

Ball Screws & Nuts

Features & Benefits

Duff-Norton has been manufacturing ball screws and nuts for our actuator products for decades, and is now applying those years of experience to bring you an expanded assortment of ball screws and nuts for your application requirements. Consider these advantages:

Performance – Excellent load ratings; Over 90% efficient with low torque and power requirements. Long and predictable life ratings.

Quality – Excellent quality, all screws are precision rolled, heat-treated, inspected, and then manganese phosphate or black oxide coated. Good lead accuracy.

Delivery – In stock on the most popular sizes

Broad Assortment – We offer a very broad assortment of ball diameters and leads

System Integration – Duff-Norton can provide you with an entire screw and nut system: mounting components, drive components, controls, and protective coverings.

Customer Service – Talk to one of our knowledgeable customer service agents or application engineers



Multiple Leads



Multiple Diameters

Ball Screw and Nut Selection Overview

Screw Diameter	Ball Screw Part#	Screw Lead (in)	Turns Per Inch	Thread Starts	Standard Length	Root Diameter	Ball Nut Part#	Ball Nut Description	Flange Part#
1/2"	050BSA020	.200	5	Single	6 ft.	.360	050BNH020	Round, 2 Circuit	FL0937
	050BSA050	.500	2	Double	6 ft.	.360	050BNH050	Round, 2 Circuit	FL0937
.631"	063BSA020	.200	5	Single	6 ft.	.480	063BNE020	Square, 1 Circuit	FL0937
	063BSA020L	.200	5	Single LH	6 ft.	.480	063BNE020L	Square, 1 Circuit	FL0937
	063BSA100	1.00	1	Double	6 ft.	.480	063BNH100	Round, 2 Circuit	FL0937
3/4"	075BSA020	.200	5	Single	6 ft.	.660	075BNG020	Round, 1 Circuit	FL1173
	075BSA020	.200	5	Single	6 ft.	.660	075BNH020	Round, 2 Circuit	FL1173
	075BSA050	.500	2	Double	6 ft.	.630	075BNH050	Round, 2 Circuit	FL1173
1"	100BSA025	.250	4	Single	16 ft.	.840	100BNE025	Square, 1 Circuit	FL1563
	100BSA025	.250	4	Single	16 ft.	.840	100BNF025	Square, 2 Circuit	FL1563
	100BSA100	1.00	1	Double	16 ft.	.840	100BNF100	Square, 2 Circuit	FL1563
1.17"	117BSA041	.413	2.421	Single	16 ft.	.870	117BNH041	Round, 2 Circuit	FL1967
1 1/2"	150BSA047	.473	2.114	Single	20 ft.	1.14	150BNH047	Round, 2 Circuit	FL2548
	150BSA100	1.00	1	Double	20 ft.	1.14	150BNF100	Square, 2 Circuit	FL2250
	150BSA100	1.00	1	Double	20 ft.	1.14	150BNH100	Round, 2 Circuit	FL2250
	150BSA187	1.875	.53	Double	20 ft.	1.19	150BNF187	Square, 2 Circuit	FL2250
2"	200BSA050	.500	2	Single	12 ft.	1.72	200BNH050	Round, 2 Circuit	FL3000
	200BSA100	1.00	1	Double	12 ft.	1.72	200BNH100	Round, 2 Circuit	FL3000
2 1/4"	225BSA050	.500	2	Single	20 ft.	1.85	225BNH050	Round, 2 Circuit	FL3137
	225BSA050L	.500	2	Single LH	20 ft.	1.85	225BNH050L	Round, 2 Circuit	FL3137
	225BSA100	1.00	1	Double	20 ft.	1.85	225BNH100	Round, 2 Circuit	FL3137
3.00"	300BSA066	.660	1.515	Single	20 ft.	2.48	300BNJ066	Round, 3 Circuit	FL4325
4.00"	400BSA100	1.00	1	Single	20 ft.	3.34	400BNJ100	Round, 3 Circuit	FL5497

NOTE: Unless otherwise specified all dimensions are in Inches.



Model Number Explanation

Ball Screws and Nuts Model Numbering System

050 – BSE – 050 – X – XXX

Screw Diameter

Code	Diameter
050	1/2"
063	.631"
075	3/4"
100	1"
117	1.17"
150	1 1/2"
200	2"
225	2 1/4"
250	2 1/2"
300	3"
400	4"

Screw Type

Ball

Component Options

Screw
Nut

Total Lead

Thread Pitch
X No. Starts

Code	Lead
020	.200"
025	.250"
041	.413"
047	.473"
050	.500"
066	.660"
100	1.00"
187	1.875"

Screw or Nut Options

Screw Options

A - Alloy or Steel

Nut Options

E - Single, Square
F - Double, Square
G - Single, Round
H - Double, Round
J - Triple, Round

Suffix

Special Screws or Nuts will have a three digit serialized code

Optional Character

Standard Nut and Flange Assembly will contain an "A"

LH Thread Nut and Flange Assemblies will contain a "LA"

Standard RH Screws cut to length will have no suffix code

Special Screws or Nuts will contain a "-"

LH Thread Screws or Nuts will contain a "L"

Standard Nuts only will have no character

Ball Screws & Nuts Specifications

1 1/2" x .473" (1.50" x .473") Ball Screws & Nuts

Duff-Norton offers complete close mounted systems to complement these screw & nut assemblies as follows:

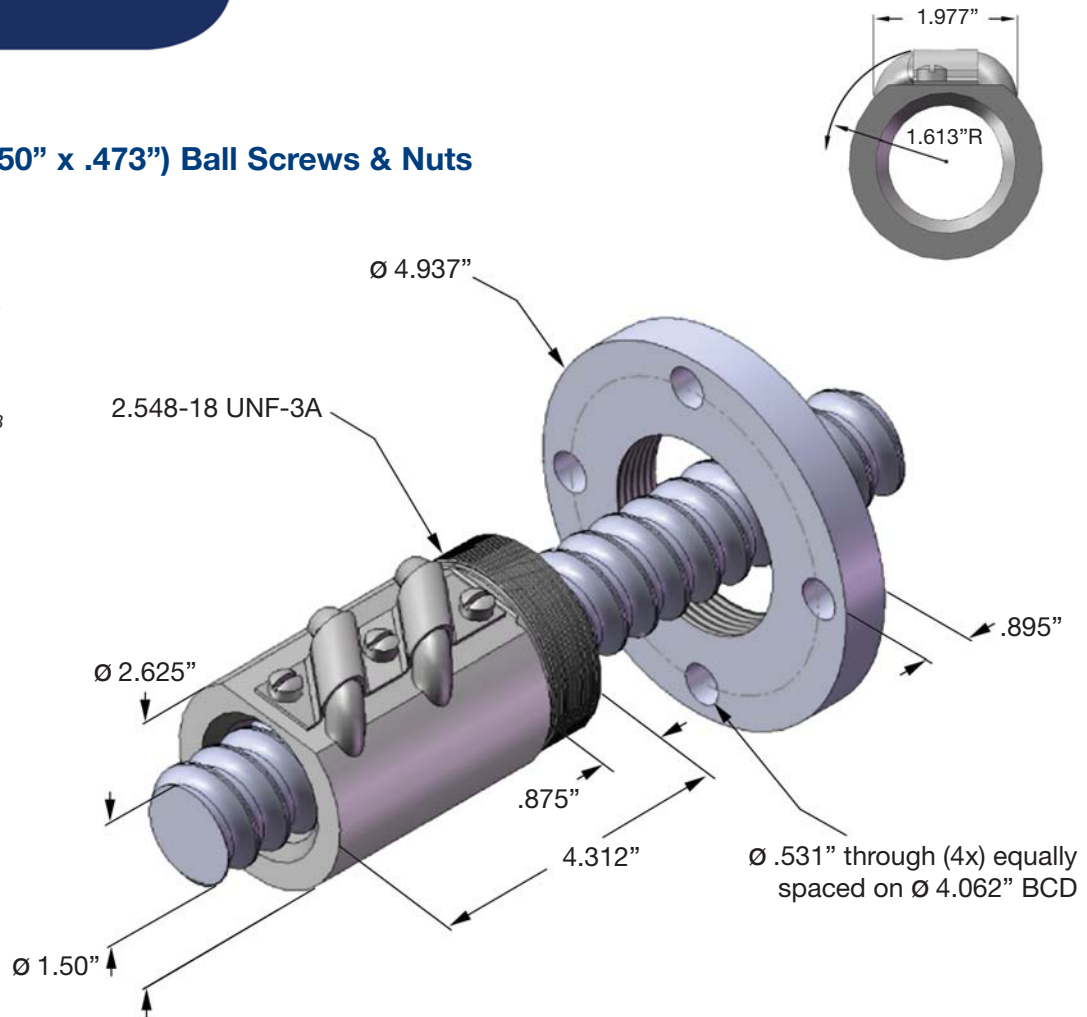
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Ball Screw	Screw Diameter	Lead	Pitch	No. Starts	Root Diameter	Thread Form	Material	Max. Backlash	Standard Lengths		
									36"	72"	144"
150BSA047	1.500	.473	.473	1	1.140	Ball RH	Alloy	.002 to .015	Yes	Yes	Yes
Ball Nut	*Static Load	*Dynamic Load	*Max Speed	T.P.I.	Efficiency	Torque to Raise 1 Lb. (in/lb)	Material	Mounting Thread	Mounting Length	Nut Length	Nut Diameter
150BNH047	57,770	10,050	946.00	2.114	+90%	0.084	Steel	2.548-18 UNF-3A	.875	4.312	2.625
Flange	Overall Diameter	Bolt Cir. Diameter	Bolt Hole Diameter	No. Holes	Flange Width	Treated	Material	Mounting Thread	Nut Return Tubes	Return Tube Width	Nut Radius w/ Tubes
FL2548	4.94	4.062	.531	4	.895	Black Oxide	Steel	2.548-18 UNF-3B	2	1.977	1.613

NOTE: Unless otherwise specified, all capacities are in Pounds, all dimensions are in Inches, and all speeds are in Inches per Minute.

*Load ratings are based on what the screw & nut assembly is capable of achieving. Actual load performance for a given screw and nut assembly will vary from application to application.

*Speed ratings are based on a DN spec of 3000, actual speeds will vary from application to application.