-011

1/4 Speed Reducer

1517

ERG-01

Emax EVOLUTION, ELECTER E-max and ROTUS attachments can be connected using these adaptors.

Extension Adaptor

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1/4 Speed Reducer

1517

ERG-01

⚠ Details of Maximum Allowable speed on intermittent use or continuous use P.31~33

Espert 500 Series

Espert 500 Controller

Code No.	9793 (120V)
	9794 (230V)
Model	NE96

- Microprocessor controlled for optimal motor control.
- Memory Speed Function FiXspeed®.
- Power Source : AC120/230V, 50-60 Hz
- Dimensions : W172 x D230 x H94 mm
- Weight : 2.6 kg

Standard Accessories

- Handpiece Stand : 1 pc.
- Handpiece Holder : 1 pc.

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

Espert 500 Compact Type Motor

Code No.	9088
Model	ENK-500C

1,000~50,000 min⁻¹

- Incorporates the NAKANISHI Smart Switch for easy on/off operation.
- Small, lightweight, high-speed brushless DC motor.

- Output Power : 140W
- Max. Torque : 6.0 cN·m
- Cord Length : 1.5 m
- Weight : 115 g (w/o cord)

Espert 500 Torque Type Motor

Code No.	9089
Model	ENK-500T

1,000~50,000 min⁻¹

- Incorporates the NAKANISHI Smart Switch for easy on/off operation.
- High-power, high-torque, high-speed brushless DC motor.

- Output Power : 200 W
- Max. Torque : 8.7 cN·m
- Cord Length : 1.5 m
- Weight : 160 g (w/o cord)

◆ Order by Code No.

P.30

P.29

Ring Type Attachment

Code No. 9090 Model EHR-500



- 50,000 min⁻¹ Max.
- High precision and high reliability is realized by micron precision.
 - Slim, lightweight design allows for fine finishing of delicate parts.
 - One-touch ring type bur replacement.



◆ Weight : 94 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.
- L Shaped Spanner (9) : 1 pc.

6 mm Torque Type Attachment

Code No. 1552 Model EHG-400



- 40,000 min⁻¹ Max.
- Please use it with Speed Reducer.
- Permits the use of ø6.0 mm shank burs.
 - Collet is tightened by a spanner.



◆ Weight : 110 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.

Lever Type Attachment

Code No. 1515 Model EHL-401



- 50,000 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 : 70 g

Standard Size Collet

ø3.0 mm (CHH-3.0) ø2.35 mm (CHH-2.35)

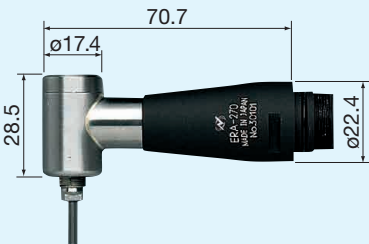
Optional Collets : CHH group are shown in page (P.55)

Standard Accessories

- Spanner (7x5.1) : 1 pc.
- Pin Spanner (K-233) : 1 pc.

90° Angle Torque Attachment

Code No. 1551 Model ERA-270



- 27,000 min⁻¹ Max.
- Large gear for better durability and high load capacity.
 - Perfect for finishing bottom surfaces and other tight, hard to reach areas.
 - Suitable for polishing a flat surface at speed with a grinding disk pad.



◆ Speed Reduction Ratio : 1/1.5

◆ Weight : 107 g

Standard Size Collet

ø3.0 mm (CHS-3.0)

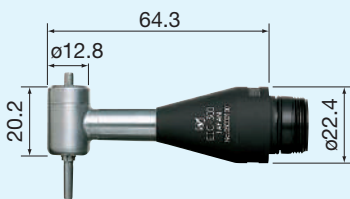
Optional Collets : CHS group are shown in page (P.56)

Standard Accessories

- Spanner (8x5) , (7x5.1) , (20x24) : 1 pc. each

90° Angle Attachment

Code No. 1525 Model EIC-300



- 30,000 min⁻¹ Max.
- Suitable for polishing a flat surface at speed with a grinding disk pad.
 - Capable of applications for rough cutting to mirror finishing.
 - Speed Reduction Ratio : 3/4



◆ Weight : 54 g

Standard Size Collet

ø3.0 mm (CHC-3.0)

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

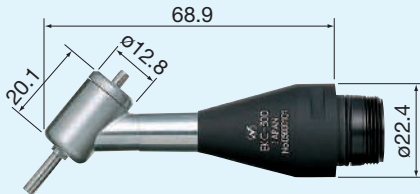
Standard Accessories

- Chuck Wrench (K-231) : 1 pc.
- Spanner (20 x 24) : 1 pc.
- Standard Accessories : 1 set

Code No.	Description	Package
64101	Rubber Pad (Small) O.D. ø10 mm	1 pc./pack
64102	Rubber Pad (Med) O.D. ø20 mm	
64103	Rubber Pad (Large) O.D. ø30 mm	
64133	Sand Paper Disk for small pad ø11 #180	5 pcs./pack
64137	Sand Paper Disk for small pad ø11 #600	
64153	Sand Paper Disk for med. pad ø21 #180	
64157	Sand Paper Disk for med. pad ø21 #600	
64173	Sand Paper Disk for large pad ø31 #180	
64177	Sand Paper Disk for large pad ø31 #600	

50° Angle Attachment

Code No. 1526 Model EKC-300



- 30,000 min⁻¹ Max.
- Perfect for finishing bottom surfaces and other tight, hard to reach areas.
 - Suitable for polishing a flat surface at speed with a grinding disk pad.
 - Speed Reduction Ratio : 3/4. Use the motor in reverse rotation for clockwise rotation.



◆ Weight : 54 g

Standard Size Collet

ø3.0 mm (CHC-3.0)

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

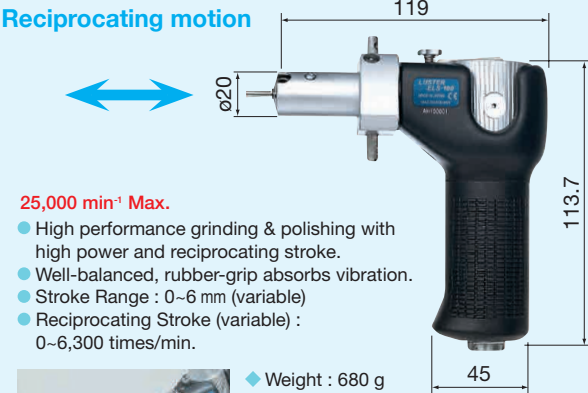
Standard Accessories

- Chuck Wrench (K-231) : 1 pc.
- Spanner (20x24) : 1 pc.
- Standard Accessories : 1 set

Code No.	Description	Package
64101	Rubber Pad (Small) O.D. ø10 mm	1 pc./pack
64102	Rubber Pad (Med) O.D. ø20 mm	
64103	Rubber Pad (Large) O.D. ø30 mm	
64133	Sand Paper Disk for small pad ø11 #180	5 pcs./pack
64137	Sand Paper Disk for small pad ø11 #600	
64153	Sand Paper Disk for med. pad ø21 #180	
64157	Sand Paper Disk for med. pad ø21 #600	
64173	Sand Paper Disk for large pad ø31 #180	
64177	Sand Paper Disk for large pad ø31 #600	

LUSTER Attachment (Pistol-Type Polisher)

Code No. 1516 Model ELS-100



- 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 (variable) : 0~6,300 times/min.



◆ Weight : 680 g

◆ Max. tool shank diameter ø6.4 mm, Screw clamp type

Standard Accessories

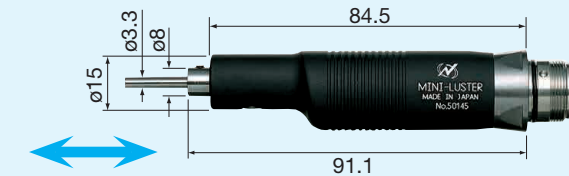
- Allen Wrench (2 mm), (3 mm) : 1 pc. each
- Lubricating Oil • Lubrication Nozzle for LUSTER
- Standard Accessories : 1 set

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

MINI-LUSTER Attachment (Pencil-Type Reciprocating Polishing Finisher)

Code No. 1554 Model EML-8 Stroke (0.8 mm)

Reciprocating motion



- 25,000 min⁻¹ Max.
- High Speed reciprocating polisher for rapid finishing of small surfaces.
 - The lightweight pencil type design makes it very controllable.
 - Ideal for small, tight areas such as tight corners, ribs, etc.
 - Reciprocating Speed (variable) : 0-10,000 strokes/min
 - Weight : 130 g
 - Max. tool shank diameter ϕ 3.2 mm, Screw clamp type

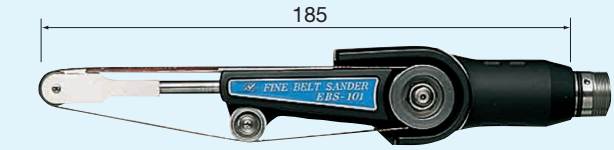
Standard Accessories

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

Code No.	Description	Package
62751	Spring Holder	1 pc./pack
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	

FINE BELT SANDER Attachment

Code No. 1145 Model EBS-101



30,000 min⁻¹ Max.



- Very high belt speed, ideal for applications from deburring to radius finishing.
- Belt Speed : 0-705 m/min
- Weight : 355 g
- Belt Sizes : 4, 6, 8 mm wide x 300 mm long

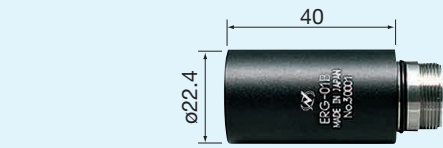
Standard Accessories

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

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	

1/4 Speed Reducer

Code No. 1553 Model ERG-01B



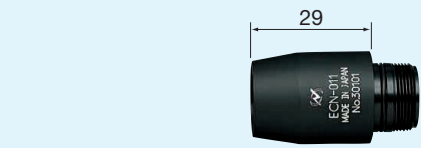
- 30,000 min⁻¹ Max.
- Mounted between an attachment and a motor.
 - The speed is reduced to 1/4 but the torque is multiplied by 4 times.
 - Suitable for high torque grinding process or drilling.
 - Weight : 65 g

Standard Accessories

- Pin Spanner (K-233) : 1 pc.

Extension Adaptor

Code No. 1518 Model ECN-011



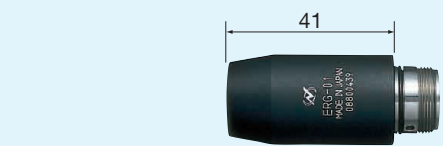
- 40,000 min⁻¹ Max.
- The Adaptor can be used with the attachments for Emax EVOLUTION, E-max and ROTUS you already have.
 - Weight : 31 g

Standard Accessories

- Spanner (20 x 24) : 1 pc.

1/4 Speed Reducer

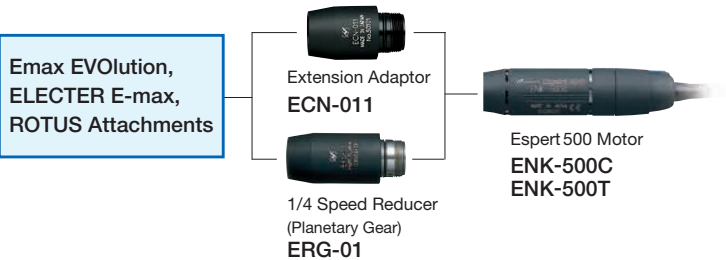
Code No. 1517 Model ERG-01



- 30,000 min⁻¹ Max.
- The Speed Reducer can be used with the attachments for Emax EVOLUTION, E-max and ROTUS you already have.
 - The speed is reduced to 1/4 but the torque is multiplied by 4 times.
 - Suitable for high torque grinding process or drilling.
 - Weight : 62 g

Standard Accessories

- Pin Spanner (K-233) : 1 pc.



Espert 500 Series Spare Parts

Product	Description	Code No.	Model	Specifications
	Foot Pedal	1440	FC-40	Variable Speed Control Foot Pedal
	Espert 500 Handpiece Stand	8104	K-274	
	Espert 500 Compact Motor Cord	9093	ENKCD-50C	Compact Motor Cord • 1.5 m Long
	Espert 500 Torque Motor Cord	9094	ENKCD-50T	Torque Motor Cord • 1.5 m Long

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

Always use safety glasses, mask, face guard for your safety.

Fasten the collet firmly.
Make sure the tool is fully installed in the collet to avoid tool slippage.

Do not touch the tools when in operation.
Make sure the work area is neat and there is sufficient light.

Do not use the tool where flammable liquids or gases exist.

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.

Do not leave operating tools.
Confirm that the tool has stopped completely after switching off.

Keep the tools and products in a cool, dry place.

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.

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.

Stop grinding or polishing immediately whenever unusual sounds, vibrations, or wear are found.
Restart the work only after the problem is found and corrected.

Only use attachments, parts, consumable articles and accessories produced by NAKANISHI.

Do not wear loose clothing and/or accessories that may be caught in machinery.
Long hair should be secured prior to machine operation.

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.

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.

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).

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

	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.
	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.
	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.
	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

Code No. **62801~**

NAKANISHI's EXCLUSIVE TOOLS

Electroplated Diamond File

Flat taper		Thickness 1.4	0.5 mm # 200 62801	0.4 mm # 400 62802	0.35 mm # 600 62803
Flat taper		Thickness 1.4	0.5 mm # 200 62805	0.4 mm # 400 62806	0.35 mm # 600 62807
Flat		1.5	# 150 62811	# 200 62812	# 400 62813
Flat (Single side electroplating)		1.2	# 100 62814		
Flat		1.4	# 150 62815	# 200 62816	# 400 62817
Flat (Single side electroplating)		1	# 150 62821	# 200 62822	# 400 62823
Flat (Single side electroplating)		1.5	# 150 62825	# 200 62826	# 400 62827

Angular

Round

Round

Round

Round taper

Half-round

Half-round

Triangular

End Code number on each page

Code number (Order number)

Standard package quantity

Shank diameter of the tool

Maximum allowable speed

Total length of the tool (mm)

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

NAKANISHI's EXCLUSIVE TOOLS

SHANK ø3.0

1 pc./pack Electroplated Diamond File

Flat taper		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62801	
		0.4 mm	# 400	62802	
Flat taper		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62805	
		0.4 mm	# 400	62806	
Flat		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62811	
		0.4 mm	# 400	62812	
Flat (Single side electroplating)		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62815	
		0.4 mm	# 400	62816	
Flat		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62821	
		0.4 mm	# 400	62822	
Flat (Single side electroplating)		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62825	
		0.4 mm	# 400	62826	

Angular		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62831	
		0.4 mm	# 400	62832	
Round		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62840	
		0.4 mm	# 400	62841	
Round		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62845	
		0.4 mm	# 400	62846	
Round		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62851	
		0.4 mm	# 400	62852	
Round taper		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62855	
		0.4 mm	# 400	62856	
Half-round		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62865	
		0.4 mm	# 400	62866	
Half-round		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62871	
		0.4 mm	# 400	62872	
Triangular		Thickness 1.4	t	Grit	
		0.5 mm	# 200	62881	
		0.4 mm	# 400	62882	

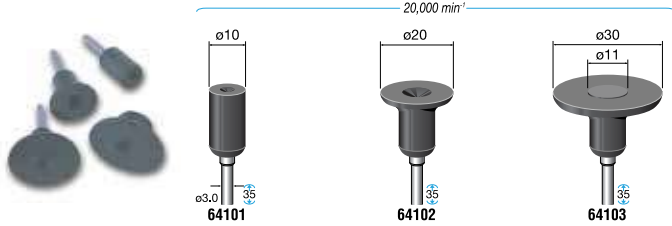
Exclusive Tools of "60° & 90° ANGLE"



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

SHANK ø3.0

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)

For Metals	Grit	ø11	ø21	ø31
	# 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)

For Metals (Black)	Grit	ø11	ø21	ø31
	# 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

For Dry type (White)	Grit	ø11	ø21	ø31
	# 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	ø11	ø21	ø31
# 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	ø11	ø21	ø31
# 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	ø11	ø21	ø31
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 Oxid (Blue Rouge) Embedded.



Description	ø11	ø21	ø31
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	ø20	ø30
# 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

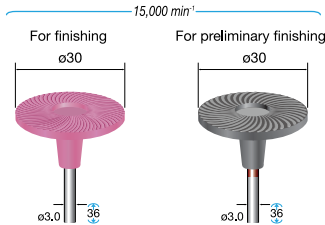
SHANK ø3.0

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

• Moderately hard abrasive grain have great polishing ability.



For finishing			
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



For preliminary finishing (Fast grinding)		
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	ø11	ø21	ø31
# 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	ø11	ø21	ø31
# 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

Star Pattern

Grit	ø11	ø21	ø31
# 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 maybe changed without notice

3 pcs./pack Lapping Film Disk Diamond Abrasive

Diamond Film (Diamond)

Grit	Color	ø11	ø21	ø31
# 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

Aramid Film (WA)

Grit	Color	ø11	ø21	ø31
# 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

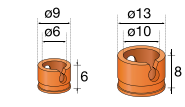
Adhesive Back

SHANK ø3.0 Lap Ring



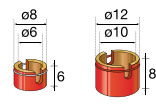
• Plastic and brass lapping rings for use with abrasive and diamond compounds.

10 pcs./pack Replacement Plastic Ring



64713 64717

5 pcs./pack Replacement Brass Ring



64723 64727

*Do not use the same ring for different abrasive compound grits.

1 pc./pack Replacement Holder

For internal diameter ø6 mm

For internal diameter ø10 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 ø1.6 Steel Cutters For Deep Cross Hole Finishing

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



SHANK ø1.6 Diamond and CBN Coated Burs For Deep Cross Hole Finishing

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

Diamond

Grit	ø1.6	ø2.5	ø3	ø4
# 11131	11131	11132	11133	11134

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

Diamond

Grit	ø1.6	ø2.7	ø3	ø5	ø6	ø8
# 11151	11151	11152	11153	11154	11155	11156

CBN

Grit	ø1.6	ø2.7	ø3	ø5	ø6	ø8
# 11161	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

ø20 M7 x 0.75 64821

ø30 M7 x 0.75 64822

12 pcs./pack Cup Wheel

23,000 min⁻¹

ø20 M7 x 0.75 64830 64835

ø30 M7 x 0.75 64832 64837 64838

5 pcs./pack Polishing Sander

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

23,000 min⁻¹

ø30 M7 x 0.75

64842 64844 64846 64847 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

ø30 M7 x 0.75

64851 64852 64853 64854 64855 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

E-maxEVO
ESPERT

Air Driven

ROTUS
IMPULSE
PRESTO II

General Parts

GENERAL
PARTS

CAUTION

Exclusive Tools

EXCLUSIVE
TOOLS

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