Tolomatic
EXCELLENCE IN MOTION®

A COMPARISON OF TOLOMATIC BELT DRIVE ACTUATORS

MXB-U ***Electric Belt Drive***	***MXB-P*** ***Electric Belt Drive***	***B3W*** ***Electric Belt Drive***	***TKB*** ***Electric Belt Drive***
			
For complete information see www.tolomatic.com or literature number:			
8500-4000	*8500-4000*	*3600-4148*	*3600-4609*
• High linear velocity			
• High acceleration rates			
• Long stroke lengths			• Longer stroke length than screw drive actuators
• Excellent repeatability			
• High duty cycles			
• Low profile			• Lowest profile
• Requires external guidance and support	• High load and bending moment capacities		• Superior rigidity, high moment loads
	• High precision bearings feature smooth, low breakaway motion		• Straightness and flatness within 0.0002 inches per inch of stroke
	• Durable profiled rail design uses THK® Caged Ball® technology to reduce friction and extend actuator life		• Wide stable platform for XY applications
			• Lowest carrier deflection of any Tolomatic actuator

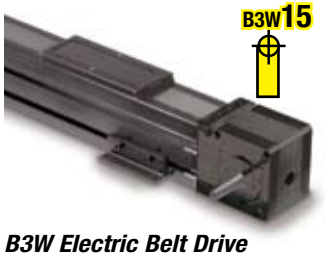
Detailed comparisons of Tolomatic belt drive actuators
MXB : TKB : B3W *page 2 & 3* ***MXB : B3W*** *page 4*

COMPARISON OF TOLOMATIC BELT DRIVE ACTUATORS

The MXB electric actuator is exactly what you expect from the industry's number one rodless supplier. Designed with our exclusive ENDURANCE TECHNOLOGY℠ features, the MX delivers superior performance to meet the most demanding applications. The MXB broadens the choices for belt drive actuators providing Tolomatic reliability in applications that were not available before. Nobody knows rodless like Tolomatic, and the MX proves it.

Use these graphs for a quick reference comparing the performance features of the MXB to the Tolomatic B3W and TKB. For complete information about the B3W or the TKB visit our web site or check out the B3W brochure and the Electric products catalog.

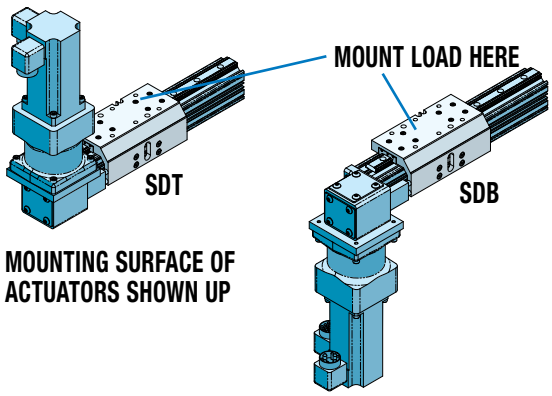
TKB Electric Belt Drive
(See #3600-4609 for complete information)



B3W Electric Belt Drive
(See #3600-4148 for complete information)

MOTOR MOUNTING

The MXB is unique among Tolomatic belt drive actuators. The mounting surface of the carrier is located 90° from the motion of the belt. The side opposite the belt is reserved for switch placement. The bottom of the actuator is reserved for mounting. If the motor is mounted in the SDT direct drive top orientation be sure the load mounted to the carrier does not interfere with the motor.



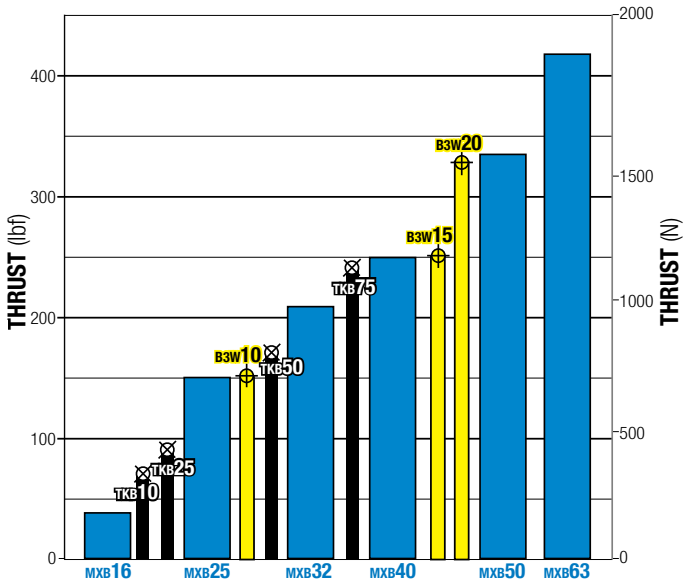
MAXIMUM SPEED COMPARISON

MXB 150 in/sec

TKB 100 in/sec

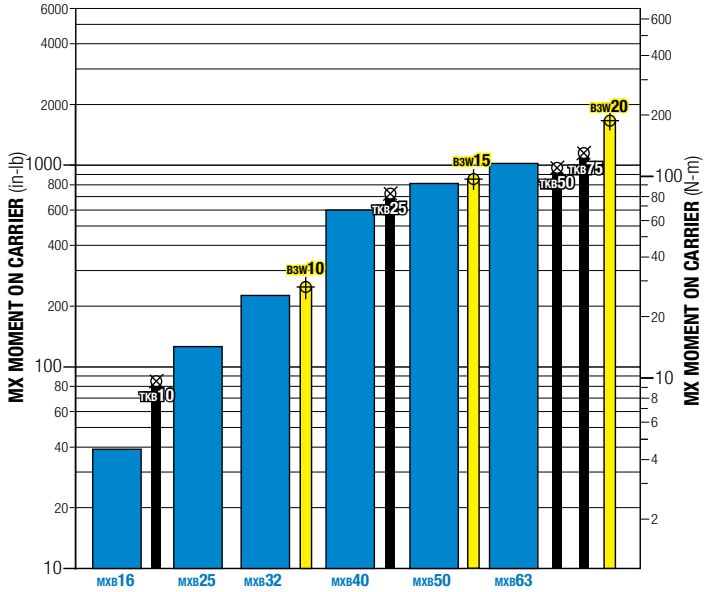
B3W 200 in/sec

MAXIMUM THRUST COMPARISON

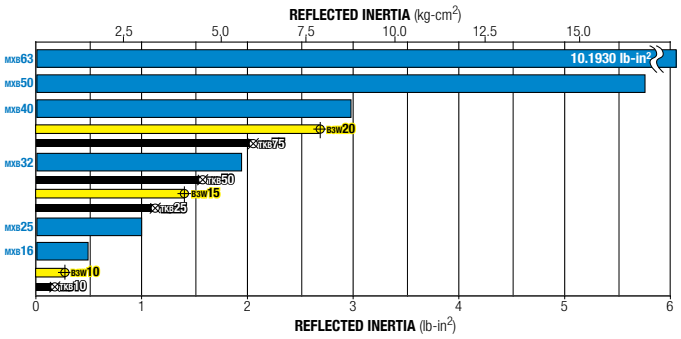


BENDING MOMENT COMPARISON

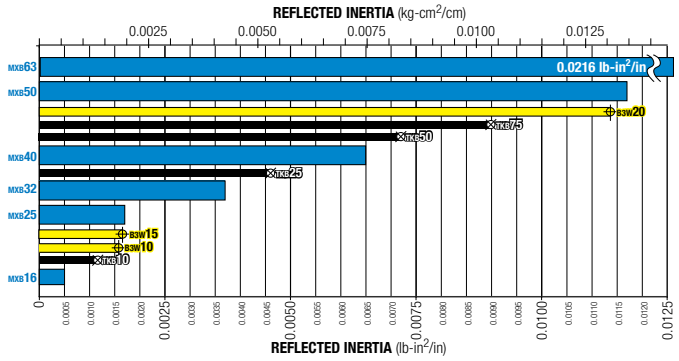
Mx



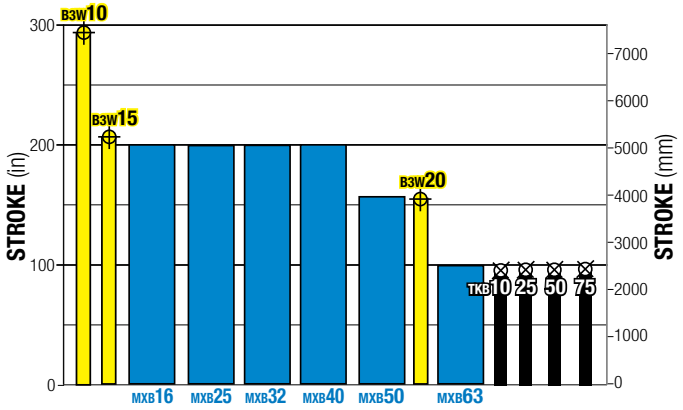
INERTIA COMPARISON

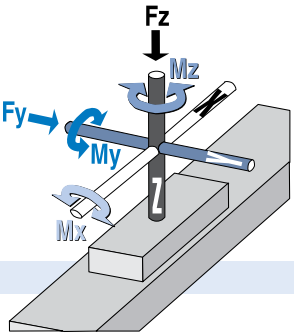


INERTIA PER UNIT OF STROKE COMPARISON

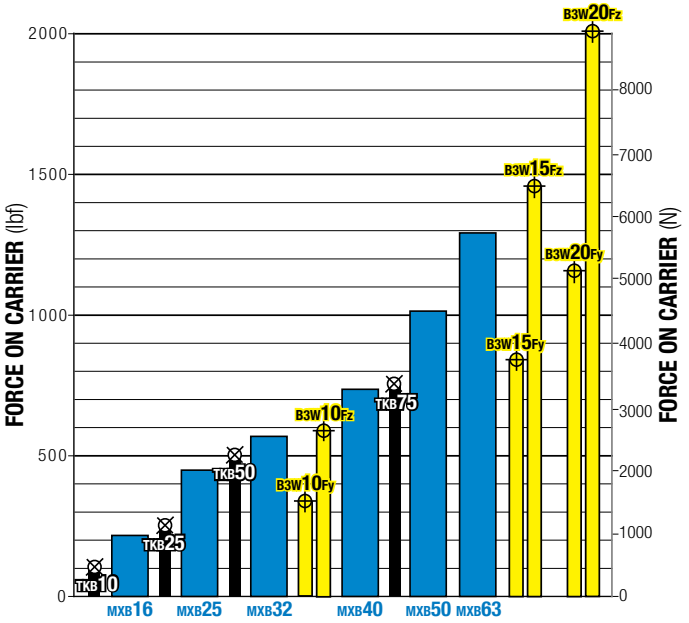


MAXIMUM STROKE LENGTH COMPARISON



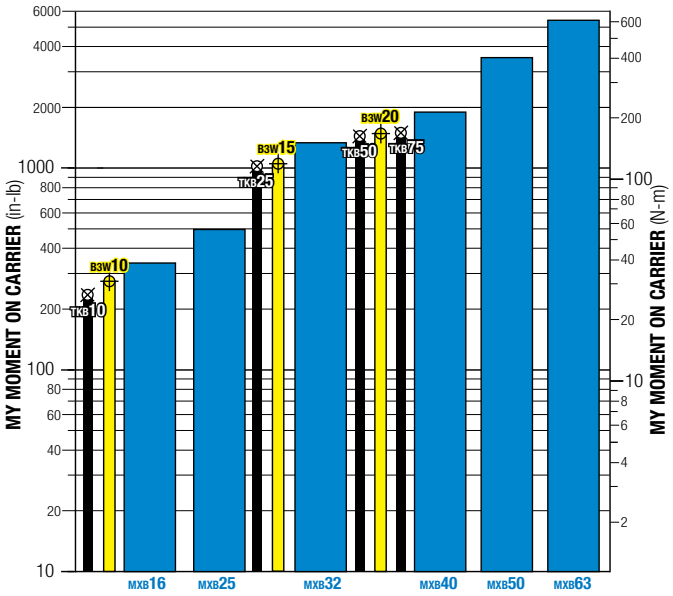


MAXIMUM LOAD Fy & Fz COMPARISON

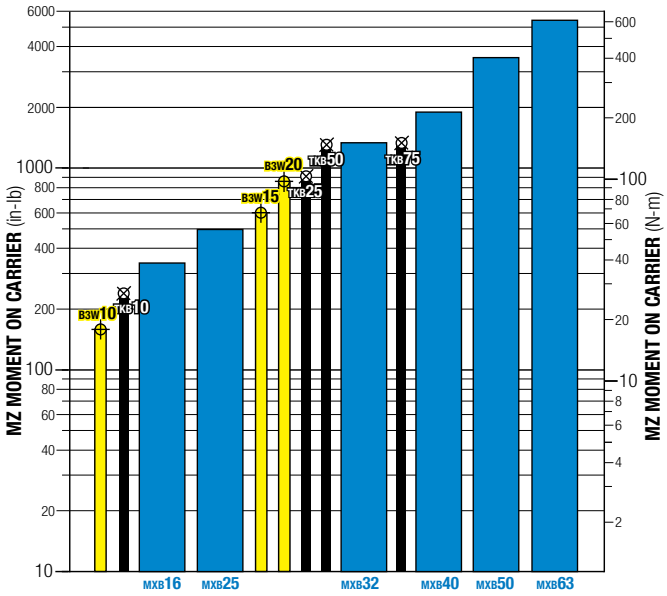


BENDING MOMENT COMPARISON

My



Mz



COMPARISON OF MXB AND B3W

The MXB and the B3W have many similarities, yet each have unique capabilities that suit different applications.

Note the actuators that use the same belt and pulley:

MXB25 = B3W10 MXB40 = B3W15 MXB50 = B3W20

This results in the same thrust.

FEATURE	MXB25	B3W10	MXB40	B3W15	MXB50	B3W20
Belt Width (in)	0.71		1.18		1.57	
Pulley Dia (in)	1.003		1.504		1.754	
Stroke per Rev (in)	3.151		4.725		5.501	
Thrust (lbf)	150		250		325	
Breakaway Torque (lb-in)	5.00	9.38	10.00	12.50	15.00	28.13
Max Stroke (in)	200	207	200	204	160	108
Dead Length (in)	12.34	12.46	16.12	16.54	16.92	17.00
LOAD						
Fy (lbf)	449	341	736	840	1014	1159
Fz (lbf)	449	591	736	1454	1014	2008
MOMENT						
Mx (in-lbs)	126	250	600	859	811	1662
My (in-lbs)	502	269	1913	1033	3483	1472
Mz (in-lbs)	502	156	1913	596	3483	850
SPEED	*MXB-P (200 in/sec for MXB-U)					
Max Velocity (in/sec)	150*	200	150*	200	150*	200
Max Acceleration (in/sec^2)	1,200	1,200	1,200	1,200	1,200	1,200
WEIGHT						
Base Unit (zero stroke) (lb)	4.36	7.54	14.07	25.12	20.84	35.40
per inch of Stroke (lb/in)	0.195	0.389	0.537	0.395	0.749	0.716
INERTIA						
Pulleys (lb-in^2)	0.0259	0.0259	0.3719	0.3719	0.7243	0.7243
Carrier (lb-in^2)	0.9914	0.1041	2.9693	0.5089	5.7498	0.9728
per inch of Stroke (lb-in^2)	0.0017	0.0016	0.0065	0.0017	0.0117	0.0114
Repeatability (in)	+/- .002	+/- .002	+/- .002	+/- .002	+/- .002	+/- .002
Straightness, Flatness (in)	.00067 L**	.00067 L**	.00067 L**	.00067 L**	.00067 L**	.00067 L**
IP Rating	—	44	—	44	—	44
Temp Range (°F)	10-130	40-130	10-130	40-130	10-130	40-130
Available Mounting Surfaces	1	3	1	3	1	3
Available Slots for Switches	1	2	1	2	1	2
Price at 48" Stroke (as % of B3W20 price)	50%	69%	68%	79%	86%	100%

**L = maximum distance between support plates (see lit. #3600-4609 or www.tolomatic.com)

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