

Column strength is the ability of the lift shaft to hold compressive loads without buckling. With longer screw lengths, column strength may be substantially lower than nominal jack capacity.

If the lift shaft is in tension only, the screw jack travel is limited by the available screw material or by the critical speed of the screw. Refer to the ball screw technical section for critical speed limitations. If there is any possibility for the lift shaft to go into compression, the application should be sized for sufficient column strength.

The chart below is used to determine the required jack size in applications where the lift shaft is loaded in compression.

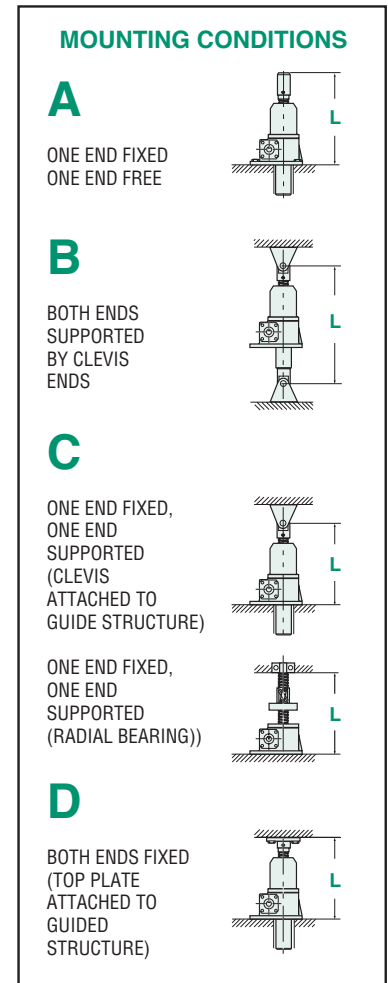
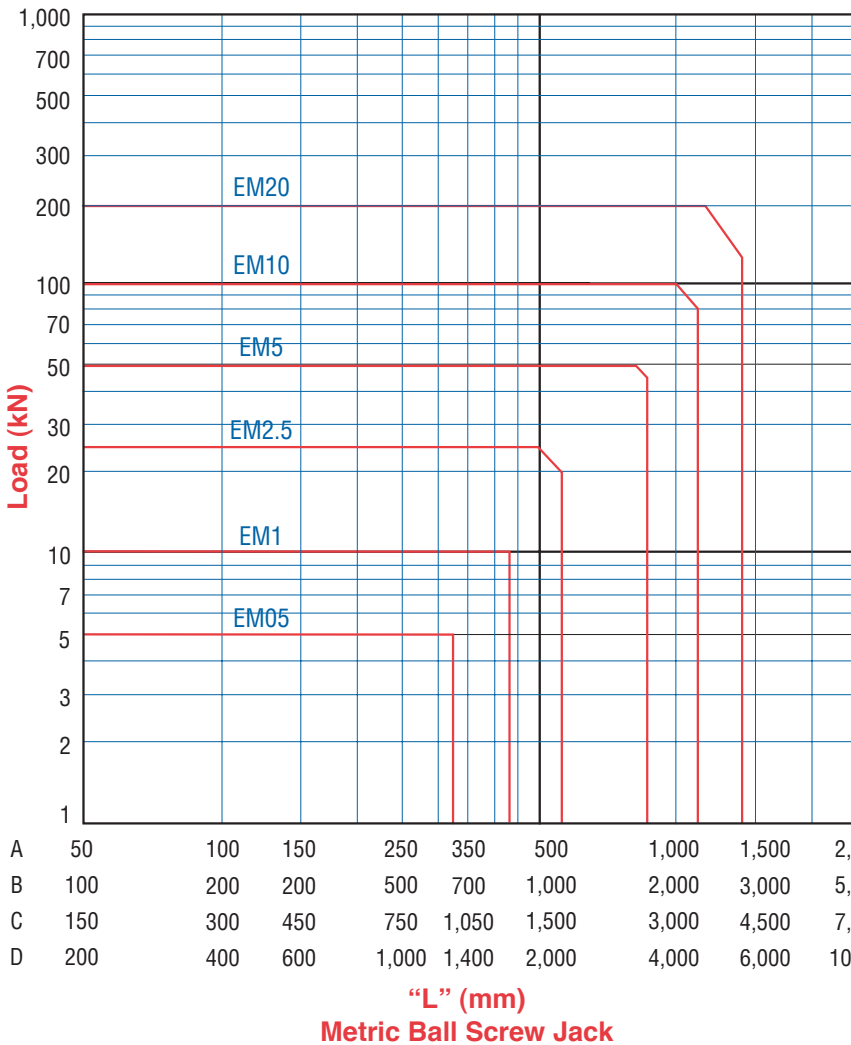
To use this chart:

Find a point at which the maximum length “L” intersects the maximum load. Be sure the jack selected is above and to the right of that point.

CAUTION: chart does not include a design factor.

The chart assumes proper jack alignment with no bending loads on the screw. Effects from side loading are not included in this chart. Jacks operating horizontally with long lift shafts can experience bending from the weight of the screw. Consult Nook Industries, Inc. if side thrust is anticipated, operating horizontally, or maximum raise is greater than 30 times the screw diameter.

METRIC BALL SCREW JACKS TECHNICAL DATA



AVAILABLE LIFT SCREW LENGTHS

As a major manufacturer of industrial lead screws, Nook Industries stocks a wide selection of ball screws. Nook Industries has the capacity to make long ball screws for

special applications. Rotating screw jacks can be built with a larger diameter lift screw for greater column strength, or a different lead to change the jack operating speed.

The following Chart provides the minimum life expectancy in total meters of travel for the ball screws.

MODEL	Operating Load (kN)	MINIMUM METERS OF TRAVEL		Page Number
		UPRIGHT & INVERTED	UPRIGHT & INVERTED ROTATING	
		Standard	Standard	
EM05-BSJ	4	34,295	42,869	349
	2	274,360	342,950	
	1	2,194,880	2,743,600	
EM1-BSJ	8	21,455	26,819	350
	5	87,880	109,850	
	2.5	703,040	878,800	
EM2.5-BSJ	22	2,793	3,716	351
	12	18,321	22,901	
	6	146,565	183,206	
EM5-BSJ	44	28,660	35,825	352
	22	229,283	286,604	
	10	2,441,406	3,051,758	
EM10-BSJ	88	6,315	7,894	353
	44	50,522	63,153	
	22	404,178	505,223	
EM20-BSJ	170	6,702	8,378	354
	85	53,618	67,023	
	42	444,444	555,555	

LEAD ACCURACY

The metric rolled thread ball screw, as employed in ActionJac™ products, is held within .1mm per 300 mm cumulative from nominal dimension. Jacks can be matched to within ±.05mm per 300mm when ordered as matched sets. Special ground threads having lead accuracies of .013mm per 300mm can be provided if necessary.

BACKLASH

Axial backlash ranges from .2 to .5 mm. Specify optional selective fit lift shaft for 0.13 to 0.2mm backlash.

MATERIAL HARDNESS

Ball screws have a race hardness of Rockwell C 58 minimum. Core hardness will run from Rc 20 to 35.

NOTES:

- Refer to Lubrication Instructions in order to obtain maximum life from ball screw assemblies
- These values may be greatly reduced if the units are subjected to misalignment, shock loads, side thrust, contamination or lack of proper lubrication and maintenance.