



SemiPOL Precision Grinder–Polisher

Provide Comprehensive Metallographic Analysis Solutions

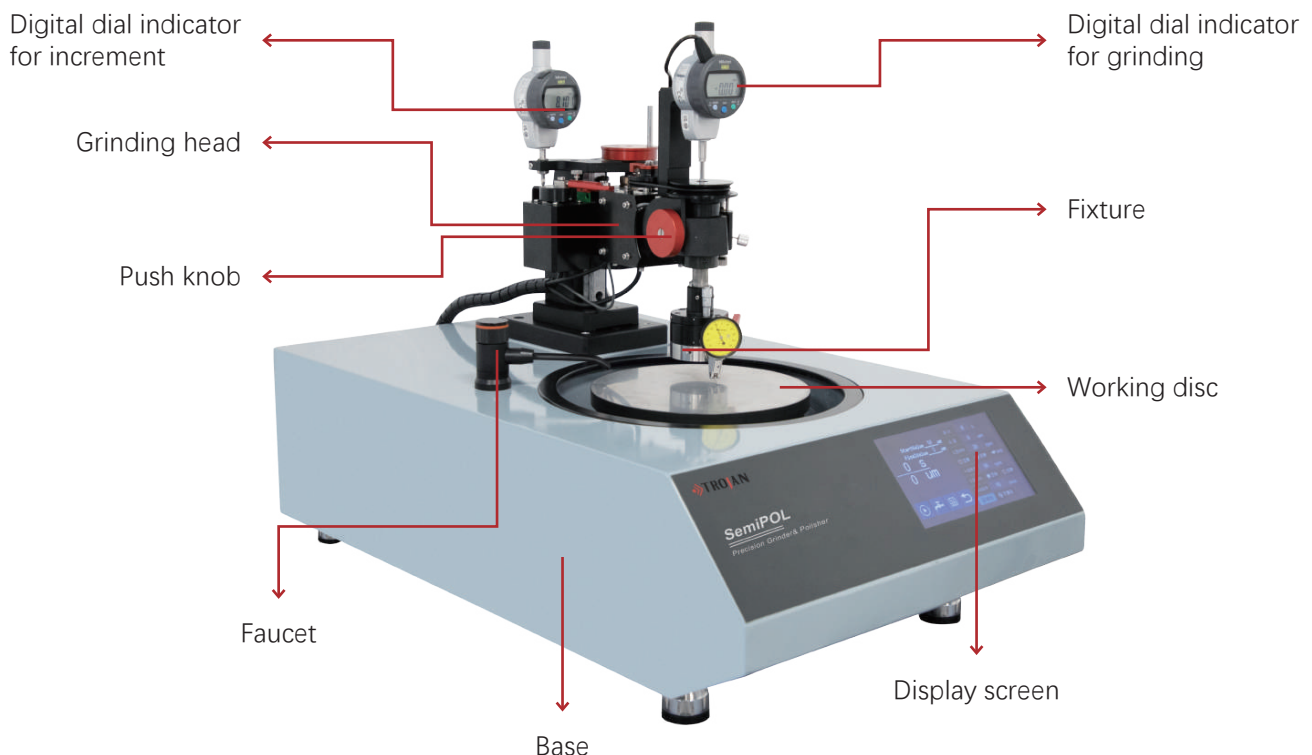
Product Description

SemiPOL are capable of performing precise grinding and polishing of various materials (integrated circuits, semiconductor wafers, optical components and optical fibers, petrographic structures, precision metal parts, etc.) for microscopic (SEM, FIB, TEM, etc.) analysis. The target accuracy can reach micron level. It is mainly used for parallel grinding and polishing, quantitative thinning, continuous slicing and other precision applications. With more accessories and fixtures, it can make the grinding and polishing of complex and special-shaped parts easier and more convenient.

SemiPOL can monitor the amount of material removed in real time, or set the amount of material ground and achieve unattended operation. The servo drive motor can control the rotation speed and swing amplitude of the positioning head to improve the flatness and finish of grinding and polishing.



Component

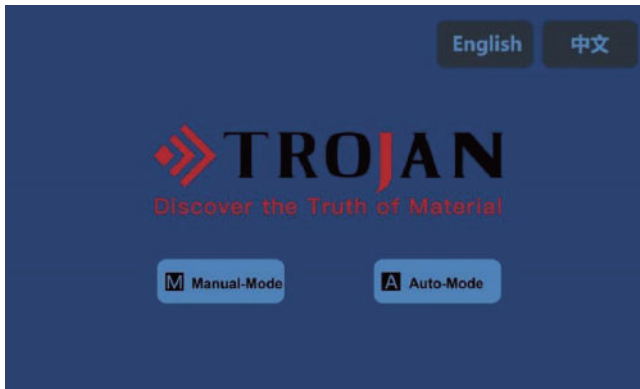


Main technical parameters

Type		SemiPOL
Working disk	Diameter	8'-10' (203/254mm)
	Speed	0-350rpm, continuously viable speed
	Direction	CW/CCW
	Power	750W
	Factory calibration	Flatness < 2um
Sample movement head	Speed	0-50rpm, continuously viable speed
	Direction	CW/CCW
	Rotation	Yes, with adjustable amplitude
	Oscillation	Yes, amplitude and speed are adjustable
	Factory calibration	Perpendicularity to the disk <2um; parallelism <2um
	Maximum removal	10mm
Electricity	Power supply	220VAC
	Panel	7-inch touch screen
Dimension	WxDxH	700x430x580mm
Weight		57kg

Features

● Operating system



① 7-inch LCD touch screen panel, displays the removal in real time, the interface is simple and easy to understand, the operation is convenient;

② 16 sets of process parameters can be saved and edited.

● Power system

① The servo drive motor (750 W) provides constant high torque output stably and permanently with a long service life.

② Built-in automatic temperature sensing cooling fan to reduce failure rate and increase service life.

● Grinding and polishing systems

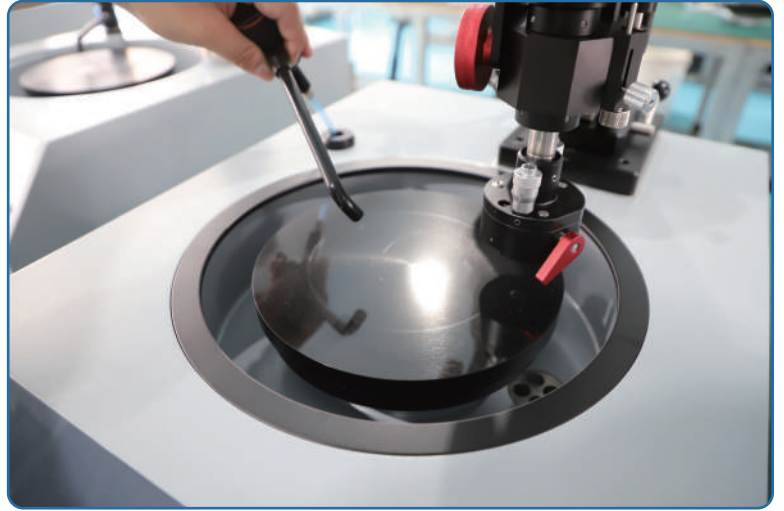
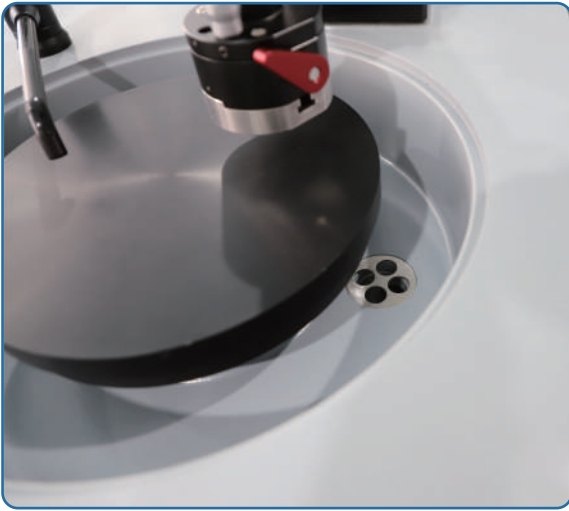


① Size: 8" ($\Phi 203\text{mm}$) or 10" ($\Phi 254\text{mm}$), flatness $< 2\mu\text{m}$

② Sample rotation: 0 ~ 50rpm, disc rotation: 0 ~ 350rpm, both are continuously viable speed, both can be forward/reverse;

③ Maximum removal: 10mm, resolution: 1 μm , stable accuracy: $\pm 2\mu\text{m}$;

- **Cleaning system**



- ① Large diameter side discharge water outlet, not easy to clog and drain quickly;
- ② Pluggable faucet, convenient for cleaning and maintenance of the disk.

Sample movement head

- Precision spindle, guides the sample to be perpendicular to the grinding disc, verticality $<2\mu\text{m}$, parallelism $<2\mu\text{m}$;
- The front and rear double dials are equipped with digital micrometers, which can display the removal in real time, with a resolution of up to $1\mu\text{m}$, and have zero adjustment and fine adjustment functions;
- Cam locking system for precise positioning of fixtures and accessories;
- The weight reduction device adjusts the load of the positioning head, the initial load is 900g, (0~300g) gradually decreases (5 levels in total).



Accessories

A variety of standard clamps (or custom clamps) and accessories are available. Cam lock interface provides tool-less attachment and removal for ease of use.

1. Fixtures



46-1000

Parallel Adhesive Fixture



46-1001

Teardrop Fixture



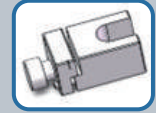
46-1002

Multipurpose Fixture



46-1003

Cross-Section &
Adhesive Fixture



46-1004

Cross-Section &
Clamping Fixture

2. Measuring Tools



Lever micrometer

Accuracy 0.001mm



Digital Indicator

Accuracy 0.0005mm



Digital Measurement System

Accuracy 0.0005mm

- Items that included with the machine;

👉 ADS-4 Dispenser



ADS-4 is an automatic dropper specially configured for grinding and polishing machines, which can realize fully automatic and unattended operation of polishing suspension and lubricant. The standard configuration is 4 sets of bottles, each with a capacity of 500mL. An expansion module can be added to increase the number of dropper bottles to 8.

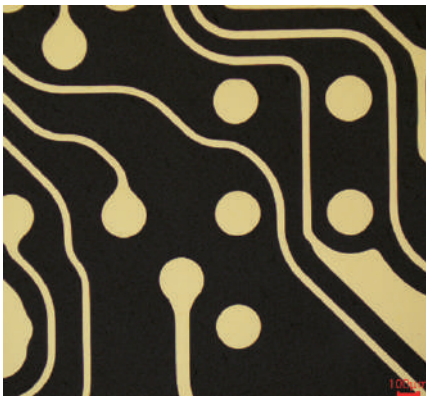
The ADS-4 comes with a 5-inch touch screen and can work independently or be connected to any brand of polishing machine as a standalone system. ADS-4 is equipped with a dripping system and a one-button flushing system, which can improve efficiency and reduce the use of polishing consumables.

👉 Features

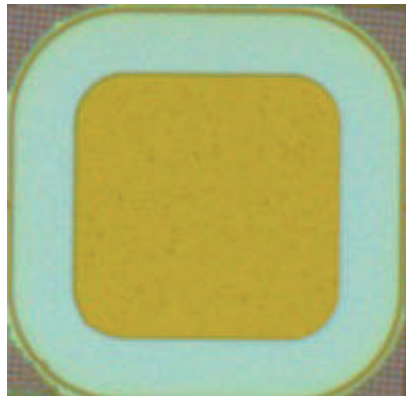
1. Each set of bottles has an independent stirring device, which is also suitable for non-suspended polishing liquids;
2. 5 inch touch screen, and can save/edit 18 groups of automatic dripping database;
3. Flow rate and stirring speed are adjustable;
4. Automatic filling of empty tubes;
5. The grinding liquid in the tube can automatically flow back to the dripping bottle;
6. One-click flushing of dripping pipes.



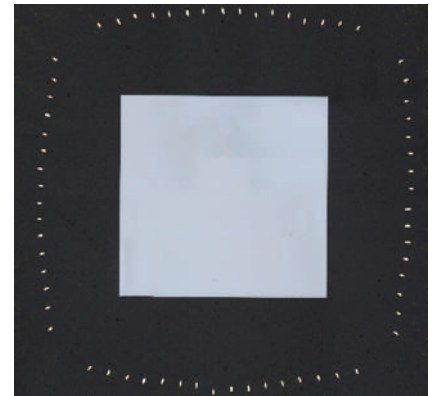
👉 Case study



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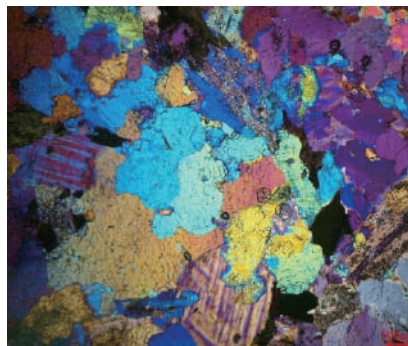
Semiconductor



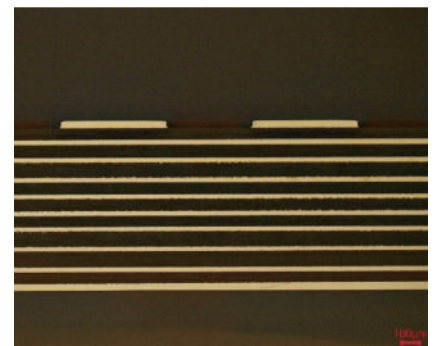
Wafer Thinning



Optical fiber (failed part)



Petrographic analysis



PCB copper layer



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