The ATP-3200 polishing machine's independent pressurization jigs use a unique attachment structure, and so polishing jigs from even 1 insert (1 terminal) can be manufactured to match the customer's request. Evaluation of risky polishing processes, such as special material quality polishing, process improvements, etc., can be done at low cost, and by simply adding inserts, you can easily build a structure for mass production.

### Specified Polishing Example (actual usage)

- **Materials**: Silica glass, various resins, ceramics, various metal, etc.
- **Shapes**: Cylinder, thin board, cube, bare fiber, etc.
- **Polish types**: Spherical (UPC, APC), flat (0° ~ 90° degrees), Spherical Lensed Fiber, etc.
- **Polish processes**: Priority for polish accuracy, cost, or roughness, dry polish, others.

### Jig Overview

#### Main Unit
- **Dimensions**: 300W x 410D x 299H (mm)
- **Weight**: 23kg
- **Power**: 1C 100 to 240V, 50/60Hz
- **Polishing Method / Speed**: Rotation: 0 to 270rpm / Reciprocation: 10 to 600 sec
- **Polishing Film Size**: 140mm x 150mm (5.5 in x 5.9in square)

#### Polishing Specifications

<table>
<thead>
<tr>
<th>Single</th>
<th>Polished (μm)</th>
<th>10°&lt;UPC&lt;25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Length (μm)</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Diameter (mm)</td>
<td>&gt;2000</td>
<td></td>
</tr>
<tr>
<td>Angle (degree)</td>
<td>±0.2</td>
<td></td>
</tr>
<tr>
<td>Fiber Height (μm)</td>
<td>±0.05~0.05</td>
<td></td>
</tr>
</tbody>
</table>

### For Single Fiber

- **Type**: Individual Insert Type
- **Mounts**: SC, FC ferrule
- **Connectors**: SC, FC
- **Model**: ATP3200-AZ0001
- **Mounting method**: SC, FC ferrule

### For Multi-Fiber

- **Type**: Individual Pressurized Universal Jig
- **Ferrule**: MT 0°, MPO 8°
- **Connectors**: MT 0°, miniMT 0°
- **Model**: ATP3200-AZ0012
- **Mounting method**: MPO 8°, Individual Insert Type

### Main Unit

- **Dimensions**: 300W x 410D x 299H (mm)
- **Weight**: 23kg
- **Power**: 1C 100 to 240V, 50/60Hz
- **Polishing Method / Speed**: Rotation: 0 to 270rpm / Reciprocation: 10 to 600 sec
- **Polishing Film Size**: 140mm x 150mm (5.5 in x 5.9in square)

### Polishing Specifications

- **Single**: 10°<UPC<25
- **Polished (μm)**: Fiber Length (μm)
- **Diameter (mm)**: >2000
- **Angle (degree)**: ±0.2
- **Fiber Height (μm)**: ±0.05~0.05

### For Single Fiber

- **Type**: Individual Insert Type
- **Mounts**: SC, FC ferrule
- **Connectors**: SC, FC
- **Model**: ATP3200-AZ0001
- **Mounting method**: SC, FC ferrule

### For Multi-Fiber

- **Type**: Individual Pressurized Universal Jig
- **Ferrule**: MT 0°, MPO 8°
- **Connectors**: MT 0°, miniMT 0°
- **Model**: ATP3200-AZ0012
- **Mounting method**: MPO 8°, Individual Insert Type

For more information, please contact:

http://www.ntt-at.com/product/atp3200/
Optical connector polishing machine for Mass Production Use, ATP-3200 Series

Along with the ongoing expansion of applications for optical connectors, the optical connector polishing machine ATP-3200 can handle not only standard optical connectors, but also prototype polishing of newly developed products up to various kinds of small volume to mass volume production.

Special Features of the ATP-3200 Series

- Polishing maximum of 96 LC connector terminals, Polishing maximum of 48 MPO connector terminals.
- Achieve both low cost and high quality polishing
  - With an independent pressurizing type polishing jig, we eliminated the intermediate process of adjusting the dispersion of polishing pressure and so realized low cost. In addition, since our unique polishing track system effectively uses the entire surface of the polishing film, waste is minimized. In addition, the overlap of polishing tracks is small, and scratches on the ferrule due to polishing are kept to a minimum.
- High versatility makes it ideal for multi-product small volume production
  - In addition to standard optical connectors, it is possible to polish a wide range from single optical fibers to large-size substrates. Dummies are not necessary even in the polishing of one connector, making it ideal for small quantities of newly developed start-up products. (Examples of versatility: MPO/PC and LC/PC can be polished at the same time)
- High potential for developing automatic and semi-automated machines
  - It corresponds to standard operation command input by using a Windows PC and sequencer, making it extremely easy to incorporate batch polishing lines and building semi-automated machines and incorporation into automated line production, greatly contributing to labor saving on the production line.
- Reduced Maintenance Costs
  - Because consumable items can be replaced by the customers themselves, returning the machine to the manufacturer for an overhaul is unnecessary, reducing both downtime and maintenance costs. In addition, the frequency and labor-intensity of cleaning maintenance have been greatly reduced by the new cylinder protection mechanism and the new bundle attachment insert/eject mechanism for jigs.

Single Fiber Optical Connector Polishing Solutions

- Polishes up to 24 connector plugs. And the individual pressure system lets you polish as few as 1 at a time. One jig can be used for multiple types of ferrule; ideal for setting conditions and testing applications.

<table>
<thead>
<tr>
<th>Process #</th>
<th>Name</th>
<th>Polishing Film</th>
<th>Polishing Fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adhesive Removal</td>
<td>Adhesive removal film</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>2</td>
<td>Mid-processing</td>
<td>Diamond Film</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>3</td>
<td>Finishing</td>
<td>Silica Film</td>
<td>Distilled Water</td>
</tr>
</tbody>
</table>

Multi-Fiber Optical Connector Polishing Solutions

- Polishes up to 24 ferrule plugs. And the individual pressure system lets you polish as few as 1 at a time. One jig can be used for multiple types of ferrule; ideal for setting conditions and testing applications.

<table>
<thead>
<tr>
<th>Process #</th>
<th>Name</th>
<th>Polishing Film</th>
<th>Polishing Fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adhesive Removal</td>
<td>Adhesive removal film</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>2</td>
<td>Removal</td>
<td>AAS-GC08A-R450-12</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>3</td>
<td>Flat Polish</td>
<td>AAS-RF22A-440-150</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>4</td>
<td>End Face Cleaning</td>
<td>AAS-RF22A-440-150</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>5</td>
<td>Prefusion Polish</td>
<td>AAS-MPO-140-150</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>6</td>
<td>Final Polish</td>
<td>AAS-RF22A-440-150</td>
<td>Distilled Water</td>
</tr>
</tbody>
</table>

Merits of the individual pressure system

- Only 3 process polishing
- Possible to polish different connectors at the same time. E.g. SC, FC, ST
- Prevent over-polishing (Finish polishing amount 1um or less)

Multi-Fiber ferrule (MT) Polishing Process (reference)

- ADS-MPO can realize a low reflection in multimode fiber connector equivalent to that of single fiber connector by polishing a convex shape to eliminate dips in the core (Coredip)
- Achieved 20dB by Grade B ferrule (OS2/PC)
- Possible to improve a insertion loss by preventing over-polishing

All 3 types realize the low insertion loss.

A example of MPO polishing result when ADS-MPO polishing film is used in ATP polishing machine
All the technology used in factory mass production polishing is fully employed. Polishing quality has the same targets as for factory machines.

High speed polishing
A high speed polish of up to 700rpm, makes it possible to polish MPO connectors and single fiber connectors in just 3-5 processes.

High quality
All the technology used in factory mass production polishing is fully employed. Polishing quality has the same targets as for factory machines.

Battery operated
Works with either rechargeable nickel hydride battery (AA) or alkaline dry battery (AA).

Specifications

<table>
<thead>
<tr>
<th>Applicable Type</th>
<th>FC, SC, ST, LC, LC-Duplex, MU, MT, MTP®, MPO, MTRJ, Glass Ferrule, Custom PC/APC, Connector/Ferrule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (mm)</td>
<td>90W x 75D x 210H</td>
</tr>
<tr>
<td>Weight(g)</td>
<td>860</td>
</tr>
<tr>
<td>Power Supply</td>
<td>AA battery x 4 – Not Included AC power adapter (100-240V, 50-60Hz) –Option</td>
</tr>
</tbody>
</table>
Features

Because the attachment is the same as for the factory use ATP-3000 polishing machine, it can be used for a wide range applications such as MPO connectors and Single fiber connectors (UPC/APC), and polishing of all types of capillaries and fibers.

MPO Connector Polishing Processes
- Ferrule: 12MT-PPS-SM

<table>
<thead>
<tr>
<th>Process</th>
<th>Polishing Film</th>
<th>Time [Sec.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AAS-GC30A</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>AAS-GC03A</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>AAS-RW02A</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>AAS-RC01A</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>AAS-RC01A</td>
<td>50</td>
</tr>
</tbody>
</table>

Repolishing Capability

When optical fiber connectors due to be laid are found to be damaged, on the spot repolishing makes them ready to be used. Also, LC-Duplex connectors can be simultaneously polished without dismantling.

Polishing Characteristics
RX (mm) >2000, RY (mm) >5
Angle (degree) ±0.2
Fiber protrusion (mm) 1~3.5

For more information
http://www.ntt-at.com/product/pop311/

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