

Full closed loop control system that controls a motorized stage with built-in high resolution compact linear encoder using a special controller.



- Linear encoder signal feedback and micro-step drive can minimize lead error, which is inherent to feed screw mechanism.
- Small glass scale of linear expansion coefficient enabled a highly reliable positioning system stable against fluctuations in ambient environment.
- Ideal for use in positioning that requires precision in submicron units, and prolonged driving that is affected by reproducibility by temperature drift.

Application System
Machine Vision
Manual Positions
Motion Control Products
Optical & Mirror Holder
Optomechanics
Holders
Factory Automation Parts

Measurement & Control

FA Electrical Parts

Laser

Tools & Clean Parts

Nanometer Stages

Precision Linear Motorized Stages

High Speed Motorized Stages

Motorized Goniometer

Multiaxis Motorized Stages

Motorized Rotation Stages

Industrial Robot

Controller & Driver & Cable

Custom-Built Motorized Stages

Specifications					
Part Number		TSDM(GS)60-15X	TSDM(GS)80-20X	TSDM(GS)60-10ZF	
Mechanical Specifications	Travel (mm)	15	20	10	
	Stage Size (mm)	60×60	80×80	60×60	
	Feed Screw (mm)	Precision ground screw φ5, 0.5 lead	Precision ground screw φ5, 0.5 lead	Precision ground screw φ5, 0.5 lead	
	Positioning Slide	Extended Contact Ball Guide	Extended Contact Ball Guide	Extended Contact Ball Guide	
	Stage Material	Steel	Steel	Steel	
	Weight (kg)	0.8	1.1	0.7	
Accuracy Specifications	Resolution	(Full) (μm/pulse)	1	1	1
		(Half) (μm/pulse)	0.5	0.5	0.5
	MAX Speed (mm/sec)	5	5	2	
	Positioning Accuracy (μm)	5	5	2	
	Positional Repeatability (μm)	0.5	0.5	0.5	
	Load Capacity (N)	19.6(2.0f)	29.4(3.0f)	19.6(2.0f)	
	Moment Stiffness / Pitch (N·cm)	0.4"	0.2"	2"	
		0.4"	0.2"	2"	
		0.4"	0.2"	-	
	Lost Motion (μm)	0.5	0.5	0.5	
	Backlash (μm)	10	10	5	
	Parallelism (μm)	50	50	50	
	Running Parallelism (μm)	10	10	-	
	Perpendicularity of Motion (μm)	-	-	8	
	Pitch	15"	15"	15"	
	Yaw	15"	15"	-	
Sensor	Sensor Part Number	GP1S092HCPI(Sharp Corporation)	PM-L24(SUNX Co., Ltd.)	PM-F24(SUNX Co., Ltd.)	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	None	None	None	
	Proximity Origin Sensor	None	None	None	

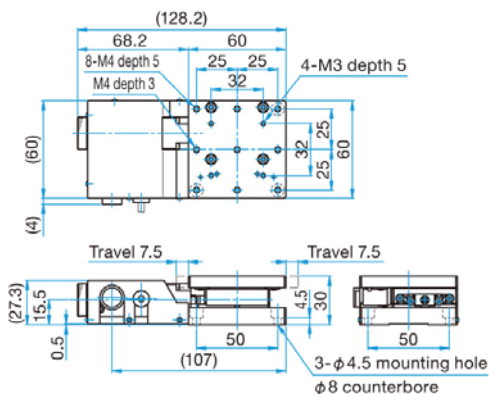
Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.35A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK513PB-C9(□20mm)
	Motor Step Angle	0.72°

Compatible Driver / Controller	
Compatible Controller	SHOT-302GS, SHOT-304GS, HIT-M · HIT-S

Outline Drawing

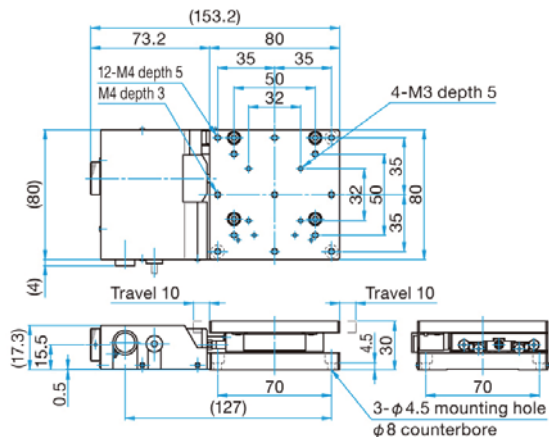
TSDM(GS)60-15X

Hexagonal socket head cap screw
M4x8...3 screws, M3x6...2 screws



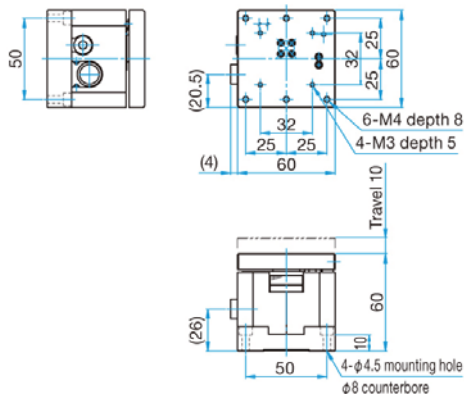
TSDM(GS)80-20X

Hexagonal socket head cap screw
M4x8...3 screws, M3x6...2 screws



TSDM(GS)60-10ZF

Hexagonal socket head cap screw
M4x15...4 screws, M3x6...2 screws



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