

SEIKOH GIKEN

**SFP-70D2 POLISHING MACHINE
OPERATING MANUAL**

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Safety Precautions

To ensure safe operation and maximize product service life, observe the following precautions carefully:

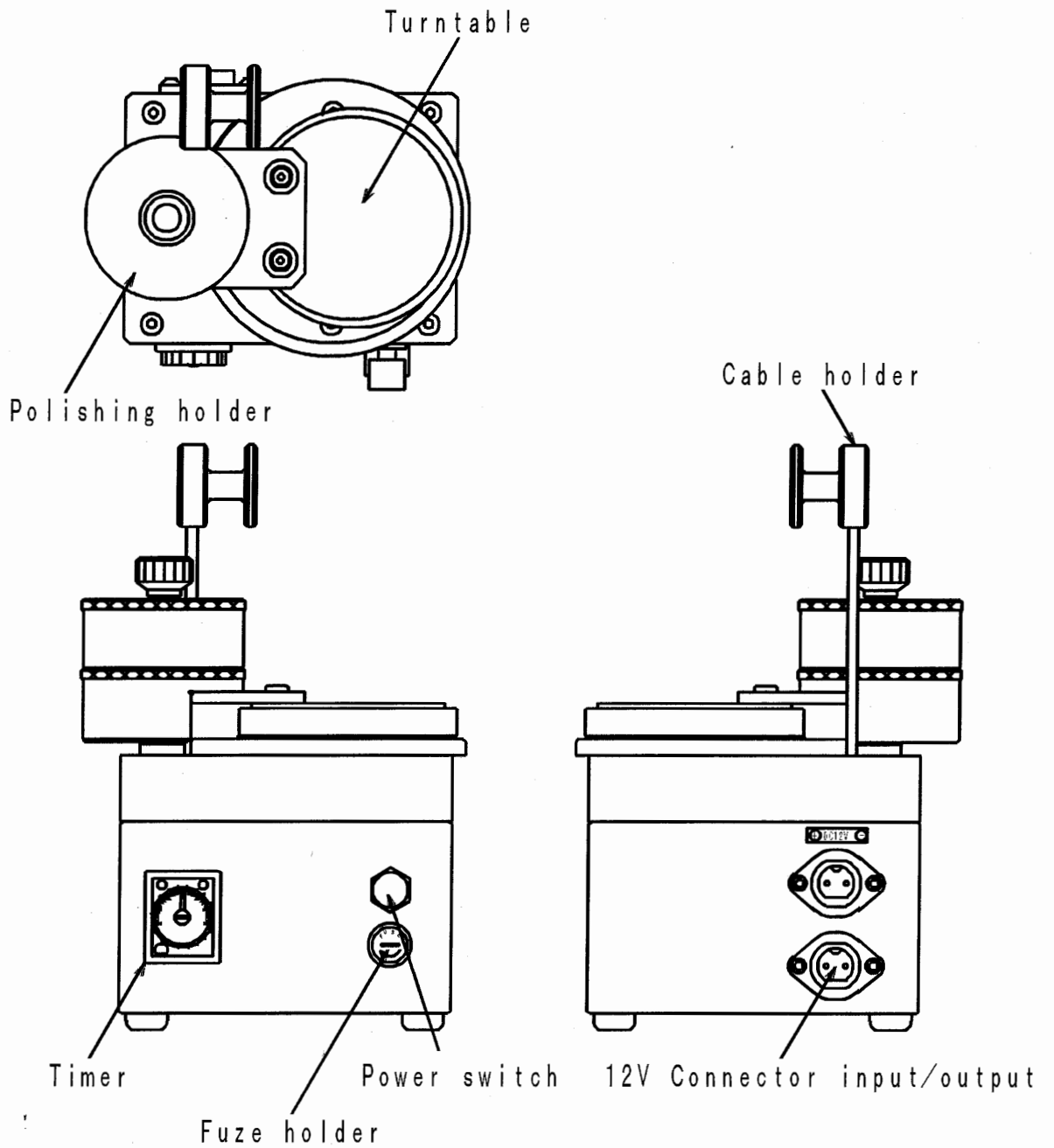
- **Ensure that the polishing machine is connected to a power supply of the correct voltage and is properly grounded.**
- **Use only the type of fuse recommended in this manual. Disconnect the polishing machine from the power supply before replacing the fuse.**
- **If the machine overheats, makes unusual noises, or gives off smoke or unusual odors, immediately stop use and unplug. Then contact us or your nearest agent.**
- **Wear proper apparel. Loose-fitting clothing can get caught in the rotating parts of the polishing machine.**
- **Never touch the rotating parts of the polishing machine while it is operating. Make sure that the machine has come to a full stop before changing the polishing holder.**
- **Turn off the polishing machine when not in use. Do not let the polishing machine operate unattended.**
- **Operate and store the polishing machine on a strong, stable surface in order to keep it from tipping over or falling from the work bench.**
- **Keep the machine away from inflammables, chemicals, and explosives.**
- **Never use or store the unit in a very humid environment.**
- **Do not disassemble or make any modifications to the machine. Do not place foreign substances or objects inside the machine.**
- **During transportation, take extra precaution not to drop the unit. In general, avoid subjecting the device to any shock or damage.**
- **To ensure safe and correct operation, read this operating manual before using the machine.**

1 . 1. Features

This machine is capable of polishing end-faces of ferrules of optical fibers and connectors.

- ★ High-Quality Polishing**
- ★ Simple Operation**
- ★ Wide Range of Application**
- ★ Compact and Light Weight**

2. SFP-70D2 External Description



3. Standard Specifications

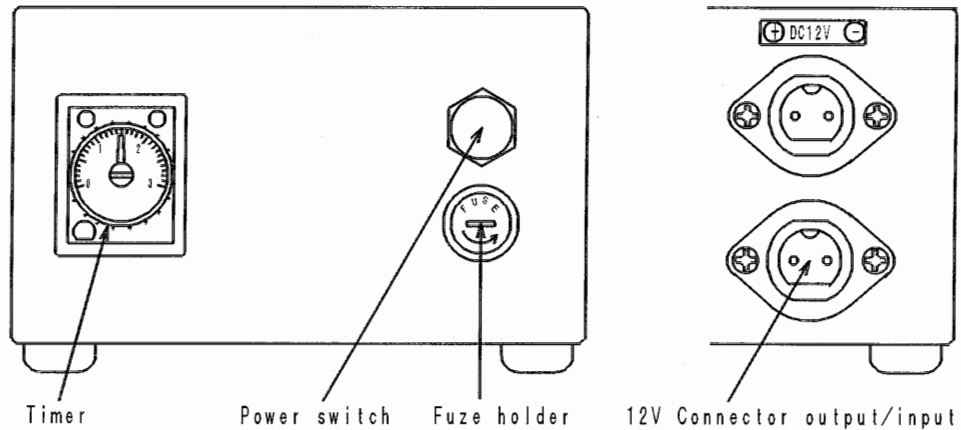
1. Power	Input : AC100-240V 50/60Hz Power Consumption : Approx. 4W Output : DC12V	use AC / DC adaptor (standard accessory)
2. Drive Unit (Revolution) (Rotation)	4.5W motor with reduction gear 0.7W motor with reduction gear	Speed: 100rpm 3.3rpm
3. Operating Unit (Control Timer) (Power Switch)	Setting increment : 0.1 minute Maximum set time : 3.0 minutes Push button - alternative	
4. Polishing Holder	2-axis	Pressuring by holder's weight
5. Polishing Plate (Polishing Film) (Polishing Pad)	Outer diameter : 70mm, plastic base Synthetic rubber pad Glass pad	Choose films upon needs. for physical contact polishing for flat polishing and adhesive removal
6. Performance (PC polishing)	6 processes, 4.5 minutes	φ 2.5 zirconia ferrule polishing
7. Dimension Weight	W120 X D900 X H115 (mm) 3.2kg	not including holder clamps not including holder

4. Standard Accessories

Part Code	Name of Part	Q'ty	Comments
FP -CH	Cable Holder	1	
FP -HWA	Polishing Weight A	1	for one-connector polishing
FP -HWB	Polishing Weight B	1	use with Polishing Weight A for two-connector polishing
FP -HWS	Thumb screw	1	
FP -TS	Allen wrench set	1	
FP -WB	Plastic Water Bottle	2	
FP -GS	Nye Rheolube 363 AX-1 grease	1	
FP -F1A	1 Amp fuse	1 0	
AD20	AC/DC adaptor	1	DC12V : 1.6A
FP -IM072	Operating Manual	1	

5. Operating Procedures

5.1 Operating Panel



Power Switch

You can turn the power on and off by pushing the button. You can also make emergency stop by pushing the button during operation.

Timer

You can control the polishing time simply by the dial.

Fuse Holder

You can change fuse by removing its cap with a flatblade screwdriver.

If there was a fuse blow caused by a drive unit malfunction, please inspect the drive unit.

Outlet

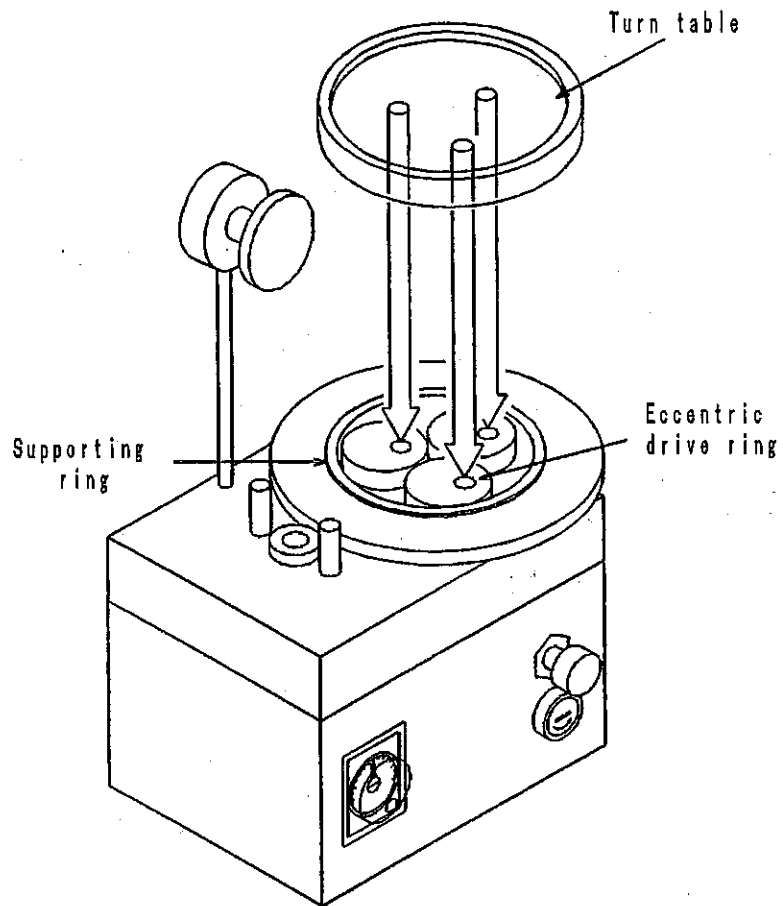
Connect AC adaptor to one of the outlets for input. For output, you can connect Heater (Optional Accessory) to the other outlet, which must be covered with a safety cap while not in use.

★ Caution!!★

Do not connect other devices than SAH-D4S Heater into output outlet.

5.2 Turntable

Turntable can be removed simply by lifting it up. Apply grease for lubrication around the underside of the turntable. Then remount the turntable, adjusting the drive rings so that the three drive pins insert into the slots of the drive rings at the same time.



★ Caution!!★

Do not touch turntable while it is operating.

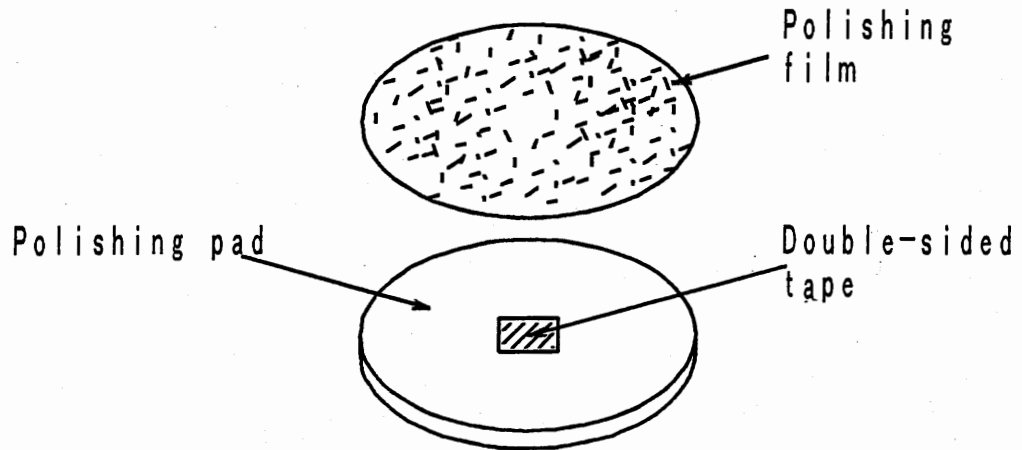
Disconnect the polishing machine from the power supply before removing and replacing the turntable.



This label is placed on the machine to remind the caution.

5.3 Polishing Film (Optional Accessory)

Many types of polishing films are available according to each polishing process. Place a small piece of double-sided tape on the reference circle of the polishing pad. Then place the polishing film on the polishing pad. Wipe polishing films, polishing pad, and turntable with a lint-free tissue and denatured alcohol.



See the chart below for the usage of the polishing films.

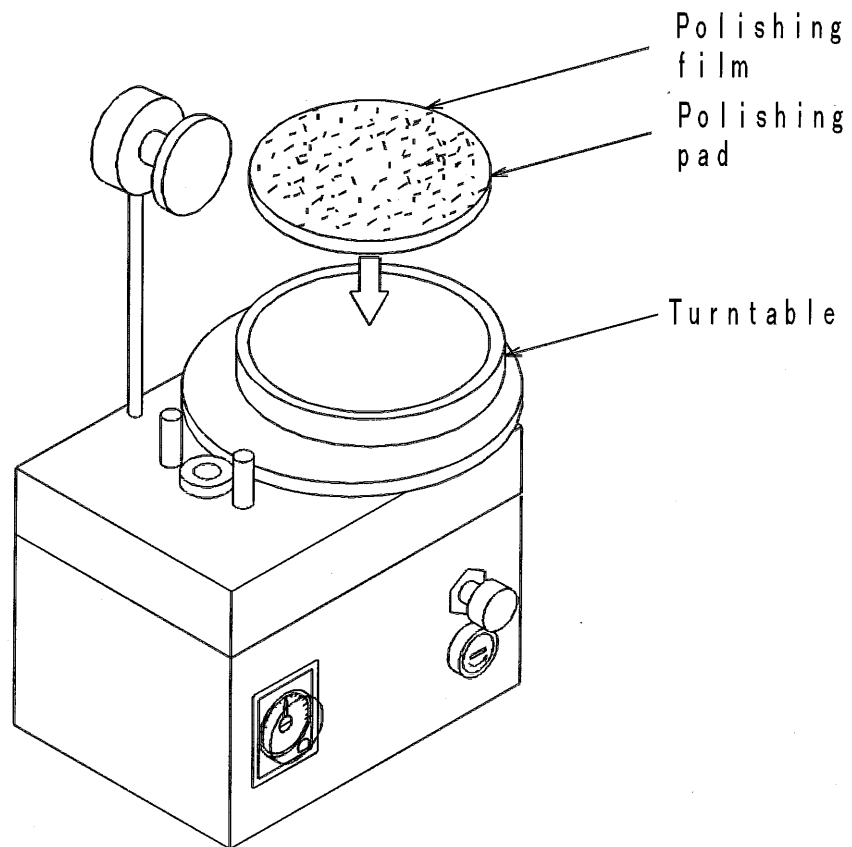
Polishing Film	Usage
GA07	1 time
AR07	1 time
DR07	10 - 20 times
DM07	10 - 20 times
SF07	1 time

★ Important ★

Clean DR and DM films with a lint-free tissue and denatured alcohol after every use.

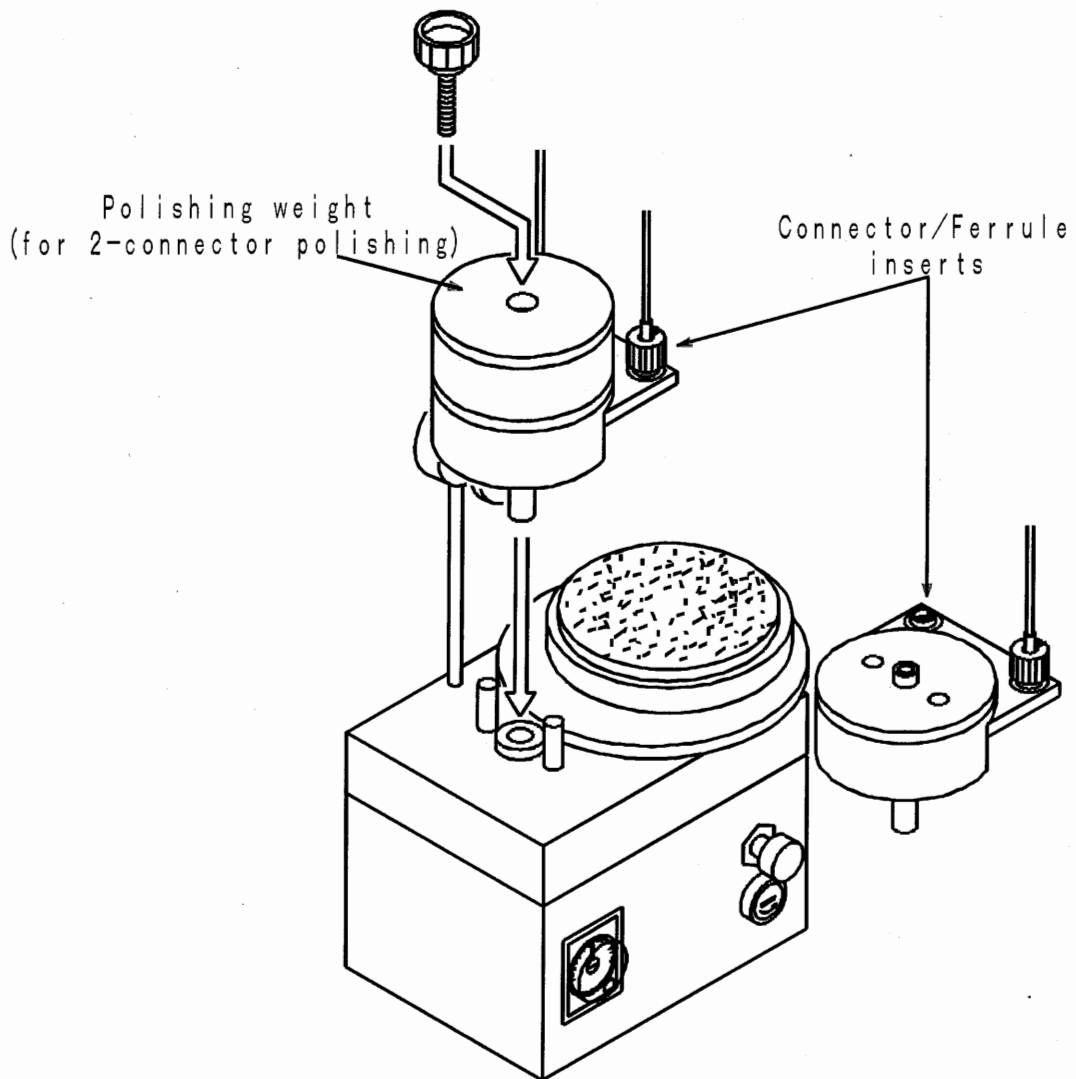
5.4 Polishing Pad (Optional Accessory)

Place the polishing pad on the turntable. Ensure that the surfaces of the polishing pad and the turntable are clean.



5.5 Polishing Holder (Optional Accessory)

When polishing only one connector, remove the polishing weight and load the holder on the polishing machine.



★ Caution!!★

Clean the ferrule-mounting reference surface and the ferrule insertion hole. This will ensure that all ferrules project to the same height, thereby ensuring desired polishing results.

5.6 Between Processes

For polishing procedure, please read "Appendix A. Standard Polishing Application." In between each process please follow instructions below:

- (1) **Cleaning of underside of holder and endfaces of ferrules**
Clean underside of holder and endfaces of ferrules with a lint-free tissue and alcohol. Ensure that the turntable is dry and free of dust.
- (2) **Cleaning and changing polishing film**
Carefully wipe DR and DM films with a lint-free tissue and alcohol after every use. Use new film when a film reaches its limit of usage.
- (3) **Checking polishing results**
Use an inspecting device like a loupe to inspect the ferrule. When the convex shape or flat surface is incompletely formed or when the adhesive is not thoroughly removed, repeat the polishing process.

★Caution!!★

Do not remove ferrules from polishing holder between processes to make sure all ferrules project to the same height.

5.7 Re-Polishing

When scratches or pits are observed on the endface of the polished ferrule, repeat middle and final polishing, using new films.

If good finish on ferrule endface is not achieved even after re-polishing, replace the film with new one. This is most likely caused by worn-out film.

Appendix A. Standard Applications

The Standard Applications described here is a merely guideline for processing standard optical connectors and ferrules. Actual polishing conditions may vary depending on materials and shapes of ferrules or on the polishing numbers.

A-1. Convex PC Polishing

All Zirconia Ferrule

Polishing Process (Holder for right-angle polishing)	Polishing Applications			
	Polishing Pad	Polishing Film (Usage)	Liquid	Time (Min.)
*1 adhesive removal and convex forming	PR07-500	GA07 (1 time)	distilled water	1.0
Rough Polishing	PR07-500	*2 DR07 (15 - 20 times)	distilled water	1.0
Middle Polishing	PR07-500	*2 DM07 (15 - 20 times)	distilled water	0.5
Final Polishing	PR07-500	SF07 (3 times)	distilled water	0.5

*1: Do not clamp down the polishing holder until the turntable completes 10 turns.

*2: After every use, clean DR and DM films with a lint-free tissue and alcohol.

Pre-radius Ferrule

Polishing Process (Holder for right-angle polishing)	Polishing Applications			
	Polishing Pad	Polishing Film (Usage)	Liquid	Time (Min.)
*1 adhesive removal and convex forming	PR07-500	GA07 (1 time)	distilled water	1.0
Middle Polishing	PR07-500	*2 DM07 (15 - 20 times)	distilled water	0.3
Final Polishing	PR07-500	SF07 (3 times)	distilled water	0.5

*1: Do not clamp down the polishing holder until the turntable completes 10 turns.

*2: After every use, clean DM07 film with a lint-free tissue and alcohol.

A-2. Flat PC Polishing

All Zirconia Ferrule

Polishing Process (Holder for right-angle polishing)	Polishing Applications			
	Polishing Pad	Polishing Film (Usage)	Liquid	Time (Min.)
*1 adhesive removal and flat forming	PG07-490	GA07 (1 time)	distilled water	1.0
Rough Polishing	PG07-490	*2 DR07 (15 - 20 times)	distilled water	1.0
Middle Polishing	PG07-490	*2 DM07 (15 - 20 times)	distilled water	0.5
Final Polishing	PG07-490	SF07 (3 times)	distilled water	0.5

*1: Do not clamp down the polishing holder until the turntable completes 10 turns.

*2: After every use, clean DR and DM films with a lint-free tissue and alcohol.

Appendix B. Optional Accessories

We introduce the Optional Accessories of SFP-70D2.

B-1. Polishing Set

B-1.1 Polishing Set A (PC Set)

This set includes polishing pads required for right-angle convex PC polishing of standard ϕ 2.5mm ferrules, polishing films, and double-sided tape needed to attach a film on a pad.

Part Code	Name of Part	Q'ty	Comments
	Polishing Pad		
PR07-500	Convex Polishing Pad	6	for PC polishing
	Polishing Film		capable of polishing approx. 600 ferrules
GA07	Adhesive Removal Polishing Film	100	
DR07	Rough Polishing Film	10	
DM07-BL	Middle Polishing Film	10	
SF07	Final Polishing Film	100	
FP -DST	Double-sided Adhesive Tape	1	

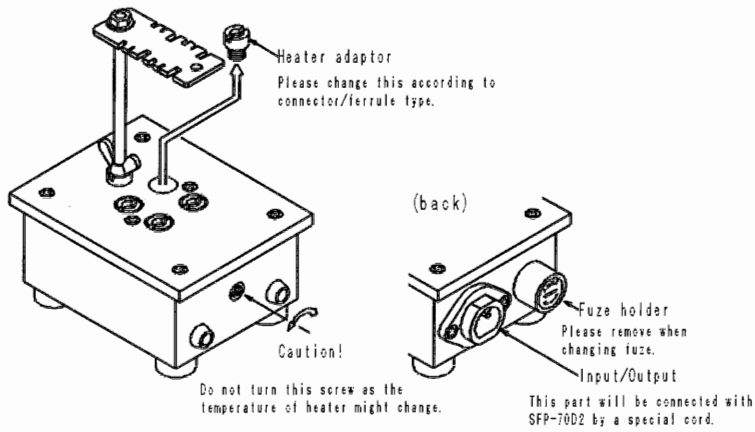
B-1.2 Polishing Set B (Flat Set)

This set includes polishing pads required for right-angle flat PC polishing of standard ϕ 2.5mm ferrules, polishing films, and double-sided tape needed to attach a film on a pad.

Part Code	Name of Code	Q'ty	Comments
	Polishing Pad		
PG07-490	Flat Glass Polishing Pad	6	for PC polishing
	Polishing Film		capable of polishing approx. 600 ferrules
GA07	Adhesive Removal Polishing Film	100	
DR07	Rough Polishing Film	10	
DM07-BL	Middle Polishing Film	10	
SF07	Final Polishing Film	100	
FP -DST	Double-sided Adhesive Tape	1	

B-2. Heater (SAH-D4S)

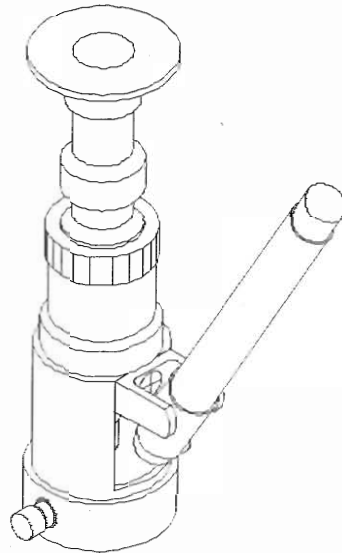
This is a epoxy curing oven that can be used by connecting to an output outlet of SFP-70D2 It contains thermostat which enables epoxy curing at a stable temperature.



Items	Specifications	Comments	
1. Power	Input: 12 VDC	Use by connecting to SFP-70D2	
2. Heating Unit	Connector Capacity: 1 - 4		
3. Dimensions	W90×D70×W124 0.3 kg	not including projecting part	
Part Code	Name of Part	Q'ty	Comments
SAH-D4S-**	Heater	1	4 pieces from one type of adaptors included
SAH-D4S-AD-**	Heater Adaptor	1	Please choose from the chart below.
-AD-FF	for FC/SC ferrule and ST/DIN/SMA connector		
-AD-FP	for FC connector		
-AD-CP	for SC connector		
-AD-D4H	for D4 ferrule		

B-3. Inspection Microscope (SIM-)**

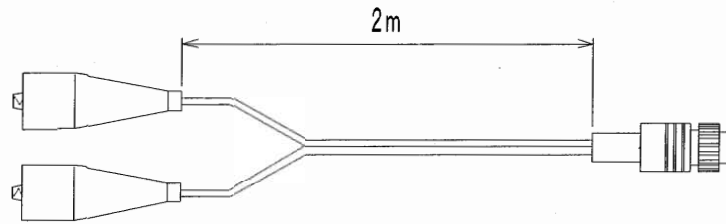
This is a X100 magnification microscope for inspection of endfaces of ferrules after polishing. By changing adaptors, it can adapt to many kinds of optical connectors and ferrules.



Items	Specifications	Comments	
1. Power	two 1.5V AAA batteries		
2. Microscope	magnification: ×100		
3. Dimensions	φ 40×145H 0.2 kg	Not including projecting part	
Part Code	Name of Part	Q'ty	Comments
SIM -**	Inspection Microscope	1	including one adaptor from the chart below
SIM -AD-**	Microscope Adaptor	1	Please choose from the chart below.
-AD-FF	for FC/SC ferrule and ST connector		
-AD-FP	for FC connector		
-AD-CP	for SC connector		
-AD-DP	for DIN connector		
-AD-M5P	for SMA905 connector		
-AD-M6P	for SMA906 connector		
-AD-D4H	for D4 ferrule		

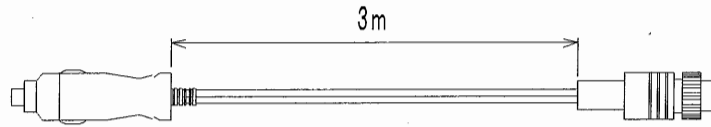
B-4. Battery Cord (FP-BC1)

This is a cord for supplying power from battery to SFP-70D2.



B-5. Cigarette Lighter Cord (FP-BC2)

This is a cord for supplying power from a cigarette lighter socket of an automobile to SFP-70D2.



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