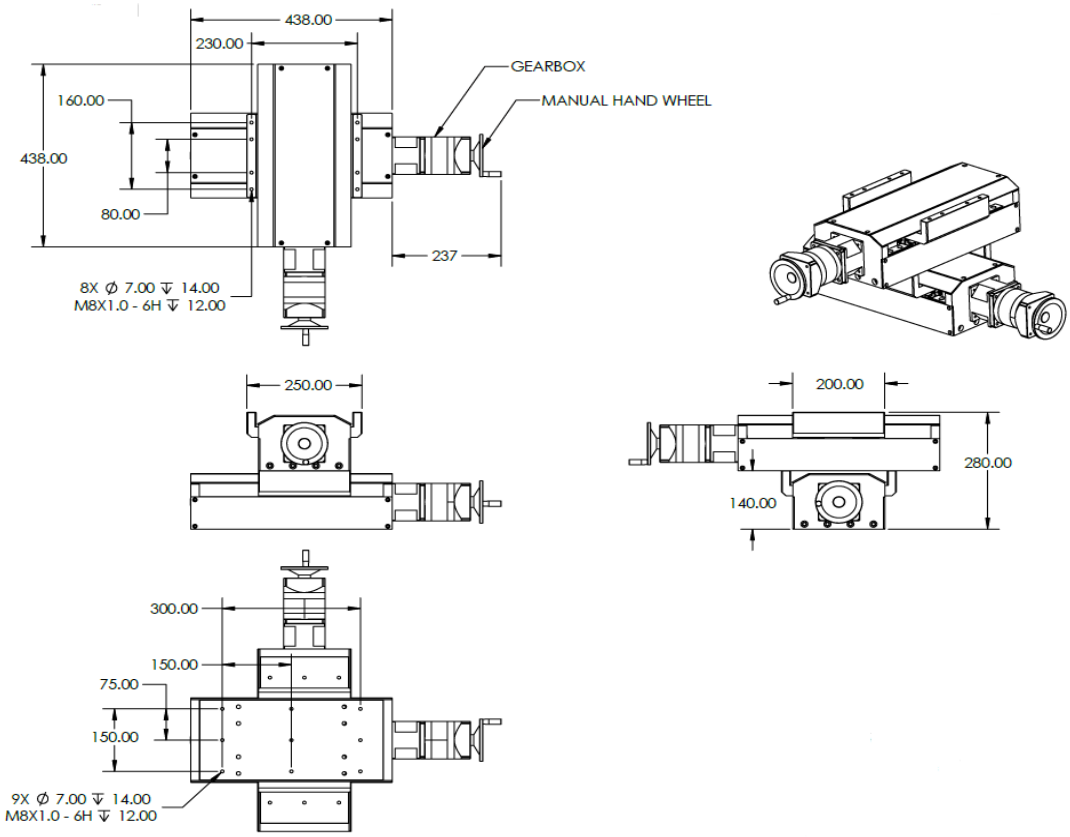
ModuSystems

LYNX SERIES
LINEAR ACTUATORS

Technical Bulletin – HD XY

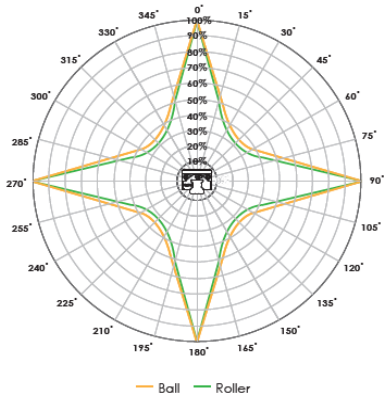
LYNX HD XY Lead Screw Drive — Handwheel/Cover Option



Load Capacity Data

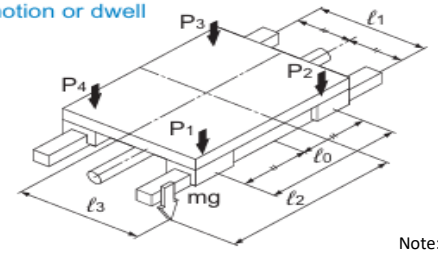
Dynamic Load Capacity per Carriage = 45.9 kN x 4 runner blocks = 183.6 kN per carriage = 41,275 lbf
Static Load Capacity per Carriage = 82.9 kN x 4 runner blocks = 331.6 kN per carriage = 74,547 lbf
The Load capacity chart to the right provides a correction factor based on the direction of the load. The load capacity in the 0 or 180 deg direction is 100%.
The Formula Diagram below will guide you in determining the resultant load at each runner block once you determine the actual location of the Cg of the load.

Example:
L0 = 175 mm (7 in.) L1 = 125 mm (5 in.) L2= 0 L3 = 200 mm (8 in) mg = 3559 N (800 lb)
If L2 = 0 then P1 and P2 = 3.737 kN 45.9 kN/3.737 kN = 12x Safety Factor
If L2 = 0 then P3 and P4 = -1.957 kN 45.9 kN/1.957 kN = 23.45x Safety Factor
Theoretical numbers should be verified based on user empirical conditions.



Load Capacity Chart

Horizontal mount, overhung
(with the block traveling)
Uniform motion or dwell



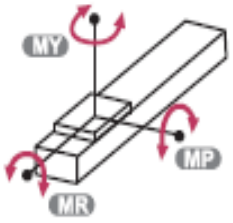
$$P_1 = \frac{mg}{4} + \frac{mg \cdot \ell_2}{2 \cdot \ell_0} + \frac{mg \cdot \ell_3}{2 \cdot \ell_1}$$

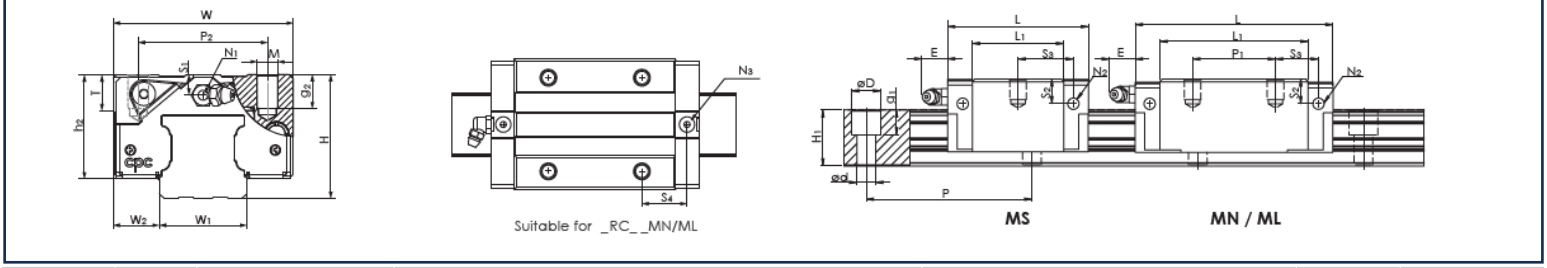
$$P_2 = \frac{mg}{4} - \frac{mg \cdot \ell_2}{2 \cdot \ell_0} + \frac{mg \cdot \ell_3}{2 \cdot \ell_1}$$

$$P_3 = \frac{mg}{4} - \frac{mg \cdot \ell_2}{2 \cdot \ell_0} - \frac{mg \cdot \ell_3}{2 \cdot \ell_1}$$

$$P_4 = \frac{mg}{4} + \frac{mg \cdot \ell_2}{2 \cdot \ell_0} - \frac{mg \cdot \ell_3}{2 \cdot \ell_1}$$

Note: Load is positive in the direction of the arrow.

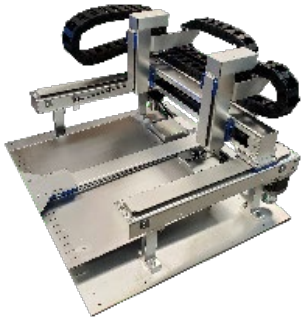


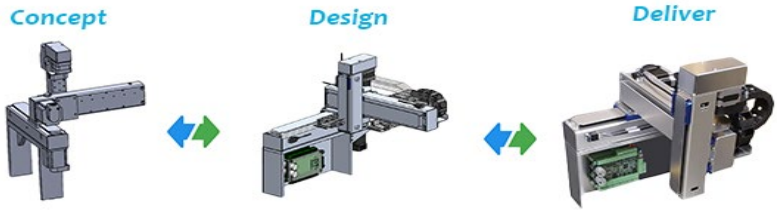


Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)											Block Dimensions(mm)							Load Capacities (KN)		Static Moment (Nm)		
	H	W2	W1	H1	P	DxdxG1	W	L	L1	h2	P1	P2	P3	MxG2	M1	T	N1	N2	N3	E	S1	S2	S3	S4	C	Co	Mro	Mpo	Myo
ARC 35 MN	48	18	34	32	80	14x9x12	70	111.2	86.2	40.4	50	50	-	M8x13	-	14	M6x10	M6x7	P5	12	8	15	23.4	24.1	45.9	82.9	1700	1080	1080
ARC 35 ML								136.6	111.6		72												25.1	25.8	54.7	106.5	2185	1755	1755

Other LYNX Series Solutions

Rapid System Prototyping, also known as **breadboarding**, is a highly effective approach for developing multi-axis systems. It allows engineers to design, test, and refine complex motion platforms in a modular and flexible environment. Breadboarding solutions provide the foundation for assembling and iterating on system designs, enabling efficient integration of components like actuators, controllers, and sensors.



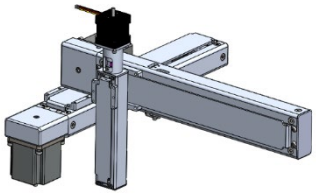


Motion Control
Let us select a Modusystems Pre-engineered motor and control solution for your next Screw Drive

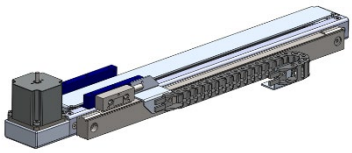
ModuSystems

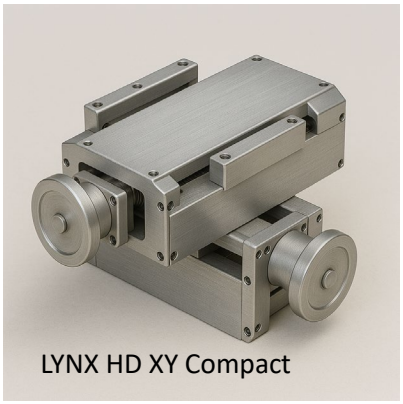
Stepper or Servo Controls
Stepper or Servo Motors
Integrated Motor Options

LSA/BSA with Inline motor Mount: The actuator is a nice addition to any multi-axis configuration. The Z-axis shown is the LSA-Lead Screw actuator with Inline motor.



SBA with Linear Encoder Option: SBA is available with 0.1 µ Resolution magnetic encoder. Perfect for high-speed repeatable motion.




LYNX HD XY Compact