

# **Instruction Manual for POF(Plastic Optical Fiber) end face machining process set (Type No.:NICOM01)**

Thank you for purchasing for our product. For safe and proper use, read this instruction manual carefully before use and always follow the instructions. Keep the manual carefully after you read.  
read and check this instructions sheet carefully.



NHK SALES CO.,LTD

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## I . Before using POF

This Product is a Plastic Optical Fiber end face machining machine. The machine precisely process the plastic fiber end face with precision cutting technology. **Please know that this machine “CAN NOT PROCESS Quartz Fiber”.**

## II . For your Safety

### **Warning !**

- Please do not use or store in places where rain or water drops, places where corrosive gas or fluid exists, places of high temperature or high humidity, or explosive atmosphere. It may cause fire, malfunction or electric leakage.
- Please replace attachment or cutter after turning power supply off, pulling out electric plug, and confirming that rotation of cutter stops. Otherwise, the main body operates which may cause injury.
- Please be sure to implement processing operation after installing front face protection cover and back face cover. Otherwise, cutting powder scatters to damage eyes, and fingers may be caught by machine.
- When abnormal deformation, noise, or vibration is found, or water splashes, please stop using and request us to repair and/or inspect.

### **Caution !**

- Please do not insert object that is not made of plastic fiber for optical communication. It may cause injury or malfunction.
- Please be sure not to touch the cutter while it operates. Fingers may be caught, or other injuries may occur.
- Please do not vibrate or drop. It may cause malfunction.
- To connect AC adapter with the main body, please hold the plug of AC adapter. If code is forcibly pulled, it may cause malfunction.
- Please do not apply load on AC adapter by putting heavy object on it, and so forth. It may cause malfunction.
- Please be sure to use with the power supply which is specified on the AC adapter.
- Please do not disassemble, repair or modify the motor. It may cause electrification, injury or fire.
- In unused condition, please turn off the power supply switch, and pull out the AC adapter from outlet.

### III. Product Specification and characteristics

#### 1、 Characteristics

By inserting the ferrule, or the plastic optical fiber that is attached to the connector to the machine, it can process a cutting process to the end face of the optical fiber.

By changing the attachment (sold separately as an option) it can adapt to process various shaped ferrule as well as connectors.

Also, by changing the cutter (sold separately), it can process the end face to various shapes.

In case you want to process the plastic fiber only, please contact us for details.

Material that can be processed: resin, plastic fiber for optical communication, brass, aluminum

\* Cutters are significantly damaged by materials not made of resin. Please consult with us for materials other than the above.

#### 2、 Basic Specification



##### ■ Specification

- Electricity Consumption 20W
- Power Switch DC5V Single Phase 4A
- Preferable Temperature when use :10°C~40°C
- Dimension :W79xH107xD128mm (Disregarding the projected portion)
- Weight :Approximately 980g (Machine itself only)
- Housing :Black Color Anodized Aluminum process
- Fuse 3.15A 250V Time lag type

##### ■ AC Adapter Specification

- Length of Cord :1.6m
- Input Voltage 100V~240VAC
- Incoming Current 0.58A
- Temperature when use 10°C~40°C
- Output Voltage DC5V
- Output Current Maximum 4A

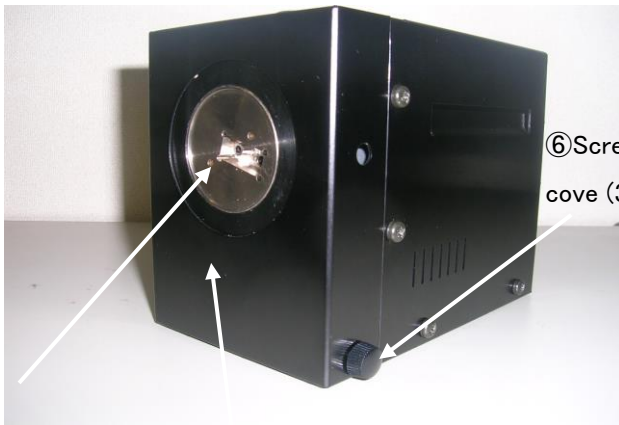
■ Standard Spec (Standard type comes with the component listed below as a standard spec installed to the machine itself)

- Attachment(F07、F05common use)
- Diamond Cutter

##### ■ Accessories

3mm Hexagonal Wrench

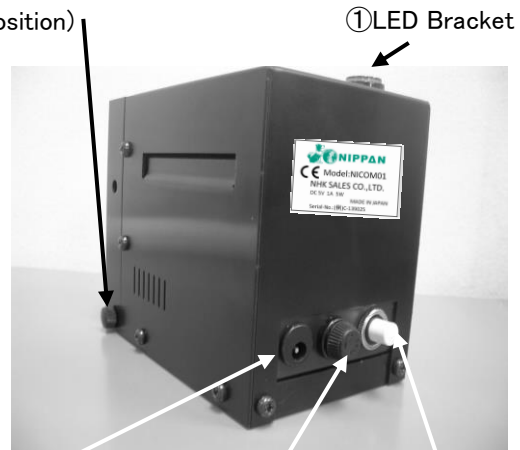
### 3、 Structure of the product and name of each parts.



⑨ Attachment

⑤ Front face protection cover

⑥ Screws to attach the above protection  
cove (3 position)



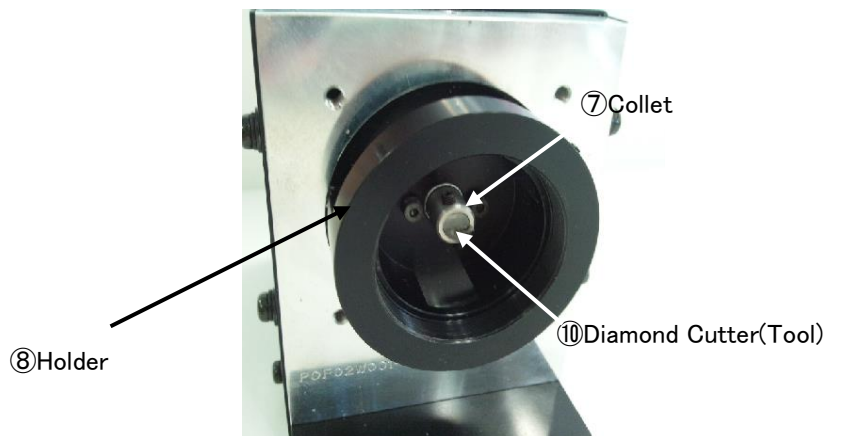
① LED Bracket

④ AC Adaptor plug input

③ Fuse Holder

② Power Switch

- ① LED Bracket
- ② Power Switch
- ③ Fuse Holder
- ④ AC Adaptor plug input
- ⑤ Front face protection cover
- ⑥ Screws to attach the above protection  
cove  
( 3 position)
- ⑦ Collet
- ⑧ Holder
- ⑨ Attachment
- ⑩ Diamond Cutter (Tool)



⑧ Holder

⑦ Collet

⑩ Diamond Cutter (Tool)

## IV. How to use

### 1. Operating Procedure

- ※ For the standard types, the diamond cutter and attachment is initially installed to the machine itself.

Please do check the positioning of the attachment, as it needs to be adjusted to the actual processing position.

- ① Insert the plug for the AC adapter to the power source.

Also, insert the plug from the AC adapter to the POF body.

- ② Press the power switch on.

The LED bracket will blink at the same time.

- ③ The diamond cutter will start spinning and processing preparation will start.

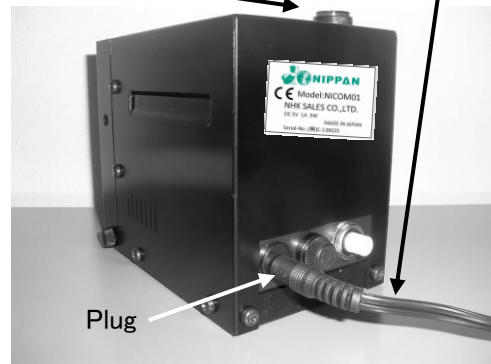
- ④ Slowly insert the processing object (Ferrule or connector attached POF) to the processing hole of the attachment until it hits the end.

The processing is finished when you hit the end.

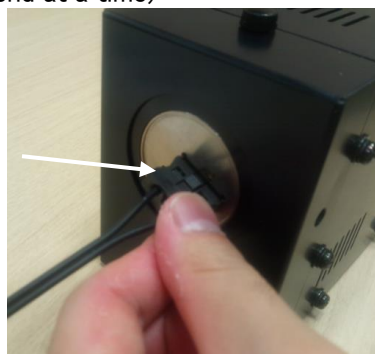
**e.g ;At the time of two cores**

- ⑤ If the processing object has 2 ends, after processing as mentioned in ④, pull out the finished end, turn the processing object 180°. And re-do the ④ processing. (It can only be done one end at a time)

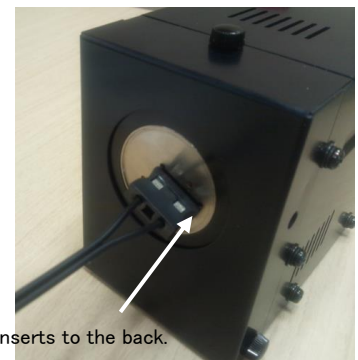
The light is switched on. AC adapter code



It is made to rotate



It inserts to the back.



## 2、Exchange of the diamond cutter, and how to adjust the processing position.

Role of attachment···It locates the tip of diamond cutter and the end face of plastic fiber.

Role of diamond cutter···It cuts and processes the end face of plastic fiber.

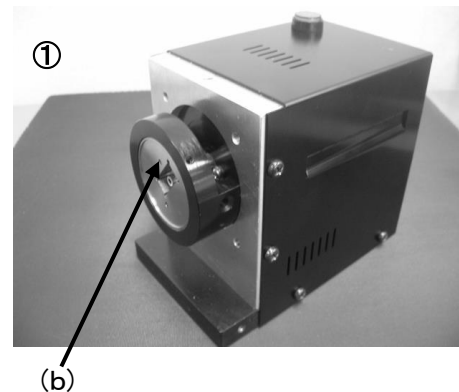
### 2. 1 How to remove the attachment

- 1) Remove the front protection cover as you can see in the picture on the right.

Unscrew the hexagonal screw that is screwed around the holder. (size; M3)

- 2) Insert the hexagonal wrench (one of the accessories included in the set) to the hole (b) and unscrew. (turn it counter-clockwise)

※ 1 turn of the screw will move the attachment 0.5mm to either direction.



### 2. 2 How to remove/attach the diamond cutter

**※Please be careful when handling the diamond cutter.**

When removing the diamond cutter.

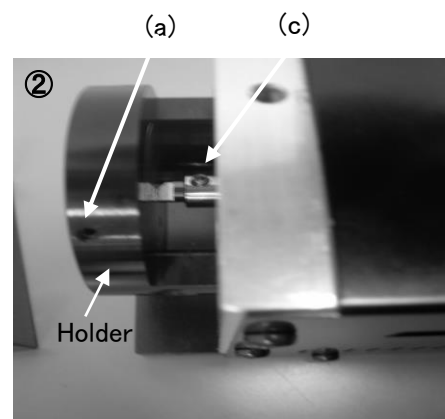
Remove the attachment as mentioned in 2.1..

- 1) Unscrew the screw as you see in the picture and remove the diamond cutter.

When attaching the diamond cutter

- 1) Check the hexagonal screw is loosened as in picture②, and insert the diamond cutter inside.  
When inserting the diamond cutter inside, make sure that the screw is touching the surface of the diamond cutter.
- 2) Screw on the detached attachment to the POF right before it hits the tip of the diamond cutter.
- 3) Screw on the hexagonal screw around the holder as in picture②(a) and tighten the position of the holder and the attachment.

Do not tighten the screw with too much power.



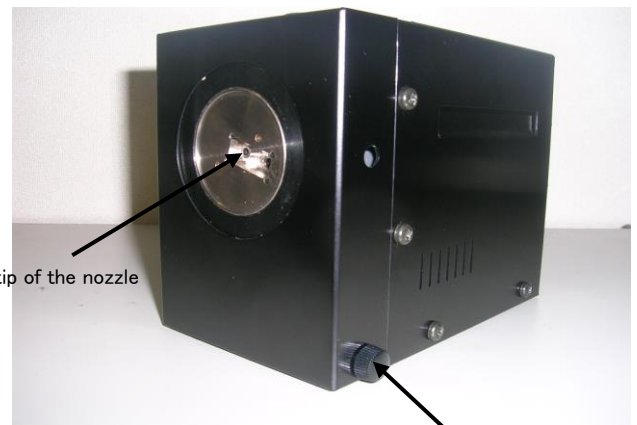
### 3. Removing the chips caused from the cutting process

Method to remove cutting powder is different between cases when front face protection cover is attached and when it is not attached.

When it is attached, cutting powder of diamond cutter shall be removed during cutting operation,

3-1 In case the POF is in cutting process  
Prepared stat. (with the front protection cover  
Attached)

Insert the tip of the nozzle of the air-blower can  
As you see in the picture and blow out the chips  
by spraying in the air.



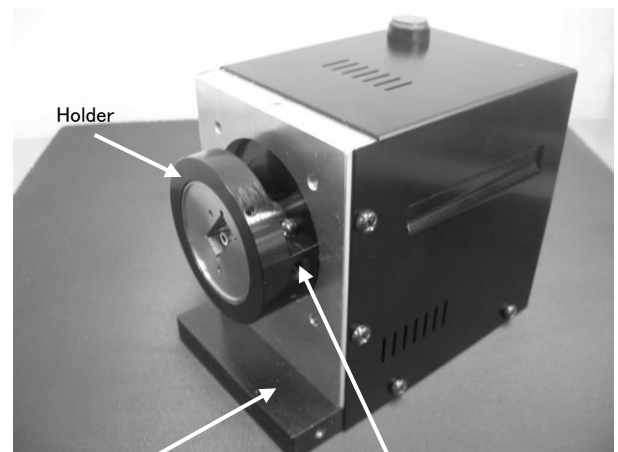
Detach the screws

•••qty of screws ; 3pcs

3-2 In case the front protection cover is not  
Attached.

✘ Do not proceed with the cutting  
process in this stat.

- 1) Make sure the power switch is turned off and the AC adapter is safely removed when processing this procedure.
- 2) Detach the screws that are positioning the front protection cover. •••qty of screws ; 3pcs
- 3) Insert the nozzle of the air-blower can from the right side of the body as you see in the picture and blow out the chips.
- 4) Blow out the chips that are left in the bottom base surface with the air-blow can.
- 5) Make sure this chip removing process is performed somewhere else where there will be no problem with blowing out the chips.



Base

Insert the tip of the nozzle



## V. Cautions when using the POF

- Please do not insert anything else but plastic fiber ferrule, or plastic fiber with connector attached.
- Please insert the plastic fiber continuously but slowly. Do not vigorously insert the plastic fiber to the POF.
- The chip that is generated from the cutting process sometimes stick to the diamond cutter itself.

Make sure to perform the air-blow cleaning process every once in a while.

(Roughly after processing about 500 times.)

## VI. Contact details.

If you have any problems while using our POF, please stop using the machine and contact below for details.

Please make sure to dial the correct number when contacting for information.

### 【Contact Details】

8F,NBF COMODIO Shiodome Bldg.

2-14-1,Higashi-shinbashi,Minato-ku,Tokyo,105-0021,Japan

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Regarding to the exchanging parts

Special types (shapes) of tools are basically “made to order”.

Standards types of tools are below mentioned part number.

●POF09B200-01 Single Crystal Diamond blade (For Plane surface processing)

If you are not sure about the details of the blade that is used in your machine, please check the manufacturing number that is specified at the back side of the PCF machine and contact us with the manufacturing number.

Please contact us if you are not sure if your machine is using a standard type of blade or not with the above manufacturing number.