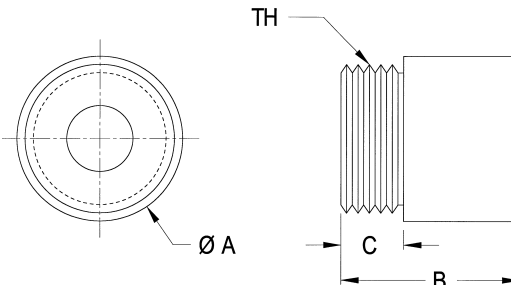


THREAD MOUNT SUPERNUTS™



SN

Our standard SN nuts have proven themselves for the past twenty years. Available in sizes from 3/16" to 1-1/2" with or without mounting flanges.



FLANGES

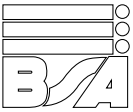
3/16" to 1/4"	F25
5/16" to 10mm	F37
7/16" to 16mm	F50
3/4" to 1"	F75
1-1/4"	F100
1-1/2"	R54-3

SN 3/16" TO 7/16" DIAMETER*

For more information see page 8-7.

DIA.	LEAD	PART NO.	SUPERNUT DIMENSIONS				DESIGN LOAD	MAX. STATIC LOAD	EFFICIENCY %	FLANGE
			A	B	C	TH				
3/16"	0.050	SN1820X	0.625	0.500	0.187	9/16-18	30 lbs	150 lbs	49	F25
1/4"	0.050	SN2520X	0.625	0.500	0.187	9/16-18	45 lbs	225 lbs	41	
	0.063	SN2516X							48	
	0.250	SN4-2516X							76	
	0.500	SN7-2514X							81	
5/16"	0.083	SN3112X	0.750	0.750	0.250	5/8-18	70 lbs	350 lbs	49	F37
	0.167	SN2-3112X							65	
	0.250	SN2-3108X							72	
	0.500	SN4-3108X							80	
3/8"	0.063	SN3716X	0.750	0.750	0.250	5/8-18	70 lbs	350 lbs	36	
	2mm	SN37x2M							42	
	0.083	SN3712X							44	
	0.100	SN3710X							49	
	0.125	SN3708X							53	
	0.167	SN2-3712X							60	
	0.200	SN2-3710X							65	
	0.250	SN2-3708X							68	
	0.375	SN4-3711X							75	
	0.500	SN4-3708X							79	
	1.000	SN5-3705X							82	
1.200	SN5-3704X	82								
10mm	2mm	SN10x2M	0.750	0.750	0.250	5/8-18	70 lbs	350 lbs	41	F50
	3mm	SN10x3M							53	
	6mm	SN4-10x1.5M							67	
	20mm	SN6-10x3.3M							81	
7/16"	0.125	SN2-4316X	1.000	1.000	0.375	15/16-16	100 lbs	500 lbs	55	
	0.250	SN2-4308X							65	
	0.500	SN4-4308X							76	

*For all sizes shown on this page Drag Torque = Free Wheeling.



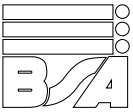
THREAD MOUNT SUPERNUTS™



SN 12MM TO 1-1/2" DIAMETER*

DIA.	LEAD	PART NO.	SUPERNUT DIMENSIONS				DESIGN LOAD	MAX. STATIC LOAD	EFFICIENCY %	FLANGE
			A	B	C	TH				
12mm	5mm	SN2-12x2.5M	1.000	1.000	0.375	15/16-16	100 lbs	500 lbs	59	F50
	10mm	SN4-12x2.5M							73	
1/2"	0.0625	SN5016X	1.000	1.000	0.375	15/16-16	150 lbs	750 lbs	30	
	0.100	SN5010X							41	
	0.200	SN2-5010X							57	
	0.250	SN2-5008X							62	
	0.500	SN4-5008X							75	
	0.800	SN8-5010X							80	
5/8"	0.100	SN6210X	1.000	1.000	0.375	15/16-16	160 lbs	800 lbs	81	
	0.125	SN6208X							35	
	4mm	SN62x4M							40	
	0.200	SN2-6210X							46	
	0.250	SN2-6208X							51	
	0.500	SN4-6208X							57	
3/4"	0.100	SN7510X	1.500	1.500	0.500	1 3/8-16	300 lbs	1500 lbs	71	F75
	0.125	SN7508X							47	
	0.167	SN7506X							44	
	0.200	SN7505X							49	
	0.500	SN5-7510X							69	
	1.000	SN8-7508X							79	
	2.000	SN10-7505X							82	
	20mm	4mm							SN20x4M	
24mm	5mm	SN24x5M	1.500	1.500	0.500	1 3/8-16	300 lbs	1500 lbs	42	
1"	0.100	SN1010X	1.500	1.500	0.500	1 3/8-16	400 lbs	2000 lbs	25	
	0.125	SN1008X							29	
	0.200	SN1005X							41	
	0.250	SN1004X							47	
	0.500	SN5-1010X							61	
	1.000	SN10-1010X							74	
1 1/4"	0.200	SN1205X	2.000	2.500	0.600	1 9/16-18	400 lbs	2000 lbs	35	F100
	0.250	SN1204X							41	
1 1/2"	0.200	SN1505X	2.000	2.500	0.530	1.967-18	400 lbs	2000 lbs	31	R54-3
	0.250	SN1504X							36	
	0.375	SN1503X							47	
	0.500	SN2-1504X							52	

*For all sizes shown on this page DragTorque = Free Wheeling.



PRECISION LEAD SCREWS & SUPERNUTS™



FEATURES/ADVANTAGES

LOW COST

Considerable savings when compared to ball screw assemblies.

VARIETY

Largest range of leads and diameters 3/16" to 4" to match your requirements.

LUBRICATION

Internally lubricated plastic nuts will operate without lubrication. However, additional lubrication or PTFE coating of the screw is recommended. See page 8-4.

VIBRATION AND NOISE

No ball recirculating vibration and often less audible noise compared to ball screws.

CUSTOM

Option of custom designs to fit into your design envelope.

NON-CORROSIVE*

Stainless Steel and internally lubricated Acetal.

ENVIRONMENT

Less susceptible to particulate contamination compared to ball screws.

LIGHTWEIGHT

Less mass to move.

DESIGN CONSIDERATIONS

LOAD

Supernuts provide a cost effective solution for moderate to light loads. For vertical applications, anti backlash supernuts should be mounted with thread/flange on the bottom.

CANTILEVERED LOADS

Cantilevered loads that might cause a moment on the nut will cause premature failure. Refer to Precision Linear Rails for our complete line-up of linear guides or our stage selection in **Section 4**, **Section 5** and **Section 6** for a complete linear motion solution.

COLUMN LOADING

Refer to column loading chart on page 9-3.

CRITICAL SPEED

Refer to critical speed chart on page 9-2.

SELF-LOCKING

Lead screws can be self locking at low leads. Generally, the lead of the screw should be more than 1/3 of the diameter to satisfactorily backdrive.

TEMPERATURE

Ambient and friction generated heat are the primary causes of premature plastic nut failure. Observe the temperature limits below and discuss your design with our application engineers for continuous duty, high load and high speed applications. BS&A recommends bronze nuts for very high temperature environments or can aid in your selection of high temperature plastic for a custom assembly.

EFFICIENCY

Except at very high leads, efficiency increases as lead increases. Although the internally lubricated Acetal provides excellent lubricity, Ball Screw Assemblies remain significantly more efficient than any Acme design.

LENGTH LIMITATIONS

3/16" to 1/4"	3'
5/16" to 10mm	4'
7/16" to 5/8"	6'
> 5/8"	12'

LEAD ACCURACY

Standard Grade (SRA)	.010 in/ft
Precision Grade (SPR)	.003 in/ft

MATERIAL PROPERTIES

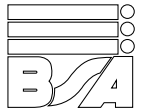
ASSEMBLY		SCREWS	NUTS**			
MAXIMUM TEMPERATURE	FRICTION COEFFICIENT	MATERIAL	MATERIAL	TENSILE STRENGTH	WATER ABSORPTION (24 HRS %)	THERMAL EXPANSION COEFFICIENT
180°F	0.08–0.14	Stainless Steel*	Acetal with PTFE	8,000 psi	0.15	5.4 x 10 ⁻⁵ in/in/°F

*Other materials available on a custom basis.

**Plastic nuts only. See bronze nut section for information on our bronze nut products, page 2-18.



OVERVIEW



PRECISION LEAD SCREWS & SUPERNUTS™



Rolled Acme lead screws are an excellent economical solution for your linear motion requirements. For over 15 years Ball Screws and Actuators has manufactured the highest quality lead screw assemblies. Our precision rolling machines ensure accurate positioning to 0.003 in/ft and our PTFE coating process produces assemblies that have less drag torque and last longer.

Ball Screws and Actuators provides a large array of standard plastic nut assemblies in anti-backlash or standard Supernut™ designs. For significantly higher loads, standard bronze nuts are available. BS&A also provides engineering design services to aid in your custom design requirements producing a lead—screw assembly to your specifications.

With the introduction of our new unique patent pending Zero-Backlash designs, BS&A provides assemblies with high axial stiffness, zero backlash and the absolute minimum drag torque to reduce motor requirements. These designs produce products that cost less, perform better and last longer. Both automatically adjust for wear insuring zero backlash for the life of the nut.

Our large selection of standard plastic nut assemblies all use an internally lubricated Acetal providing excellent lubricity and wear resistance with or without lubrication. For bronze nuts, BS&A uses SAE 660 bearing bronze which provides high load capacity with good PV performance.

BS&A offers end machining to your specification or can provide you with stock bearing mount, motor mount or complete stage assemblies as shown in **Section 4**.