

Hexapod Platform (GSS-100-D)



Type		GSS-100-D
Structure Specification	Travel Stroke X、Y、Z(mm)	± 16 、 ± 16 、 ± 6.5
	Travel Degree θX 、 θY 、 $\theta Z(^{\circ})$	± 10 、 ± 10 、 ± 20
	Max Travel Speed X、Y、Z(mm/s)	10、10、10
	Max Travel Speed θX 、 θY 、 θZ (mrad/s)	200、200、200
	Typical Speed X、Y、Z(mm/s)	5
	Typical Speed θX 、 θY 、 θZ (mrad/s)	100
Precision specification	Minium Resolution(nm)	15
	Minium Travel Stroke X、Y、Z(um)	1、1、0.5
	Minium Rotation Degree θX 、 θY 、 θZ (urad)	12、12、25
	Repeatability Precision X、Y、Z(um)	± 0.2 、 ± 0.2 、 ± 0.12
	Repeatability Precision θX 、 θY 、 θZ (urad)	± 6 、 ± 6 、 ± 10
	Backlash X、Y、Z(um)	0.5、0.5、0.2
Loading Capability	Backlash θX 、 θY 、 θZ (urad)	5、5、10
	Maximum Load Capacity, Ba-se Plate in Any Orientation(kg)	0.9
	Maximum Load Capacity, Ba-se Plate Horizontal(kg)	2.5
Power-off Retention	Maximum Holding Force, Ba-se Plate in Any Orientation(N)	2.5
	Maximum Holding Force, Ba-se Plate Horizontal(N)	15



GMT GLOBAL INC. www.gmtglobalinc.com



Global Operation Headquarter
No. 357, Sec. 1, Yaofeng Rd., Puxin Township,
Changhua County 513004, Taiwan
TEL : +886 4-828-2825
FAX : +886 4-828-2228
E-mail : gmt@gmt.tw

Xiushui Office
No.3, Ln. 34, Minzhu St., Xiushui Township,
Changhua County ,504009, Taiwan
TEL : +886 4-768-8327
FAX : +886 4-768-8314
E-mail : stamping@gmt.tw

South Area Sheng Feng Technology Co., Ltd.
No.22,Aly. 53,Ln.428, Sec. 3,Wenhua Rd.,
Rende Dist., Tainan City 717021, Taiwan
TEL : +886 6-270-3518
FAX : +886 6-270-3510

Dongguan Ding Qi Intelligent Automation Technology Ltd.
No.8 Factory ,SHUI-BIAN Industrial Zone, Hengli Town,
Dongguan City, Guangdong Province, China
TEL : +86 40077-06066

GMT Europe GmbH
Am Detershof 20 26655 Westerstede Germany
TEL : +49 448-8761-7460

Hexapod Platform

Product Overview:

The GMT GSS100D High-Precision Stewart Platform is a compact 6-DOF parallel motion system developed for precision optical alignment and positioning applications. Integrating precision mechanics, high-performance servo control, and comprehensive motion control software, the GSS100D delivers outstanding positioning accuracy and repeatability. With linear repeatability of $\pm 0.2\mu\text{m}$, angular repeatability of $\pm 6\mu\text{rad}$, and 15nm encoder resolution, the GSS100D meets the demanding requirements of silicon photonics, optical coupling, advanced semiconductor packaging, and wafer-level optical testing in the AI era.

Key Features:

1. Parameter Calibration for Superior Accuracy

GMT's proprietary pose measurement technology and optimization-based calibration algorithm ensure that every GSS100D is individually calibrated before shipment, providing outstanding positioning accuracy and repeatability.

2. Comprehensive Motion Trajectories

Supports a wide variety of motion trajectories, including linear, circular, rotational, spiral, rectangular spiral, sinusoidal, triangular, sawtooth, and area scanning. The controller also provides closed-loop optical peak power search and hybrid search algorithms for high-efficiency optical alignment.

3. Complete Optical Alignment Workflow

Supports a complete "Align \rightarrow Search \rightarrow Couple \rightarrow Lock" workflow by combining vision-based passive alignment with optical-feedback active alignment, providing an efficient solution for precision photonics packaging and optical assembly.

Industrial Applications:

High-precision alignment
for electronic component
assembly

Optical coupling alignment
for optical module fibers

Silicon photonic waveguide
alignment

Semiconductor inspection

