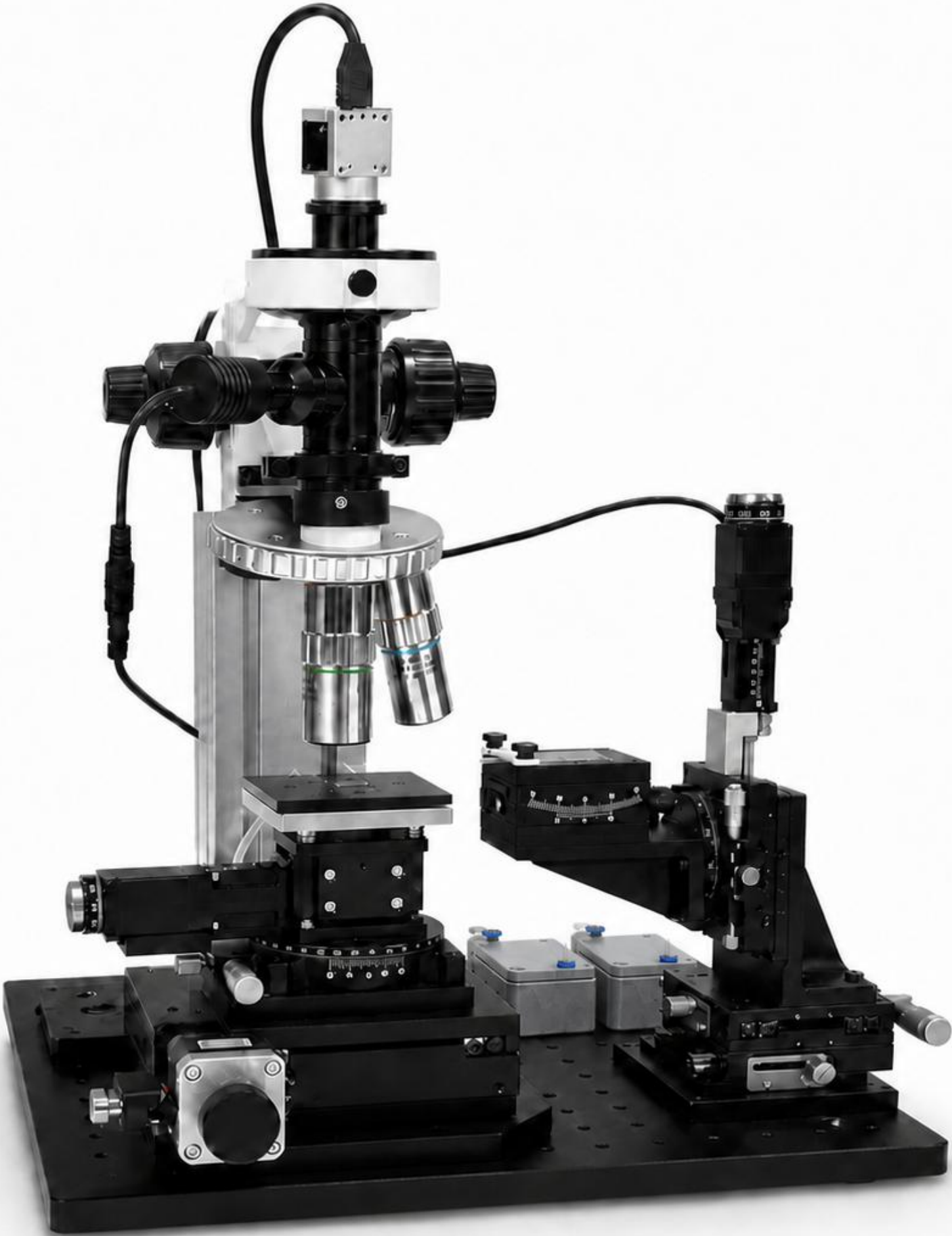


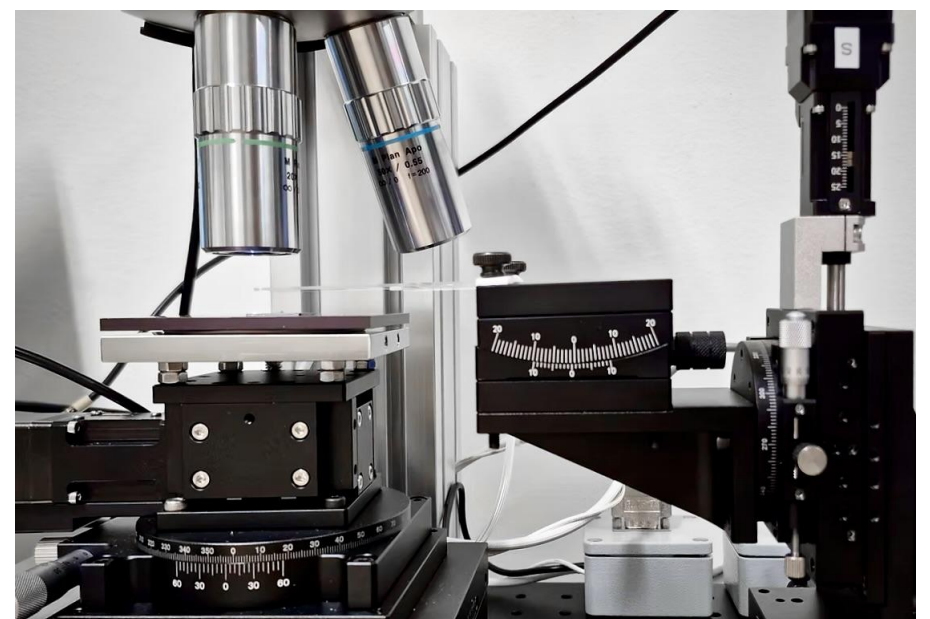
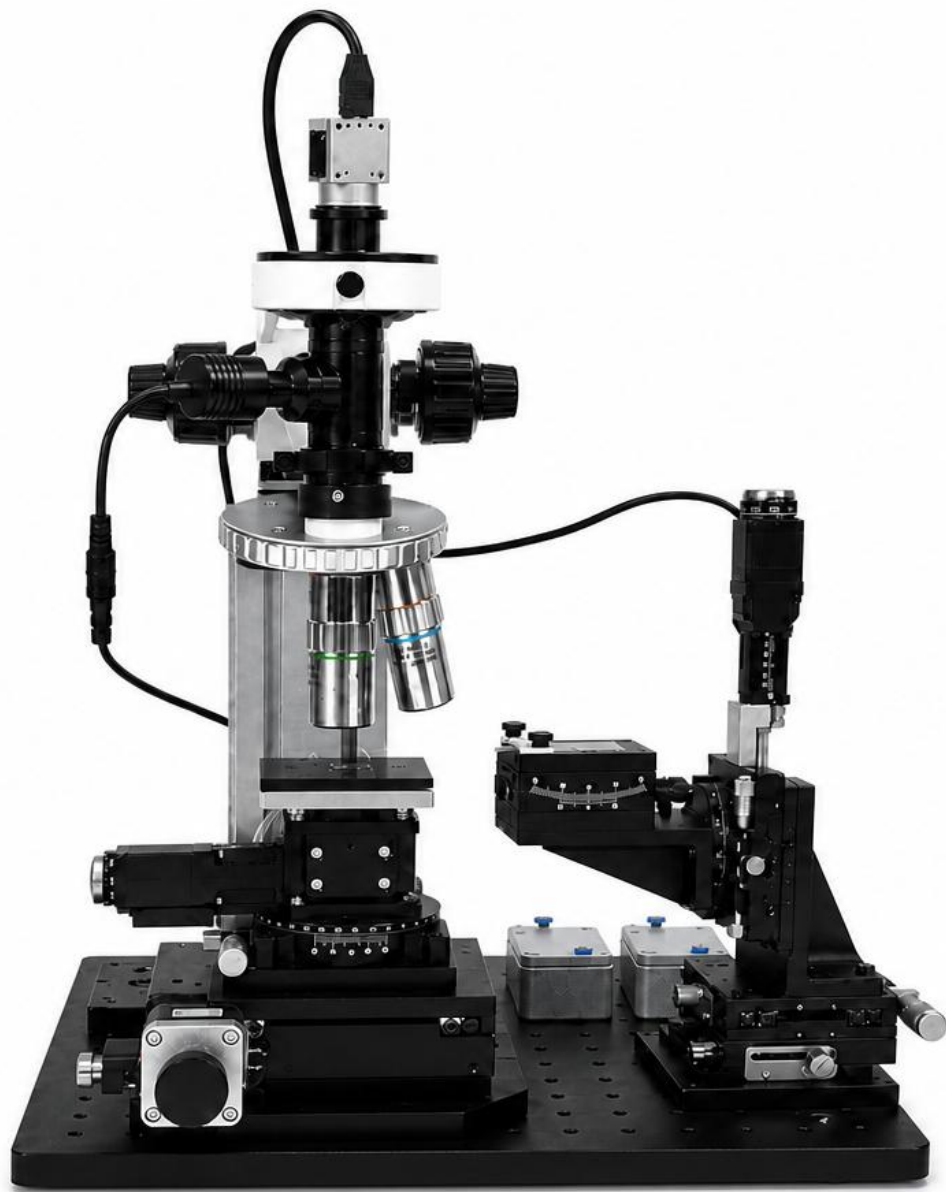
TRANSFER SYSTEM + DETECTOR

For 2D MATERIAL





2D Transfer System w/ Detector TRS03



Transfer System + Detector for 2D Material

Innovative Features

- A unique feature available only in our system: automatic detection and localization of 2D materials prior to transfer.
- Stamp stage: Z-axis motorized, (Optional, XY-motorized), accurate speed, distance control from PC application
- Heater Stage: 80 mm × 80 mm, Up to 200 °C, PID Temperature Control from PC app.
- Vacuum chucks: Secure wafer handling is achieved using a vacuum chuck during

the pickup and transfer process. With a spacious stage capable of holding up to five vacuum chucks, multiple 2D materials can be prepared simultaneously. This unique design significantly streamlines the fabrication of van der Waals heterostructures, enabling researchers to quickly alternate between different materials and build complex multilayer devices with maximum efficiency.

- Rotation stage for sample (optionally motorized): compatible for "Tear-and-Stack" method

- for twisted van der Waals heterostructures (0.1° rotation accuracy guaranteed)
- Tilt stages (goniometer and rotation stage) for stamp
- Compact design allowing installation in a glove box for air sensitive materials.
- The Transfer system can be ordered either together with a 2D detector or separately.

Specification

- Sample scan range: 5cm x 5cm maximum
- Objective lens: 20x(basic), 10x, 50x (all compatible, but not included in basic model)
- Substrate: SiO₂/Si, glass
- Detection Speed: 1.3 sec/frame
- Stamp Stage Z-Scan speed: 1 - 1000 um/sec.
- Sample Stage Speed: 2500 um/sec.
- Image Format: jpg file
Coordinate: recorded in file name
- weight: 22.5 kg

Fully Motorized Transfer System (TRS03)

Motorized Sample Stage

- Sample scan range: 5cm x 5cm x 1.5cm, Crossed Roller Guides
- Sample stage Resolution (1/16 Micro Step) : XY 0.312 μ m, Z 0.156 μ m,
- Sample mount: 80mm x 80mm, Black Anodized Surface Treatment
- Screw Pitch: XY 1mm, Z 0.5mm
- Maximum Speed: 1mm/sec in XY direction
- Unidirectional Repeatability: <3 μ m
- Straightness, Parallelism: XY <20 μ m, Z <5 μ m
- Backlash: XY <15 μ m, Z <5 μ m

Motorized Rotation Stage

- Rotation Range: 360° continuous rotation
- Platform Diameter: Ø100 mm
- Sample stage Resolution (1/16 Micro Step) : 0.312 μ m
- Drive Mechanism: Worm gear
- Worm Gear Ratio: 180:1
- Stepper Motor (1.8°): 42BYG, 2-phase stepper motor with a 1.8° step angle
- Resolution: 0.01° with 1/16 Microstepping
- Maximum Rotation Speed: 5°/s
- Repeatability: 0.005° (18")
- Absolute Angular Accuracy: 0.01° (36")
- Platform Runout: 15 μ m
- Backlash: 0.005° (18")
- Eccentricity: 5 μ m, Lost Motion: 0.005° (18"), Parallelism: 80 μ m

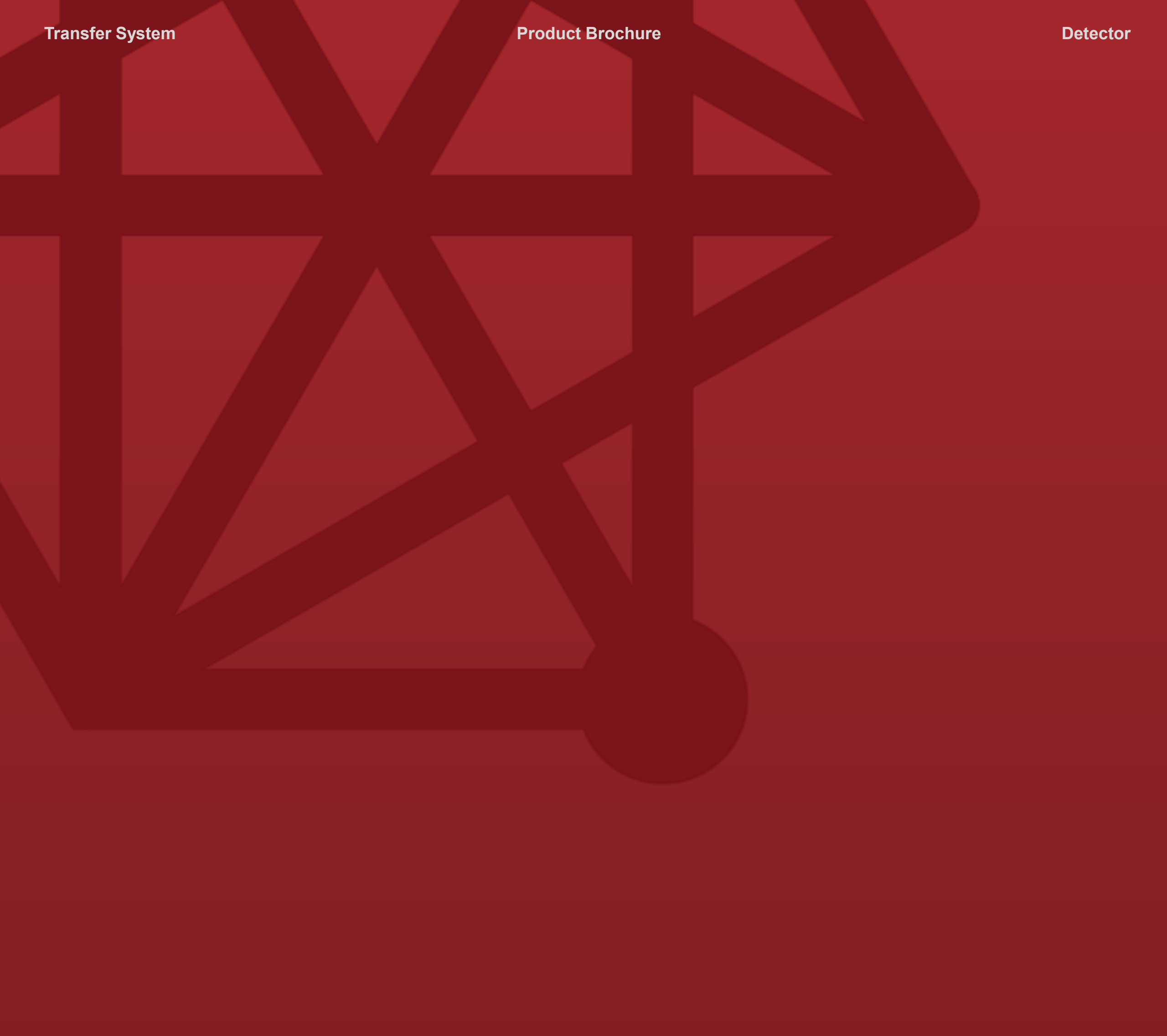
Motorized Stamp Stage

- scan range: 1.5cm x 1.5cm x 1.5cm, Crossed Roller Guides
- Sample stage Resolution (1/16 Micro Step) : 0.312 μ m
- Stamp mount: 60mm x 60mm, compatible for glass slide (3x1 inch)
- Screw Pitch: XYZ 1mm
- Maximum Speed: 1mm/sec in XYZ direction
- Unidirectional Repeatability: <2 μ m
- Straightness, Parallelism: <5 μ m
- Backlash: <2 μ m

Dimension & Installation

- The system consists of three main components: the main unit, controller, and PC.
- When installed in a glovebox, the main unit and controller are placed inside the glovebox, while the PC is located outside.
- Required installation space for main unit (including connectors): W 57cm × D 37cm × H 58cm
- Dimension of controller (including connectors): W 30cm x D 33cm x H 13cm
- Additional stage
- Optical breadboard size: 45cm x 30 cm
- weight: 22.5 kg

Innovative Features



Toward Independence in Research Equipment.

Standardized components are used to allow researchers to freely modify the system for specialized research purposes.

Built on an open-source platform, enabling customization and specialized research applications.

Software libraries are provided so users can modify programs according to their specific needs.

Program modifications reflecting individual user requirements are available as a paid service.

We provide a 1-year free warranty service and support software updates for up to 10 years when PCs are replaced.

