SPECIFICATIONS (US conventional measurement)

ERD SIZE	MAXIMUM STROKE*	SCREW CODE	LEAD	LEAD ACCURACY	BACKLASH	MAXIMUM THRUST	DYNAMIC LOAD RATING	INERTIA			WEIGHT						WEIGHT (GD2 adder)	
								LMI	RP		LMI (AL)	LMI (SS)	RP (AL)	RP (SS)	(SS2 adder)			
								Base	Base	Per Inch	Base	Base	Base	Base	Base	Per Inch	Base	Per Inch
	in		in/rev	in/ft	in	lbf	lbf	lb-in^2	lb-in^2	lb-in^2	lb	lb	lb	lb	lb	lb	lb	lb
06	8	SN02	0.500	0.005	0.007	20	NA	0.0018	–	0.0001	0.263	–	–	–	–	0.035	0.579	0.027
		SN04	0.250	0.005	0.007	20	NA	0.0018	–	0.0001	0.263	–	–	–	–	0.035	0.579	0.027
		SN16	0.063	0.005	0.007	20	NA	0.0018	–	0.0001	0.263	–	–	–	–	0.035	0.579	0.027
10	10	SN01	1.000	0.007	0.007	40	NA	0.0022	–	0.0006	0.411	–	–	–	2.280	0.069	1.028	0.061
		SN02	0.500	0.007	0.007	40	NA	0.0022	–	0.0006	0.411	–	–	–	2.280	0.069	1.028	0.061
		SN05	0.200	0.007	0.007	40	NA	0.0022	–	0.0006	0.411	–	–	–	2.280	0.069	1.028	0.061
		BNM05	0.197	0.004	0.005	100	240	0.0040	–	0.0014	0.607	–	–	–	2.280	0.087	1.028	0.061
15	12	SN01	1.000	0.006	0.007	75	NA	0.0104	0.2101	0.0017	1.079	–	4.230	7.761	5.771	0.126	2.297	0.095
		SN02	0.500	0.005	0.007	75	NA	0.0104	0.2101	0.0017	1.079	–	4.230	7.761	5.771	0.126	2.297	0.095
		SN05	0.200	0.006	0.007	75	NA	0.0104	0.2101	0.0017	1.079	–	4.230	7.761	5.771	0.126	2.297	0.095
	24	BNM05	0.197	0.004	0.005	200	450	0.0178	0.2208	0.0044	1.170	–	4.230	7.761	5.771	0.159	2.297	0.095
		BNM10	0.394	0.004	0.005	200	400	0.0178	0.2208	0.0044	1.170	–	4.230	7.761	5.771	0.159	2.297	0.095
		BZ10	0.100	0.006	0.008	200	NA	0.0178	0.2208	0.0044	1.170	–	4.230	7.761	5.771	0.159	2.297	0.095
20	24	BNM05	0.197	0.004	0.005	500	900	0.0628	0.4102	0.0263	7.575	–	23 FRM	23 FRM	7.552	0.325	6.455	0.256
		BNM10	0.394	0.004	0.005	500	900	0.0628	0.4102	0.0263	7.575	–	5.610	9.030	7.552	0.325	6.455	0.256
		BNM20	0.788	0.004	0.004	500	2560	0.0628	0.4102	0.0105	7.575	–	34 FRM	34 FRM	7.552	0.325	6.455	0.256
		BZ10	0.100	0.006	0.008	500	NA	0.0628	0.4102	0.0105	7.575	–	6.050	9.448	7.552	0.325	6.455	0.256
22	39.4	BN02	0.500	0.004	0.015	1600	2836	0.4449	0.5489	0.0086	-	11.05	-	20.18	-	0.43		
		BN05	0.200	0.003	0.015	950	1624	0.4449	0.5489	0.0086	-	11.05	-	20.18	-	0.43		
		BNM05	0.197	0.002	0.004	1000	1958	0.4267	0.5307	0.0044	-	10.81	-	19.94	-	0.40		
		BNM10	0.394	0.002	0.004	900	1214	0.4267	0.5307	0.0044	-	10.81	-	19.94	-	0.40		
		BNM20	0.787	0.004	0.004	1000	2560	0.4527	0.5567	0.0105	-	11.12	-	20.25	-	0.45		
	24	RNM04	0.157	0.0004	0.0012	1700	5577	0.4226	0.5266	0.0033		10.79	-	19.92	-	0.39		
		RNM05	0.197	0.0004	0.0012	1700	5577	0.4226	0.5266	0.0033	-	10.79	-	19.92	-	0.39		
		RNM10	0.394	0.0004	0.0012	1556	5577	0.4226	0.5266	0.0033	-	10.79	-	19.92	-	0.39		
25	39.4	BN01	1.000	0.004	0.002	711	2500	0.8634	0.7749	0.0277	–	31.77	–	53.85	–	0.87		
		BN02	0.500	0.004	0.015	1423	5418	0.8634	0.7749	0.0277	–	31.73	–	53.81	–	0.87		
		BN04	0.250	0.004	0.015	2846	5238	0.8634	0.7749	0.0277	–	31.73	–	53.81	–	0.87		
		BNM05	0.197	0.002	0.004	2000	3395	0.8550	0.7740	0.0260	–	31.34	–	53.42	–	0.86		
		BNM10	0.394	0.002	0.004	1750	3372	0.8550	0.7740	0.0260	–	31.75	–	53.83	–	0.86		
		BNM25	0.984	0.004	0.005	700	2537	0.8550	0.7740	0.0260	–	31.50	–	53.58	–	0.86		
	36	RNM04	0.157	0.0004	0.0012	3300	12762	0.7734	0.7659	0.0106		31.29	–	53.37	–	0.78		
		RNM05	0.197	0.0004	0.0012	3300	12762	0.7734	0.7659	0.0106	–	31.29	–	53.37	–	0.78		
		RNM10	0.394	0.0004	0.0012	1500	12762	0.7734	0.7659	0.0106	–	31.29	–	53.37	–	0.78		
30	48	BN04	0.250	0.004	0.015	4500	7143	1.0872	2.1018	0.1401	–	32.66	–	54.73	–	1.39		
		BNM05	0.197	0.002	0.004	3000	6714	1.1232	2.1378	0.1702	–	34.07	–	56.14	–	1.44		
		BNM10	0.394	0.002	0.004	2950	7476	1.1233	2.1378	0.1702	–	35.48	–	57.55	–	1.44		
		BNM20	0.787	0.002	0.005	1845	5528	1.1232	2.1378	0.1702	–	33.58	–	55.65	–	1.44		
	48	RNM05	0.197	0.0004	0.0012	7868	12762	0.632	1.201	0.0531	–	31.45	–	53.52	–	1.20		
		RNM10	0.394	0.0004	0.0012	7943	12762	0.632	1.201	0.0531	–	31.45	–	53.52	–	1.20		

Temperature range	40° to 130° F *(4.4° to 54.4° C)*
IP rating	**40** (static) standard for 06, 10, 15, 20 sizes **69k** (static) standard for 22, 25, 30 sizes

***Longer stroke length modification available upon request.**

SIDE LOAD CONSIDERATIONS

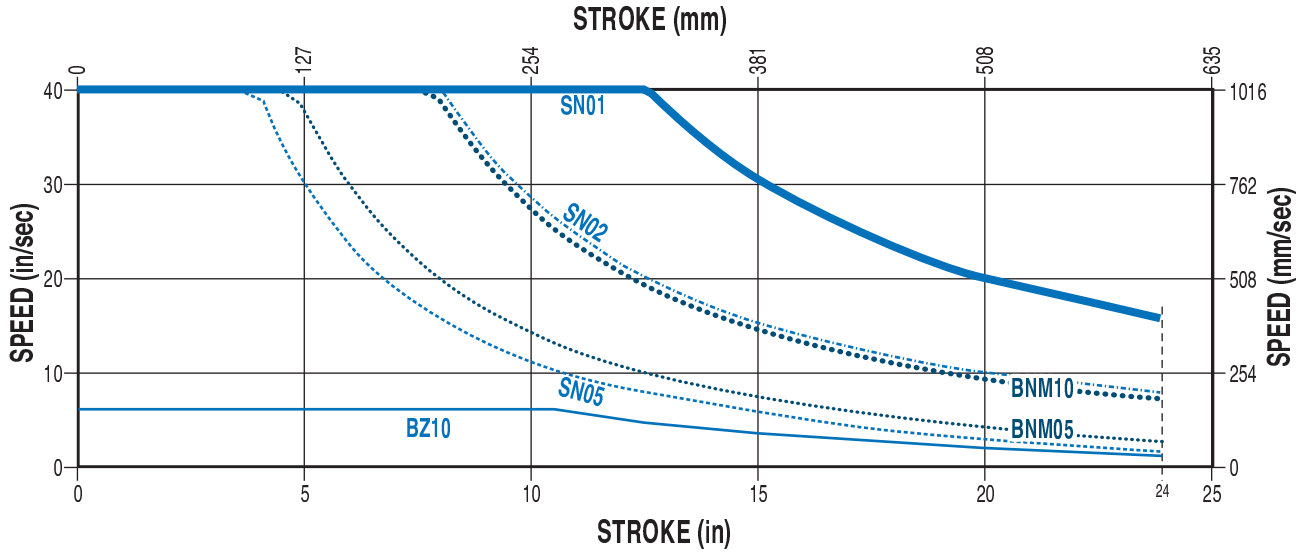
The standard ERD rod-style actuator is not meant to be used in applications where side loading occurs. If side loading exists in the application consider the GD2 guided option.

Loads must be guided and supported. Loads should be aligned with the line of motion of the thrust rod.

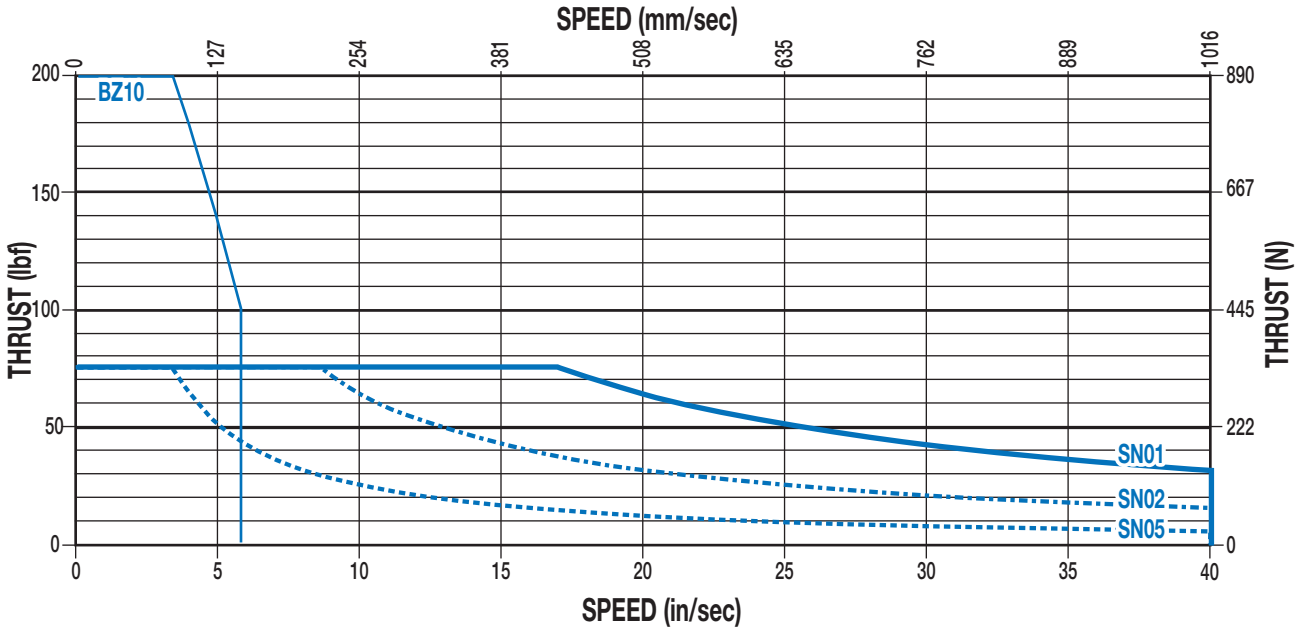
Side loading will affect the life of the actuator.

SCREW CODE	DESCRIPTION
BN	Ball Nut
BNH	Ball Nut H-series
BNL	Low-Backlash Ball Nut
BNM	Ball Nut Metric
BZ	Bronze Nut
RNM	Roller Nut
SN	Solid Nut

CRITICAL SPEED CAPACITY



PV LIMITS (ACME NUTS)



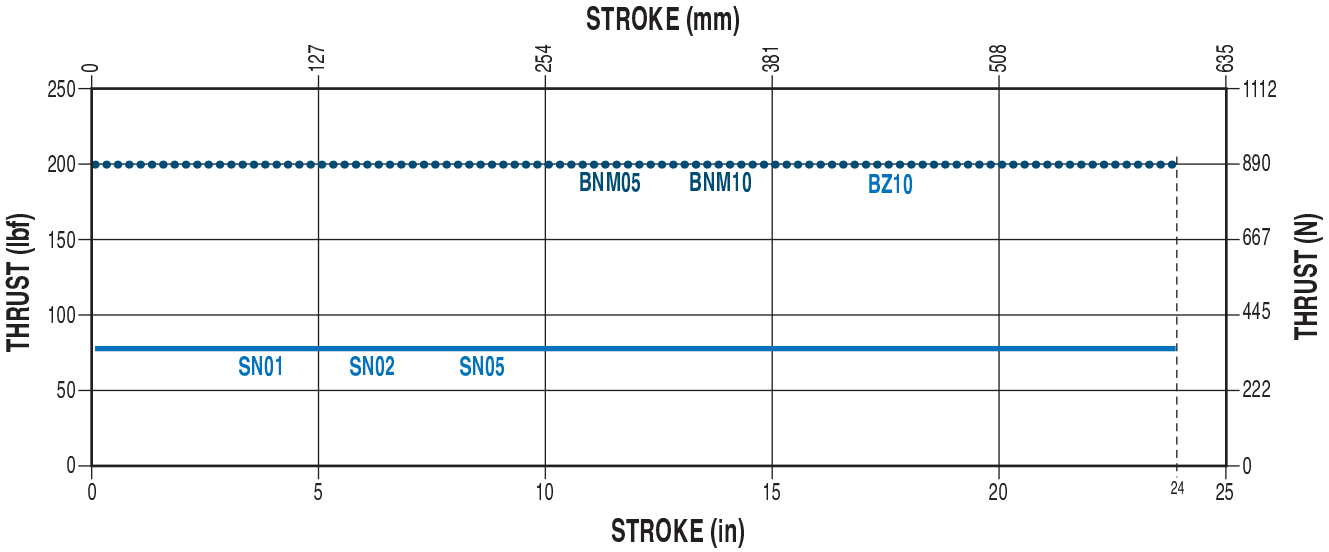
PV LIMITS: Any material which carries a sliding load is limited by heat buildup. The factors that affect heat generation rate in an application are the pressure on the nut in pounds per square inch and the surface velocity in feet per minute. The product of these factors provides a measure of the severity of an application.

(Pressure Velocity of Acme Nut)

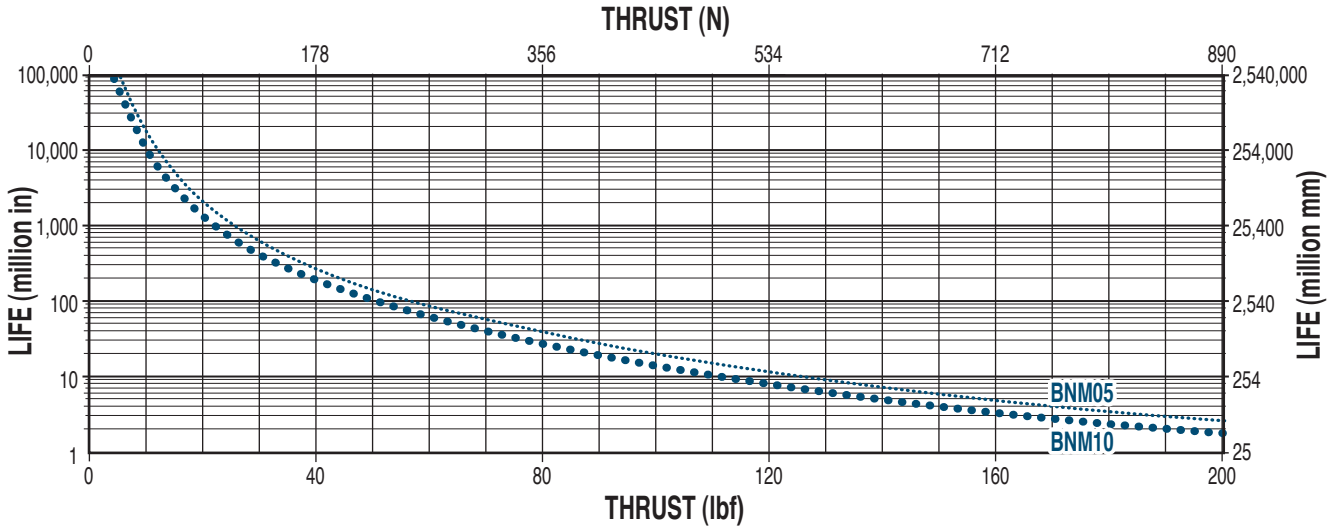
$$P \times V \leq 0.1$$

$$\left(\frac{\text{Thrust}}{\text{(Max. Thrust Rating)}}\right) \times \left(\frac{\text{Speed}}{\text{(Max. Speed Rating)}}\right) \leq 0.1$$

MAXIMUM THRUST vs STROKE



SCREW LIFE (BALL NUTS)



NOTE: The **L_{10}** *expected life of a ball screw linear actuator is expressed as the linear travel distance that 90% of properly maintained ball screw manufactured are expected to meet or exceed. This is not a guarantee and this graph should be used for estimation purposes only.*

The underlying formula that defines this value is:

$$L_{10} = \left(\frac{C}{P_e}\right)^3 \bullet \ell \equiv$$

L_{10}Travel life in millions of units (in or mm), where:

C = Dynamic load rating (lbf) or *(N)*
P_e = Equivalent load (lbf) or *(N)*
If load is constant across all movements then:
ℓ = actual load = equivalent load
ℓ = Screw lead (in/rev) *(mm/rev)*

*Use the "***Equivalent Load***" calculation below, when the load is not constant throughout the entire stroke. In cases where there is only minor variation in loading, use greatest load for life calculations.*

Where:

$$P_e = \sqrt[3]{\frac{L_1(P_1)^3 + L_2(P_2)^3 + L_3(P_3)^3 + L_n(P_n)^3}{L}}$$

P_e = Equivalent load (lbf) or *(N)*
P_n = Each increment at different load (lbf) or *(N)*
L = Total distanced traveled per cycle (extend + retract stroke) [$L = L_1 + L_2 + L_3 + L_n$]
L_n = Each increment of stroke at different load (in) or *(mm)*