

Modular Linear Stage | MLS-25

The modular linear stage (MLS-25) enables highly flexible and customizable motion system designs. X-Y, X-Y-Z mounting, XY gantry systems, as well as two or more slides per bearing are possible. The MLS-25 is fully integrated with our patented multi-phase piezo motor, and an incremental, high resolution encoder with < 20nm resolution. The high precision ball bearing can be factory cut to size if needed. Travel adjustments are feasible with adjustable clamps by the user. The MLS-25 can also be combined with our small rotary and gonio stages for ultimate motion flexibility. The MLS-25 is compatible with our MMC-100 and MMC-110 motion controllers for plug-and-play motion system design.

KEY FEATURES

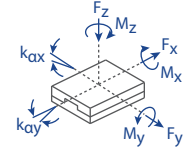
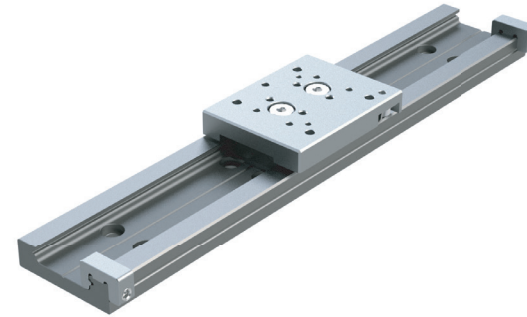
- Standard travel range of up to 236 mm (up to 376mm available upon request)
- 20 nm closed loop encoder resolution
- High load capacity stainless steel ball bearing (up to 2 kg)
- Low profile, 13 mm height
- User adjustable travel limits

TECHNICAL DATA

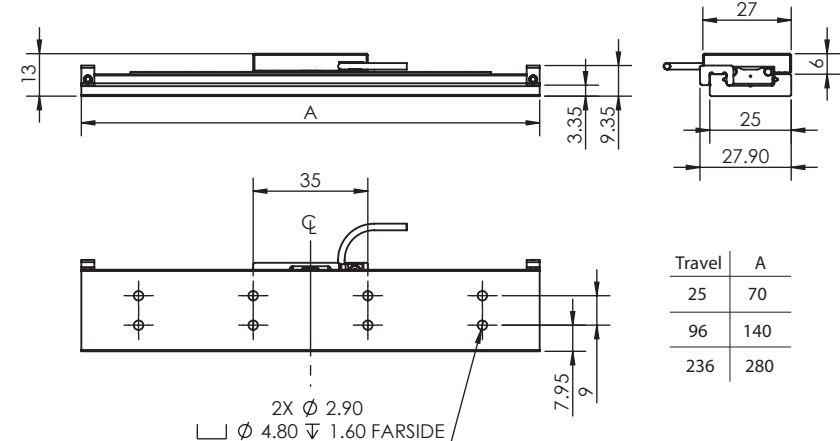
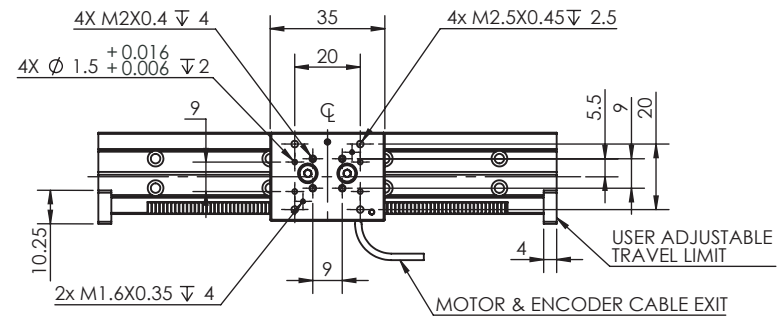
Travel range [mm]	25	96	236
Straightness / Flatness [μm]	± 4	± 6	± 8
Pitch [μrad]			
Yaw [μrad]			
Weight [g], Open Loop	84	144	260
Weight [g], Closed Loop	85	148	265
Motor option	Piezo Motor		
Speed, max [mm/s]	2 (MMC-100), 10 (MMC-110)		
Encoder option	None (open loop)		Digital (RS-422)
Resolution, typical [nm]	1		< 20
Repeatability, bi-directional [nm]	n/a		± 200
Repeatability, uni-directional [nm]	n/a		200
Materials	aluminum carriage, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

ORDERING INFORMATION		MLS-25-	1			0	-		
DRIVE	Piezo Motor, PM-002		1						
TRAVEL	25 mm		1						
	96 mm		2						
	236 mm		3						
	XXX mm		X						
ENCODER	None		0						
	Digital (RS-422)		3						
LIMIT SWITCH	None		0						
ENVIRONMENT	Atmospheric		0						
	High Vacuum (10^{-6} mbar).....		6						
CUSTOM TRAVEL SLIDES	Specify Travel.....		#						
	Custom.....		#						

Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N-m]	M_y [N-m]	M_z [N-m]	k_{ax} [$\mu\text{rad/N-m}$]	k_{ay} [$\mu\text{rad/N-m}$]
PM-002	2	20	20	1	1	1	-	-



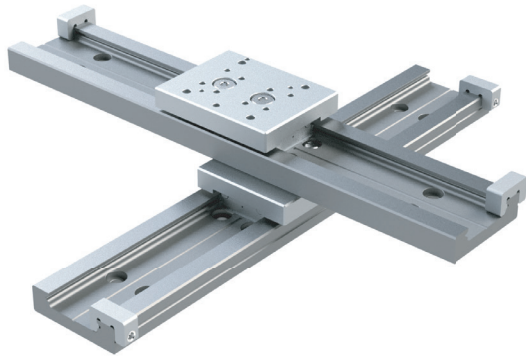
* 96mm travel version shown
* all dimensions are in millimeters



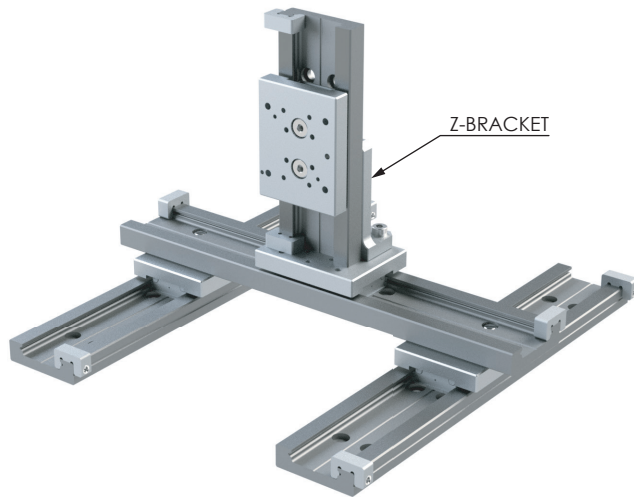
Specifications are subject to change without notice.

MLS-25 COMBINATION EXAMPLES

X-Y

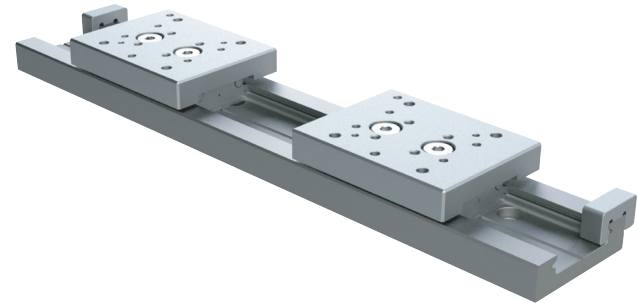


X-Y GANTRY + Z

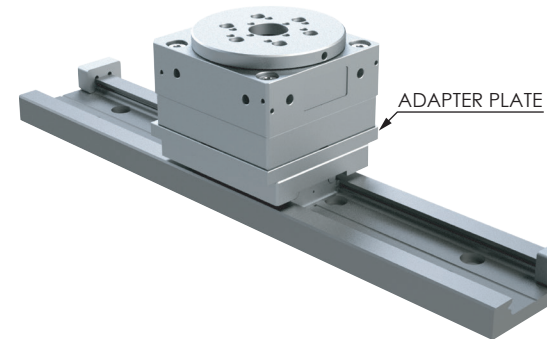


MLS-25 COMBINATION EXAMPLES

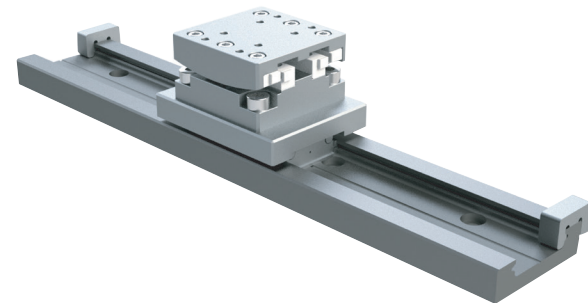
MLS-25 WITH TWO SLIDES



MLS-25 WITH PR-32L



MLS-25 WITH PG-25-GONIO STAGE



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