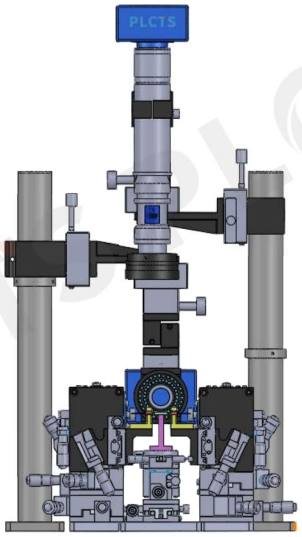
Manual waveguide coupling system

Model: PWS-10M



The PWS-10M series employs a **purely manual adjustment mechanism** to achieve **precise optical alignment** and coupling. This scheme provides **excellent cost-effectiveness** without compromising **coupling accuracy**.

The functional module configuration is **fully customizable** to precisely match the user's practical needs. It is the **preferred solution** for **research and development (R&D)** in academic institutions and research labs.

For industrial applications, the platform offers optional accessories, including **dispensing** and **UV/thermal curing devices**, making it fully capable of meeting advanced **industrial coupling and packaging** requirements.

Core Module:

- 6-DOF Manual Precision Stage(The XYZ three-axes from Suruga Seiki(Japan))
- Customized Fixtures (Fiber, Waveguide Chip, etc.)
- Four-Axis Adjustable Chip Stage (with Optional Temperature Control)
- Multi-Dimensional Microscopic Observation System
- Optional Accessories include: Light Sources, Optical Power Meters, Dispensing Machines, Probe Holders (DC or RF), UV Curing Systems, Optical Tables

Technical Advantages:

- **Modular Design**: Configure the system with the optimal modules to precisely meet your application needs.
- **High Precision Control**: Built around an Imported Six-Axis Stage (with imported XYZ axes–Long-term verified stability.), our platform incorporates a specialized coarse/fine tuning mechanism to guarantee sub-micron positioning accuracy.
- **User-friendly operation** and **comprehensive functionalities** allow all processes to be completed on a single, integrated platform.
- **Versatile Applications**: Capable of coupling for Si-Photonics, PLC, AWG, WDM, and more.
- We provide **customized solutions** based on client application requirements.

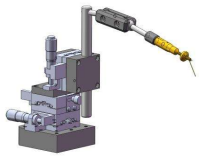
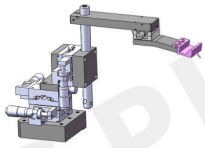
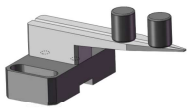
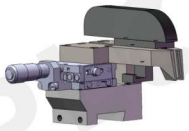
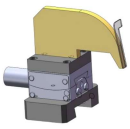
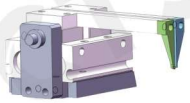
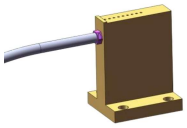
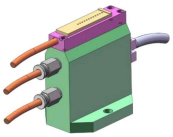
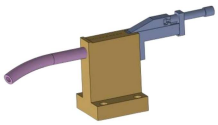
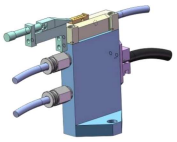
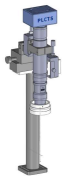
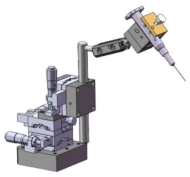
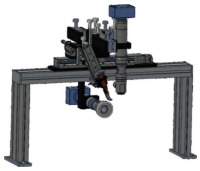
Module Specifications:

Module	Specification	QTY
6-DOF Manual Precision Stage	● XYZ Coarse Travel: 13 mm ● Resolution: 10 μm/div Sensitivity: 1 μm ● XYZ Fine Travel: 0.6 mm ● Resolution: 0.5 μm/div Sensitivity: 50 nm ● θX Angular Range: ±4° Minimum Micrometer Graduation: 23″/division ● θY Angular Range: ±7° Minimum Micrometer Graduation: 42″/division ● θZ Angular Range: ±4° Minimum Micrometer Graduation: 33″/division ● Three-axis coaxial design	2
Customized Fixtures	**Fiber Holders**: Horizontal and Vertical Orientation, for Single Fiber or Fiber Array **Chip Holders**: Supports various combinations	1

	including Vacuum Chuck, Mechanical Support, and TEC Temperature Control **Lens Holders**: Available in Pneumatic Clamping or Vacuum Chuck types	
Four-Axis Adjustable Chip Stage	13 mm travel in X/Y directions, 6 mm vertical (Z) travel, equipped with a 360° rotation stage	1
Microscopic Observation System	● Optical Magnification: 0.7 - 4.5× ● Maximum Electronic Magnification: up to 240 × ● Zoom Ratio: 1:7 ● Four-axis Adjustment Stage: 40 mm travel range ● Includes stainless-steel vertical post, stainless-steel welded base plate, adapter ring, mounting adapter, lens holder, etc. ● Precise focusing adjustment in the optical axis direction ● Working Distance: 86 mm ● megapixel HDMI camera, C-mount, with crosshair overlay ● Ring light, supporting measurement, photography, video recording, and drawing/annotation ● HD display, supports multiple monitors With video splitter, non-critical views can be combined into one image to save space, allowing top view + side view simultaneously Three configurations available: horizontal, vertical, and lateral.	1
Probe Holders (Optional)	● **DC Probe Holder** Features a dedicated probe clamping fixture and	1

	a magnetic adsorption base. It provides three-axis (XYZ) adjustment with a travel range of 13 mm and 1 μm resolution. The electrical interface is provided by a male banana plug cable. ● **RF Probe Holder** Equipped with a probe clamping fixture and a magnetic adsorption base. It offers three-axis (XYZ) adjustment with a travel range of 13 mm and 1 μm resolution. The unit also includes an integrated swing/tilt stage designed to adjust the probe tip parallel to the contact pad for optimal RF contact.	
Others (Optional)	Light Source, Optical Power Meter, UV Curing System, Dispensing System, Gantry, etc.	

Optional Accessories:

Probe Holders			
	DC Probe Holder		RF Probe Holder
Fiber Fixtures			
	Horizontal Fiber Holder	Fiber Array Holders	Vertical Fiber Holder
Lens Clamping Fixtures			
	Pneumatic Lens Holder		Vacuum Chuck Lens Holder
Chip Stage Fixtures				
	Vacuum Chuck	Vacuum Chuck+TEC	Vacuum Chuck+ Mechanical Clamping	Vacuum Chuck+ Mechanical Clamping+TEC
Microscopic Observation System			
	Horizontal	Vertical	Lateral Orientation
Dispensing and UV Curing Systems			
	Dispenser Adjustment Fixture		Universal UV Fixture
Gantry			
	Manual Gantry		Motorized Gantry

For **further details** regarding the accessories, please refer to the **dedicated accessory brochure**.