

Modular Linear Stage | MLS-25

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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

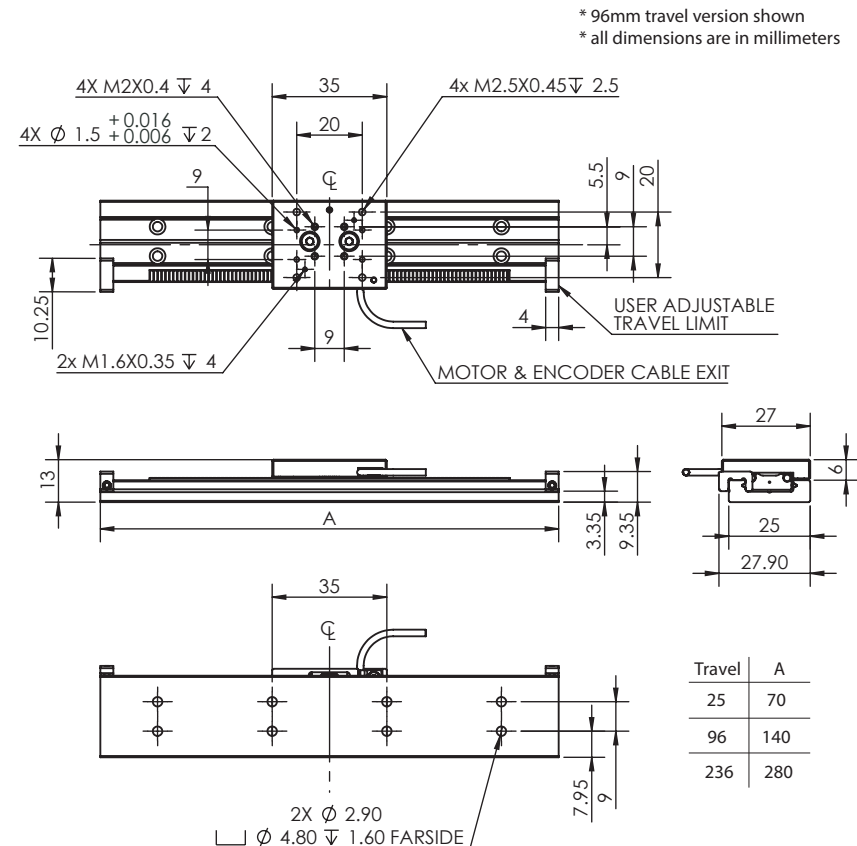
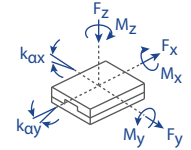
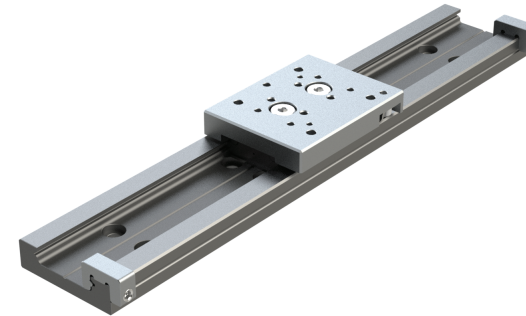
- Standard travel range of up to 236 mm (up to 376mm available upon request)
- 20 nm closed loop encoder resolution
- High load capacity stainless steel ball bearing (up to 2 kg)
- Low profile, 13 mm height
- User adjustable travel limits

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

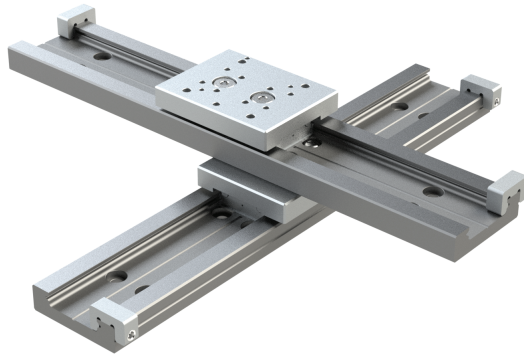
Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N-m]	M_y [N-m]	M_z [N-m]	k_{ax} [μrad/N-m]	k_{ay} [μrad/N-m]
PM-002	2	20	20	1	1	1	-	-



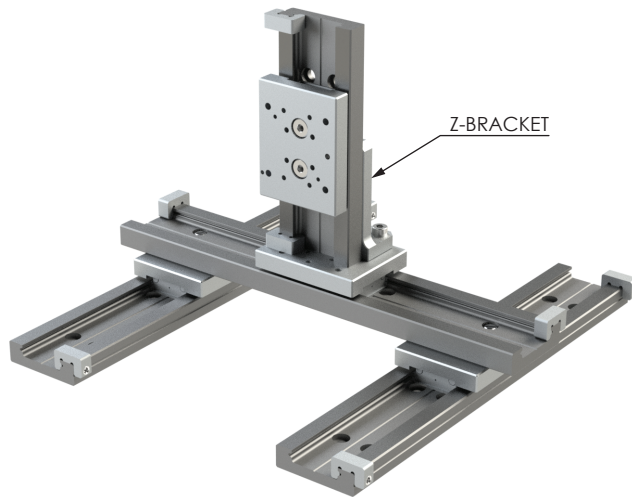
Specifications are subject to change without notice.

MLS-25 COMBINATION EXAMPLES

X-Y

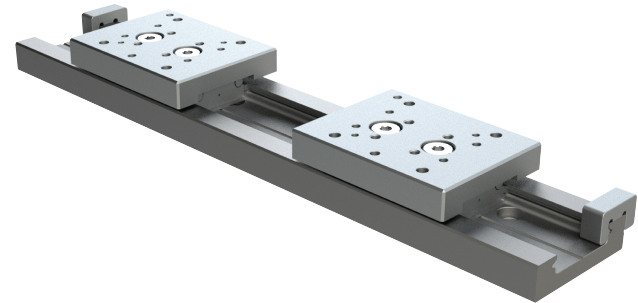


X-Y GANTRY + Z

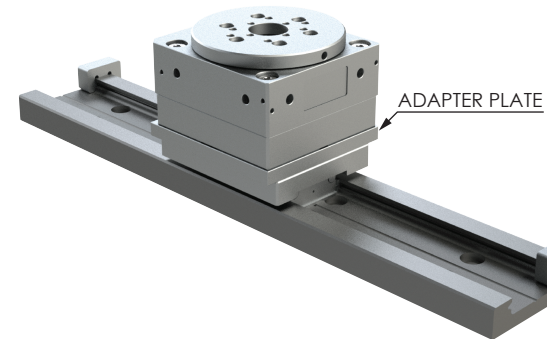


MLS-25 COMBINATION EXAMPLES

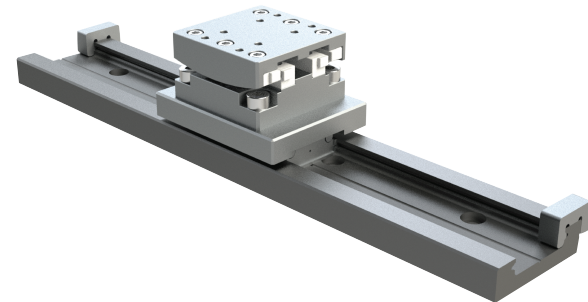
MLS-25 WITH TWO SLIDES



MLS-25 WITH PR-32L



MLS-25 WITH PG-25-GONIO STAGE



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