**ESPERT 500 SERIES**

**The Ultimate in Everything**

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

**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 maximum speed of 50,000 min⁻¹ allows high precision micro-processing.

- **2 Types of Motors**
  - Compact Type (ENK-500C) 140W
  - Torque Type (ENK-500T) 200W

- **NAKANISHI Smart Switch**
  - The switch has a moderate clicking sensation, and the controller emits a beeping sound in response to operation. The switch color indicates the motor type.

- **Excellent Durability**
  - High performance brushless motor eliminates the need to change carbon brushes. NAKANISHI’s internal load test has demonstrated continuous use for more than 5,000 hours.

- **High Precision**
  - NAKANISHI’s ultra-precision technology ensures a center runout below 0.02 mm, which allows for very high precision finishing.

- **Simple Screw on Attachments**
  - Easy and fast attachment of the micro-grinder stand.

- **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.

- **Low Noise, Low Vibration**
  - The brushless motor and incorporated cooling fan have reduced the vibration and noise levels dramatically compared with conventional models, resulting in a quieter, more comfortable work environment.

- **Wide Range of Collets Available**
  - Collet sizes range from a tiny 0.3 mm up, with a wide variety of sizes available. Tools can be changed without the use of any wrenches.

- **9 Types of Attachments Available**
  - 9 different types of attachments making an almost infinite number of applications possible.

**ESPERT 500 Series**

- **Standard Set**
  - Code No. 9881 120V
  - Code No. 9882 230V
  - Model ES50C-HR

- **Compact Motor Handpiece**
  - Code No. 9091
  - Model ENK50C-HR

**Specifications**

- **Speed**: 1,000~50,000 min⁻¹
- **Max. Output**: 200W
- **Torque**: 200W
- **Collet Sizes**: Ø3.0 mm (CHH-3.0), Ø2.35 mm (CHH-2.35)
- **Order by Code No.**

---

**CAUTION**

- Electric System
- Air System
- Ultrasonic
- General Parts
- Exclusive Tools
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.

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.

• 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

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.

The operation of all Espert 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.

An exclusive new feature of the Espert 500 system, the FIxpeed® 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 FIxpeed® system while motor B has variable control using a foot pedal. This function allows for unprecedented flexibility.

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.

Features of Controller

Optimal Control via Microcomputer

The operation of all Espert 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.

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 FIxpeed®

An exclusive new feature of the Espert 500 system, the FIxpeed® 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 FIxpeed® 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 Model)
- Smooth Operation • Operation Check Sound
- Highly Visible and easy to operate front panel
- 2-Digit Digital Display
- A / B 2 Motors Can Be Connected

(If there are two motors, they are connected in parallel.)
Espert 500 Series

**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™]

**Espert 500 Standard Set**

1,000~50,000 min⁻¹
- High Power System. <Max. Output 140W>

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>9881</td>
<td>E590C-HR</td>
</tr>
<tr>
<td>9882</td>
<td>E590C-HR</td>
</tr>
</tbody>
</table>

- Please check the power source plug type (p.4-6).

**Espert 500 Torque Set**

1,000~50,000 min⁻¹
- Highest Power in its Class. <Max. Output 200W>

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>9883</td>
<td>E590-HR</td>
</tr>
<tr>
<td>9884</td>
<td>E590-HR</td>
</tr>
</tbody>
</table>

- Please check the power source plug type (p.4-6).

**Espert 500 Compact Motor Handpiece**

1,000~50,000 min⁻¹
- Microprocessor controlled for optimal motor control
- Hand Switch [NAKANISHI Smart Switch]
- Memory Speed Function [FixSpeed™]

**Espert 500 MOTOR-HANDPIECE**

- High Power & High Torque!!

**Espert 500 Motor Handpiece**

- Speed Range: 1,000~50,000 min⁻¹

**Espert 500 Compact Motor Handpiece**

1,000~50,000 min⁻¹
- Standard Size Collet
  - ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
  - Collet ø3.0 mm (ENK30T-3.0), ø2.35 mm (ENK30T-2.35)
  - Handpiece Holder: 1 pc. • Handpiece Stand: 1 pc.
  - Wrench (7 x 5.5): 1 pc. • Pin Wrench (K-230): 1 pc.
  - L Shaped Wrench (9): 1 pc.

**Espert 500 Torque Motor Handpiece**

1,000~50,000 min⁻¹
- Standard Size Collet
  - ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
  - Collet ø3.0 mm (ENK30T-3.0), ø2.35 mm (ENK30T-2.35)
  - Collet ø3.0 mm (ENK50T-3.0), ø2.35 mm (ENK50T-2.35)
  - Handpiece Holder: 1 pc. • Handpiece Stand: 1 pc.
  - Wrench (7 x 5.5): 1 pc. • Pin Wrench (K-230): 1 pc.
  - L Shaped Wrench (9): 1 pc.

**Espert 500 Controller**

- Model: NE96
  - Motor: EHR-500
  - Weight: 250 g

**Espert 500 Standard Set**

- Motor: EHR-500
  - Weight: 180 g

**Espert 500 Compact Motor Handpiece**

- Model: ENK50T-3.0
  - Weight: 140W

**Espert 500 Torque Motor Handpiece**

- Model: ENK50T-3.0
  - Weight: 140W

- Max. Output: 200W

- Weight (w/o Collet): 190 g

Order by Code No. p.1-26
### Espert 500 Series

####Espert 500 Controller
- Microprocessor controlled for optimal motor control.
- Memory Speed Function FǐXpeed®.
- Power Source: AC120/230V, 50-60 Hz
- Dimensions: W172 x D230 x H94 mm
- Weight: 2.6 kg

####Espert 500 Compact Type Motor
- 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: 140 W
- Max. Torque: 8.7 cN·m
- Cord Length: 1.5 m
- Weight: 160 g (w/o cord)

####Espert 500 Torque Type Motor
- 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: 140 g (w/o cord)

### Espert 500 Series System Chart

####Attachment
- Ring Type
  - 9020: EHR-500T
- Lever Type
  - 1062: ENK-500T
- 2 mm Torque Type
  - 1052: EH2-402
- 90° Angle Type
  - 1055: BIC-300
- 50° Angle Type
  - 1056: TEC-300
- 90° Angle Torque Type
  - 1055: ESA-300

####Motor
- Compact Motor with Cord
  - 9088: ENK-500C
- Torque Motor with Cord
  - 9089: ENK-500T

####Sets
- Compact Motor Handpiece (ENK50C-HR)
- Collet: ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
- Controller (NE96)

####Espert 500 Standard Set
- Code No.: 9081: 1 pc.
- Model: E500C-HR
- Standard Equipment:
  - Compact Motor Handpiece (ENK50C-HR): 1 pc.
  - Collet: ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)
  - Controller (NE96): 1 pc.
- Standard Accessories:
  - Handpiece Holder: 1 pc.
  - Handpiece Stand: 1 pc.
  - Pin Wrench (K-233): 1 pc.
  - L Shaped Wrench (9): 1 pc.

Details of Maximum Allowable speed on intermittent use or continuous use p.1-29~31

Order by Code No.
Ring Type Attachment

Code No. 9090 Model EHR-500

- 50,000 min⁻¹ Max.
- Weight: 54 g
- ø6.0 mm (CHC-6.0), ø2.35 mm (CHH-2.35)

Optional Collets: CHH Group are shown in page (p.4-3)

Lever Type Attachment

Code No. 1515 Model EHL-401

- 50,000 min⁻¹ Max.
- Weight: 70 g
- ø3.0 mm (CHH-3.0), ø2.35 mm (CHH-2.35)

Optional Collets: CHH Group are shown in page (p.4-3)

6 mm Torque Type Attachment

Code No. 1552 Model EHG-400

- 40,000 min⁻¹ Max.
- ø6.0 mm shank burs ready
- ø6.0 mm shank burs ready

90° Angle Torque Attachment

Code No. 1551 Model ERA-270

- 27,000 min⁻¹ Max.
- Weight: 107 g
- ø4.0 mm (CHH-4.0), ø2.35 mm (CHH-2.35)

Optional Collets: CHH Group are shown in page (p.4-3)

90° Angle Attachment

Code No. 1525 Model EIC-300

- 30,000 min⁻¹ Max.
- Weight: 54 g
- ø6.0 mm (CHC-6.0), ø2.35 mm (CHH-2.35)

Optional Collets: CHH Group are shown in page (p.4-3)

50° Angle Attachment

Code No. 1526 Model EKC-300

- 30,000 min⁻¹ Max.
- Weight: 54 g
- ø4.0 mm (CHH-4.0), ø2.35 mm (CHH-2.35)

Optional Collets: CHH Group are shown in page (p.4-3)

LUSTER Attachment (Pistol-Type Polisher)

Code No. 1516 Model ELS-100

- Reciprocating motion
- ø6.0 mm shank burs ready
- ø6.0 mm shank burs ready

Reciprocating Stroke (variable): 0.5~1.5 mm
Speed Reduction Ratio: 3/4

Maximum Allowable Speed, continuous use may change depending on the material being cut and other application variables.
Espert 500 Series Spare Parts

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

**MINI-LUSTER Attachment**

Reciprocating motion

25,200 mm/min 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 - 150 g
- Max. tool shank diameter ø3.5 mm

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

**FINE BELT SANDER Attachment**

30,000 min⁻¹ Max.
- Very high belt speed, ideal for applications from deburring to radius finishing.
- Belt Speed: 0 - 705 m/min
- Weight: 305 g
- Belt Sizes: 4, 6, 8 mm wide x 300 mm long

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

**1/4 Speed Reducer**

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

Standard Accessories
- Pin Wrench (K-233) - 1 pc.

**Extension Adaptor**

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
- Wrench (20 x 24) - 1 pc.
Precautions for using NAKANISHI Products

For safe usage
● Please read operation manuals before using any NAKANISHI product.
● Please keep the operation manuals on hand so that the user can refer to them at any time.

Caution
Incorrect use of the product, or ignoring ‘CAUTIONS for safety’ described in the operating manuals may cause fatal or serious bodily injury.

CAUTIONS

Always use safety glasses, masks, face guards for your safety.

Select proper hand tools and for your application. Select tools carefully considering the performance of the hand tools, work procedure and type / shape of the material.

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

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

Do not operate the products where flammable liquids or gases exist.

Fix the work material firmly in a vise and/or other clamping fixture.

Perform an inspection 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.

Fasten the chuck firmly. Make sure the tool is intact in the chuck to avoid tool slippage.

Do not use damaged or broken electric cords and air hoses.

Start at low speed and gradually increase 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.

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

The tools should be used by taking care of the overhang and below maximum allowable speed. The catalogue shows the maximum allowable speed at 10 mm overhang (distance between the face of the collet and the top of the tool shank),

The catalogue shows the maximum allowable speed at 10 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 10 mm.

<table>
<thead>
<tr>
<th>Overhang</th>
<th>Maximum allowable speed (min⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10 mm</td>
<td>Shown in the catalogue (A)</td>
</tr>
<tr>
<td>Less than 20 mm</td>
<td>(A) x 0.6</td>
</tr>
<tr>
<td>Less than 25 mm</td>
<td>(A) x 0.3</td>
</tr>
<tr>
<td>Less than 50 mm</td>
<td>(A) x 0.1</td>
</tr>
</tbody>
</table>

Do not apply high pressure or pry to 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.

Check the tools carefully before use. Confirm that the tools are free of chips, cracks, splits, scratches, lack of bonding, deformation, etc.

Store the tools and hand tools in a cool and dry place.

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

Fasten the tool firmly.

Safe usage

● Use only the NAKANISHI product that have been designated for the intended use. Do not use the product to do work not designed for.

Always use safety glasses, masks, face guards for your safety.

Select proper hand tools and for your application. Select tools carefully considering the performance of the hand tools, work procedure and type / shape of the material.

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How to view NAKANISHI’s Exclusive Tools

The pages are organized by code number, so you can find the code number you need by checking the code numbers printed at the top of the left and right pages.

**SHANK DIAMETER**

Indicates the shank diameter of various types of shafted tools.

- NAKANISHI micro grinders use a collet system to maintain high precision. Please prepare a collet that corresponds to each shank diameter.

**Grit Size (Mesh Size)**

This indicates the size (roughness) of the abrasive grains used in various types of polishing / grinding materials. The larger the number, the smaller (finer) the grit size, and conversely, the smaller the number, the larger (coarser) the grit size (roughness). This is the most significant factor that affects the roughness of the finished surface.

- Rough Finishing: 46, 54, 60, 70, 80, 90
- Pre Finishing: 100, 120, 150, 180
- Medium Finishing: 220, 240, 280, 320, 400
- Finishing: 600, 800, 1000
- Extra Fine: 1200, 1500, 1800, 2000
- Mirror Finishes: 3000, 4000, 6000, 8000

**Maximum Allowable Speed**

Do not exceed the maximum allowable speed. For safety reasons, always use below the indicated speed. If this is the first time you are using the equipment or tip tool, start with a low speed and gradually increase it to reach the most appropriate speed for use.

Conditions may vary depending on the type, shape, overall length, and wear condition of the tip tool, so please work with constant care.

- The maximum allowable operating speed is for when the overhang is under 10 mm. If the overhang is more than 10 mm, please reduce the speed.
- For details, please refer to “Precautions for use” on page A-3-4.
- Make sure there are no mechanical defects in the equipment prior to each use.

**Quantity in Standard Package**

A standard package is the minimum shipping unit. This number shows the number of pieces in the standard package (bag, box, etc.). Please order the number of packages needed for the desired quantity.
Handy Type Reciprocating Grinder (Electric / Pneumatic)

Exclusive Tools for “LUSTER”

Original tools that assist the LUSTER’s powerful polishing ability to realize a speedy finish. We have a wide variety of tools for a wide range of processes from filing to mirror finish.

Grindstone Holder

Maximum clampable thickness 4.5 x width 11 mm

Maximum clampable thickness 11 x width 13.5 mm

Ceramic Fiber Holder - Grindstone Holder

Maximum clampable thickness 1 x width 4 mm

Maximum clampable thickness 1 x width 10 mm

Grindstone Holder Maximum clampable thickness 3 x width 6 mm

Flat Tip Holder

Attach the following Sandpaper and various polishing sheets.

Square Pad Holder

The holder for polishing tips is ideal for polishing the bottom of a box shape. The damper function allows the holder to continuously fit the work surface, and the angle can be freely adjusted to continuously capture the work surface for efficient polishing.

Sandpaper

Please attach to a flat tip holder or rectangular pad holder.

For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.
Electroplated Diamond File

**Features**
- Diamond abrasive grains are electroplated to the file surface (electroplated coating).
- The amount of protruding diamond grains is large, and the cutting performance is excellent.
- We use carefully selected diamond abrasive grains and electroplate them particularly strongly for machine finishing, so they have excellent durability. It has excellent durability.
- It is suitable for finishing of high-hardness metals such as mold steel, heat treated metal, cemented carbide, and ceramics, polishing and finishing of various molds, and deburring and correction of machine parts.

<table>
<thead>
<tr>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3</td>
<td>#200</td>
<td>62301</td>
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<tr>
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<td>0.3</td>
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</tr>
<tr>
<td>0.3</td>
<td>#150</td>
<td>62317</td>
</tr>
</tbody>
</table>

Tool Holder with Spring

**Features**
- This is a utility holder that allows files and various tools to fit the abrasive tip to the work surface by the spring damper function.
- The damper function absorbs all the vertical movement (flapping and bouncing) of the abrasive tool during reciprocating motion, enabling ideal reciprocating motion.
- This makes it possible to apply the grinding tool flatly to the work surface, resulting in highly efficient even and smooth surfaces.
- Diamond files, various files, ceramic fiber grindstones (ø3 mm), various lapping sticks, various holders, etc. can be installed and used.

For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.
Precision Finishing File (Flat, Round, Square, Triangular, Half-Round)

<Features>
- Ideal for precision finishing of general steel, brass, copper alloy, hard resin, etc.
- Carefully selected materials and advanced grading technology provide superior sharpness and durability.
- Speedy finishing is possible by using the LUSTER series (Electric / Pneumatic).

Coarse File for Plastic and Woodworking (Flat, Round, Square, Triangular, Half-Round)

<Features>
- Ideal for filing wood products, plywood, compressed materials, and plastics.
- It is characterized by its superior sharpness and durability due to its advanced grading technology.
- It can be used with the Luster Series (Electric / Pneumatic) for speedy finishing.

---

Set of 5 types

- Precision Finishing File Medium-Grit Set
  - Code No. 57301
  - Code No. 57302
  - Code No. 57303
  - Code No. 57304
  - Code No. 57305

- Precision Finishing File Fine-Grit Set
  - Code No. 57311
  - Code No. 57312
  - Code No. 57313
  - Code No. 57314
  - Code No. 57315

Set of 5 types

- Coarse File Plastic and Woodworking Set
  - Code No. 57401
  - Code No. 57402
  - Code No. 57403
  - Code No. 57404
  - Code No. 57405

---

For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.
Pencil Type Reciprocating Grinder (Electric / Pneumatic) 
Exclusive Tools for Polisher “MINI-LUSTER”

Designed to be easy to use, taking advantage of the features of the lightweight pencil type. The line-up of NAKANISHI’s original tools is ideal for delicate and precise abrasive finishing.

- A variety of polishing tips can be attached to MINI-LUSTER for efficient finish polishing.
- In addition to the polishing tips listed below, a wide range of cut polishing sheets (diamond film, felt sheets, etc.) can be used.
- The compact holder can be mounted on the pencil type MINI-LUSTER in a well balanced manner and is easy to use.

Please attach to a flat tip holder or rectangular pad holder.

**Ceramic Fiber Holder-Grindstone Holder**

- Maximum clampable thickness 1 x width 4 mm
- Maximum clampable thickness 1 x width 10 mm
- Maximum clampable thickness 1 x width 6 mm

**Grindstone Holder**

- Maximum clampable thickness 3 x width 6 mm

**Ceramic Fiber Grindstone**

- Violet: #120 60511, 60516, 60521
- Brown: #220 60512, 60517, 60522
- Orange: #400 60513, 60518, 60523
- Blue: #800 60514, 60519, 60524
- Red: #1200 60515, 60520, 60525

**Flat Tip Holder**

- For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.

**Sandpaper**

- Please attach to a flat tip holder or rectangular pad holder.

**Tool Holder with Spring**

- This is a utility holder that allows files and various tools to fit the abrasive tool to the work surface by the spring damper function.
- The damper function absorbs all the vertical movement (flapping and bouncing) of the abrasive tool during reciprocating motion, enabling ideal reciprocating motion.
- This makes it possible to apply the grinding tool flatly to the work surface, resulting in highly efficient, even and smooth surfaces.
- Diamond files, various files, ceramic fiber grindstone (ø3 mm), various lapping sticks, various holders, etc. can be installed and used.
Electroplated Diamond File

**Features**
- Diamond abrasive grains are electroplated to the file surface (electroplated coating).
- The amount of protruding diamond abrasive grains is large, and the cutting performance is excellent.
- We use carefully selected diamond abrasive grains and electroplate them particularly strongly for machine finishing, so they have excellent durability.
- It is suitable for finishing of high-hardness metals such as mold steel, heat treated metal, cemented carbide, and ceramics, polishing and finishing of various molds, and deburring and correction of machine parts.

**Specifications**
- **Grit Size**
  - Code No.: 62801 #200, 62802 #400, 62803 #600
  - Thickness (t): 0.5 mm, 0.4 mm, 0.35 mm
- **Thickness of 62815 is 1.4 mm.**

For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.
Pencil Type Swing Polisher (Electric / Pneumatic) Exclusive Tools for “SWING-LUSTER”

The left-right horizontal swinging file swings around narrow areas (ribs), corners, grooves (runners), etc., which cannot be polished with a reciprocating file, to achieve speedy polishing.

<Features>
- Diamond abrasive grains are electroplated to the file surface (electroplated coating).
- The amount of protruding diamond abrasive grains is large, and the cutting performance is excellent.
- We use carefully selected diamond abrasive grains and electroplate them particularly strongly for machine finishing, so they have excellent durability.
- It is suitable for finishing of high-hardness metals such as mold steel, heat treated metal, cemented carbide, and ceramics, polishing and finishing of various molds, and deburring and correction of machine parts.

Electroplated Diamond File

<table>
<thead>
<tr>
<th>Flat Taper</th>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>#200</td>
<td>62801</td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td>#400</td>
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<td></td>
</tr>
<tr>
<td>0.3</td>
<td>#600</td>
<td>62803</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flat Taper</th>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
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</tr>
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<td>0.3</td>
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<table>
<thead>
<tr>
<th>Flat</th>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
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<td>0.5</td>
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</tr>
<tr>
<td>0.4</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Flat</th>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
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<td>0.4</td>
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<td></td>
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<tr>
<td>0.3</td>
<td>62816</td>
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<td>0.2</td>
<td>62817</td>
<td>#400</td>
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</table>

<table>
<thead>
<tr>
<th>Flat</th>
<th>Thickness (t)</th>
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<th>Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
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<td>0.5</td>
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</tr>
<tr>
<td>0.4</td>
<td>62823</td>
<td>#400</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flat</th>
<th>Thickness (t)</th>
<th>Grit Size</th>
<th>Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
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<td>#150</td>
<td></td>
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<tr>
<td>0.4</td>
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<td></td>
</tr>
<tr>
<td>0.3</td>
<td>62827</td>
<td>#400</td>
<td></td>
</tr>
</tbody>
</table>

For safety reasons, always wear protective equipment such as safety glasses. Use at or below the indicated maximum allowable speed.
Special Rubber Pads for Abrasive and Felt Discs

- It is used by attaching various types of polishing discs.
- The elasticity of the rubber makes it ideal for finishing flat and curved surfaces.

Sandpaper Discs (paper base type)

- Suitable for metal, woodwork, painted surfaces and putty polishing
- Use in dry conditions

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td>#80</td>
<td>64201</td>
<td>64211</td>
<td>64221</td>
</tr>
<tr>
<td>#120</td>
<td>64202</td>
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<td>#180</td>
<td>64203</td>
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<td>#240</td>
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<tr>
<td>#600</td>
<td>64207</td>
<td>64217</td>
<td>64227</td>
</tr>
</tbody>
</table>

Sandpaper Discs (fabric base type)

- Ideal for metalworking
- Excellent durability
- Use in dry conditions

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td>#60</td>
<td>64111</td>
<td>64121</td>
<td>64141</td>
</tr>
<tr>
<td>#80</td>
<td>64112</td>
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<td>64142</td>
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<td>#120</td>
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<td>64123</td>
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<tr>
<td>#180</td>
<td>64114</td>
<td>64124</td>
<td>64144</td>
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<tr>
<td>#240</td>
<td>64115</td>
<td>64125</td>
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</tr>
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<td>#320</td>
<td>64116</td>
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<td>#400</td>
<td>64117</td>
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</tr>
<tr>
<td>#600</td>
<td>64118</td>
<td>64128</td>
<td>64148</td>
</tr>
</tbody>
</table>

Zirconia Disks

- These discs are specially coated with zirconia abrasive grains to provide excellent cutting performance and durability for difficult-to-machine materials.
- Ideal for machining metals such as aluminium, stainless steel, copper alloys and brass, which are prone to clogging.

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td>#60</td>
<td>64251</td>
<td>64261</td>
<td>64271</td>
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<tr>
<td>#80</td>
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</tr>
<tr>
<td>#120</td>
<td>64253</td>
<td>64263</td>
<td>64273</td>
</tr>
<tr>
<td>#150</td>
<td>64254</td>
<td>64264</td>
<td>64274</td>
</tr>
</tbody>
</table>
angle type grinder (electric / pneumatic)

exclusive tools for “angle type”

nakanishi angle grinders are available with a wide range of tools for a variety of machining operations, from cutting to grinding, polishing and lapping.

felt discs

- ideal for use in combination with various abrasives (diamond compound, polishing compound) for finish polishing.
- made from 100% high quality sheep’s wool, with moderate elasticity and sufficient durability for repeated polishing operations.
- high wool density ensures that abrasives and abrasive grains are held in place and the surface is polished.

<table>
<thead>
<tr>
<th>Product name</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt Discs (1 mm thick) Soft</td>
<td>64331</td>
<td>64332</td>
<td>64333</td>
</tr>
<tr>
<td>Felt Discs (2 mm thick) Soft</td>
<td>64335</td>
<td>64336</td>
<td>64337</td>
</tr>
</tbody>
</table>

* sheeted types are available.

rubber grinding wheel disc with shaft (integrated rubber pad)

- the newly developed special rubber holds the abrasive grains with the right amount of hardness and boasts exceptional polishing ability.
- the grinding wheel part is integrally moulded into the rubber pad for superior workability.
- highly efficient finishing of flat and curved surfaces with a soft touch.

<table>
<thead>
<tr>
<th>Finishing Polishing Pre Finishing (Excellent grindability)</th>
<th>Grit Size</th>
<th>Color</th>
<th>WA abrasive grains</th>
<th>GC abrasive grains</th>
</tr>
</thead>
<tbody>
<tr>
<td># 80 Pink</td>
<td>64411</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 80 Purple</td>
<td>—</td>
<td>64421</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 120 Blue</td>
<td>64412</td>
<td>64422</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 180 Yellow</td>
<td>64413</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 180 Green</td>
<td>—</td>
<td>64423</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 220 Green</td>
<td>64414</td>
<td>64424</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 320 Purple</td>
<td>64415</td>
<td>64425</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 500 Orange</td>
<td>64416</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 500 Brown</td>
<td>—</td>
<td>64426</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* for safety reasons, always wear protective equipment such as safety glasses. use at or below the indicated maximum allowable speed.
Diamond Discs (Full electroplated surface)

The base material is an ultra-thin copper alloy, with diamond abrasive grains electroplated over the entire surface.

- The metal base material has good electrodeposition plating conditions and adheres diamond abrasive grains uniformly and most firmly.
- Very good sharpness and durability.

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td># 100</td>
<td>64451</td>
<td>64461</td>
<td>64471</td>
</tr>
<tr>
<td># 140</td>
<td>64452</td>
<td>64462</td>
<td>64472</td>
</tr>
<tr>
<td># 200</td>
<td>64453</td>
<td>64463</td>
<td>64473</td>
</tr>
<tr>
<td># 280</td>
<td>64454</td>
<td>64464</td>
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</tr>
<tr>
<td># 400</td>
<td>64455</td>
<td>64465</td>
<td>64475</td>
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<tr>
<td># 600</td>
<td>64456</td>
<td>64466</td>
<td>64476</td>
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<td># 800</td>
<td>64457</td>
<td>64467</td>
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<tr>
<td># 1000</td>
<td>64458</td>
<td>64468</td>
<td>64478</td>
</tr>
</tbody>
</table>

※ Sheeted types are available.

Diamond Discs (Dot electroplated type for wet applications)

Nickel alloy pellets with diamond electrodeposition are strongly bonded to the Resin base material.

- The dot pattern is characterized by its strong grinding performance.
- Dot spaces allow chips and grinding fluid to flow smoothly.
- The resin base material is made of a fiber-filled resin that excels in flexibility and toughness.

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>Color</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td># 60</td>
<td>Green</td>
<td>64501</td>
<td>64511</td>
<td>64521</td>
</tr>
<tr>
<td># 120</td>
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</tr>
<tr>
<td># 200</td>
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<td>64523</td>
</tr>
<tr>
<td># 400</td>
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<td>64504</td>
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</tr>
<tr>
<td># 800</td>
<td>Grey</td>
<td>64505</td>
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<td>64525</td>
</tr>
</tbody>
</table>

※ Sheeted types are available.

Resin Bond Diamond Discs

Diamond abrasive grains are mixed with resin bond and coated on the resin base material.

- The resin component provides a uniform and stable finished surface and a soft grinding feel.

※ This resin bond type requires dressing only for the first use. The cutting edges of the abrasive grains are exposed by lightly shaving the surface with a grindstone or diamond file.

<table>
<thead>
<tr>
<th>Grit Size</th>
<th>ø11</th>
<th>ø21</th>
<th>ø31</th>
</tr>
</thead>
<tbody>
<tr>
<td># 80</td>
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<td># 120</td>
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<td># 2000</td>
<td>64539</td>
<td>64549</td>
<td>64559</td>
</tr>
</tbody>
</table>

※ Sheeted types are available.
Angle Type Grinder
(Electric / Pneumatic)
Exclusive Tools for “MINI ANGLE Type”

NAKANISHI Angle Grinders are available with a wide range of tools for a variety of machining operations, from cutting to grinding, polishing and lapping.

CAUTION

Diamond Burs for Deep Hole Chamfering

- Ideal for machining hardened steel, cemented carbide, ceramics, etc.

Diamond abrasive grains

<table>
<thead>
<tr>
<th>SHANK DIAMETER</th>
<th>MINI Angle Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6 mm</td>
<td>1.6 mm</td>
</tr>
<tr>
<td># 80</td>
<td># 120</td>
</tr>
<tr>
<td>64901</td>
<td>64902</td>
</tr>
<tr>
<td>64911</td>
<td>64912</td>
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<tr>
<td># 180</td>
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<td>64903</td>
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<td>64913</td>
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<tr>
<td>64907</td>
<td>64908</td>
</tr>
<tr>
<td>64917</td>
<td>64918</td>
</tr>
</tbody>
</table>

Diamond Burs for Deep Hole Chamfering

Circumference 300 mm

- Ideal for machining metals such as aluminium, stainless steel, copper alloys and brass, which are prone to clogging.
- These belts are specially coated with zirconia abrasive grains to provide excellent durability for difficult-to-grind materials.

Zirconia Belt

Circumference 300 mm

- Excellent cutting performance enables high productivity and cost reduction.
- Excellent wear resistance and durability, and stable finish machined surfaces can be maintained.
- Suitable for highly efficient machining of carbide, hardened steel, mold steel, special steel, ceramics, FRP, carbon fiber, glass, stone, and difficult-to-machine materials.

Diamond Belt

- High quality Sanding Belt with excellent grindability and durability.
- Highly efficient grinding with a soft touch and less grain dropout even at high rim speeds.

Sand Belt

Circumference 300 mm

- Ideal for machining hardened steel, cemented carbide, ceramics, etc.

Diamond abrasive grains

<table>
<thead>
<tr>
<th>SHANK DIAMETER</th>
<th>MINI Angle Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6 mm</td>
<td>1.6 mm</td>
</tr>
<tr>
<td># 80</td>
<td># 120</td>
</tr>
<tr>
<td>64901</td>
<td>64902</td>
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<td>64911</td>
<td>64912</td>
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<td>64907</td>
<td>64908</td>
</tr>
<tr>
<td>64917</td>
<td>64918</td>
</tr>
</tbody>
</table>

Zirconia Belt

- Ideal for machining metals such as aluminium, stainless steel, copper alloys and brass, which are prone to clogging.
- These belts are specially coated with zirconia abrasive grains to provide excellent durability for difficult-to-grind materials.

Diamond Belt

- High quality Sanding Belt with excellent grindability and durability.
- Highly efficient grinding with a soft touch and less grain dropout even at high rim speeds.