



PRECISION MINIATURE LEAD SCREW ASSEMBLIES

1st Edition



www.helixlinear.com





HELIX™ Linear Technologies, a subsidiary of Nook Industries, is the most high-tech lead screw manufacturing facility in the world. With the release of our new precision lead screws, HELIX™ produces the broadest product line of any lead screw manufacturer globally. We offer precision rolled, milled, or ground screws in diameters from 1/8" to 6", or 3mm to 150mm, and leads from 0.024" to 3", or 3mm to 75mm.

HELIX™ offers a complete line of nuts in standard and anti-backlash designs with centralizing threads to match our precision lead screws. Our lead screw assemblies have the lowest backlash of any nut on the market.

HISTORY

Nook Industries, Inc. was founded in 1969 by Joseph H. Nook Jr. and in the decades to follow, the company has grown to become one of the leading manufacturers of linear motion products in the world.

HELIX™ Linear Technologies, a subsidiary of Nook Industries, is one of the world's leading manufacturers of lead screws, linear actuators and motion control systems, providing precision engineered solutions.

HELIX™ Linear Technologies' engineering expertise and broad range of core technologies uniquely positions the company to solve some of the world's greatest linear motion challenges. HELIX™ improves customers' productivity and profitability by finding new ways to solve their biggest challenges.

With the release of our new NAB and AAB product lines, HELIX™ has even more economical options in the 1/8" to 1" diameter range. We have also developed additional custom anti-backlash nut designs, which are available upon request.

HELIX™ services the expanding and evolving customer-driven market for precision linear motion products. When you need Acme, Trapezoidal, or Speedy® (high lead) lead screws with a precision, low backlash nut, or a state-of-the-art anti-backlash design, we deliver the highest quality and exceptional value to our customers.

MISSION

HELIX™ is committed to customer success and innovation by providing high-quality, high-value products and service that are delivered on time at a competitive price.

Pairing traditional and proven design with the latest technology, HELIX™ Linear Technologies manufactures products that customers value. The expansion of our product lines and the development of engineered systems have propelled HELIX™ to the forefront of the industry.



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MARKET SEGMENTS SERVED



Medical & Diagnostic
Aerospace
Packaging
Automotive



Electronics
Transportation
Tire Manufacture
Entertainment



Semiconductor
Military and Defense
Factory Automation
Pulp & Paper



Steel
Chemical
Mobility/Patient Handling
Material Handling

PARTNERS



HIGH TECH QUALITY EXPERIENCE

When you select Helix™ Linear Technologies as a supplier, you can be assured that your product will be designed and tested to rigorous product planning. Pre-design activity includes understanding of customer requirements applied to predictive models, engineering calculations and linear modeling through prototype development, stereo-lithography samples of form, fit, and function that verify design criteria.

VALIDATION AND VERIFICATION

Through years of rigorous development, Helix has proven its designs and manufacturing processes against the most stringent standards and specifications. Design and process verification and validation tools are employed throughout the product life cycle.

CERTIFICATIONS

Helix™ Linear Technologies is certified to ISO-9001-2008 Internationally Recognized Quality System. Helix also serves many customers in the Aerospace and Medical device markets and has complied with those Quality System Requirements as well.

ITAR

Helix is registered with the Department Of State For International Traffic In Arms Compliance.

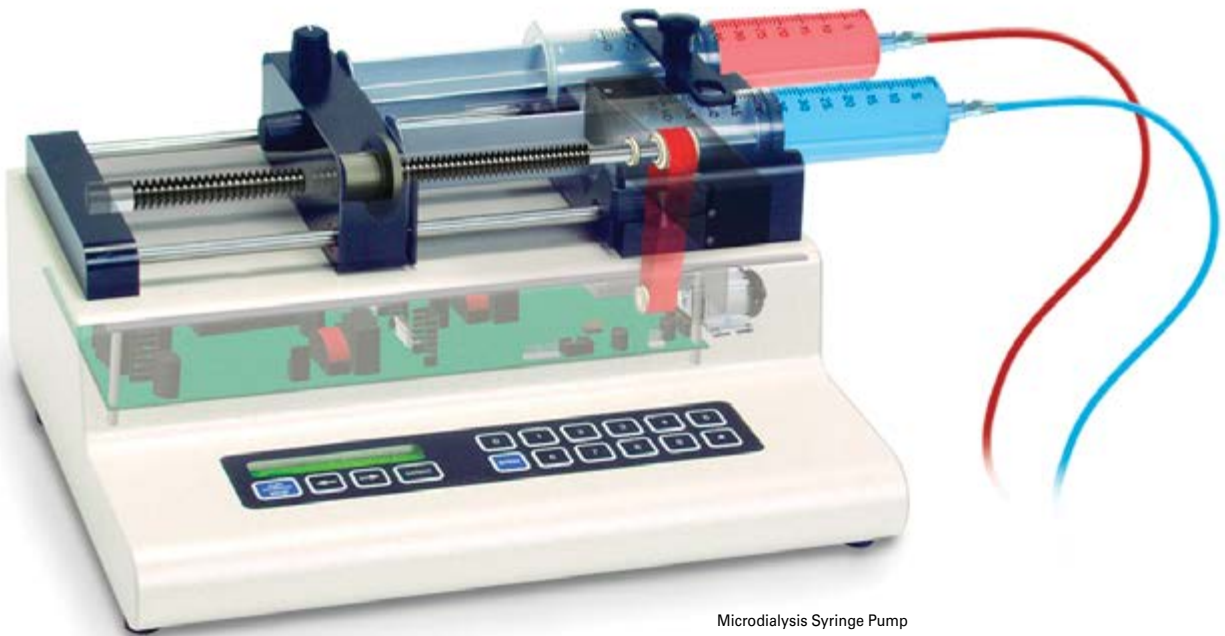
INSPECTION CAPABILITY

Laser Lead Measurement - Precise lead error gauging is utilized to validate processes to conform to Nook internal specifications and customer requirements.

Roundness Measurement - Critical to quality, characteristics such as roundness are monitored throughout the screw manufacturing process.

Contour Readers - Prior to the start of any production run, thread form geometry is precisely measured to stringent engineering specifications.

Metallurgical Lab - The metallurgical lab is capable of determining material composition from raw materials to final product. A micro hardness and case depth inspection is a routine check that validates the heat treat process.



Microdialysis Syringe Pump



QUALITY TOOLS:

- Design for Six Sigma manufacturing
- D.O.E. (Design of Experiments)
- APQP (Advanced Product Quality Planning)
- DFMEA, PFMEA
- FEA (Finite Element Analysis)
- DVP&R (Design Verification Plan & Report)
- Reliability Testing
- Process validation to 21 CFR Part 82 (Medical Device)

TESTING

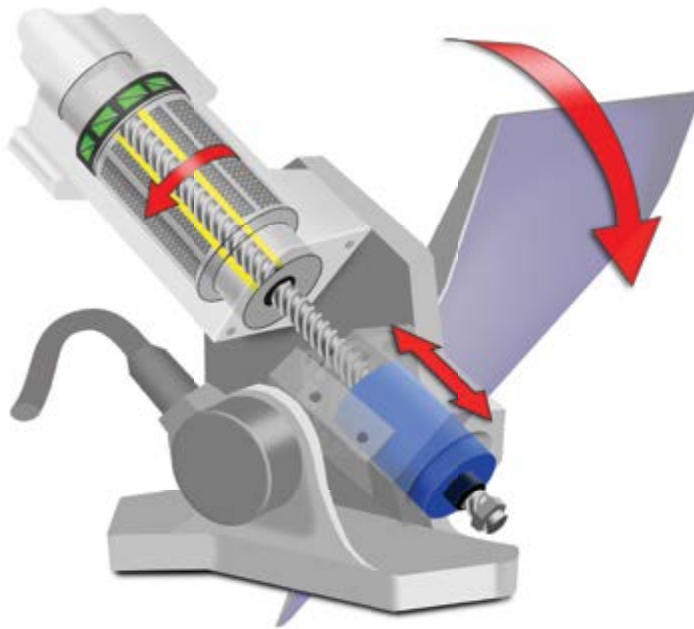
Efficiency Measurement - Nook Engineering has designed test machines to measure and validate screw assembly efficiency.

Torque Measurement - Preloaded lead screw assemblies are evaluated to determine compliance with engineering specifications utilizing a Dynamic Torque Testing Machine.

FUNCTIONAL TESTING

Helix™ test systems and engineered testing processes perform analysis, verification, and solidification of life, durability, and performance. The functional testing defines operating limits in specifications and helps set defined targets in Product Launch Process and Assurance Plans.

The engineered testing provides predictive tools, generates data for prognostics, and validates performance wear models. Life tests help determine performance in multiple operating conditions as well. Helix offers proof testing for customers developing new systems and actuators to help accelerate product release dates.



Military Missile Fin Actuator

HELIX QUALITY EVOLUTION

DEVELOPED MANUFACTURING
SYSTEMS

QUALITY SYSTEMS AND
ACCREDITATIONS

SUPPLY CHAIN APPROVAL
PROCESS

STATE OF THE ART MANAGEMENT
SYSTEMS

APQP LAUNCH PROTOCOLS

SYSTEM AND PROCESS
PROTOCOLS

ENGINEERING ANALYSIS AND
PREDICTIVE TOOLS

CTQ/KPV ENGINEERING
SPECIFICATION PROCESSES

RELIABILITY ENGINEERING AND
TESTING

DVP&R AND TEST PLANNING

NOOK DESIGNED AND BUILT TEST
MACHINES

CUSTOM ENGINEERED AND BUILT
TEST INSTRUMENTATION

DESIGN AND TEST FOR FAULT
TOLERANCE AND PROGNOSTICS

OVERLOAD/PROOF END OF LINE
TESTING CERTIFICATION TESTING



MATERIALS AND MANUFACTURING

HELIX™ Linear Technologies manufactures precision lead screws by thread rolling, thread milling, or thread grinding. HELIX™ lead screw products feature centralizing and custom thread forms for smooth, no-wedging performance.

THREAD ROLLING

HELIX™ offers the largest selection of rolled lead screw sizes in the industry. Rolled thread screws are precise, cost effective, and are stocked for quick delivery.

THREAD MILLING

Milled screws allow more variety in journal machining, particularly where a design requires the journal O.D. to be larger than the screw major diameter.

THREAD GRINDING

Ground thread screws offer higher lead accuracy for applications where positioning tolerances are extremely critical.

BRONZE ACME & TRAPEZOIDAL NUTS

Special high tensile bronze is selected for our smooth running, anti-wedging bronze nuts.

- Material: Bronze
- Tensile Yield: 50,000 psi
- Tensile Ultimate: 65,000 psi
- Hardness: HB75
- Dynamic Coefficient of Friction: 0.125 with HELIX™ Lubricant

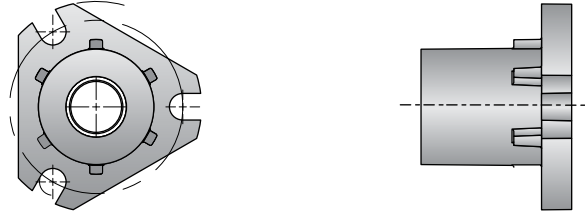
PLASTIC ACME & TRAPEZOIDAL NUTS

The high strength and inherent lubricity of our proprietary plastic nut material can result in product life that can equal or exceed conventional nut materials.

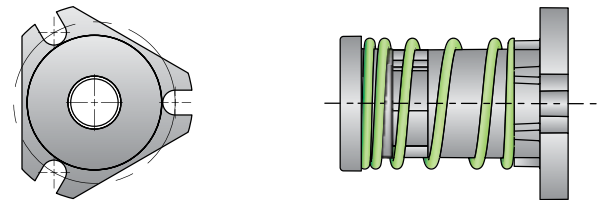
- Material: HELIX™ ACETAL/PTFE blend
- Tensile Strength @70°F: 8,000 psi
- Compressive Strength @70°F: 16,000 psi
- PV Limit: 2,700 lubricated
- Coefficient of Friction: 0.10 lubricated

STANDARD NUT DESIGNS

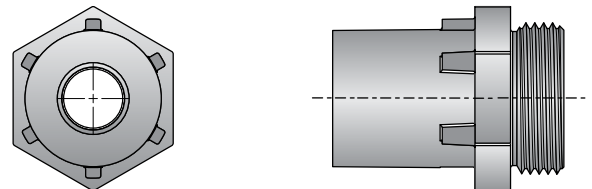
General Purpose Nut - NAB Series - Flange Mount Style



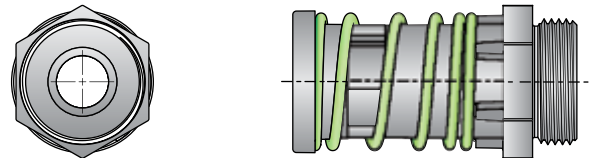
Anti-Backlash Nut - AAB Series - Flange Mount Style



General Purpose Nut - NAB Series - Flange Thread Style



Anti-Backlash Nut - AAB Series - Thread Mount Style



FLANGES FOR BRONZE & PLASTIC NUTS

Made from carbon steel with black oxide finish. See page 8 for instructions on how to secure a flange to a thread mount style nut.



Custom Acme Screw.

Screw Type	Material	Thread Class	Lead Accuracy	Screw Dia.	Screw Lengths
Rolled	Alloy	HELIX Centralizing 2C or Stub	± .0003 in/in up to 2 1/2" dia.	1/8" to 6"	Limited only by material availability
	Stainless	HELIX Centralizing 2C or Stub	± .0003 in/in up to 1 1/2" dia.	1/8" to 1 1/2"	Limited only by material availability
Milled	Alloy	HELIX Centralizing 2C or 3C	± .002"/ft	1/2" to 3" (single starts)	up to 96"
	Stainless	HELIX Centralizing 2C or 3C	± .002"/ft	1/2" to 3" (single starts)	up to 96"
Ground	Alloy	HELIX Centralizing 3C or 4C	± .0005"/ft	1/4" to 4"	up to 120"
	Stainless	HELIX Centralizing 2C or 3C	± .0005"/ft	1/4" to 4"	up to 120"

	Acme & Trapezoidal Alloy	Stainless Steel
Screw Material	4140	300 Series
Minimum Hardness	200 Brinell	170 Brinell
Tensile Ultimate Strength	95,000 psi	85,000 psi
Finish	Black Oxide	Polished



Lead screws control surveillance cameras.

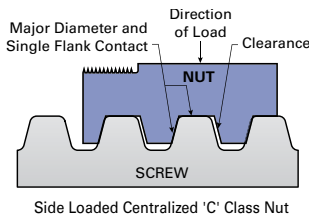
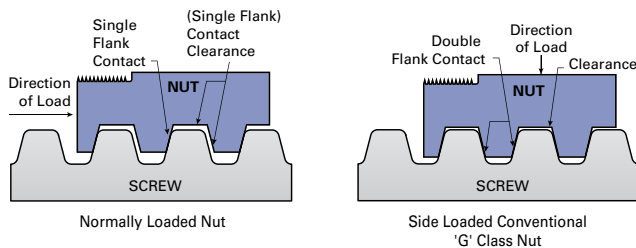
GLOSSARY AND TECHNICAL DATA

THREAD TYPES

The acme thread form, established over 100 years ago, replaced square thread screws, which had straight-sided flanks and were difficult to manufacture.

There are three main classes of acme thread forms: general purpose (G), centralizing (C), and stub acme. The General Purpose and Centralizing thread forms have a nominal depth of thread of $0.50 \times \text{pitch}$ and have a 29° included thread angle. Trapezoidal thread forms have a 30° included thread angle. HELIX™ precision lead screw assemblies have a 40° angle.

Compared to general-purpose thread forms, centralizing threads are manufactured with tighter tolerances and reduced clearance on the major diameter.



Stub acme threads follow the same basic design, but have a thread depth less than one half the pitch.

If an acme nut is side loaded with a radial load, a "G" class will "wedge" when the nut thread flanks come in contact with the screw thread flanks. To prevent wedging, less clearance and tighter tolerances are allowed between the major diameter of the nut and the major diameter of the screw.

CAUTION - Although a side load will not cause a centralizing thread to wedge, the nut is not designed to operate with a side load such as a pulley, drive belt, etc. See Pg 64 for further information.

DEFINITIONS

LAND (MAJOR) DIAMETER - The outside diameter of the screw.

PITCH DIAMETER - On an acme screw, this diameter is approximately halfway between the land diameter and the root diameter. It is the diameter at which the thread thickness is equal to the space between threads.

ROOT (MINOR) DIAMETER - The diameter of the screw measured at the bottom of the thread.

PITCH - The axial distance between threads. Pitch is equal to the lead in a single start screw.

LEAD - The axial distance the nut advances in one revolution of the screw. The lead is equal to the pitch times the number of starts.

$$\text{PITCH} \times \text{STARTS} = \text{LEAD}$$

NOTE: HELIX™ precision lead screw designations reference nominal diameter and lead. For example: 250×125 screws advance 0.125" in one revolution and require eight turns for one inch of travel. A 250×125 screw has 2 starts and a 0.062" pitch.

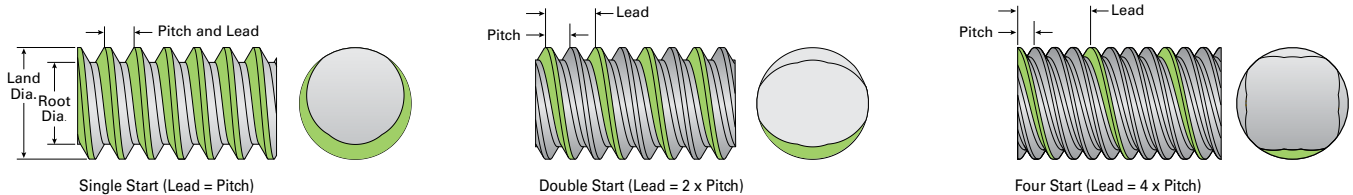
$$0.062" \text{ PITCH} \times \text{FOUR STARTS} = 0.125" \text{ LEAD}$$

LEAD ACCURACY - Lead accuracy is the difference between the actual distance traveled versus the theoretical distance traveled based on lead. For example: A screw with a 0.5 inch lead and 0.004 inch per foot lead accuracy rotated 24 times, theoretically moves the nut 12 inches.

(24 Revolutions $\times$.500 inches per revolution = 12.000 inches of travel)

With a lead accuracy of .0003"/inch, actual travel could be from 11.996 to 12.004 inches.

SCREW STARTS - The number of independent threads on the screw shaft; example one, two or four.



MATCHED LEAD - When multiple screws are used in unison to move a load with precise synchronicity, screws of similar lead accuracy can be factory selected and supplied as sets. Consult factory for matched lead set tolerances.

STRAIGHTNESS - Although HELIX™ precision lead screws are manufactured from straight, cylindrical material, internal stresses may cause the material to bend or yield.

When ordering random lengths or cut material without end machining, straightening is recommended. Handling or machining of screws can also cause the material to bend or yield. Before, during and after machining, additional straightening is required. When ordering screws with machined ends from HELIX™ Linear Technologies, the following straightness tolerances can be expected:

HELIX™ precision rolled and milled lead screws are straight within 0.010 inch/foot and will not exceed 0.030 inch in any 6-foot section when shipped from the factory.

HELIX™ precision ground lead screws are straight within 0.001 inch/foot when shipped from the factory. If tighter straightness tolerances are required, contact HELIX™ customer service.

LIFE - HELIX™ precision lead screws are manufactured from high quality materials with excellent dynamic properties. Because of the variable effects of friction, lubrication and cleanliness, a specific life cannot be predicted. Proper lubrication, regular maintenance, and operation within specified limits will extend the life of lead screws.

EFFICIENCY - Efficiency of HELIX™ precision lead screw assemblies range from 15% to 85%. These efficiencies are dependent upon nut material, lubrication, lead and thread form. The efficiencies for each assembly are listed on the following pages.

BACKDRIVING - Normally, lead screws are used to convert rotary motion into linear motion. Backdriving is the result of the load pushing axially on the screw or nut to create rotary motion.

Generally, a nut with efficiency greater than 50% will have a tendency to backdrive. If a selflocking assembly is required, select a nut with efficiency below 35%.

CAUTION: Vibration can cause any lead screw assembly to creep or backdrive. When using lead screws, applications should be analyzed to determine the necessity of a brake, especially when the possibility of injury may occur.

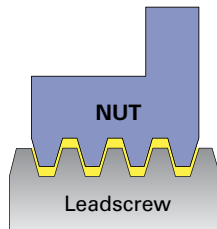


High Helix Lead Screw and Custom Flange.

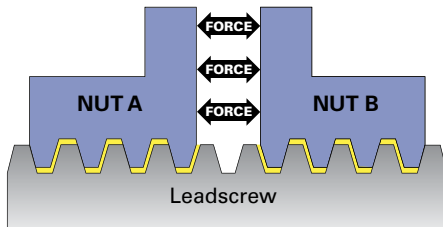
GLOSSARY AND TECHNICAL DATA (continued)

BACKLASH - Backlash (lash) is the relative axial clearance between a screw and nut without rotation of the screw or nut. Backlash information for HELIX™ precision lead screws and nuts is listed within the data section of this catalog. Lash will always increase with use. HELIX™ Linear Technologies has developed several unique ways to reduce or remove the lash between the screw and nut.

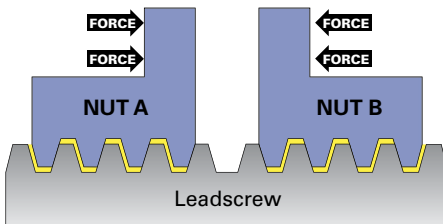
Standard Nut



Anti-Backlash Nut in Tension



Anti-Backlash Nut in Compression



Teflon Coated Trapezoidal Screw.

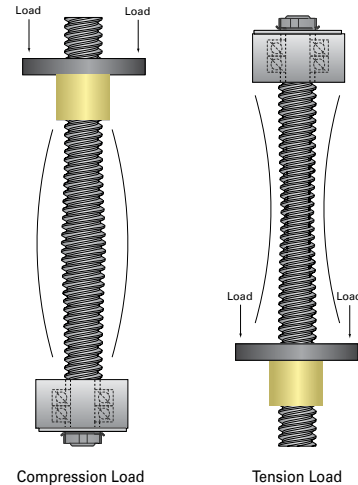
STATIC LOAD - The maximum thrust load – including shock – that should be applied to a non-moving nut assembly. Actual maximum static load may be reduced based on end machining and screw mounting hardware.

DYNAMIC LOAD - The maximum recommended thrust load which should be applied to the lead screw and nut assembly while in motion.

PV LOAD - Any material which carries a sliding load is limited by heat buildup caused by friction. The factors that affect heat generation rate in an application are the pressure on the nut in pounds per square inch of contact area and the surface velocity in feet per minute at the major diameter. The product of these factors provides a measure of the severity of an application.

TENSION LOAD - A load that tends to “stretch” the screw.

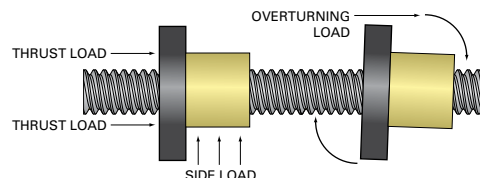
COMPRESSION LOAD - A load that tends to “squeeze” the screw.



THRUST LOAD - A load parallel to and concentric with the axis of the screw.

OVERTURNING LOAD - A load that tends to rotate the nut radially around the longitudinal axis of the screw.

SIDE LOAD - A load that is applied radially to the nut.



END MACHINING / MOUNTING DEFINITIONS

EZZE-MOUNT™ - EZZE-MOUNT™ bearing blocks contain precision anti-friction bearings and are designed to be used with acme ball screws and lead screws. Single and double bearing base mount and flange mount versions of EZZE-MOUNT™ bearing blocks are available.

STANDARD ENDS - For each screw size, HELIX™ has designed a family of standard machined ends applicable to a variety of bearing arrangements.

The use of standard machined end designs offer quick deliveries. See page 82 - 83 for details.

LAND DIAMETER - Land diameter is the outside diameter of the screw. The difference between the land diameter and the bearing journal is the resulting bearing shoulder.

ROOT DIAMETER - The diameter of the screw measured at the bottom of the thread. This diameter is used for determining journal sizes. If the bearing journal diameter is larger than the root diameter, thread tracings may be visible. Generally, these tracings do not have an effect on bearing performance.

JOURNAL - A smooth diameter machined on the end of the screw used as a mounting surface for bearings, couplings, pulleys, gears, etc.

STRAIGHTNESS - Although HELIX screws are manufactured from straight, cylindrical material, internal stresses may cause the material to bend. When ordering random lengths or cut material without end machining, straightening is recommended. Handling or machining of screws can also cause the material to bend. Before, during and after machining, additional straightening is required.

CONCENTRICITY - Concentricity refers to multiple diameters sharing the same center. For end machining, close concentricity allows all components to rotate around the same axis resulting in smooth operation and long operating life.

END FIXITY - End fixity refers to the method by which the ends of the screw are supported. The degree of end fixity is related to the amount of restraint of the ends of the screw.

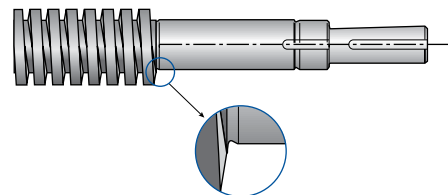
The three basic types of end fixity are:

Free	No support
Simple	Shaft restrained against radial and/or axial loads
Fixed	Shaft rigidly restrained against radial, axial and moment loads

See page 10 for a more detailed definition of end fixity.

LOCKNUT THREADS - Locknut threads are machined to allow the bearing retention on the screw shaft by means of a locknut. The thread used on standard machined ends follows American National Form NS Class 3. Precision ground locknuts are available on special order.

UNDERCUTS AND RADII - Whenever a shaft changes diameter, an undercut or a radius is machined into the transition to minimize stress concentration. Undercuts are preferred for bearing shoulders because they allow clearance for the corner of the bearing.



APPROVAL DRAWINGS - If custom ends or special dimensions are desired, we are happy to create an approval drawing for your review. These drawings will show all the critical dimensions with appropriate tolerance and require customer approval prior to manufacture.

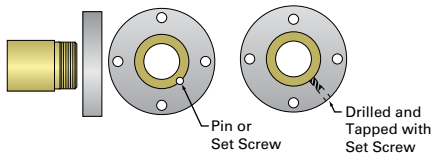


DESIGN CONSIDERATIONS

MOUNTING AND PINNING OF FLANGES

The preferred method of locking a flange to a nut is a pin or set screw parallel to the screw which intersects the flange/nut mounting thread. Because of the dissimilarity of materials, the hole may need to be milled, not drilled.

Alternatively, the flange may be drilled and tapped radially for a set screw. After assembly of the flange to the nut, spot drill the nut threads through the flange and install a dog point set screw from the flange O.D. into the nut O.D. threads. Avoid getting metal chips in the nut when drilling.



Diameter	Description	Qty
.25 to .625	1/8 x 1/4 Slotted Spring Pin	1
.75 to 1.0	#10 - 24 x 1/4 Set Screw	1

Commercially available thread adhesives may be used for light load applications. Follow the manufacturers' recommendations to ensure a satisfactory bond. Avoid getting the adhesive onto the lead screw thread.

LUBRICATION

Proper lubrication must be provided to achieve satisfactory service life. HELIX™ Linear produces both "wet" and dry lubricants for lead screws. HELIX PTFE dry teflon coating is excellent for food, medical and semiconductor applications. HELIX acme screw lubricant (E-100 spray lube or PAG-1 grease) is recommended for applications using precision lead screws without Teflon® coating.

Lubrication intervals are determined by the application. It is required that screw assemblies are lubricated often enough to maintain a film of lubricant on the screw.



Custom injection molded nuts from HELIX™ Engineered Acetyl and Delrin AF

TORQUE

The required motor torque to drive a lead screw assembly is the sum of three components: inertial torque, drag torque and torque-to-move load. It must be noted that this is the torque necessary to drive the lead screw assembly alone. Additional torque when driving frictional bearings, motor shafts, moving components and drag due to general assembly misalignment must also be considered.

Inertial Torque

$$T_i = I \alpha$$

WHERE:

- I = screw inertia
- α = angular acceleration

Drag Torque - HELIX anti-backlash assemblies are typically supplied with drag torque of 1 to 7 oz.-in. The magnitude of the drag torque is dependent on the standard factory settings or settings specified by the customer. Generally, the higher the preset force, the better the anti-backlash characteristics.

Torque-to-move

$$T_L = \frac{\text{Load} \times \text{Lead}}{2 \pi \times \text{Efficiency}}$$

BACK DRIVING

Back driving is the ability of a screw to be turned by a thrust load applied to the nut. Generally, back driving will not occur when the screw lead is less than 1/3 the diameter for uncoated screws or 1/4 the diameter for HELIX PTFE coated screws. For higher leads where back driving is likely, the torque required for holding a load is:

$$T_L = \frac{\text{Load} \times \text{Lead} \times \text{Backdrive Efficiency}}{2 \pi}$$

TEMPERATURE

With proper lubrication, HELIX Lead screws with bronze nuts operate efficiently between 15°F and 350°F, and plastic nuts between 15°F and 175°F.

OPTIONAL SURFACE COATINGS

Consult HELIX™ engineers for specific surface coatings for anti-corrosion and lubrication.

CUSTOM LEAD SCREW ASSEMBLIES

CUSTOM NUTS

At HELIX™, we mold and machine a wide array of lead screw nuts and actuator components from standard polymers such as PEEK, Torlon®, Acetal, Polypropylene, Turcite®, and custom engineered polymers that incorporate fillers like PTFE, PFPE, silicone, carbon fibers, graphite, glass fibers and molybdenum disulfide. Should cost or design constraints require a more integrated package, our engineering staff can help you simplify your design by combining several different components into a molded nut.



Custom Turcite® Nuts.

CUSTOM MACHINING

We offer extensive machining services on our lead screws and nuts. Journals, keyways, flats, centers, snap ring grooves and counterbores are common dimensions for us to machine on the ends of lead screws. Simply email us your sketch, drawing, or 3D model and we will provide a quotation in 24 hours.



Custom Machined Screw.

CUSTOM SCREWS

At HELIX Linear Technologies, we manufacture the most precise lead screws in the world. We have perfected the thread-rolling process over four decades and today offer the widest range of thread rolling capacity globally. We have manufactured hundreds of custom screw diameters and leads for our customers who require a size that is not in our catalog. We are also the experts in thread-rolling non-standard materials and produce screws from titanium, aluminum, high-carbon steel, 300 and 400 series stainless steels, plastics and special chemistry alloys. See chart below for custom screw specifications.



Custom Anti-backlash Nut Solutions.

	Acme Threaded Bars	Trapezoidal Threaded Bars	Screw Threads	Specialty Forms
Diameters	1/8" - 12"	4mm - 300mm	up to 16" (400mm)	up to 16" (400mm)
Stock Lengths	3, 6, 12 foot lengths		N/A	
Special Order	Custom lengths up to 50 Ft. Full Thread, Double End and Single End Parts			
Material	Carbon Steels, Alloy Steels, Alloy Heat Treated Steels, Stainless Steel, Aluminum, Titanium, Exotic Metals		Carbon Steels, Alloy Steels, Alloy Heat Treated Steels, Stainless Steels, Aluminum, Brass, Titanium, Exotic Metals	
Thread Profiles	HELIX™ 40° Acme, ASME Standard Acme, Stub Acme, Modified Stub Acme, Speedy® High-Lead, and Special Profiles made to order	ISO/DIN 30°Trapezoidal, Speedy® High-Lead, and Special Profiles made to order	UN/ISO 60°Threads and SpecialThreads made to order	American Worm, Module Worm, Modified Buttress, Straight Knurling, Diamond Knurling
Class of Fit	2G, 2C, 3G, 3C	7e, 8e, 8c, Modified	2A, 3A, 7e, 8e	N/A
Thread Direction	Right Hand, Left Hand			
Thread Starts	Single, Multiple			N/A

LEAD SCREW SELECTION

The selection of the correct lead screw and nut for a particular application involves four interrelated factors. Before attempting to determine the lead screw and nut combination, the following values must be known:

- Axial load measured in pounds or newtons
- Speed measured in inches or millimeters per minute
- Length between bearings measured in inches or millimeters
- End fixity type

LOAD - The loads that need to be considered are the static loads, dynamic loads, reaction forces and any external forces affecting the screw. See page 6 for details on load definitions.

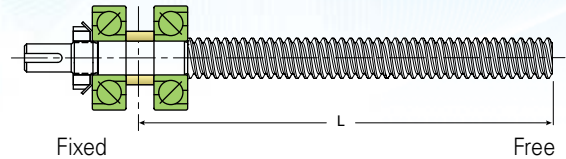
SPEED - The travel rate (linear speed) is the rpm at which the screw or nut is rotating multiplied by the lead of the screw.

LENGTH - The unsupported length of the screw.

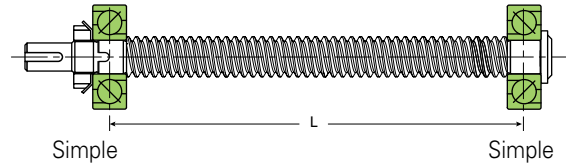
END FIXITY - End fixity refers to the method by which the ends of the screw are supported. The degree of end fixity is related to the amount of restraint of the ends of the screw. Here are four basic types of end fixity:

Simple End fixity can be provided through a single bearing support.

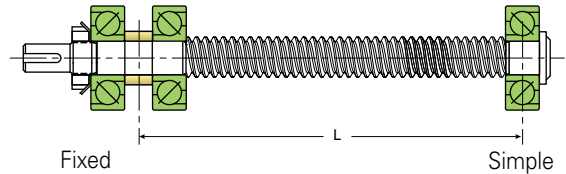
A. Fixed/Free



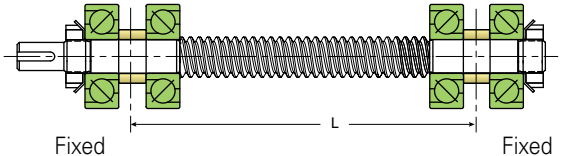
B. Simple/Simple



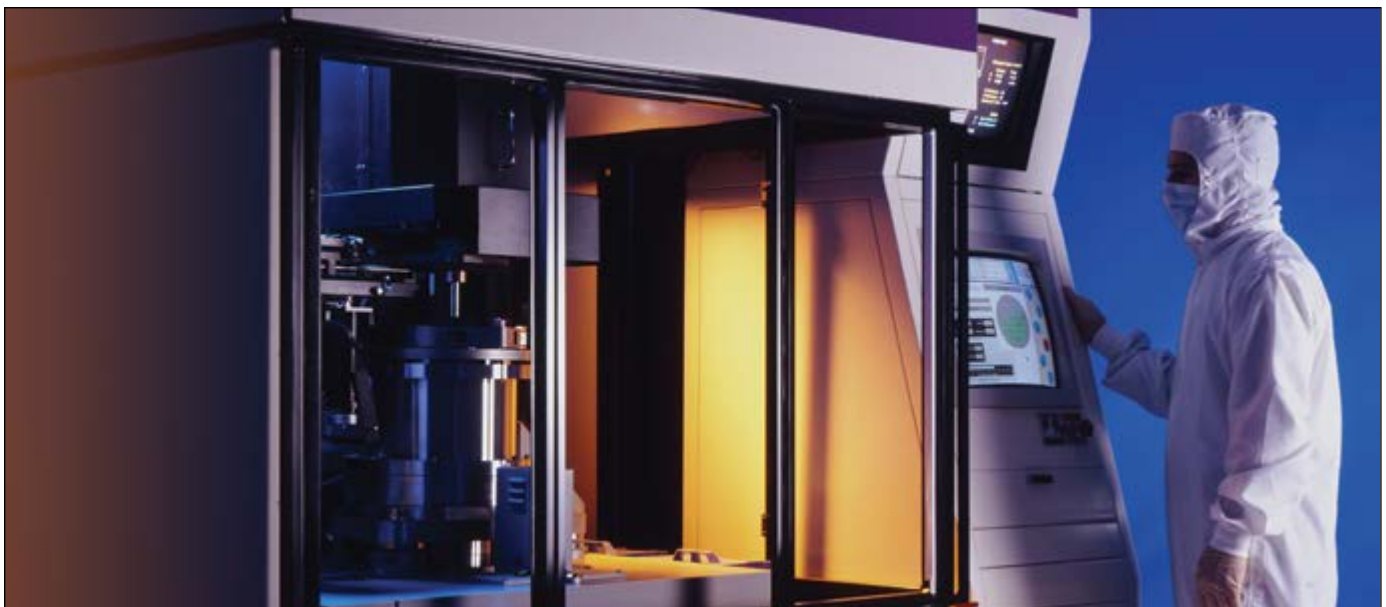
C. Fixed/Simple



D. Fixed/Fixed



Multiple or Spaced Pairs of bearings are more rigid than a "Simple" support, but because of their compliance are not truly "Fixed".



Lead screws automate silicon wafer processing machines.

CRITICAL SPEED

Once the load, speed, length and end fixity are identified, the next factor to consider is the critical speed. The speed that excites the natural frequency of the screw is referred to as the critical speed. Resonance at the natural frequency of the screw will occur regardless of the screw orientation (vertical, horizontal etc.) or if the system is designed so the nut rotates about the screw. The critical speed will vary with the diameter, unsupported length, end fixity and rpm. Since critical speed can also be affected by shaft straightness and assembly alignment, it is recommended that the maximum speed be limited to 80% of the calculated critical speed. The theoretical formula to calculate critical speed in rpm is:

WHERE:
$$N = \frac{C_s \times 4.76 \times 10^6 \times d}{L^2}$$

- N = Critical Speed (rpm)
d = Root Diameter of Screw (inch)
L = Length Between Bearing Supports (inch)
C_s = 0.36 for one end fixed, one end free
1.00 for both ends simple
1.47 for one end fixed, one end simple
2.23 for both ends fixed

If the selected lead screw does not meet critical speed criteria, consider the following options:

- Increase screw lead and reduce rpm
- Change end fixity (e.g. simple to fixed)
- Increase screw diameter

SCREW INERTIA

Screw Size in (mm)	Screw Inertia (oz-in sec ² /in)	Screw Size in (mm)	Screw Inertia (oz-in sec ² /in)
1/8 (3.2)	1.8 x 10 ⁻⁷	3/8 (10)	1.5 x 10 ⁻⁵
9/64 (3.5)	3.4 x 10 ⁻⁷	7/16 (11)	3.5 x 10 ⁻⁵
5/32 (3.97)	4.9 x 10 ⁻⁷	1/2 (13)	5.2 x 10 ⁻⁵
3/16 (4.76)	1.1 x 10 ⁻⁶	5/8 (16)	14.2 x 10 ⁻⁵
7/32 (5.55)	1.8 x 10 ⁻⁶	3/4 (19)	30.5 x 10 ⁻⁵
1/4 (6)	0.3 x 10 ⁻⁵	7/8 (22)	58.0 x 10 ⁻⁵
5/16 (8)	5.0 x 10 ⁻⁵	15/16 (24)	73.0 x 10 ⁻⁵

COLUMN STRENGTH

When a screw is loaded in compression (see compression load definition on page 6), its limit of elastic stability can be exceeded and the screw will fail through bending or buckling.

The theoretical formula to calculate the column strength in pounds is:

$$P_{cr} = \frac{14.03 \times 10^6 \times F_c \times d^4}{L^2}$$

WHERE:

- P_{cr} = Maximum Load (lb)
F_c = End Fixity Factor
0.25 for one end fixed, one end free
1.00 for both ends supported
2.00 for one end fixed, one end simple
4.00 for both ends rigid
d = Root Diameter of Screw (inch)
L = Distance between nut and load carrying bearing (inch)

If the selected screw does not meet compression load criteria, consider the following options:

- Change end fixity (e.g. simple to fixed)
- Design to use screw in tension
- Increase screw diameter

PV VALUE

For plastic nuts, the PV value needs to be checked (see the PV load definition on page 6). The operating load values for the plastic nuts are based on a pressure of 1,250 lb per square inch. Any loads less than the operating load can be evaluated by using the following:

$$P = \frac{\text{Actual Operating Load}}{\text{Chart Operating Load}} \times 1450$$

V is the relative speed between the nut and the screw in feet per minute. V can be calculated by using the following:

$$V = \frac{\text{Outside Dia. of the Screw (in)} \times \square \times \text{Operating Speed (rpm)}}{12}$$

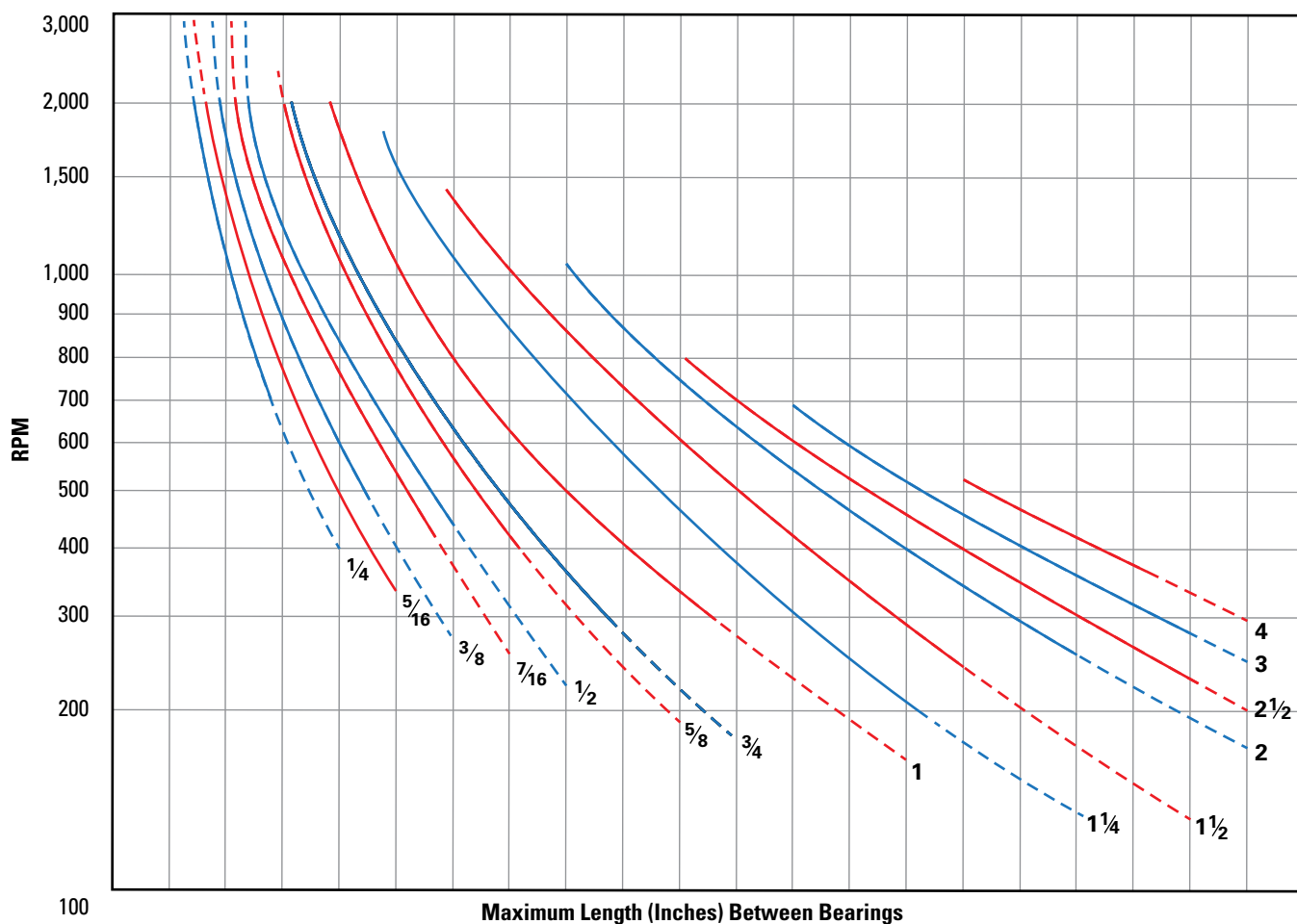
It is recommended that P x V be limited to values less than 2,700.

CRITICAL SPEED CHART - INCH SCREWS

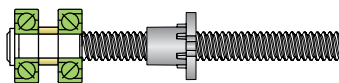
Every screw shaft has a rotational speed limit. That is the point at which the rotational speed sets up excessive vibration. This critical point can be modified by the type of end bearing support used.

To use this chart, determine the required RPM and the maximum length between bearing supports. Next, select one of the four types of end supports shown below. The critical speed can be found by locating the point at which RPM (horizontal lines) intersects with the unsupported screw length (vertical lines) as modified by the type of supports selected below. We recommend operating at no more than 80% of the critical speed limit.

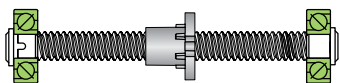
Warning: Curves for the screw diameters shown are based on the smallest root (minor) diameter of the standard screws within the nominal size range and truncated at the maximum ball nut rotational speed. **DO NOT EXCEED** this RPM regardless of screw length.



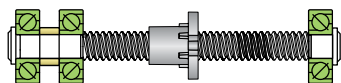
A) Fixed Free	6	10	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	120	126
B) Simple Simple	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
C) Fixed Simple	12	24	36	48	61	73	85	97	109	121	133	154	158	170	182	194	206	218	230	242
D) Fixed Fixed	15	30	45	60	75	90	105	119	134	149	164	179	194	209	224	239	254	269	264	298



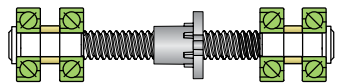
A) Fixed-Free



B) Simple-Simple



C) Fixed-Simple



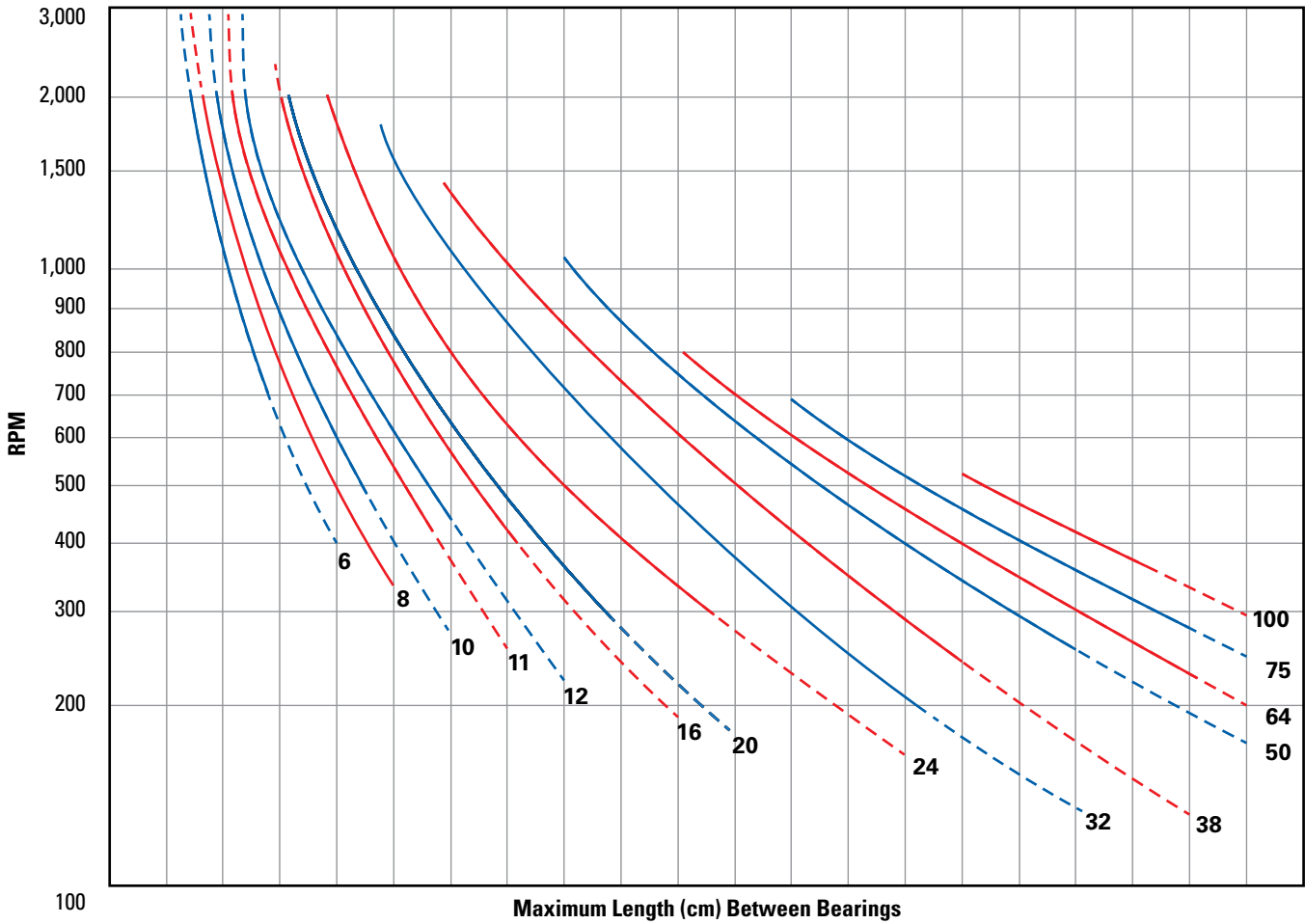
D) Fixed-Fixed

CRITICAL SPEED CHART - METRIC SCREWS

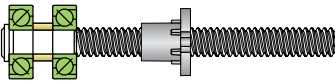
Every screw shaft has a rotational speed limit. That is the point at which the rotational speed sets up excessive vibration. This critical point can be modified by the type of end bearing support used.

To use this chart, determine the required RPM and the maximum length between bearing supports. Next, select one of the four types of end supports shown below. The critical speed can be found by locating the point at which RPM (horizontal lines) intersects with the unsupported screw length (vertical lines) as modified by the type of supports selected below. We recommend operating at no more than 80% of the critical speed limit.

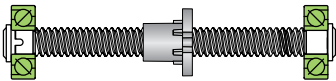
Warning: Curves for the screw diameters shown are based on the smallest root (minor) diameter of the standard screws within the nominal size range and truncated at the maximum ball nut rotational speed. **DO NOT EXCEED** this RPM regardless of screw length.



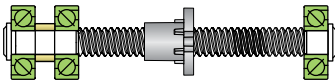
A) Fixed Free	15	30	46	61	76	91	107	122	137	152	168	183	198	213	229	244	259	274	305	320
B) Simple Simple	25	51	76	102	127	152	178	203	229	254	279	305	330	356	381	406	432	457	483	508
C) Fixed Simple	30	61	91	122	155	185	216	246	277	307	338	391	401	432	462	493	523	554	584	615
D) Fixed Fixed	38	76	114	152	191	229	267	302	340	378	417	455	493	531	569	607	645	683	721	757



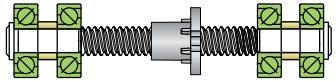
A) Fixed-Free



B) Simple-Simple



C) Fixed-Simple

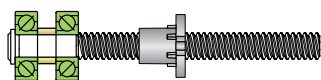
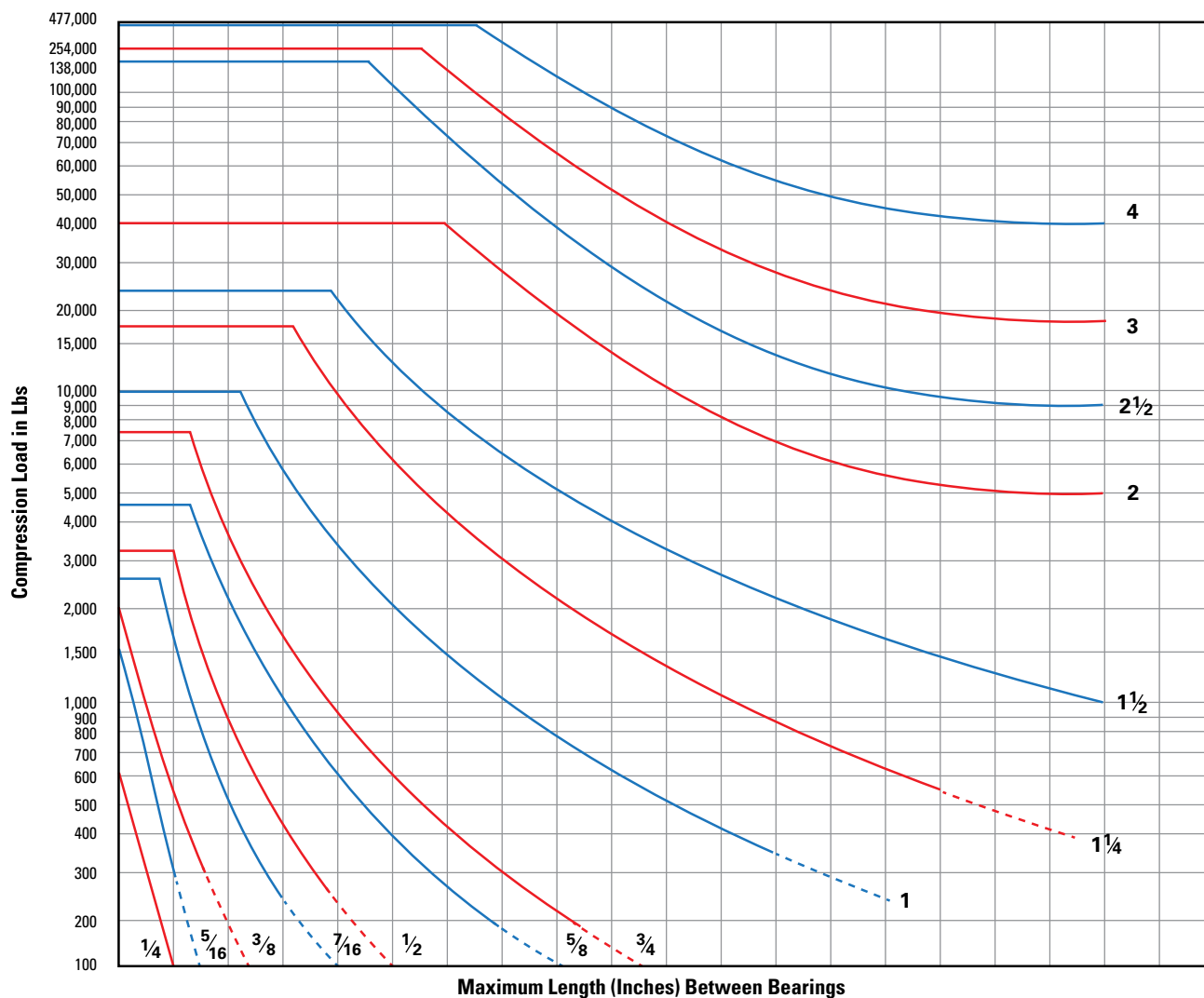


D) Fixed-Fixed

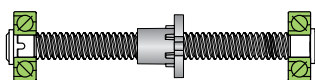
COLUMN LOADING CAPACITIES CHART - INCH SCREWS

The chart below will help you determine the Maximum Compression Load for Screw Shaft. Usually, screws operated in tension can handle loads up to the rated capacity of the nut, providing the screw length is within standard lengths. End supports have an effect on the load capacity of screws. The four standard variations are shown below with corresponding rating adjustments. Find the point of intersecting lines of load (horizontal) and length (vertical) to determine the minimum safe diameter of screw. If loads fall into dotted lines, consult factory.

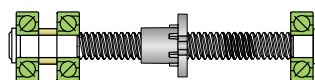
Warning: DO NOT EXCEED nut capacity. Curves for the screw diameters shown are based on the smallest root (minor) diameter of the standard screws within the nominal size change.



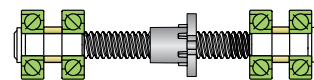
A) Fixed-Free



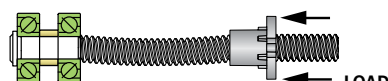
B) Simple-Simple



C) Fixed-Simple



D) Fixed-Fixed



Compression (Column) Load

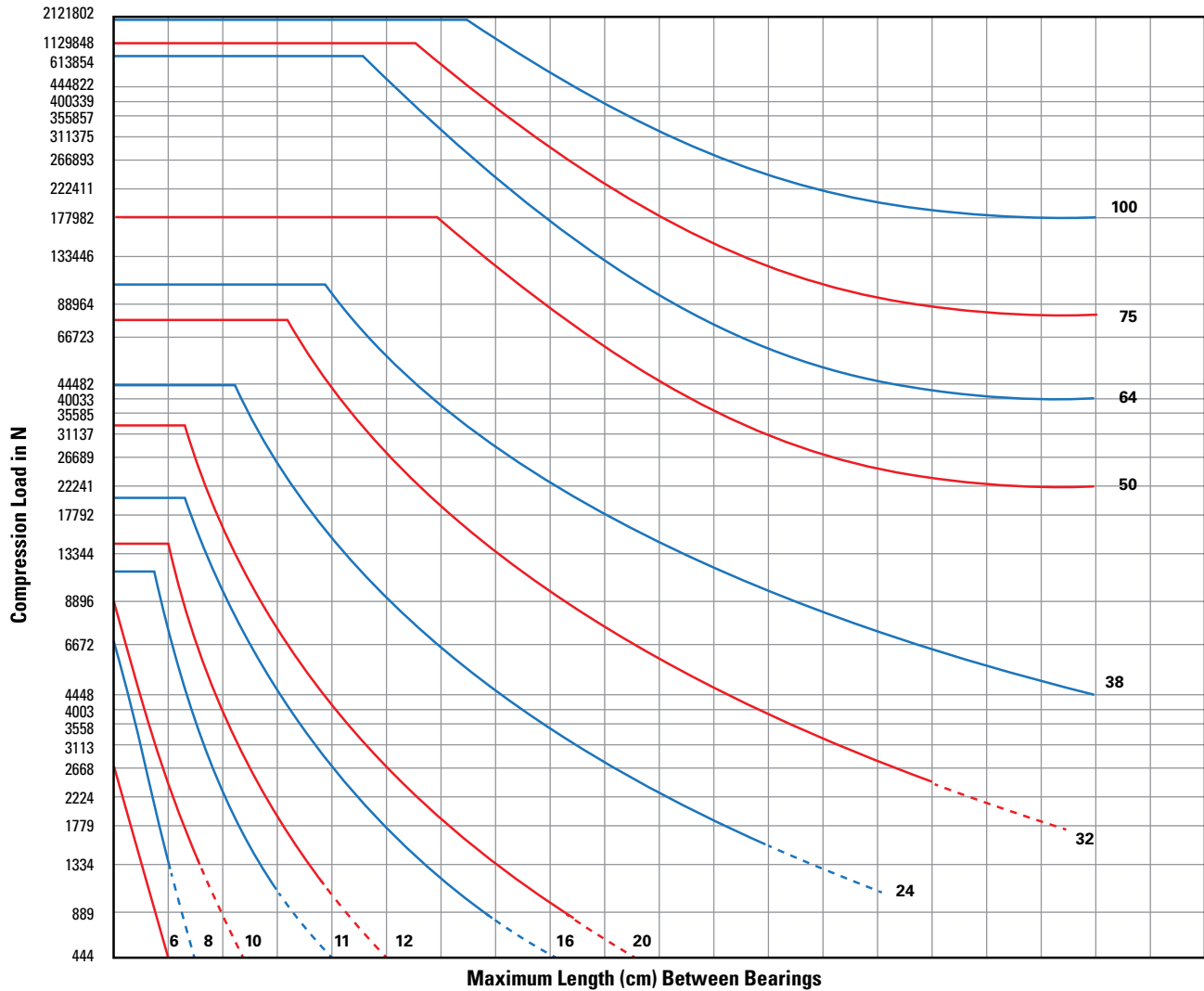


Tension (Pulling) Load

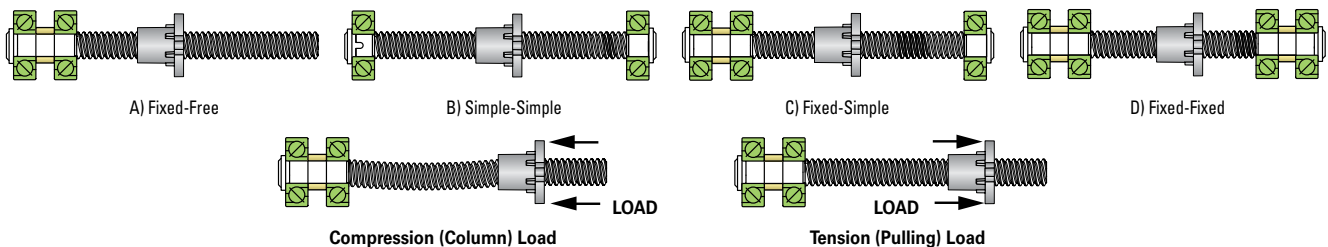
COLUMN LOADING CAPACITIES CHART - METRIC SCREWS

Use the chart below to determine the Maximum Compression Load for Screw Shaft. Usually, screws operated in tension can handle loads up to the rated capacity of the nut, providing the screw length is within standard lengths. End supports have an effect on the load capacity of screws. The four standard variations are shown below with corresponding rating adjustments. Find the point of intersecting lines of load (horizontal) and length (vertical) to determine the minimum safe diameter of screw. If loads fall into dotted lines, consult factory.

Warning: DO NOT EXCEED nut capacity. Curves for the screw diameters shown are based on the smallest root (minor) diameter of the standard screws within the nominal size change.



	13	25	38	51	64	76	89	102	114	127	140	152	165	178	191	203	216	229	241
A) Fixed Free	13	25	38	51	64	76	89	102	114	127	140	152	165	178	191	203	216	229	241
B) Simple Simple	25	51	76	102	127	152	178	203	229	254	279	305	330	356	381	406	432	457	483
C) Fixed Simple	36	71	107	145	180	216	251	287	323	358	396	432	467	503	538	574	610	648	686
D) Fixed Fixed	51	102	152	203	254	305	356	406	457	509	559	610	660	711	762	813	864	914	965



LUBRICANTS

Proper lubrication is the key to continued performance and reliability of lead screw assemblies. Use E-100 spray and PAG-1 grease lubricants to maximize life of your acme screw assembly.



BENEFITS

- Shear Stability
- High Temperature Resistant
- Corrosion Protection
- Separation Resistant
- Extreme Pressure Properties
- Shelf Stable
- Water Resistant

Product Name	NLGI Grade Number	Penetration (Worked)	Dropping Point	Gelling Agent	CST @40°C	CST @100°C	Temp. Range	Net Contents Per Unit	Part No.	Total Weight
PAG-1 Grease	2	285	550°C	Calcium	96	113	15°F to 400°F	1	NLU-1001	1 lb
								Case of 12	NLU-2001	13 lb
E-100 Spray	2	285	550°C	Calcium	96	113	15°F to 400°F	1	NLU-1002	1 lb
								Case of 12	NLU-2002	15 lb

HELIX™ PTFE DRY LUBRICANT

HELIX™ PTFE is a fluoropolymer (Teflon®) based coating and is combined with appropriate resins specially formulated to provide a tough, durable film for dry lubrication. HELIX™ PTFE offers excellent abrasion and salt spray resistance. The film components stratify during the curing process and most of the fluoropolymer properties (such as low-coefficient of friction and non-stick character) are retained.

HELIX™ PTFE is an excellent lubricant for medical, semiconductor, electronic, high precision and clean applications. Our HELIX™ PTFE coating increases the efficiency of lead screw assemblies and can be applied to all HELIX™ lead screws.

Coating Properties

Thickness	0.4 - 0.8 MIL
Color	Black
Tensile Strength (ASTM D1708)	3000-12000 PSI
Hardness (ASTM D2240)	60 HB (Shore D)
Abrasion Resistance (ASTM D4060)	Excellent
Adhesion (ASTM D4145)	OK (A)
Coefficient of Friction (ASTM D1894)	0.15 static
Chemical Resistance (ASTM D543)	Excellent
Salt Spray Resistance (ASTM B117-73)	>168hr at 5% solution, 35 C (95° F)
Dielectric Strength (ASTM D149)	100 volts per mil
Use Temperature	260 C (500° F) max



Teflon coated HELIX lead screws.

MINIATURE LEAD SCREW ASSEMBLIES REFERENCE NUMBER SYSTEM



NT025 – 062 – RA / 1K / 4N / 12.25 / FS

NUT

Nut will be installed with flange or threaded end toward first end designation.

AF = Anti-backlash Series, Flange-Mount Style
AT = Anti-backlash Series, Thread-Mount Style
NF = Standard Series, Flange-Mount Style
NT = Standard Series, Thread-Mount Style
00 = No Nut

DIAMETER CODE

Example:
025 = 1/4" Diameter

See pages 22-77 for Diameter Codes

LEAD CODE

Example:
062 = 0.0625" Lead

See pages 22-77 for Lead Codes

HELIX/MATERIAL

RA

R = Right Hand Thread
L = Left Hand Thread

NOTE:
Not all threads/materials are available for all sizes.

A = Alloy Steel, Rolled
B = Alloy Steel, Milled
C = Alloy Steel, Ground
S = Stainless Steel, Rolled
T = Stainless Steel, Milled
U = Stainless Steel, Ground

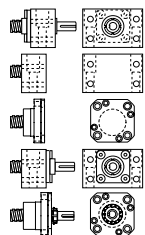
FIRST END CONFIGURATION

End Machining

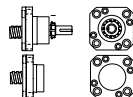
1 = Type 1 3 = Type 3
2 = Type 2 4 = Type 4

1K

Shaft Extension
(see page 86)



B = Universal Double Bearing Support End Cap Facing Screw Thread
C = Universal Single Bearing Support
D = Universal Single Bearing Support Flange Facing Screw Thread
E = Universal Double Bearing Support Cap Facing Away From Screw Thread
F = Flanged Double Bearing Support End Cap Facing Screw Thread



G = Flanged Single Bearing Support Facing Away From Screw Thread
H = Flanged Double Bearing Support Facing Away From Screw Thread
K = Shaft Extension
L = Shaft Extension without Keyway
N = No Shaft Extension
00 = No End Machining (Screw will be cut to desired length)
XX = Custom Machining (Print or specified data must be provided)

NOTE: Both Ends must be specified.
Omit this code if ordering nut only.

SECOND END CONFIGURATION

Refer to the First End Configuration.

NOTE: Both Ends must be specified.
Omit this code if ordering nut only.

OVERALL LENGTH (OAL)

Length in inches, 2 place decimal. Omit this code if ordering nut only.

MODIFIER LIST

F (Optional) = Round Flange (with Thread Mount Style only)
T (Optional) = Teflon® coating

S or M Required
S = Standard, no additional description required
M = Modified, additional description required



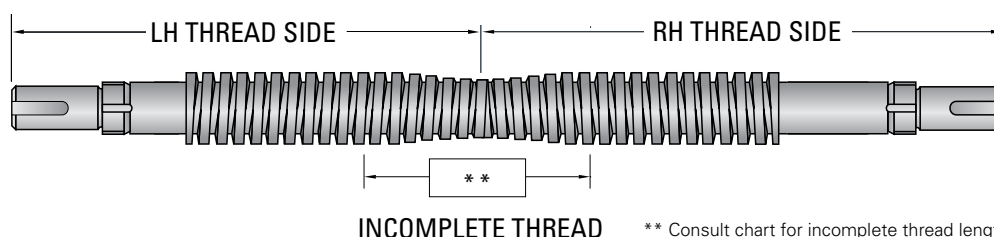
TWIN-LEAD SCREW ASSEMBLIES

Twin-Lead acme screws offer dual opposing motion using a single drive system. These one-piece high performance acme screws are made from high alloy steel that is black oxidized for protection and can be assembled with HELIX™ acme nuts, flanges and EZZE-MOUNT™ bearing supports (see pages 86-91) to form cost effective systems. Twin-Lead acme screws can be used in molding machines, packaging equipment, food processing machinery, robotics, material handling equipment, tire manufacturing and assembly applications.

Twin-Lead screws stocked for delivery without machined ends

are listed in the chart below. To order a Twin-Lead cut to a custom length and/or with machined ends, select a size from the chart below, determine OAL, LH and RH thread length, nut, flange and, if required, EZZE-MOUNT™ bearing support.

Consult the Twin-Lead Reference Number System on page 21 to complete your part number.



Diameter	Diameter Code	Lead	Lead Code	Root Diameter	Standard Overall Length	Max Usable LH / RH Thread	Incomplete Overlapping Thread	Page
1/8"	012	0.0240	024	0.098	6.0"	2.63"	0.75"	20
1/8"	012	0.0313	031	0.094	6.0"	2.63"	0.75"	20
1/8"	012	0.0394	039	0.090	6.0"	2.63"	0.75"	20
3/16"	018	0.0240	024	0.177	8.0"	3.63"	0.75"	22
3/16"	018	0.0250	025	0.175	8.0"	3.63"	0.75"	22
3/16"	018	0.0313	031	0.172	8.0"	3.63"	0.75"	22
3/16"	018	0.0394	039	0.168	8.0"	3.63"	0.75"	22
3/16"	018	0.0480	048	0.164	8.0"	3.63"	0.75"	22
3/16"	018	0.0500	050	0.163	8.0"	3.63"	0.75"	22
6mm	024	0.07874	787	0.197	10.0"	4.63"	0.75"	36
1/4"	025	0.0240	024	0.223	12.0"	5.63"	0.75"	24
1/4"	025	0.0250	025	0.220	12.0"	5.63"	0.75"	24
1/4"	025	0.0312	031	0.214	12.0"	5.63"	0.75"	24
1/4"	025	0.0394	039	0.206	12.0"	5.63"	0.75"	21
1/4"	025	0.0480	048	0.197	12.0"	5.63"	0.75"	24
1/4"	025	0.0500	050	0.195	12.0"	5.63"	0.75"	24
1/4"	025	0.0625	062	0.178	12.0"	5.63"	0.75"	24
5/16"	031	0.1000	100	0.193	16.0"	7.63"	0.75"	26
8mm	032	0.3937	393	0.217	24.0"	11.63"	0.75"	38
8mm	032	1.1811	M30	0.295	24.0"	11.63"	0.75"	38



MINIATURE TWIN-LEAD ASSEMBLIES REFERENCE NUMBER SYSTEM



Diameter Lead First End Second End Left Hand Right Hand Left Hand Right Hand

012 - 024 - TA / EK / 4N / 8.50 / 4.25 / 4.25 / AFA / AFA / FS

SCREW THREAD FORM CODES

Dia. Code	Dia.
012	1/8"
018	3/16"
024	6mm
025	1/4"
031	5/16"
032	8mm

Lead Code	Lead
024	0.0240
025	0.0250
031	0.0313
039	0.0394
048	0.0480
050	0.05 00
062	0.0625
100	0.1000
393	0.3937
787	0.0787
M30	1.1811

MATERIAL

Note: Not all materials are available for all sizes.

TA

- A = Alloy Steel, Rolled
- C = Alloy Steel, Ground
- S = Stainless, Rolled
- U = Stainless, Ground
- T = Twin Lead

OVER-ALL-LENGTH (OAL)

Length in inches, 2 place decimal

LEFT HAND / RIGHT HAND THREAD

Length in inches, 2 place decimal.

Note: See figure on page 22.

LEFT HAND / RIGHT HAND ACME NUT

000000 = No Nut

AF = AAB Series, Flange-Mount Style

AT = AAB Series, Thread-Mount Style

NF = NAB Series, Flange-Mount Style

00 = No Nut

To select the nut direction after the nut part #, add:

A = Nut Thread or Flange installed toward center of screw

B = Nut Thread or Flange installed toward end of screw

FIRST END / SECOND END CONFIGURATION

Note: Both ends must be specified.

Single Bearing Supports are used in conjunction with Type 1N end machining.

Double Bearing Supports are used in conjunction with Type 3K, 3L, or 3N end machining.

Flanged Fixed Bearing Mounts are used in conjunction with Type 5 end machining.

MODIFIER LIST

F = Round Flange

S or M Required

S = Standard, no additional description required

M = Modified, additional description required

EK

Shaft Extension (see pages 84-85)

K = Shaft Extension with Keyway

L = Shaft Extension without Keyway Extension

EZSE-MOUNT™ / End Machining (see pages 84-85)

N = No Shaft

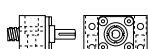
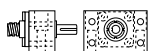
Q = Hand Wheel

1 = Type 1

2 = Type 2

3 = Type 3

4 = Type 4



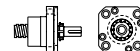
B = Universal Double Bearing Support
End Cap Facing Screw Thread

C = Universal Single Bearing Support

D = Universal Single Bearing Support
Flange Facing Screw Thread

E = Universal Double Bearing Support
Cap Facing Away From Screw Thread

F = Flanged Double Bearing Support
End Cap Facing Screw Thread



G = Flanged Single Bearing Support
Facing Away From Screw Thread

H = Flanged Double Bearing Support
Facing Away From Screw Thread

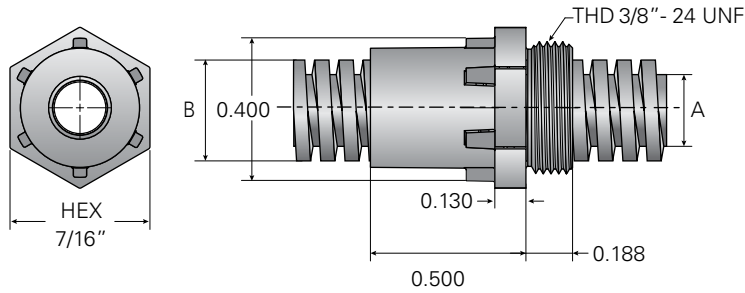
00 = No End Machining (Screw will be cut to desired length)

XX = Custom Machining (Print or specified data must be provided)

1/8 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
1/8"	012	0.0240	024	25-40	0.012	0.098	0.125	0.55
		0.0313	031	30-47	0.013	0.094	0.130	0.55
		0.0394	039	35-52	0.015	0.090	0.134	0.55
		0.0480	048	40-57	0.016	0.098	0.125	0.55
		0.0625	062	45-63	0.018	0.094	0.130	0.55
		0.0750	075	49-67	0.021	0.096	0.127	0.55
		0.0787	078	50-68	0.021	0.090	0.134	0.55
		0.0960	096	55-71	0.096	0.098	0.125	0.55
		0.1250	125	59-75	0.125	0.094	0.130	0.55
		0.1575	157	63-78	0.158	0.090	0.134	0.55

* Torque required to raise 1lb.



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lubricants
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end
machining
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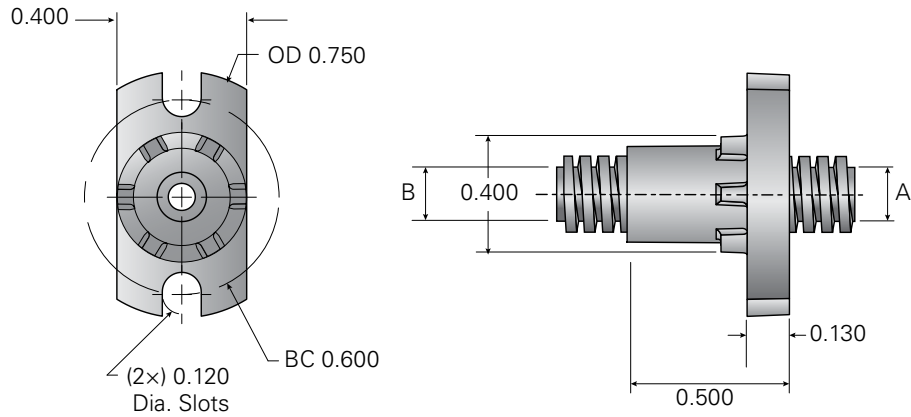
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STANDARD FLANGED NUT



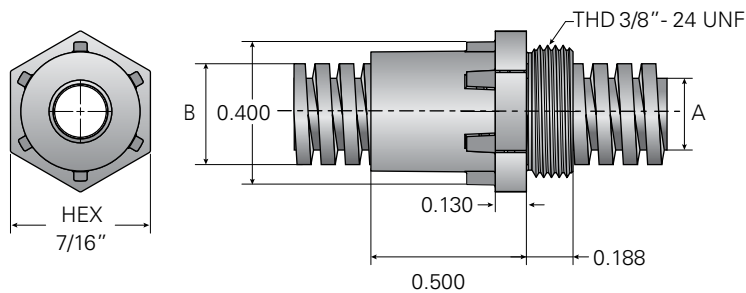
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT012024R	NT012024L	35	175	.064	NF012024R	NF012024L	20	100	.059	HF10	0.06
	NT012031R	NT012031L	35	175	.064	NF012031R	NF012031L	20	100	.059	HF10	0.06
	NT012039R	NT012039L	35	175	.064	NF012039R	NF012039L	20	100	.059	HF10	0.06
	NT012048R	NT012048L	35	175	.064	NF012048R	NF012048L	20	100	.059	HF10	0.06
	NT012062R	NT012062L	35	175	.064	NF012062R	NF012062L	20	100	.059	HF10	0.06
	NT012075R	NT012075L	35	175	.064	NF012075R	NF012075L	20	100	.059	HF10	0.06
	NT012078R	NT012078L	35	175	.064	NF012078R	NF012078L	20	100	.059	HF10	0.06
	NT012096R	NT012096L	35	175	.064	NF012096R	NF012096L	20	100	.059	HF10	0.06
	NT012125R	NT012125L	35	175	.064	NF012125R	NF012125L	20	100	.059	HF10	0.06
	NT012157R	NT012157L	35	175	.064	NF012157R	NF012157L	20	100	.059	HF10	0.06



3/16 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
3/16"	018	0.0240	024	17-29	0.016	0.177	0.204	1.58
		0.0250	025	17-29	0.017	0.175	0.205	1.58
		0.0313	031	24-34	0.018	0.172	0.208	1.58
		0.0394	039	24-39	0.020	0.168	0.213	1.58
		0.0480	048	28-44	0.021	0.164	0.217	1.58
		0.0500	050	29-45	0.022	0.163	0.218	1.58
		0.0625	062	34-51	0.024	0.172	0.208	1.58
		0.0787	078	39-56	0.027	0.168	0.213	1.58
		0.0960	096	43-61	0.029	0.164	0.217	1.58
		0.1000	100	44-62	0.030	0.163	0.218	1.58
		0.1250	125	49-66	0.035	0.172	0.208	1.58
		0.1575	157	54-71	0.040	0.168	0.213	1.58
		0.2000	200	58-74	0.048	0.163	0.218	1.58

* Torque required to raise 1lb.



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end
machining
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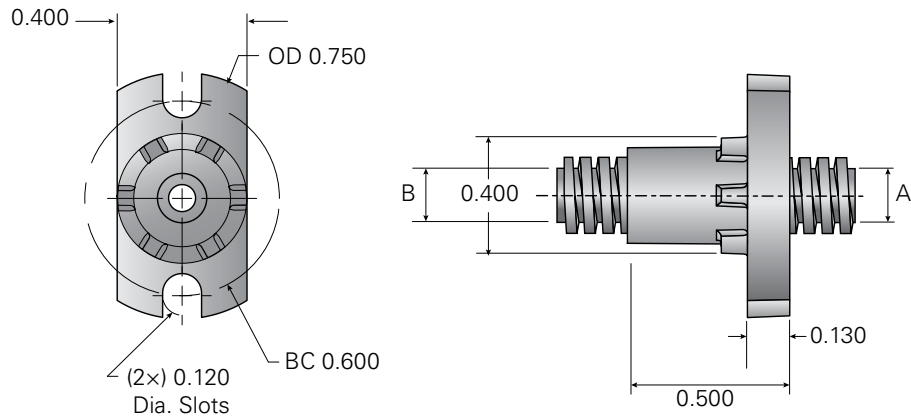
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STANDARD FLANGED NUT



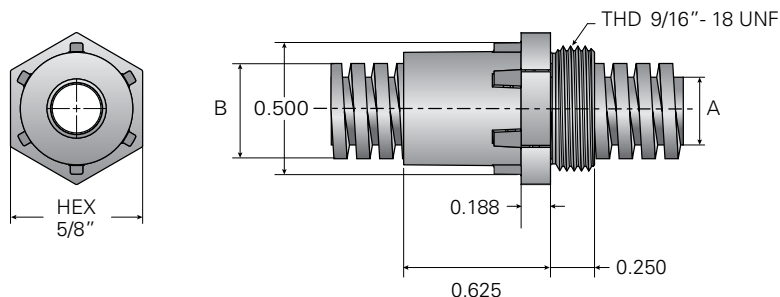
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT018024R	NT018024L	55	275	.064	NF018024R	NF018024L	45	225	.059	HF10	0.06
	NT018025R	NT018025L	55	275	.064	NF018025R	NF018025L	45	225	.059	HF10	0.06
	NT018031R	NT018031L	55	275	.064	NF018031R	NF018031L	45	225	.059	HF10	0.06
	NT018039R	NT018039L	55	275	.064	NF018039R	NF018039L	45	225	.059	HF10	0.06
	NT018048R	NT018048L	55	275	.064	NF018048R	NF018048L	45	225	.059	HF10	0.06
	NT018050R	NT018050L	55	275	.064	NF018050R	NF018050L	45	225	.059	HF10	0.06
	NT018062R	NT018062L	55	275	.064	NF018062R	NF018062L	45	225	.059	HF10	0.06
	NT018078R	NT018078L	55	275	.064	NF018078R	NF018078L	45	225	.059	HF10	0.06
	NT018096R	NT018096L	55	275	.064	NF018096R	NF018096L	45	225	.059	HF10	0.06
	NT018100R	NT018100L	55	275	.064	NF018100R	NF018100L	45	225	.059	HF10	0.06
	NT018125R	NT018125L	55	275	.064	NF018125R	NF018125L	45	225	.059	HF10	0.06
	NT018157R	NT018157L	55	275	.064	NF018157R	NF018157L	45	225	.059	HF10	0.06
	NT018200R	NT018200L	55	275	.064	NF018200R	NF018200L	45	225	.059	HF10	0.06



1/4 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
1/4"	025	0.024	024	14-24	0.020	0.223	0.250	2.4
		0.025	025	14-25	0.021	0.220	0.250	2.4
		0.03125	031	18-30	0.021	0.214	0.250	2.3
		0.0394	039	21-35	0.022	0.206	0.250	2.2
		0.048	048	25-40	0.024	0.197	0.250	2.1
		0.050	050	26-41	0.024	0.195	0.250	2.2
		0.0625	062	31-48	0.026	0.178	0.250	2.0
		0.0787	078	35-52	0.029	0.206	0.250	2.3
		0.096	096	39-57	0.032	0.197	0.250	2.1
		0.100	100	41-58	0.032	0.195	0.250	2.0
		0.125	125	46-64	0.036	0.178	0.250	2.3
		0.1575	157	50-67	0.043	0.206	0.250	2.3
		0.1969	196	55-71	0.050	0.206	0.250	2.2
		0.200	200	60-75	0.048	0.195	0.250	2.1
		0.250	250	60-76	0.059	0.178	0.250	2.2
		0.333	333	63-79	0.075	0.192	0.250	2.0
		0.500	500	63-79	0.112	0.181	0.248	2.0
		1.000	999	63-79	0.224	0.165	0.250	1.9

* Torque required to raise 1lb.



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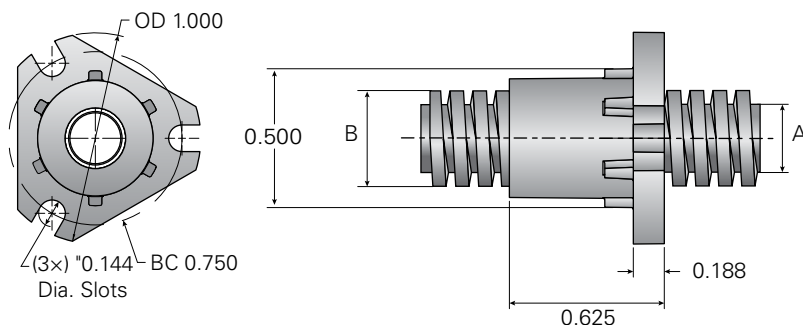
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EZZE-MOUNT™
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STANDARD FLANGED NUT



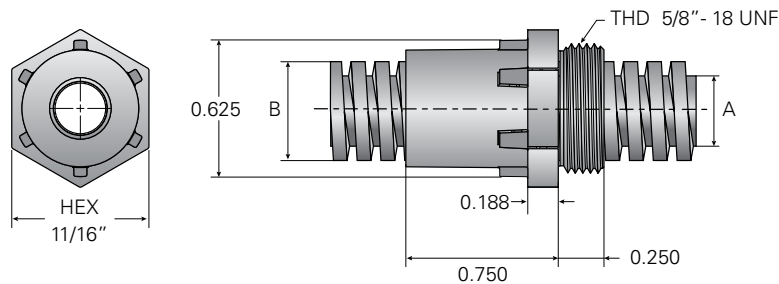
STANDARD THREADED NUT						STANDARD FLANGE NUT						FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)				Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)			
NT025024R	NT025024L	115	575	.15		NF025024R	NF025024L	75	375	.11		HF25	0.28
NT025025R	NT025025L	115	575	.15		NF025025R	NF025025L	75	375	.11		HF25	0.28
NT025031R	NT025031L	115	575	.15		NF025031R	NF025031L	75	375	.11		HF25	0.28
NT025039R	NT025039L	115	575	.15		NF025039R	NF025039L	75	375	.11		HF25	0.28
NT025048R	NT025048L	115	575	.15		NF025048R	NF025048L	75	375	.11		HF25	0.28
NT025050R	NT025050L	115	575	.15		NF025050R	NF025050L	75	375	.11		HF25	0.28
NT025062R	NT025062L	115	575	.15		NF025062R	NF025062L	75	375	.11		HF25	0.28
NT025078R	NT025078L	115	575	.15		NF025078R	NF025078L	75	375	.11		HF25	0.28
NT025096R	NT025096L	115	575	.15		NF025096R	NF025096L	75	375	.11		HF25	0.28
NT025100R	NT025100L	115	575	.15		NF025100R	NF025100L	75	375	.11		HF25	0.28
NT025125R	NT025125L	115	575	.15		NF025125R	NF025125L	75	375	.11		HF25	0.28
NT025157R	NT025157L	115	575	.15		NF025157R	NF025157L	75	375	.11		HF25	0.28
NT025196R	NT025196L	115	575	.15		NF025196R	NF025196L	75	375	.11		HF25	0.28
NT025200R	NT025200L	115	575	.15		NF025200R	NF025200L	75	375	.11		HF25	0.28
NT025250R	NT025250L	115	575	.15		NF025250R	NF025250L	75	375	.11		HF25	0.28
NT025333R	NT025333L	115	575	.15		NF025333R	NF025333L	75	375	.11		HF25	0.28
NT025500R	NT025500L	115	575	.15		NF025500R	NF025500L	75	375	.11		HF25	0.28
NT025999R	NT025999L	115	575	.15		NF025999R	NF025999L	75	375	.11		HF25	0.28



5/16 inch diameter
3/8 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
5/16"	031	0.100	100	33-50	0.039	0.193	0.313	2.8
		0.250	250	58-73	0.063	0.216	0.313	3.1
		0.500	500	65-81	0.109	0.216	0.313	3.1
3/8"	037	0.0250	025	10-18	0.028	0.345	0.375	5.3
		0.0394	039	15-26	0.031	0.331	0.375	5.4
		0.0500	050	18-31	0.033	0.320	0.375	5.1
		0.0625	062	22-37	0.034	0.303	0.375	4.9
		0.0787	078	27-43	0.036	0.286	0.375	4.7
		0.0833	083	28-44	0.037	0.282	0.375	4.6
		0.1000	100	33-50	0.039	0.255	0.375	4.3
		0.1250	125	36-53	0.045	0.303	0.375	4.9
		0.1575	157	42-59	0.050	0.286	0.375	4.7
		0.1969	196	45-63	0.051	0.330	0.375	4.6
		0.2000	200	48-66	0.056	0.255	0.375	4.3
		0.2500	250	51-68	0.067	0.303	0.375	5.0
		0.3333	333	58-74	0.080	0.282	0.375	4.6
		0.3750	375	59-75	0.089	0.303	0.375	4.9
		0.3937	393	59-75	0.094	0.331	0.375	5.4
		0.4000	400	61-77	0.092	0.255	0.375	4.3
		0.5000	500	63-79	0.112	0.278	0.375	4.6
		1.0000	999	64-80	0.221	0.238	0.375	4.0

* Torque required to raise 1lb.



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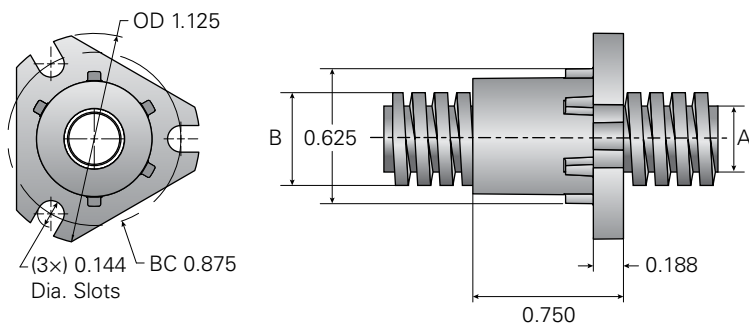
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STANDARD FLANGED NUT



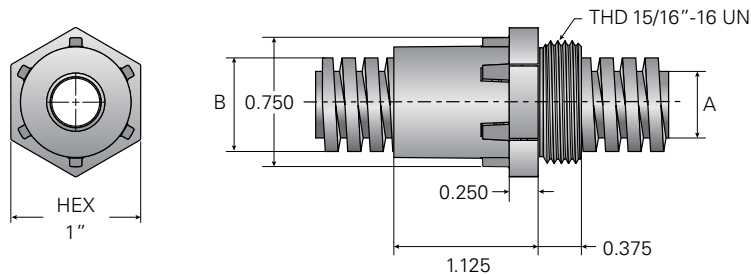
STANDARD THREADED NUT						STANDARD FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)			Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
NT031100R	NT031100L	120	600	.22		NF031100R	NF031100L	80	400	.18	HF37	0.64
NT031250R	NT031250L	120	600	.22		NF031250R	NF031250L	80	400	.18	HF37	0.64
NT031500R	NT031500L	120	600	.22		NF031500R	NF031500L	80	400	.18	HF37	0.64
NT037025R	NT037025L	125	625	.22		NF037025R	NF037025L	85	425	.18	HF37	0.64
NT037039R	NT037039L	125	625	.22		NF037039R	NF037039L	85	425	.18	HF37	0.64
NT037050R	NT037050L	125	625	.22		NF037050R	NF037050L	85	425	.18	HF37	0.64
NT037062R	NT037062L	125	625	.22		NF037062R	NF037062L	85	425	.18	HF37	0.64
NT037078R	NT037078L	125	625	.22		NF037078R	NF037078L	85	425	.18	HF37	0.64
NT037083R	NT037083L	125	625	.22		NF037083R	NF037083L	85	425	.18	HF37	0.64
NT037100R	NT037100L	125	625	.22		NF037100R	NF037100L	85	425	.18	HF37	0.64
NT037125R	NT037125L	125	625	.22		NF037125R	NF037125L	85	425	.18	HF37	0.64
NT037157R	NT037157L	125	625	.22		NF037157R	NF037157L	85	425	.18	HF37	0.64
NT037196R	NT037196L	125	625	.22		NF037196R	NF037196L	85	425	.18	HF37	0.64
NT037200R	NT037200L	125	625	.22		NF037200R	NF037200L	85	425	.18	HF37	0.64
NT037250R	NT037250L	125	625	.22		NF037250R	NF037250L	85	425	.18	HF37	0.64
NT037333R	NT037333L	125	625	.22		NF037333R	NF037333L	85	425	.18	HF37	0.64
NT037375R	NT037375L	125	625	.22		NF037375R	NF037375L	85	425	.18	HF37	0.64
NT037393R	NT037393L	125	625	.22		NF037393R	NF037393L	85	425	.18	HF37	0.64
NT037400R	NT037400L	125	625	.22		NF037400R	NF037400L	85	425	.18	HF37	0.64
NT037500R	NT037500L	125	625	.22		NF037500R	NF037500L	85	425	.18	HF37	0.64
NT037999R	NT037999L	125	625	.22		NF037999R	NF037999L	85	425	.18	HF37	0.64



7/16 inch diameter
1/2 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Inch (oz)
7/16"	043	1.2008	M31	61-85	0.251	0.315	0.441	6.2
1/2"	050	0.1000	100	32-40	0.044	0.359	0.500	7.9
		0.2000	200	46-57	0.062	0.391	0.375	8.5
		0.2500	250	50-63	0.071	0.332	0.500	7.4
		0.5000	500	60-75	0.119	0.406	0.500	8.8
		1.0000	998	64-80	0.221	0.392	0.500	8.5
		1.4016	M36	69-86	0.290	0.378	0.504	8.3

* Torque required to raise 1lb.



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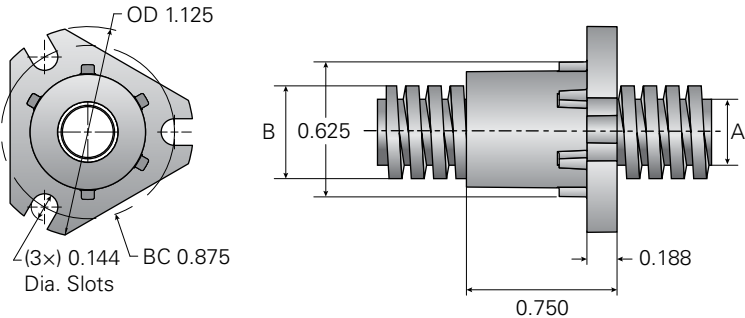
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STANDARD FLANGED NUT



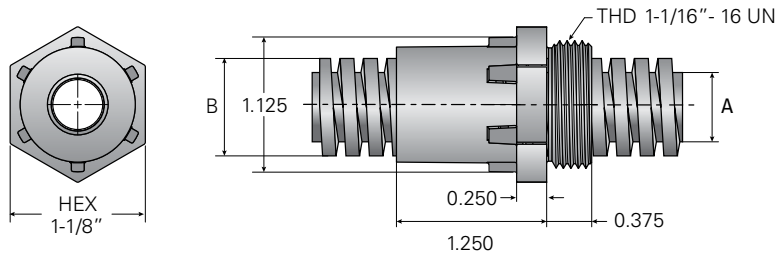
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT043M31R	NT043M31L	200	1000	.60	NF043M31R	NF043M31L	150	750	.38	HF50	1.34
	NT050100R	NT050100L	290	1450	.60	NF050100R	NF050100L	200	1000	.38	HF50	1.34
	NT050200R	NT050200L	290	1450	.60	NF050200R	NF050200L	200	1000	.38	HF50	1.34
	NT050250R	NT050250L	290	1450	.60	NF050250R	NF050250L	200	1000	.38	HF50	1.34
	NT050500R	NT050500L	290	1450	.60	NF050500R	NF050500L	200	1000	.38	HF50	1.34
	NT050998R	NT050998L	290	1450	.60	NF050998R	NF050998L	200	1000	.38	HF50	1.34
	NT050M36R	NT050M36L	120	600	.60	NF050M36R	NF050M36L	200	1000	.38	HF50	1.34



9/16 inch diameter
5/8 inch diameter
3/4 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
9/16"	031	1.5984	M41	69-86	0.330	0.411	0.567	14.0
5/8"	062	0.1000	100	28-35	0.055	0.516	0.625	12.6
		0.1250	125	32-40	0.069	0.457	0.625	13.2
		0.2000	200	41-51	0.101	0.484	0.625	12.6
		0.3750	375	53-66	0.061	0.457	0.625	12.1
3/4"	075	0.1000	100	24-30	0.059	0.608	0.750	19.8
		0.1667	166	34-43	0.070	0.537	0.750	17.8
		0.2000	200	38-48	0.074	0.502	0.750	17.0
		0.3333	333	54-60	0.093	0.537	0.750	17.8
		0.5000	500	54-68	0.130	0.581	0.750	19.0

* Torque required to raise 1lb.



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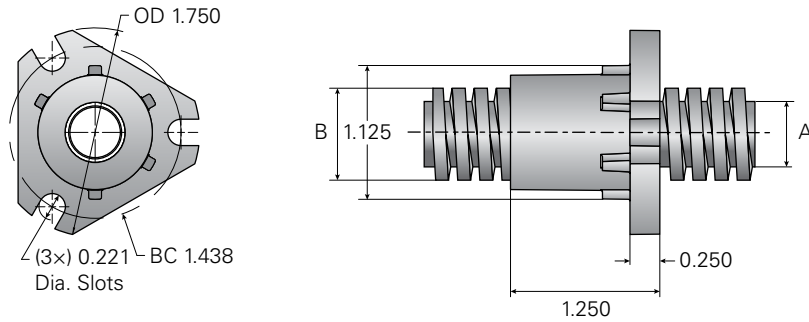
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STANDARD FLANGED NUT



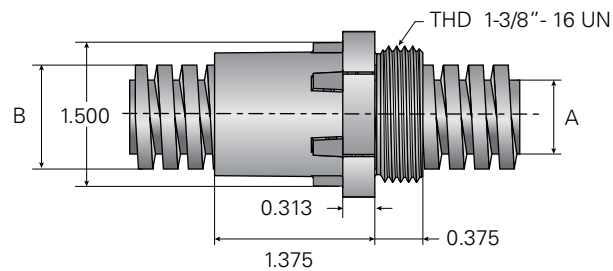
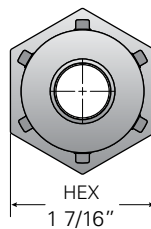
STANDARD THREADED NUT						STANDARD FLANGE NUT						FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)				Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)			
NT031M41R	NT031M41L	335	1675	.96		NF031M41R	NF031M41L	220	1100	.75		HF60	3.1
NT062100R	NT062100L	350	1750	.96		NF062100R	NF062100L	250	1250	.75		HF60	3.1
NT062125R	NT062125L	350	1750	.96		NF062125R	NF062125L	250	1250	.75		HF60	3.1
NT062200R	NT062200L	350	1750	.96		NF062200R	NF062200L	250	1250	.75		HF60	3.1
NT062375R	NT062375L	350	1750	.96		NF062375R	NF062375L	250	1250	.75		HF60	3.1
NT075100R	NT075100L	440	2200	.96		NF075100R	NF075100L	330	1650	.75		HF60	3.1
NT075166R	NT075166L	440	2200	.96		NF075166R	NF075166L	330	1650	.75		HF60	3.1
NT075200R	NT075200L	440	2200	.96		NF075200R	NF075200L	330	1650	.75		HF60	3.1
NT075333R	NT075333L	440	2200	.96		NF075333R	NF075333L	330	1650	.75		HF60	3.1
NT075500R	NT075500L	440	2200	.96		NF075500R	NF075500L	330	1650	.75		HF60	3.1



7/8 inch diameter
1 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/8"	088	1.1660	166	31-39	0.075	0.661	0.875	32.3
1"	100	0.1000	100	19-24	0.072	0.786	1.000	36.9
		0.1667	166	29-36	0.083	0.750	1.000	34.1
		0.2000	200	32-40	0.088	0.698	1.000	32.8
		0.2500	250	37-46	0.097	0.689	1.000	31.0
		0.5000	500	50-63	0.142	0.906	1.000	31.0
		1.0000	999	59-74	0.245	0.945	1.000	39.0
		3.0000	M76	69-86	0.620	0.502	1.012	41.0

* Torque required to raise 1lb.



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screws
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machining
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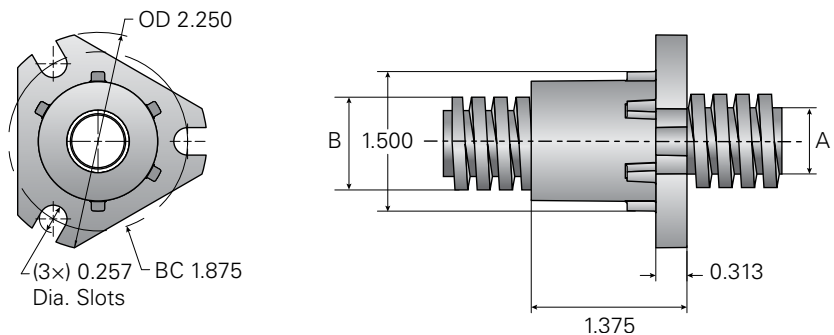
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STANDARD FLANGED NUT



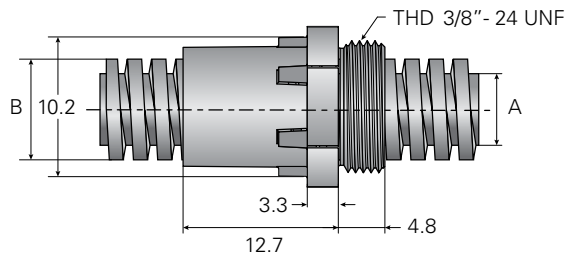
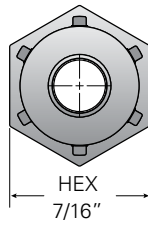
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT088166R	NT088166L	530	2650	1.6	NF088166R	NF088166L	400	2000	1.3	HF75	2.6
	NT100100R	NT100100L	600	3000	1.6	NF100100R	NF100100L	460	2300	1.3	HF75	2.6
	NT100166R	NT100166L	600	3000	1.6	NF100166R	NF100166L	460	2300	1.3	HF75	2.6
	NT100200R	NT100200L	600	3000	1.6	NF100200R	NF100200L	460	2300	1.3	HF75	2.6
	NT100250R	NT100250L	600	3000	1.6	NF100250R	NF100250L	460	2300	1.3	HF75	2.6
	NT100500R	NT100500L	600	3000	1.6	NF100500R	NF100500L	460	2300	1.3	HF75	2.6
	NT100999R	NT100999L	600	3000	1.6	NF100999R	NF100999L	460	2300	1.3	HF75	2.6
	NT100M76R	NT100M76L	600	3000	1.6	NF100M76R	NF100M76L	460	2300	1.3	HF75	2.6



4mm diameter 5mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
4MM	016	10.00	393	64-79	0.088	3.0	4.00	0.8
5MM	020	5.0	196	63-78	0.045	3.60	5.39	1.4

* Torque required to raise 1lb.



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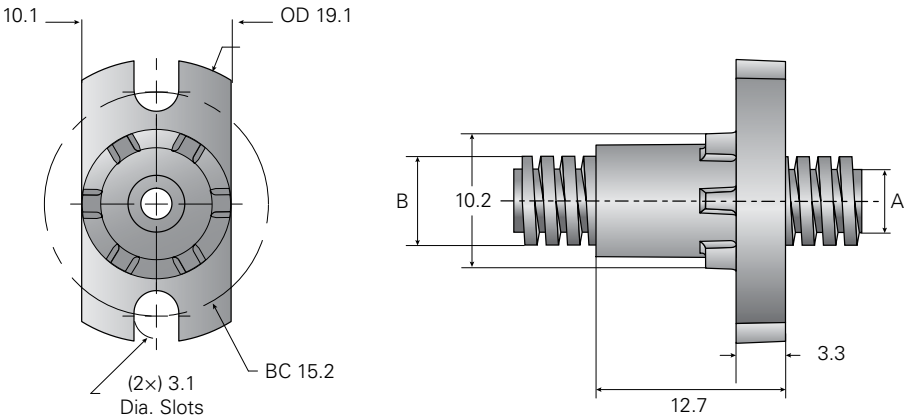
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EZZE-MOUNT™
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STANDARD FLANGED NUT



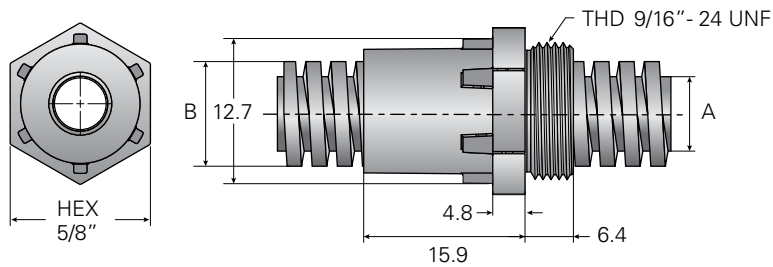
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT016393R	NT016393L	45	225	0.06	NF016393R	NF016393L	35	175	0.06	HF10	0.06
	NT020196R	NT020196L	60	300	0.06	NF020196R	NF020196L	50	250	0.06	HF10	0.06



6mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
6MM	024	20.00	787	69-86	0.163	5.0	6.00	2.0

* Torque required to raise 1lb.



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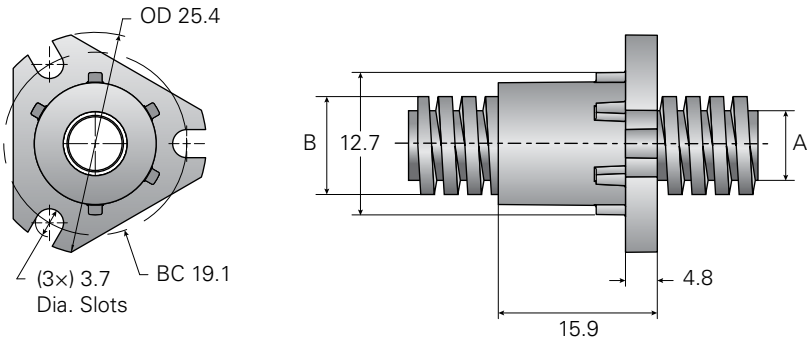
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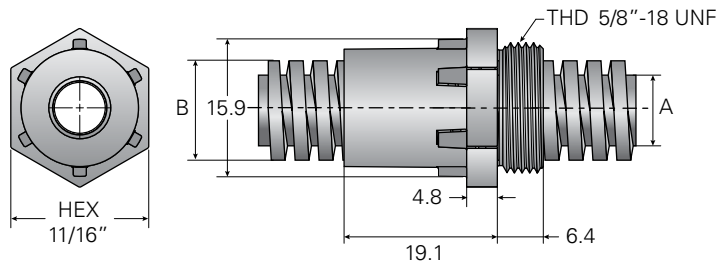
STANDARD THREADED NUT						STANDARD FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)		Weight (oz)		Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static			Right Hand	Left Hand	Dynamic	Static			
NT024787R	NT024787L	110	550			NF024787R	NF024787L	75	350	0.11	HF25	0.28



8mm diameter 10mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
8mm	032	4.00	157	51-68	0.042	5.50	7.90	3.0
		7.50	295	63-79	0.066	5.90	7.70	3.0
		8.00	315	64-80	0.070	5.74	8.00	3.2
		10.00	393	65-81	0.086	5.50	8.20	3.2
		12.00	472	65-81	0.103	5.90	8.10	3.3
		15.00	590	66-82	0.127	5.90	8.10	3.3
		20.00	787	67-84	0.167	5.80	8.90	3.6
		25.00	984	69-86	0.203	6.30	7.40	3.2
		30.00	M30	69-86	0.244	7.50	8.60	4.3
10mm	039	3.00	118	39-49	0.043	7.92	10.00	5.4
		10.00	393	63-79	0.088	8.20	10.00	5.5
		12.00	472	65-81	0.103	7.10	10.00	4.9
		15.00	590	66-82	0.127	7.40	10.00	5.0
		35.00	M35	69-86	0.285	8.90	10.00	6.0
		50.00	M50	67-84	0.418	7.40	10.00	5.0

* Torque required to raise 1lb.



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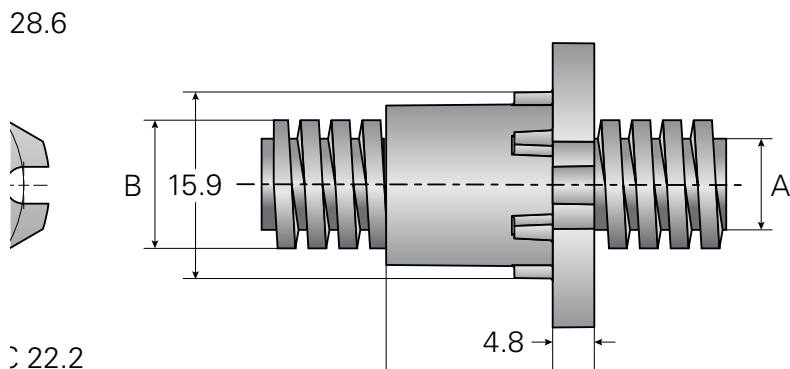
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STANDARD FLANGED NUT



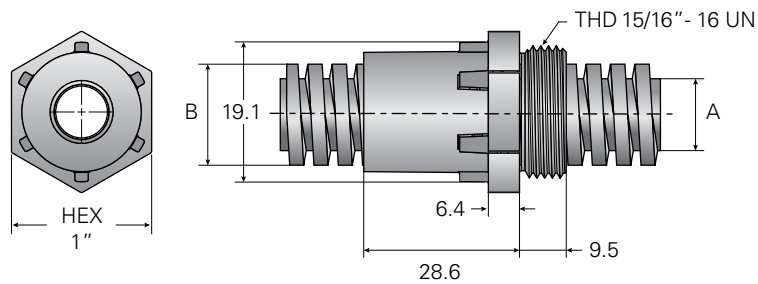
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT032157R	NT032157L	122	610	0.22	NF032157R	NF032157L	82	410	0.18	HF37	0.64
	NT032295R	NT032295L	122	610	0.22	NF032295R	NF032295L	82	410	0.18	HF37	0.64
	NT032315R	NT032315L	122	610	0.22	NF032315R	NF032315L	82	410	0.18	HF37	0.64
	NT032393R	NT032393L	122	610	0.22	NF032393R	NF032393L	82	410	0.18	HF37	0.64
	NT032472R	NT032472L	122	610	0.22	NF032472R	NF032472L	82	410	0.18	HF37	0.64
	NT032590R	NT032590L	122	610	0.22	NF032590R	NF032590L	82	410	0.18	HF37	0.64
	NT032787R	NT032787L	122	610	0.22	NF032787R	NF032787L	82	410	0.18	HF37	0.64
	NT032984R	NT032984L	122	610	0.22	NF032984R	NF032984L	82	410	0.18	HF37	0.64
	NT032M30R	NT032M30L	122	610	0.22	NF032M30R	NF032M30L	82	410	0.18	HF37	0.64
	NT039118R	NT039118L	145	725	0.22	NF039118R	NF039118L	100	500	0.18	HF37	0.64
	NT039393R	NT039393L	145	725	0.22	NF039393R	NF039393L	100	500	0.18	HF37	0.64
	NT039472R	NT039472L	145	725	0.22	NF039472R	NF039472L	100	500	0.18	HF37	0.64
	NT039590R	NT039590L	145	725	0.22	NF039590R	NF039590L	100	500	0.18	HF37	0.64
	NT039M35R	NT039M35L	145	725	0.22	NF039M35R	NF039M35L	100	500	0.18	HF37	0.64
	NT039M50R	NT039M50L	145	725	0.22	NF039M50R	NF039M50L	100	500	0.18	HF37	0.64



12mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
12MM	047	3.00	118	38-48	0.044	7.69	12.00	6.4
		15.00	590	65-82	0.129	9.20	12.00	7.6
		25.00	984	68-85	0.206	8.00	11.90	6.6
		40.00	M40	69-86	0.326	10.20	11.50	7.8
		45.00	M45	69-86	0.366	11.40	12.80	9.7
		60.00	M60	67-84	0.501	9.10	11.70	7.2

* Torque required to raise 1lb.



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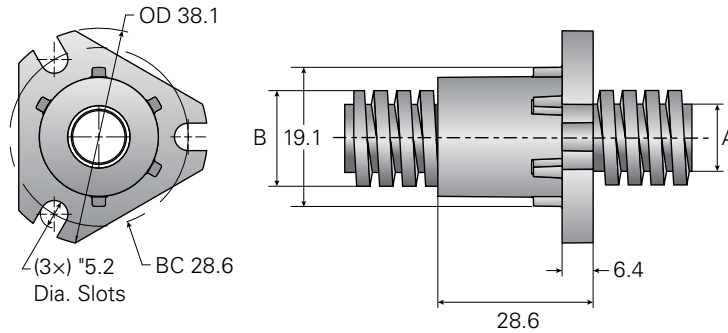
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STANDARD FLANGED NUT



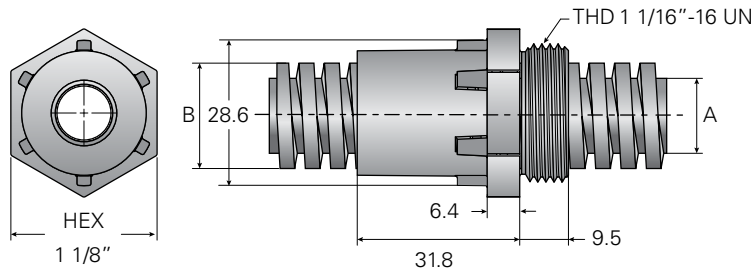
STANDARD THREADED NUT						STANDARD FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)			Part Number	
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Weight (oz)
NT047118R	NT047118L	245	1225	0.57		NF047118R	NF047118L	175	875	0.38	HF50	1.34
NT047590R	NT047590L	245	1225	0.57		NF047590R	NF047590L	175	875	0.38	HF50	1.34
NT047984R	NT047984L	245	1225	0.57		NF047984R	NF047984L	175	875	0.38	HF50	1.34
NT047M40R	NT047M40L	245	1225	0.57		NF047M40R	NF047M40L	175	875	0.38	HF50	1.34
NT047M45R	NT047M45L	245	1225	0.57		NF047M45R	NF047M45L	175	875	0.38	HF50	1.34
NT047M60R	NT047M60L	245	1225	0.57		NF047M60R	NF047M60L	175	875	0.38	HF50	1.34



14mm diameter 16mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
14MM	055	8.00	315	56-70	0.080	9.80	14.00	9.4
		18.00	708	65-82	0.155	11.40	14.30	11.0
		20.00	787	67-83	0.167	8.80	13.30	8.2
		30.00	M30	68-85	0.247	10.10	13.90	9.6
		70.00	M70	67-84	0.585	10.90	13.50	9.9
16MM	063	4.00	157	37-46	0.0610	10.90	16.00	12.0
		20.00	787	66-82	0.169	12.50	15.20	12.7
		21.00	826	66-82	0.178	13.60	16.50	15.0
		25.00	984	67-84	0.209	11.50	16.00	11.6
		35.00	M35	68-85	0.289	12.10	15.90	12.1
		45.72	M46	69-86	0.372	12.80	16.00	13.8
		80.00	M80	66-82	0.677	12.60	15.20	12.8
		90.00	M90	67-84	0.742	14.30	17.00	16.20

* Torque required to raise 1lb.



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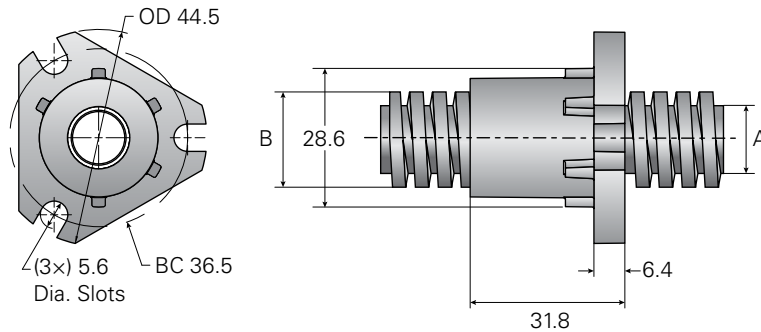
motor
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STANDARD FLANGED NUT



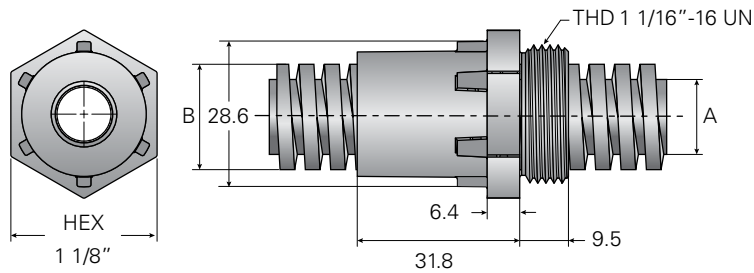
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT055315R	NT055315L	325	1625	0.96	NF055315R	NT055315L	210	1050	0.75	HF60	3.1
	NT055708R	NT055708L	325	1625	0.96	NF055708R	NT055708L	210	1050	0.75	HF60	3.1
	NT055787R	NT055787L	325	1625	0.96	NF055787R	NT055787L	210	1050	0.75	HF60	3.1
	NT055M30R	NT055M30L	325	1625	0.96	NF055M30R	NT055M30L	210	1050	0.75	HF60	3.1
	NT055M70R	NT055M70L	325	1625	0.96	NF055M70R	NT055M70L	210	1050	0.75	HF60	3.1
	NT063157R	NT063157L	360	1775	0.96	NF063157R	NF063157L	260	1300	0.75	HF60	3.1
	NT063787R	NT063787L	360	1775	0.96	NF063787R	NF063787L	260	1300	0.75	HF60	3.1
	NT063826R	NT063826L	360	1775	0.96	NF063826R	NF063826L	260	1300	0.75	HF60	3.1
	NT063984R	NT063984L	360	1775	0.96	NF063984R	NF063984L	260	1300	0.75	HF60	3.1
	NT063M35R	NT063M35L	360	1775	0.96	NF063M35R	NF063M35L	260	1300	0.75	HF60	3.1
	NT063M46R	NT063M46L	360	1775	0.96	NF063M46R	NF063M46L	260	1300	0.75	HF60	3.1
	NT063M80R	NT063M80L	360	1775	0.96	NF063M80R	NF063M80L	260	1300	0.75	HF60	3.1
	NT063M90R	NT063M90L	360	1775	0.96	NF063M90R	NF063M90L	260	1300	0.75	HF60	3.1



18mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
18MM	071	16.00	629	62-77	0.145	14-30	18.00	17.4
		24.00	944	66-82	0.203	15.70	18.70	20.0
		30.00	M30	67-84	0.251	14.20	18.80	18.1
		40.00	M40	69-86	0.326	14.10	17.80	17.0
		50.80	M51	70-87	0.408	14.40	17.60	17.2
		100.00	M100	67-84	0.835	16.20	18.80	20.4

* Torque required to raise 1lb.



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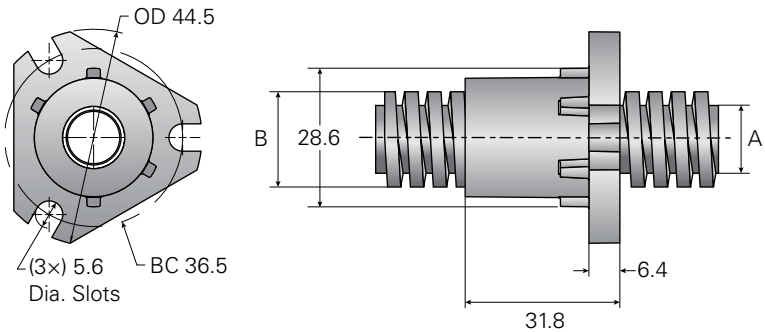
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STANDARD FLANGED NUT



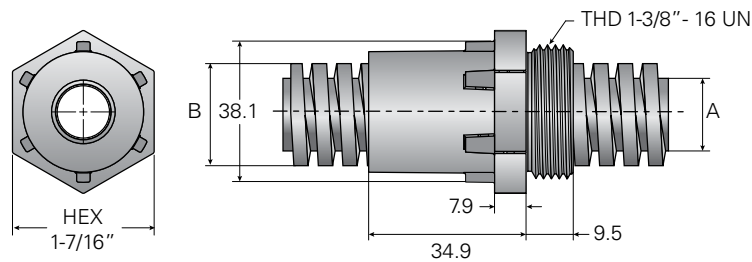
	STANDARD THREADED NUT					STANDARD FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
	NT071629R	NT071629L	400	2000	0.96	NF071629R	NF071629L	300	1500	0.75	HF60	3.1
	NT071944R	NT071944L	400	2000	0.96	NF071944R	NF071944L	300	1500	0.75	HF60	3.1
	NT071M30R	NT071M30L	400	2000	0.96	NF071M30R	NF071M30L	300	1500	0.75	HF60	3.1
	NT071M40R	NT071M40L	400	2000	0.96	NF071M40R	NF071M40L	300	1500	0.75	HF60	3.1
	NT071M51R	NT071M51L	400	2000	0.96	NF071M51R	NF071M51L	300	1500	0.75	HF60	3.1
	NT071M100R	NT071M100L	400	2000	0.96	NF071M100R	NT071M100L	300	1500	0.75	HF60	3.1



20mm diameter
22mm diameter
24mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

STANDARD THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
20MM	079	0.1575	157	32 - 40	0.070	14.90	20.00	20.2
		0.4724	472	57 - 71	0.117	15.80	20.00	21.3
		1.0630	M27	67 - 84	0.226	17.90	20.80	24.8
		1.7717	M45	69 - 86	0.366	16.10	20.00	21.6
22MM	087	0.7874	787	62 - 78	0.179	18.30	22.00	26.9
		1.3780	M35	68 - 85	0.289	17.00	21.50	24.6
		1.9685	M50	70 - 87	0.402	18.10	22.00	26.7
24MM	094	1.1811	M30	66 - 82	0.254	20.00	23.00	30.7
		1.5748	M40	67 - 84	0.334	19.80	24.30	32.3
		2.1654	M55	69 - 86	0.448	20.10	24.00	32.2

* Torque required to raise 1lb.



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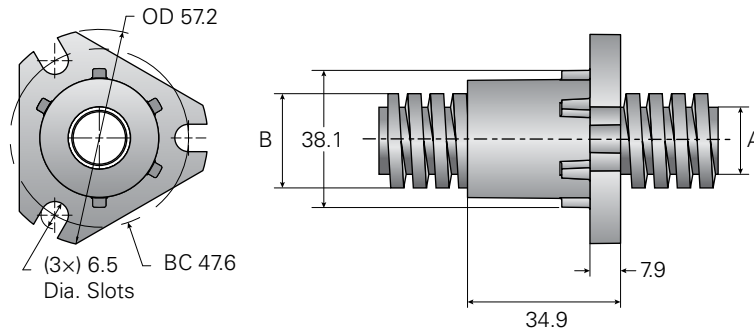
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STANDARD FLANGED NUT



STANDARD THREADED NUT						STANDARD FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)			Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
NT079157R	NT079157L	480	2400	1.59		NF079157R	NF079157L	370	1850	1.29	HF75	2.6
NT079472R	NT079472L	480	2400	1.59		NF079472R	NF079472L	370	1850	1.29	HF75	2.6
NT079M27R	NT079M27L	480	2400	1.59		NF079M27R	NF079M27L	370	1850	1.29	HF75	2.6
NT079M45R	NT079M45L	480	2400	1.59		NF079M45R	NF079M45L	370	1850	1.29	HF75	2.6
NT087787R	NT087787L	530	2650	1.59		NF087787R	NF087787L	400	2000	1.29	HF75	2.6
NT087M35R	NT087M35L	530	2650	1.59		NF087M35R	NF087M35L	400	2000	1.29	HF75	2.6
NT087M50R	NT087M50L	530	2650	1.59		NF087M50R	NF087M50L	400	2000	1.29	HF75	2.6
NT094M30R	NT094M30L	660	3300	1.59		NF094M30R	NF094M30L	500	2500	1.29	HF75	2.6
NT094M40R	NT094M40L	660	3300	1.59		NF094M40R	NF094M40L	500	2500	1.29	HF75	2.6
NT094M55R	NT094M55L	660	3300	1.59		NF094M55R	NF094M55L	500	2500	1.29	HF75	2.6

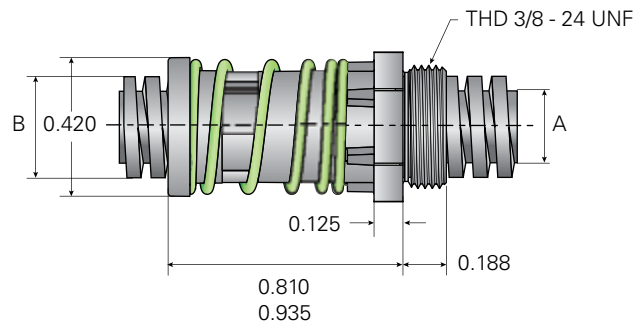


1/8 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per foot (oz)
1/8"	012	0.0240	024	25-40	0.012	0.098	0.125	0.55
		0.0313	031	30-47	0.013	0.094	0.130	0.55
		0.0394	039	35-52	0.015	0.090	0.134	0.55
		0.0480	048	40-57	0.016	0.098	0.125	0.55
		0.0625	062	45-63	0.018	0.094	0.130	0.55
		0.0750	075	49-67	0.021	0.096	0.127	0.55
		0.0787	078	50-68	0.021	0.090	0.134	0.55
		0.0960	096	55-71	0.024	0.098	0.125	0.55
		0.0125	125	59-75	0.030	0.094	0.130	0.55
		0.1575	157	63-78	0.036	0.090	0.134	0.55

* Torque to raise 1lb.



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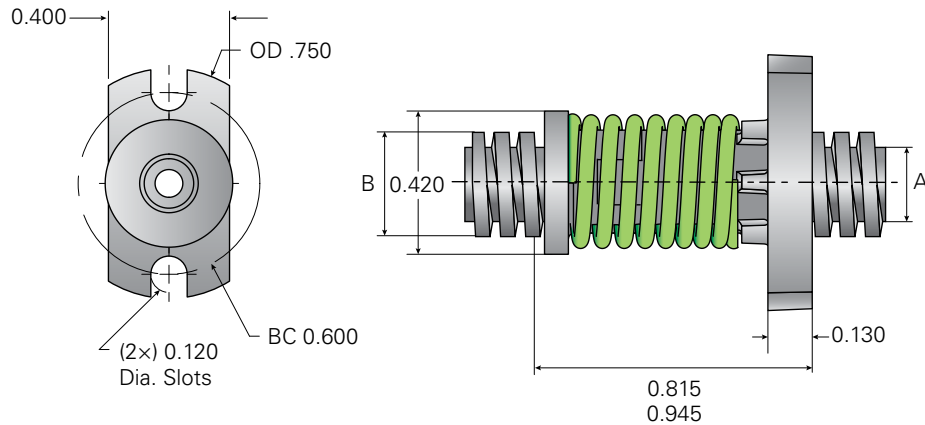
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)			Part Number		Load Capacity (lb)				
	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)
	AT012024R	AT012024L	35	175	0.1	AF012024R	AF012024L	20	100	0.1	HF10	0.06
	AT012313R	AT012313L	35	175	0.1	AF012313R	AF012313L	20	100	0.1	HF10	0.06
	AT012394R	AT012394L	35	175	0.1	AF012394R	AF012394L	20	100	0.1	HF10	0.06
	AT012480R	AT012480L	35	175	0.1	AF012480R	AF012480L	20	100	0.1	HF10	0.06
	AT012625R	AT012625L	35	175	0.1	AF012625R	AF012625L	20	100	0.1	HF10	0.06
	AT012750R	AT012750L	35	175	0.1	AF012750R	AF012750L	20	100	0.1	HF10	0.06
	AT012787R	AT012787L	35	175	0.1	AF012787R	AF012787L	20	100	0.1	HF10	0.06
	AT012960R	AT012960L	35	175	0.1	AF012960R	AF012960L	20	100	0.1	HF10	0.06
	AT012125R	AT012125L	35	175	0.1	AF012125R	AF012125L	20	100	0.1	HF10	0.06
	AT012157R	AT012157L	35	175	0.1	AF012157R	AF012157L	20	100	0.1	HF10	0.06

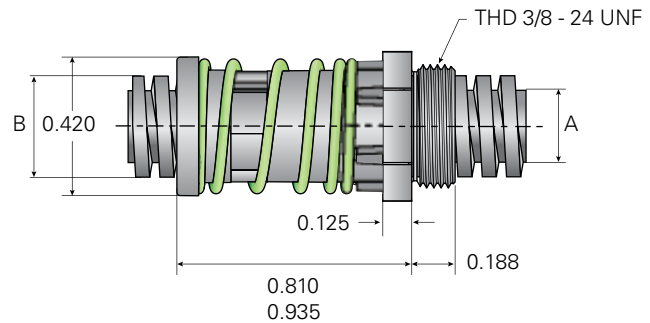
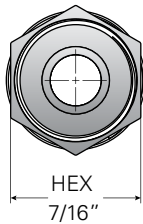


3/16 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
3/16"	018	0.0240	024	17-29	0.016	0.177	0.204	1.58
		0.0250	025	17-29	0.017	0.175	0.205	1.58
		0.0313	031	21-34	0.0182	0.172	0.208	1.58
		0.0394	039	24-39	0.020	0.168	0.213	1.58
		0.0480	048	28-44	0.0212	0.164	0.217	1.58
		0.0500	050	29-45	0.022	0.163	0.218	1.58
		0.0625	062	34-51	0.024	0.172	0.208	1.58
		0.0787	078	39-56	0.027	0.168	0.213	1.58
		0.0960	096	43-61	0.029	0.164	0.217	1.58
		0.1000	100	44-62	0.030	0.163	0.218	1.58
		0.1250	125	49-66	0.035	0.172	0.208	1.58
		0.1575	157	54-71	0.040	0.168	0.213	1.58
		0.2000	200	58-74	0.048	0.163	0.218	1.58

* Torque to raise 1lb.



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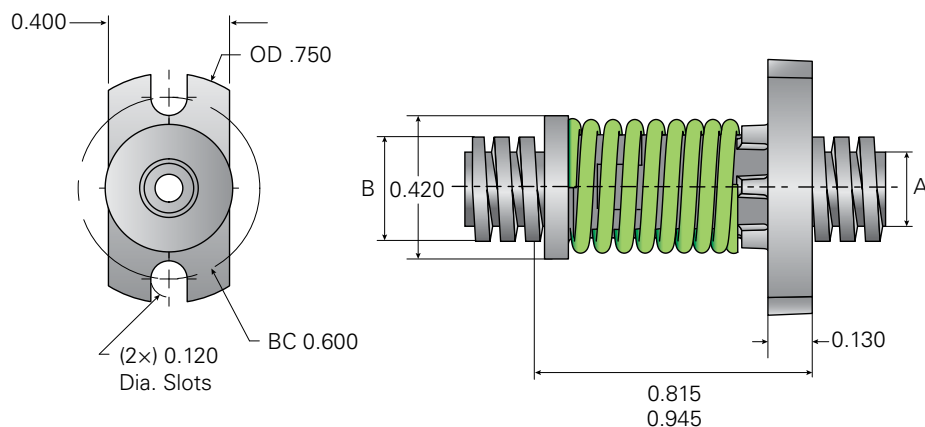
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)			Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)		
AT018024R	AT018024L	35	175	0.1		AF018024R	AF018024L	55	275	0.1	HF10	.060
AT018025R	AT018025L	35	175	0.1		AF018025R	AF018025L	55	275	0.1	HF10	.060
AT018031R	AT018031L	35	175	0.1		AF018031R	AF018031L	55	275	0.1	HF10	.060
AT018039R	AT018039L	35	175	0.1		AF018039R	AF018039L	55	275	0.1	HF10	.060
AT018048R	AT018048L	35	175	0.1		AF018048R	AF018048L	55	275	0.1	HF10	.060
AT018050R	AT018050L	35	175	0.1		AF018050R	AF018050L	55	275	0.1	HF10	.060
AT018062R	AT018062L	35	175	0.1		AF018062R	AF018062L	55	275	0.1	HF10	.060
AT018078R	AT018078L	35	175	0.1		AF018078R	AF018078L	55	275	0.1	HF10	.060
AT018096R	AT018096L	35	175	0.1		AF018096R	AF018096L	55	275	0.1	HF10	.060
AT018100R	AT018100L	35	175	0.1		AF018100R	AF018100L	55	275	0.1	HF10	.060
AT018125R	AT018125L	35	175	0.1		AF018125R	AF018125L	55	275	0.1	HF10	.060
AT018157R	AT018157L	35	175	0.1		AF018157R	AF018157L	55	275	0.1	HF10	.060
AT018200R	AT018200L	35	175	0.1		AF018200R	AF018200L	55	275	0.1	HF10	.060

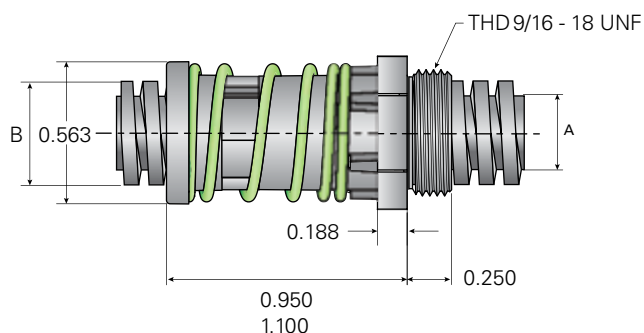
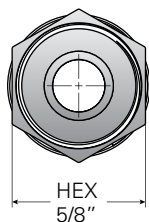


1/4 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1.0 - 3.0



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
1/4"	025	0.024	024	14-24	0.020	0.223	0.250	2.4
		0.025	025	14-25	0.021	0.220	0.250	2.4
		0.03125	031	18-30	0.021	0.214	0.250	2.3
		0.0394	039	21-35	0.022	0.206	0.250	2.3
		0.048	048	25-40	0.024	0.197	0.250	2.1
		0.050	050	26-41	0.024	0.195	0.250	2.1
		0.0625	062	31-48	0.026	0.178	0.250	2.0
		0.0787	078	35-52	0.029	0.206	0.250	2.3
		0.096	096	39-57	0.032	0.197	0.250	2.1
		0.100	100	41-58	0.032	0.195	0.250	2.1
		0.1250	125	46-64	0.036	0.178	0.250	2.0
		0.1575	157	50-67	0.043	0.206	0.250	2.2
		0.1969	196	55-71	0.050	0.206	0.250	2.2
		0.200	200	60-75	0.048	0.195	0.250	2.1
		0.250	250	60-76	0.059	0.178	0.250	2.2
		0.333	333	63-79	0.075	0.192	0.250	2.0
		0.500	500	63-79	0.112	0.181	0.248	2.0
		1.000	999	63-79	0.224	0.165	0.250	1.9

* Torque to raise 1lb.



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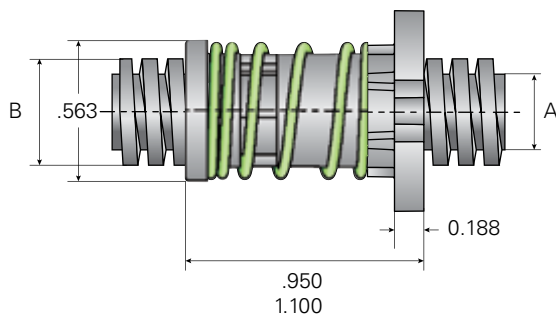
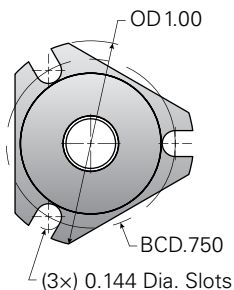
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1.0 - 3.0

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)		Weight (oz)	Part Number		Load Capacity (lb)			Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static		Right Hand	Left Hand	Dynamic	Static			
	AT025024R	AT025024L	115	575	.01	AF025024R	AF025024L	75	375	.01	HF25	0.28
	AT025025R	AT025025L	115	575	.01	AF025025R	AF025025L	75	375	.01	HF25	0.28
	AT025031R	AT025031L	115	575	.01	AF025031R	AF025031L	75	375	.01	HF25	0.28
	AT025039R	AT025039L	115	575	.01	AF025039R	AF025039L	75	375	.01	HF25	0.28
	AT025048R	AT025048L	115	575	.01	AF025048R	AF025048L	75	375	.01	HF25	0.28
	AT02550R	AT025050L	115	575	.01	AF025050R	AF025050L	75	375	.01	HF25	0.28
	AT025062R	AT025062L	115	575	.01	AF025062R	AF025062L	75	375	.01	HF25	0.28
	AT025078R	AT025078L	115	575	.01	AF025078R	AF025078L	75	375	.01	HF25	0.28
	AT025096R	AT025096L	115	575	.01	AF025096R	AF025096L	75	375	.01	HF25	0.28
	AT025100R	AT025100L	115	575	.01	AF025100R	AF025100L	75	375	.01	HF25	0.28
	AT025125R	AT025125L	115	575	.01	AF025125R	AF025125L	75	375	.01	HF25	0.28
	AT025157R	AT025157L	115	575	.01	AF025157R	AF025157L	75	375	.01	HF25	0.28
	AT025196R	AT025196L	115	575	.01	AF025196R	AF025196L	75	375	.01	HF25	0.28
	AT025200R	AT025200L	115	575	.01	AF025200R	AF025200L	75	375	.01	HF25	0.28
	AT025250R	AT025250L	115	575	.01	AF025250R	AF025250L	75	375	.01	HF25	0.28
	AT025333R	AT025333L	115	575	.01	AF025333R	AF025333L	75	375	.01	HF25	0.28
	AT025500R	NT025500L	115	575	.01	AF025500R	AF025500L	75	375	.01	HF25	0.28
	AT025999R	AT025999L	115	575	.01	AF025999R	AF025999L	75	375	.01	HF25	0.28



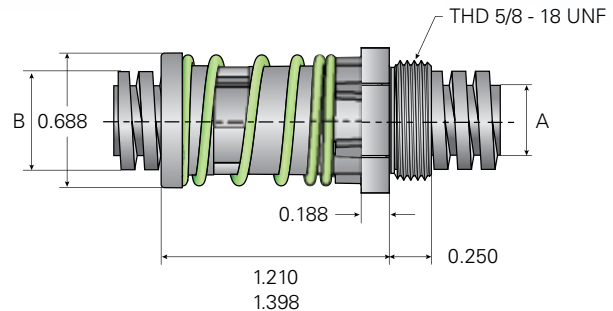
5/16 inch diameter
3/8 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.75 - 5.25



ANTI-BACKLASH THREADED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
5/16"	031	0.100	100	33-50	0.039	0.193	0.313	2.8
		0.250	250	58-73	0.063	0.216	0.313	3.0
		0.500	500	65-81	0.109	0.216	0.313	3.0
3/8"	037	0.0250	025	10-18	0.028	0.345	0.375	5.3
		0.0394	039	15-26	0.031	0.331	0.375	5.4
		0.0500	050	18-31	0.033	0.320	0.375	5.0
		0.0625	062	22-37	0.034	0.303	0.375	5.0
		0.0787	078	27-43	0.036	0.286	0.375	4.7
		0.0833	083	28-44	0.037	0.282	0.375	4.6
		0.1000	100	33-50	0.039	0.255	0.375	4.3
		0.1250	125	36-53	0.045	0.303	0.375	5.0
		0.1575	157	42-59	0.050	0.286	0.375	4.7
		0.1667	166	43-61	0.051	0.286	0.375	4.6
		0.1969	196	45-63	0.058	0.330	0.375	5.3
		0.2000	200	48-66	0.056	0.255	0.375	4.3
		0.2500	250	51-68	0.067	0.303	0.375	5.0
		0.3333	333	58-74	0.080	0.282	0.375	4.6
		0.3750	375	59-75	0.089	0.303	0.375	5.0
		0.3937	393	59-75	0.094	0.331	0.375	5.4
		0.4000	400	61-77	0.092	0.255	0.375	4.3
		0.5000	500	63-79	0.112	0.278	0.375	4.6
		1.0000	999	64-80	0.221	0.238	0.375	4.0

* Torque to raise 1lb.



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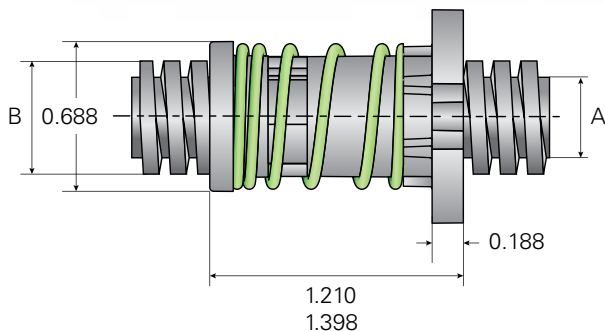
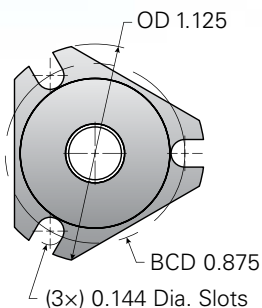
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.75 - 5.25

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)		Weight (oz)		Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static			Right Hand	Left Hand	Dynamic	Static			
AT031100R	AT031100L	120	600	0.2		AF031100R	AF031100L	80	400	0.2	HF37	0.64
AT031250R	AT031250L	120	600	0.2		AF031250R	AF031250L	80	400	0.2	HF37	0.64
AT031500R	AT031500L	120	600	0.2		AF031500R	AF031500L	80	400	0.2	HF37	0.64
AT037025R	AT037025L	125	625	0.2		AF037025R	AF037025L	85	425	0.2	HF37	0.64
AT037039R	AT037039L	125	625	0.2		AF037039R	AF037039L	85	425	0.2	HF37	0.64
AT037050R	AT037050L	125	625	0.2		AF037050R	AF037050L	85	425	0.2	HF37	0.64
AT037062R	AT037062L	125	625	0.2		AF037062R	AF037062L	85	425	0.2	HF37	0.64
AT037078R	AT037078L	125	625	0.2		AF037078R	AF037078L	85	425	0.2	HF37	0.64
AT037083R	AT037083L	125	625	0.2		AF037083R	AF037083L	85	425	0.2	HF37	0.64
AT037100R	AT037100L	125	625	0.2		AF037100R	AF037100L	85	425	0.2	HF37	0.64
AT037125R	AT037125L	125	625	0.2		AF037125R	AF037125L	85	425	0.2	HF37	0.64
AT037157R	AT037157L	125	625	0.2		AF037157R	AF037157L	85	425	0.2	HF37	0.64
AT037166R	AT037166L	125	625	0.2		AF037166R	AF037166L	85	425	0.2	HF37	0.64
AT037196R	AT037196L	125	625	0.2		AF037196R	AF037196L	85	425	0.2	HF37	0.64
AT037200R	AT037200L	125	625	0.2		AF037200R	AF037200L	85	425	0.2	HF37	0.64
AT037250R	AT037250L	125	625	0.2		AF037250R	AF037250L	85	425	0.2	HF37	0.64
AT037333R	AT037333L	125	625	0.2		AF037333R	AF037333L	85	425	0.2	HF37	0.64
AT037375R	AT037375L	125	625	0.2		AF037375R	AF037375L	85	425	0.2	HF37	0.64
AT037393R	AT037393L	125	625	0.2		AF037393R	AF037393L	85	425	0.2	HF37	0.64
AT037400R	AT037400L	125	625	0.2		AF037400R	AF037400L	85	425	0.2	HF37	0.64
AT037500R	AT037500L	125	625	0.2		AF037500R	AF037500L	85	425	0.2	HF37	0.64
AT037999R	AT037999L	125	625	0.2		AF037999R	AF037999L	85	425	0.2	HF37	0.64

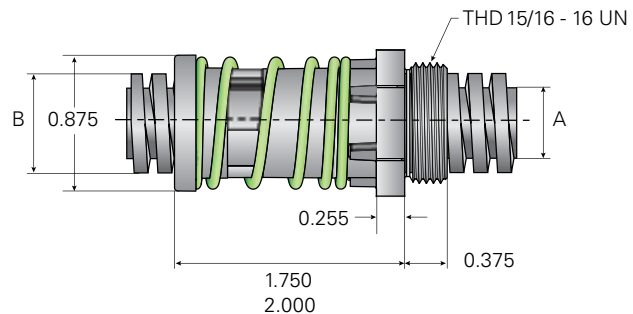
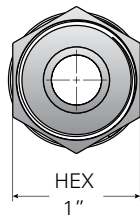


7/16 inch diameter
1/2 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/16"	043	1.2008	M31	65-85	0.251	0.315	0.441	6.1
1/2"	050	0.1000	100	32-40	0.044	0.359	0.500	7.9
		0.2000	200	46-57	0.062	0.391	0.500	8.5
		0.2500	250	50-63	0.071	0.332	0.500	7.4
		0.5000	500	60-75	0.119	0.406	0.500	8.8
		1.0000	998	64-80	0.221	0.392	0.500	8.5
		1.4016	M36	69-86	0.290	0.378	0.504	8.3

* Torque to raise 1lb.



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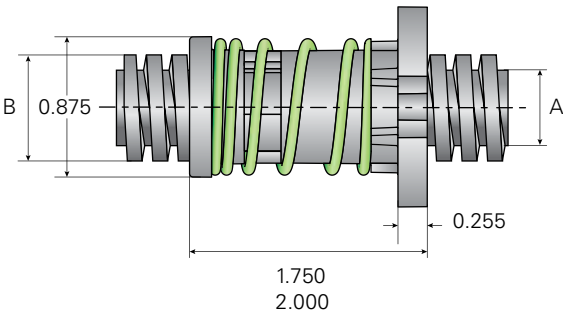
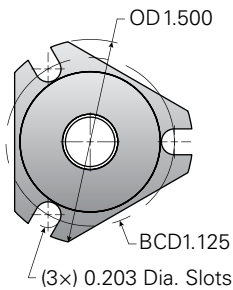
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)		Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static		Right Hand	Left Hand	Dynamic	Static			
	AT043M31R	AT043M31L	200	1000	.08	AF043M31R	AF043M31L	80	400	.08	HF50	1.34
	AT050100R	AT050100L	290	1450	.08	AF050100R	AF050100L	85	425	.08	HF50	1.34
	AT050200R	AT050200L	290	1450	.08	AF050200R	AF050200L	85	425	.08	HF50	1.34
	AT050250R	AT050250L	290	1450	.08	AF050250R	AF050250L	85	425	.08	HF50	1.34
	AT050500R	AT050500L	290	1450	.08	AF050500R	AF050500L	85	425	.08	HF50	1.34
	AT050998R	AT050998L	290	1450	.08	AF050998R	AF050998L	85	425	.08	HF50	1.34
	AT050M36R	AT050M36L	290	1450	.08	AF050M36R	AF050M36L	85	425	.08	HF50	1.34

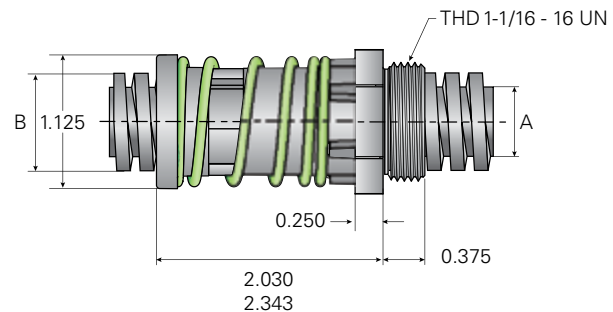
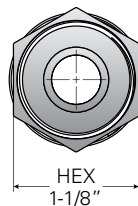


9/16 inch diameter
5/8 inch diameter
3/4 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
9/16"	056	1.5984	M41	69-86	0.050	0.411	0.567	14.0
5/8"	062	0.1000	100	28-35	0.055	0.516	0.625	12.5
		0.1250	125	32-40	0.069	0.457	0.625	13.2
		0.2000	200	41-51	0.101	0.484	0.625	12.5
		0.3750	375	53-66	0.061	0.457	0.625	12.1
3/4"	075	0.1000	100	24-30	0.059	0.608	0.750	19.8
		0.1667	166	34-43	0.070	0.537	0.750	17.7
		0.2000	200	38-48	0.074	0.502	0.750	16.8
		0.3333	333	54-60	0.093	0.537	0.750	17.7
		0.5000	500	54-68	0.130	0.581	0.750	19.0

* Torque to raise 1lb.



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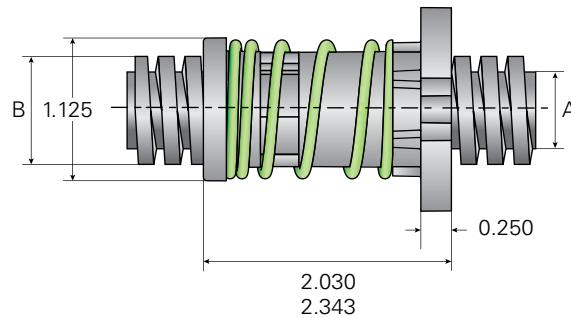
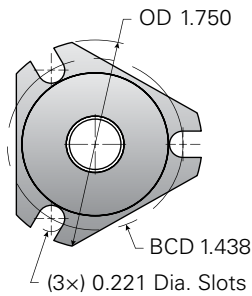
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)		Weight (oz)		Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static			Right Hand	Left Hand	Dynamic	Static			
AT056M41R	AT056M41L	335	1675	1.4		AF056M41R	AF056M41L	220	1100	1.4	HF60	3.1
AT062100R	AT062100L	350	1750	1.4		AF062100R	AF062100L	250	1250	1.4	HF60	3.1
AT062125R	AT062125L	350	1750	1.4		AF062125R	AF062125L	250	1250	1.4	HF60	3.1
AT062200R	AT062200L	350	1750	1.4		AF062200R	AF062200L	250	1250	1.4	HF60	3.1
AT062375R	AT062375L	350	1750	1.4		AF062375R	AF062375L	250	1250	1.4	HF60	3.1
AT075100R	AT075100L	440	2200	1.4		AF0075100R	AF075100L	330	1650	1.4	HF60	3.1
AT075166R	AT075166L	440	2200	1.4		AF0075166R	AF075166L	330	1650	1.4	HF60	3.1
AT075200R	AT075200L	440	2200	1.4		AF0075200R	AF075200L	330	1650	1.4	HF60	3.1
AT075333R	AT075333L	440	2200	1.4		AF0075333R	AF075333L	330	1650	1.4	HF60	3.1
AT075500R	AT075500L	440	2200	1.4		AF0075500R	AF075500L	330	1650	1.4	HF60	3.1

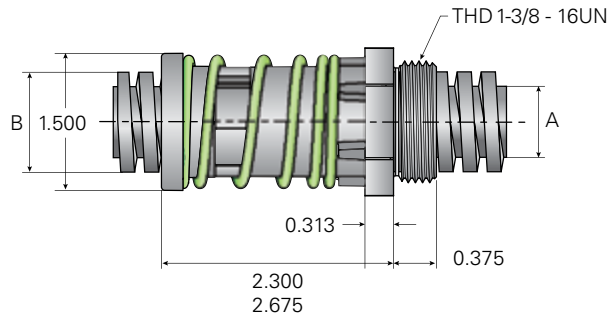


7/8 inch diameter
1 inch diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	3.0 - 5.0
High Force Spring	5.5 - 10.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/8"	088	1.1660	166	31-39	0.075	0.661	0.875	25.3
1"	100	0.1000	100	19-24	0.072	0.857	1.000	36.9
		0.1667	166	29-36	0.083	0.786	1.000	34.1
		0.2000	200	32-40	0.088	0.750	1.000	32.8
		0.2500	250	37-46	0.097	0.698	1.000	30.9
		0.5000	500	50-63	0.142	0.689	1.000	30.9
		1.0000	999	59-74	0.245	0.906	1.000	38.9
		3.0000	M76	69-86	0.620	0.945	1.012	40.9

* Torque to raise 1lb.



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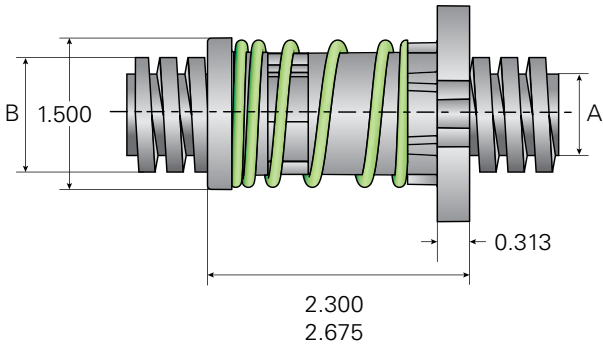
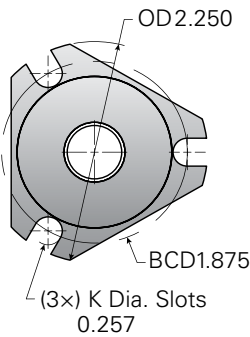
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	3.0 - 5.0
High Force Spring	5.5 - 10.5

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)		Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static		Right Hand	Left Hand	Dynamic	Static			
	AT088166R	AT088166L	530	2650	2.2	AF088166R	AF088166L	400	2000	2.2	HF75	2.6
	AT100100R	AT100100L	290	1450	2.2	AF100100R	AF100100L	460	2300	2.2	HF75	2.6
	AT100166R	AT100166L	290	1450	2.2	AF100166R	AF100166L	460	2300	2.2	HF75	2.6
	AT100200R	AT100200L	290	1450	2.2	AF100200R	AF100200L	460	2300	2.2	HF75	2.6
	AT100250R	AT100250L	290	1450	2.2	AF100250R	AF100250L	460	2300	2.2	HF75	2.6
	AT100500R	AT100500L	290	1450	2.2	AF100500R	AF100500L	460	2300	2.2	HF75	2.6
	AT100999R	AT100999L	290	1450	2.2	AF100999R	AF100999L	460	2300	2.2	HF75	2.6
	AT100M76R	AT100M76L	290	1450	2.2	AF100M76R	AF100M76L	460	2300	2.2	HF75	2.6

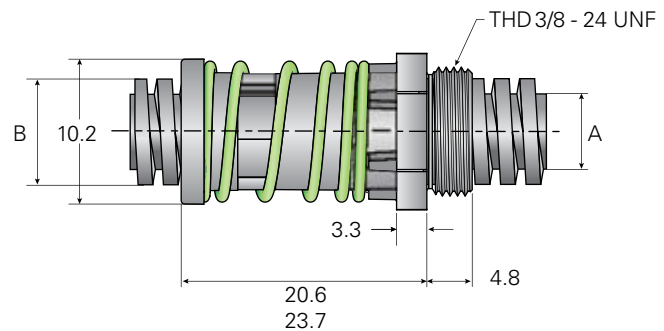
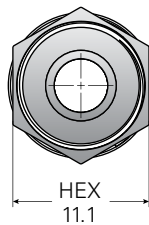


4mm diameter 5mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
4MM	016	10.00	393	64-79	0.088	3.0	4.00	0.8
5MM	020	5.0	196	63-78	0.045	3.60	5.39	1.4

* Torque to raise 1lb.



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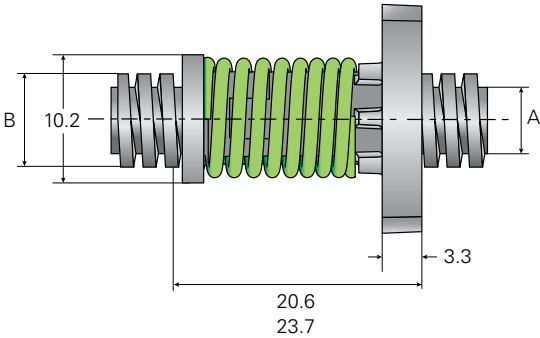
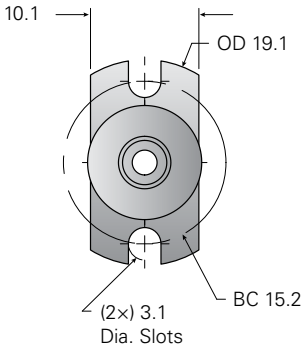
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT						
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)			Part Number	Flange
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Flange	Weight (oz)
AT016393R	AT016393L	45	225	0.1		AF016393R	AF016393L	--	--	0.1	HF10	0.06
AT020196R	AT020196L	60	300	0.1		AF020196R	AF020196L	50	250	0.1	HF10	0.06

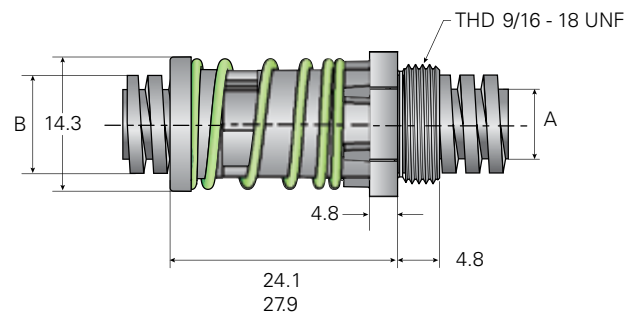
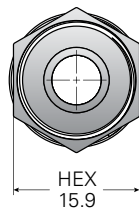


6mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
6MM	024	20.0	787	68-86	0.163	3.60	5.39	2.1

* Torque to raise 1lb.



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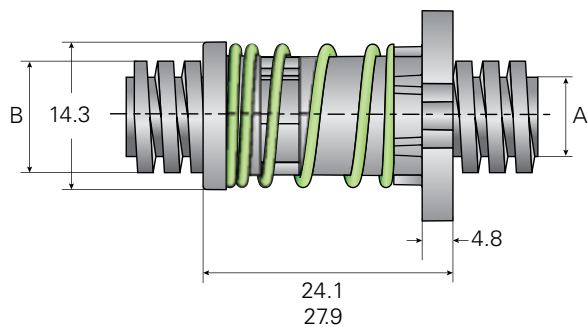
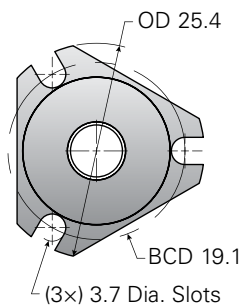
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	0.5 - 1.5
High Force Spring	1 - 3.25

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static			
AT024787R	AT024787L	110	550			AF024787R	AF024787L	70	350		HF10	0.06

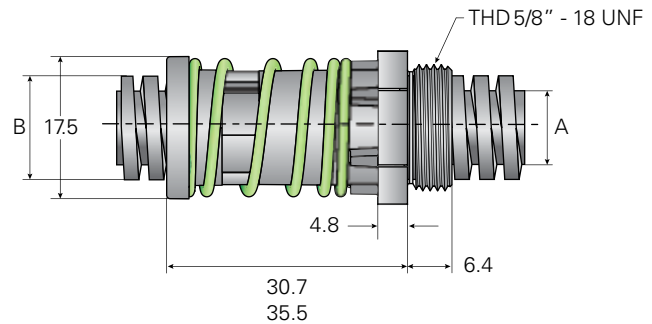
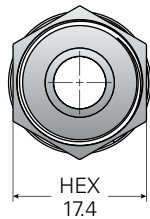


8mm diameter 10mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.75 - 5.25



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
8MM	032	4.00	157	51-68	0.042	0.217	7.90	3.1
		7.50	295	63-79	0.066	0.232	7.70	3.1
		8.00	315	64-80	0.070	0.226	8.00	3.2
		10.00	393	65-81	0.086	0.217	8.20	3.2
		12.00	472	65-81	0.103	0.232	8.10	3.3
		15.00	590	66-82	0.127	0.232	8.10	3.3
		20.00	787	67-84	0.167	0.228	8.90	3.6
		25.00	984	69-86	0.203	0.248	7.40	3.2
		30.00	M30	69-86	0.244	0.295	8.60	4.3
10MM	039	3.00	118	39-49	0.043	7.92	10.00	5.4
		10.00	393	63-79	0.088	8.20	10.00	5.5
		12.00	472	65-81	0.103	7.10	10.00	4.9
		15.00	590	66-82	0.127	7.40	10.00	5.0
		35.00	M35	69-86	0.285	8.90	10.00	6.0
		50.00	M50	67-84	0.418	7.40	10.00	5.0

* Torque to raise 1lb.



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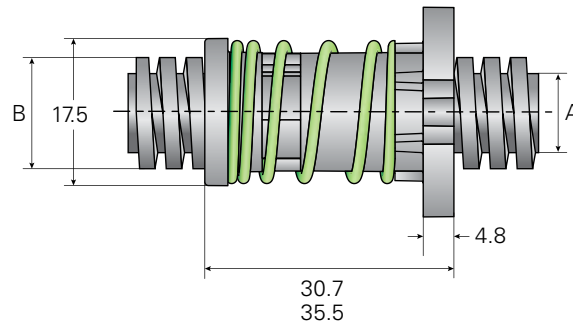
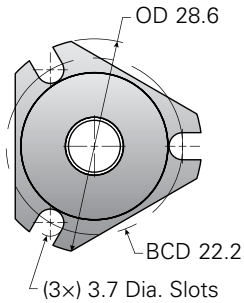
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.75 - 5.25

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT						
Part Number		Load Capacity (lb)		Weight (oz)		Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Flange
Right Hand	Left Hand	Dynamic	Static			Right Hand	Left Hand	Dynamic	Static		Flange	Weight (oz)
AT032157R	AT032157L	122	610	.35		AF032157R	AF032157L	82	410	.35	HF37	0.64
AT032295R	AT032295L	122	610	.35		AF032295R	AF032295L	82	410	.35	HF37	0.64
AT032315R	AT032315L	122	610	.35		AF032315R	AF032315L	82	410	.35	HF37	0.64
AT032393R	AT032393L	122	610	.35		AF032393R	AF032393L	82	410	.35	HF37	0.64
AT032472R	AT032472L	122	610	.35		AF032472R	AF032472L	82	410	.35	HF37	0.64
AT032590R	AT032590L	122	610	.35		AF032590R	AF032590L	82	410	.35	HF37	0.64
AT032787R	AT032787L	122	610	.35		AF032787R	AF032787L	82	410	.35	HF37	0.64
AT032984R	AT032984L	122	610	.35		AF032984R	AF032984L	82	410	.35	HF37	0.64
AT032M30R	AT032M30L	122	610	.35		AF032M30R	AF032M30L	82	410	.35	HF37	0.64
AT039118R	AT039118L	100	500	.35		AF039118R	AF039118L	145	725	.35	HF37	0.64
AT039393R	AT039393L	100	500	.35		AF039393R	AF039393L	145	725	.35	HF37	0.64
AT039472R	AT039472L	100	500	.35		AF039472R	AF039472L	145	725	.35	HF37	0.64
AT039590R	AT039590L	100	500	.35		AF039590R	AF039590L	145	725	.35	HF37	0.64
AT039M35R	AT039M35L	100	500	.35		AF039M35R	AF039M35L	145	725	.35	HF37	0.64
AT039M50R	AT039M50L	100	500	.35		AF039M50R	AF039M50L	145	725	.35	HF37	0.64

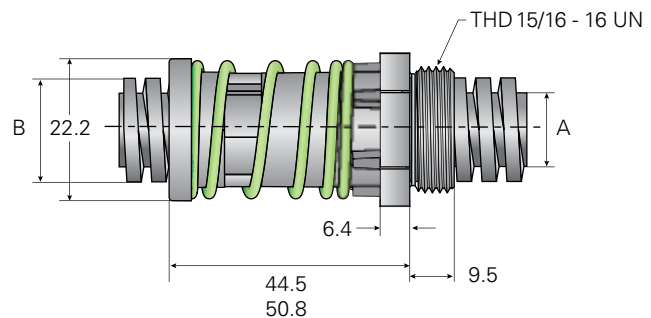
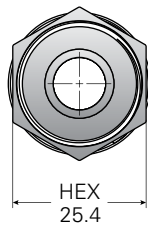


12mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
12MM	047	3.00	118	38-48	0.044	7.69	12.00	6.5
		15.00	590	65-82	0.129	9.20	12.20	7.6
		25.00	984	68-85	0.206	8.00	11.90	6.6
		40.00	M40	69-86	0.326	10.20	11.50	7.8
		45.00	M45	69-86	0.366	11.40	12.80	9.7
		60.00	M60	67-84	0.501	9.10	11.70	7.2

* Torque to raise 1lb.



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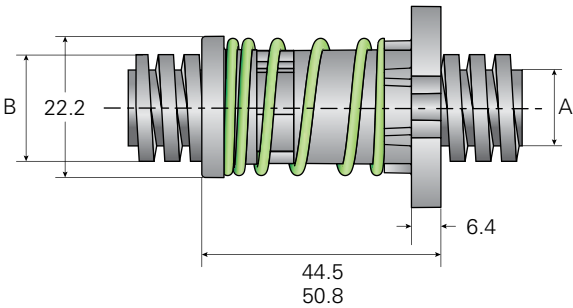
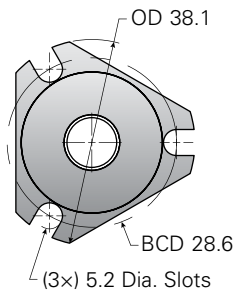
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)		Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static		Right Hand	Left Hand	Dynamic	Static			
	AT047118R	AT047118L	245	1225	.75	AF047118R	AF047118L	175	875	.75	HF50	1.34
	AT047590R	AT047590L	245	1225	.75	AF047590R	AF047590L	175	875	.75	HF50	1.34
	AT0479948R	AT047984L	245	1225	.75	AF047984R	AF047984L	175	875	.75	HF50	1.34
	AT047M40R	AT047M40L	245	1225	.75	AF047M40R	AF047M40L	175	875	.75	HF50	1.34
	AT047M45R	AT047M45L	245	1225	.75	AF047M45R	AF047M45L	175	875	.75	HF50	1.34
	AT047M60R	AT047M60L	245	1225	.75	AF047M60R	AF047M60L	175	875	.75	HF50	1.34

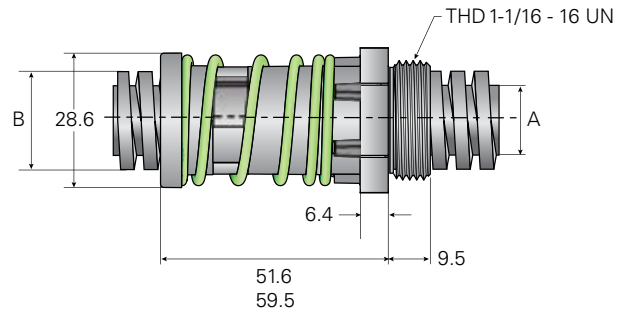
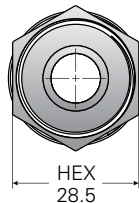


14mm diameter 16mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
14MM	055	8.00	315	56-70	0.080	9.80	14.00	9.4
		18.00	708	65-82	0.155	11.40	14.30	11.0
		20.00	787	67-83	0.167	8.80	13.30	8.1
		30.00	M30	68-85	0.247	10.10	13.90	9.6
		70.00	M70	67-84	0.585	10.90	13.50	9.9
16MM	063	4.00	157	37-46	0.061	10.90	16.00	12.1
		20.00	787	66-82	0.169	12.50	15.20	12.8
		21.00	826	66-82	0.178	13.60	16.50	15.0
		25.00	984	67-84	0.209	11.50	16.00	11.7
		35.00	M35	68-85	0.289	12.10	15.90	12.1
		45.72	M46	69-86	0.372	12.80	16.00	13.8
		80.00	M80	66-82	0.677	12.60	15.20	12.8
		90.00	M90	67-84	0.742	14.30	17.00	16.2

* Torque to raise 1lb.



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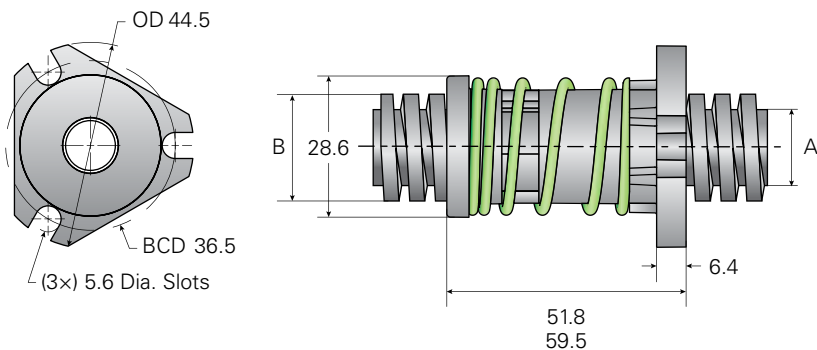
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)				Part Number		Load Capacity (lb)				
Right Hand	Left Hand	Dynamic	Static	Weight (oz)		Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)
AT055315R	AT055315L	325	1625	1.35		AF055315R	AF055315L	210	1050	1.35	HF60	3.1
AT055708R	AT055708L	325	1625	1.35		AF055708R	AF055708L	210	1050	1.35	HF60	3.1
AT055787R	AT055787L	325	1625	1.35		AF055787R	AF055787L	210	1050	1.35	HF60	3.1
AT055M30R	AT055M30L	325	1625	1.35		AF055M30R	AF055M30L	210	1050	1.35	HF60	3.1
AT055M70R	AT055M70L	325	1625	1.35		AF055M70R	AF055M70L	210	1050	1.35	HF60	3.1
AT063157R	AT063157L	360	1775	1.35		AF063157R	AF063157L	260	1300	1.35	HF60	3.1
AT063787R	AT063787L	360	1775	1.35		AF063787R	AF063787L	260	1300	1.35	HF60	3.1
AT063826R	AT063826L	360	1775	1.35		AF063826R	AF063826L	260	1300	1.35	HF60	3.1
AT063984R	AT063984L	360	1775	1.35		AF063984R	AF063984L	260	1300	1.35	HF60	3.1
AT063M35R	AT063M35L	360	1775	1.35		AF063M35R	AF063M35L	260	1300	1.35	HF60	3.1
AT063M46R	AT063M46L	360	1775	1.35		AF063M46R	AF063M46L	260	1300	1.35	HF60	3.1
AT063M80R	AT063M80L	360	1775	1.35		AF063M80R	AF063M80L	260	1300	1.35	HF60	3.1
AT063M90R	AT063M90L	360	1775	1.35		AF063M90R	AF063M90L	260	1300	1.35	HF60	3.1

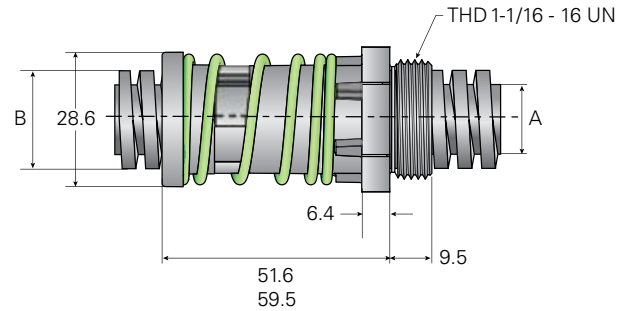
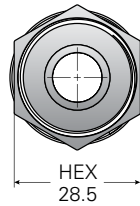


18mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
18MM	071	16.00	629	62-77	0.145	14-30	18.00	17.4
		24.00	944	66-82	0.203	15.70	18.70	19.7
		30.00	M30	67-84	0.251	14.20	18.80	18.1
		40.00	M40	69-86	0.326	14.10	17.80	17.0
		50.80	M51	70-87	0.408	14.40	17.60	17.2
		100.00	M00	67-84	0.835	16.20	18.80	20.3

* Torque to raise 1lb.



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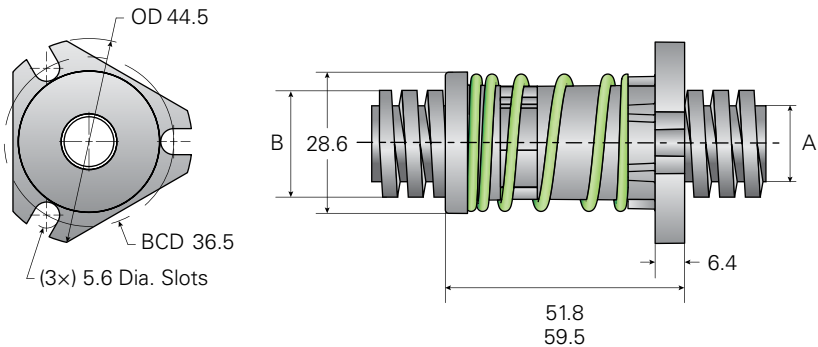
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.75 - 4.0
High Force Spring	3.75 - 9.5

	ANTI-BACKLASH THREADED NUT					ANTI-BACKLASH FLANGE NUT					FLANGE	
	Part Number		Load Capacity (lb)		Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)
	Right Hand	Left Hand	Dynamic	Static		Right Hand	Left Hand	Dynamic	Static			
	AT071629R	AT071629L	400	2000	1.35	AF071629R	AF071629L	300	1500	1.35	HF60	3.1
	AT071944R	AT071944L	400	2000	1.35	AF071944R	AF071944L	300	1500	1.35	HF60	3.1
	AT071M30R	AT071M30L	400	2000	1.35	AF071M30R	AF071M30L	300	1500	1.35	HF60	3.1
	AT071M40R	AT071M40L	400	2000	1.35	AF071M40R	AF071M40L	300	1500	1.35	HF60	3.1
	AT071M51R	AT071M51L	400	2000	1.35	AF071M51R	AF071M51L	300	1500	1.35	HF60	3.1
	AT071M100R	AT071M100L	400	2000	1.35	AF071M100R	AF071M100L	300	1500	1.35	HF60	3.1

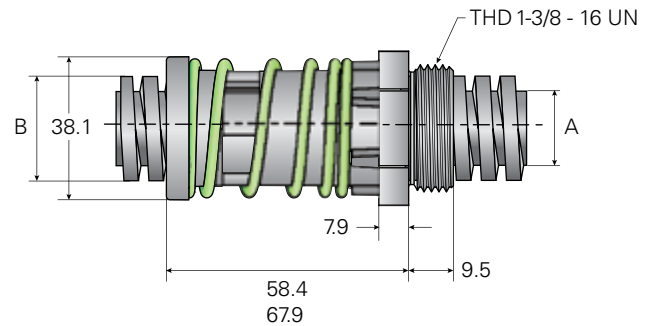
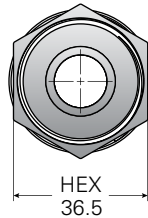


20mm diameter
22mm diameter
24mm diameter

- *HELIX Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0002"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	3.0 - 5.0
High Force Spring	5.5 - 10.5



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm	"B" Outside Diameter (mm)	Weight Per Foot (oz)
20MM	079	4.00	157	32-40	0.070	14.90	20.00	20.2
		12.00	472	57-71	0.117	15.80	20.00	21.3
		27.00	M27	67-84	0.226	17.90	20.80	24.9
		45.00	M45	69-86	0.366	16.10	20.00	21.6
22MM	087	20.00	787	62-78	0.179	18.30	22.00	26.9
		35.00	M35	68-85	0.289	17.00	21.50	24.6
		50.00	M50	70-87	0.402	18.10	22.00	26.7
24MM	094	30.00	M30	66-82	0.254	20.00	23.00	30.7
		40.00	M40	67-84	0.334	19.80	24.30	32.3
		55.00	M55	69-86	0.448	20.10	24.00	32.3

* Torque to raise 1lb.



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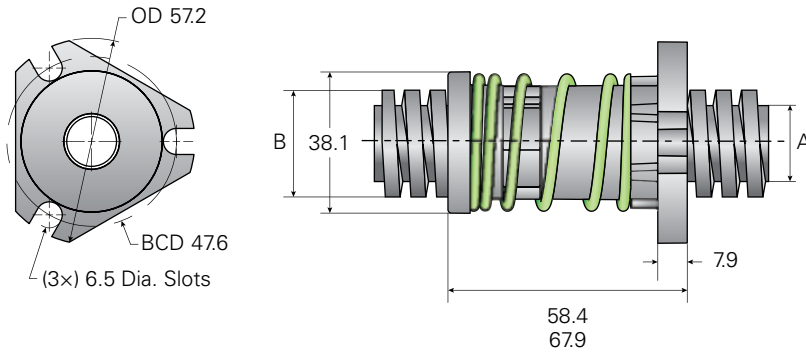
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ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	3.0 - 5.0
High Force Spring	5.5 - 10.5

ANTI-BACKLASH THREADED NUT						ANTI-BACKLASH FLANGE NUT					FLANGE	
Part Number		Load Capacity (lb)		Weight (oz)		Part Number		Load Capacity (lb)		Weight (oz)		
Right Hand	Left Hand	Dynamic	Static			Right Hand	Left Hand	Dynamic	Static			
AT079157R	AT079157L	480	2400	2.5		AF079157R	AF079157L	370	1850	2.5		HF75
AT079472R	AT079472L	480	2400	2.5		AF079472R	AF079472L	370	1850	2.5		HF75
AT079M27R	AT079M27L	480	2400	2.5		AF079M27R	AF079M27L	370	1850	2.5		HF75
AT079M45R	AT079M45L	480	2400	2.5		AF079M45R	AF079M45L	370	1850	2.5		HF75
AT087787R	AT087787L	530	2650	2.5		AF087787R	AF087787L	400	2000	2.5		HF75
AT087M35R	AT087M35L	530	2650	2.5		AF087M35R	AF087M35L	400	2000	2.5		HF75
AT087M50R	AT087M50L	530	2650	2.5		AF087M50R	AF087M50L	400	2000	2.5		HF75
AT094M30R	AT094M30L	660	3300	2.5		AF094M30R	AF094M30L	500	2500	2.5		HF75
AT094M40R	AT094M40L	660	3300	2.5		AF094M40R	AF094M40L	500	2500	2.5		HF75
AT094M55R	AT094M55L	660	3300	2.5		AF094M55R	AF094M55L	500	2500	2.5		HF75



Lead Screw Size List

- Precision Rolled to 0.0002"/inch Lead Accuracy
- 300 Series Stainless Steel
- Optional PTFE Teflon Coating



		Lead			Outside Diameter		Root Diameter		
Diameter	Diameter Code	(in)	(mm)	Lead Code	(in)	(mm)	(in)	(mm)	Efficiency* (%)
1/8"	012	0.0240	0.61	024	0.125	3.18	0.098	2.49	25 - 40
		0.0313	0.79	031	0.130	3.30	0.094	2.39	30 - 47
		0.0394	1.00	039	0.134	3.40	0.090	2.29	35 - 52
		0.0480	1.22	048	0.125	3.18	0.098	2.49	40 - 57
		0.0625	1.59	062	0.130	3.30	0.094	2.39	45 - 63
		0.0750	1.91	075	0.127	3.23	0.096	2.44	49 - 67
		0.0787	2.00	078	0.134	3.40	0.090	2.29	50 - 68
		0.0960	2.44	096	0.125	3.18	0.098	2.49	55 - 71
		0.1250	3.18	125	0.130	3.30	0.094	2.39	59 - 75
		0.1575	4.00	157	0.134	3.40	0.090	2.29	63 - 78
4mm	016	0.3937	10.00	393	0.158	4.00	0.118	3.00	64 - 79
3/16"	018	0.0240	0.61	024	0.204	5.18	0.177	4.50	17 - 29
		0.0250	0.64	025	0.205	5.21	0.175	4.45	17 - 29
		0.0313	0.79	031	0.208	5.28	0.172	4.37	21 - 34
		0.0394	1.00	039	0.213	5.41	0.168	4.27	24 - 39
		0.0480	1.22	048	0.217	5.51	0.164	4.17	28 - 44
		0.0500	1.27	050	0.218	5.54	0.163	4.14	29 - 45
		0.0625	1.59	062	0.208	5.28	0.172	4.37	34 - 51
		0.0787	2.00	078	0.213	5.41	0.168	4.27	39 - 56
		0.0960	2.44	096	0.217	5.51	0.164	4.17	43 - 61
		0.1000	2.54	100	0.218	5.54	0.163	4.14	44 - 62
		0.1250	3.18	125	0.208	5.28	0.172	4.37	49 - 66
		0.1575	4.00	157	0.213	5.41	0.168	4.27	54 - 71
		0.2000	5.08	200	0.218	5.54	0.163	4.14	58 - 74
5mm	020	0.1969	5.00	196	0.212	5.39	0.142	3.60	63 - 78
6mm	024	0.7874	20.00	787	0.236	6.00	0.197	5.00	69 - 86

* Range in Theoretical Efficiency on screw assemblies that are unlubricated and lubricated respectively.

An increase in efficiency of 4 to 5 percentage points can be expected with Teflon® coated screws.



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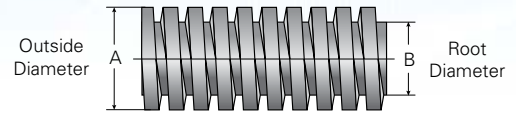
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Lead Screw Size List

- Precision Rolled to 0.0002"/inch Lead Accuracy
- 300 Series Stainless Steel
- Optional PTFE Teflon Coating

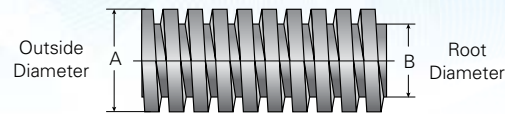


Diameter	Diameter Code	Lead			Outside Diameter		Root Diameter		Efficiency* (%)
		(in)	(mm)	Lead Code	(in)	(mm)	(in)	(mm)	
1/4"	025	0.024	0.6096	024	0.250	6.35	0.223	5.66	14 - 24
		0.025	0.6350	025	0.250	6.35	0.220	5.59	14 - 25
		0.03125	0.7938	031	0.250	6.35	0.214	5.44	18 - 30
		0.0394	1.0	039	0.250	6.35	0.206	5.23	21 - 35
		0.048	1.2192	048	0.250	6.35	0.197	5.00	25 - 40
		0.050	1.2700	050	0.250	6.35	0.195	4.95	26 - 41
		0.0625	1.5875	062	0.250	6.35	0.178	4.52	31 - 48
		0.0787	2.0	078	0.250	6.35	0.206	5.23	35 - 52
		0.096	2.4384	096	0.250	6.35	0.197	5.00	39 - 57
		0.100	2.5400	100	0.250	6.35	0.195	4.95	41 - 58
		0.125	3.1750	125	0.250	6.35	0.178	4.52	46 - 64
		0.1575	4.0	157	0.250	6.35	0.206	5.23	50 - 67
		0.1969	5.0	196	0.250	6.35	0.206	5.23	55 - 71
		0.200	5.0800	200	0.250	6.35	0.195	4.95	60 - 75
		0.250	6.3500	250	0.250	6.35	0.178	4.52	60 - 76
		0.333	8.46	333	0.250	6.35	0.192	4.88	63 - 79
		0.500	12.70	500	0.248	6.30	0.181	4.60	63 - 79
		1.000	25.40	999	0.250	6.35	0.165	4.20	63 - 79
5/16"	031	0.100	2.54	100	0.313	7.94	0.193	4.90	33 - 50
		0.250	6.35	250	0.313	7.94	0.216	5.49	58 - 73
		0.500	12.70	500	0.313	7.94	0.216	5.49	65 - 81
8mm	032	0.1575	4.00	157	0.311	7.90	0.217	5.50	51 - 68
		0.2953	7.50	295	0.303	7.70	0.232	5.90	63 - 79
		0.3150	8.00	315	0.315	8.00	0.226	5.74	64 - 80
		0.3937	10.00	393	0.323	8.20	0.217	5.50	65 - 81
		0.4724	12.00	472	0.319	8.10	0.232	5.90	65 - 81
		0.5906	15.00	590	0.319	8.10	0.232	5.90	66 - 82
		0.7874	20.00	787	0.350	8.90	0.228	5.80	67 - 84
		0.9843	25.00	984	0.291	7.40	0.248	6.30	69 - 86
		1.1811	30.00	M30	0.339	8.60	0.295	7.50	69 - 86

* Range in Theoretical Efficiency on screw assemblies that are unlubricated and lubricated respectively.
An increase in efficiency of 4 to 5 percentage points can be expected with Teflon® coated screws.

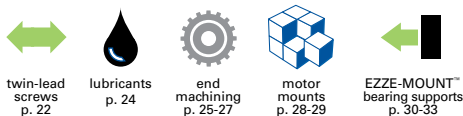
LEAD SCREW SIZE LIST

- Precision Rolled to 0.0002"/inch Lead Accuracy
- 300 Series Stainless Steel
- Optional PTFE Teflon Coating



Diameter	Diameter Code	Lead			Outside Diameter		Root Diameter		Efficiency* (%)
		(in)	(mm)	Lead Code	(in)	(mm)	(in)	(mm)	
3/8"	037	0.0250	0.64	025	0.375	9.525	0.345	8.763	10 - 18
		0.0394	1.00	039	0.375	9.525	0.331	8.407	15 - 26
		0.0500	1.27	050	0.375	9.525	0.320	8.128	18 - 31
		0.0625	1.59	062	0.375	9.525	0.303	7.696	22 - 37
		0.0787	2.00	078	0.375	9.525	0.286	7.264	27 - 43
		0.0833	2.12	083	0.375	9.525	0.282	7.163	28 - 44
		0.1000	2.54	100	0.375	9.525	0.255	6.477	33 - 50
		0.1250	3.18	125	0.375	9.525	0.303	7.696	36 - 53
		0.1575	4.00	157	0.375	9.525	0.286	7.264	42 - 59
		0.1667	4.23	166	0.375	9.525	0.286	7.264	43 - 61
		0.1969	5.00	196	0.375	9.525	0.330	8.382	45 - 63
		0.2000	5.08	200	0.375	9.525	0.255	6.477	48 - 66
		0.2500	6.35	250	0.375	9.525	0.303	7.696	51 - 68
		0.3333	8.47	333	0.375	9.525	0.282	7.163	58 - 74
		0.3750	9.53	375	0.375	9.525	0.303	7.696	59 - 75
		0.3937	10.00	393	0.375	9.525	0.331	8.407	59 - 75
		0.4000	10.16	400	0.375	9.525	0.255	6.477	61 - 77
		0.5000	12.70	500	0.375	9.525	0.278	7.061	63 - 79
		1.0000	25.40	999	0.375	9.525	0.238	6.045	64 - 80
10mm	039	0.1181	3.00	118	0.394	10.00	0.312	7.92	39 - 49
		0.3937	10.00	393	0.394	10.00	0.323	8.20	63 - 79
		0.4724	12.00	472	0.394	10.00	0.280	7.10	65 - 81
		0.5906	15.00	590	0.394	10.00	0.291	7.40	66 - 82
		1.3780	35.00	M35	0.398	10.10	0.350	8.90	69 - 86
		1.9685	50.00	M50	0.394	10.00	0.291	7.40	67 - 84
7/16"	043	1.2008	30.50	M31	0.441	11.20	0.315	8.00	68 - 85
12mm	047	0.1181	3.00	118	0.472	12.00	0.303	7.69	38 - 48
		0.5906	15.00	590	0.480	12.20	0.362	9.20	65 - 82
		0.9843	25.00	984	0.469	11.90	0.315	8.00	68 - 85
		1.5748	40.00	M40	0.453	11.50	0.402	10.20	69 - 86
		1.7717	45.00	M45	0.504	12.80	0.449	11.40	69 - 86
		2.3622	60.00	M60	0.461	11.70	0.358	9.10	67 - 84

* Range in Theoretical Efficiency on screw assemblies that are unlubricated and lubricated respectively.
An increase in efficiency of 4 to 5 percentage points can be expected with Teflon® coated screws.



LEAD SCREW SIZE LIST

- Precision Rolled to 0.0002"/inch Lead Accuracy
- 300 Series Stainless Steel
- Optional PTFE Teflon Coating



Diameter	Diameter Code	Lead			Outside Diameter		Root Diameter		Efficiency* (%)
		(in)	(mm)	Lead Code	(in)	(mm)	(in)	(mm)	
1/2"	050	0.1000	2.54	100	0.500	12.70	0.359	9.12	32 - 40
		0.2000	5.08	200	0.500	12.70	0.391	9.93	46 - 57
		0.2500	6.35	250	0.500	12.70	0.332	8.43	50 - 63
		0.5000	6.35	500	0.500	12.70	0.406	10.31	60 - 75
		1.0000	25.40	998	0.500	12.70	0.392	9.96	64 - 80
		1.4016	35.60	M36	0.504	12.80	0.378	9.60	69 - 86
14mm	055	0.3150	8.00	315	0.551	14.00	0.386	9.80	56 - 70
		0.7087	18.00	708	0.563	14.30	0.449	11.40	65 - 82
		0.7874	20.00	787	0.524	13.30	0.347	8.80	67 - 83
		1.1811	30.00	M30	0.547	13.90	0.398	10.10	68 - 85
		2.7559	70.00	M70	0.532	13.50	0.429	10.90	67 - 84
9/16"	056	1.5984	40.60	M41	0.567	14.40	0.441	11.20	69 - 86
5/8"	062	0.1000	2.54	100	0.625	15.88	0.516	13.11	28 - 35
		0.1250	6.35	125	0.625	15.88	0.457	11.61	32 - 40
		0.2000	6.35	200	0.625	15.88	0.484	12.29	41 - 51
		0.3750	9.53	375	0.625	15.88	0.457	11.61	53 - 66
16mm	062	0.1575	4.00	157	0.630	16.00	0.429	10.90	37 - 46
		0.7874	20.00	787	0.598	15.20	0.492	12.50	66 - 82
		0.8268	21.00	826	0.650	16.50	0.535	13.60	66 - 82
		0.9843	25.00	984	0.630	16.00	0.453	11.50	67 - 84
		1.3780	35.00	M35	0.626	15.90	0.476	12.10	68 - 85
		1.8000	45.72	M46	0.630	16.00	0.504	12.80	69 - 86
		3.1496	80.00	M80	0.598	15.20	0.496	12.60	66 - 82
		3.5433	90.00	M90	0.669	17.00	0.563	14.30	67 - 84
18mm	071	0.6299	16.00	629	0.709	18.00	0.563	14.30	62 - 77
		0.9449	24.00	944	0.736	18.70	0.618	15.70	66 - 82
		1.1811	30.00	M30	0.740	18.80	0.559	14.20	67 - 84
		1.5748	40.00	M40	0.705	17.90	0.555	14.10	69 - 86
		2.0000	50.80	M51	0.693	17.60	0.567	14.40	70 - 87
		3.9370	100.00	M00	0.740	18.80	0.638	16.20	67 - 84

* Range in Theoretical Efficiency on screw assemblies that are unlubricated and lubricated respectively.
An increase in efficiency of 4 to 5 percentage points can be expected with Teflon® coated screws.



LEAD SCREW SIZE LIST

- Precision Rolled to 0.0002"/inch Lead Accuracy
- 300 Series Stainless Steel
- Optional PTFE Teflon Coating



		Lead			Outside Diameter		Root Diameter		
Diameter	Diameter Code	(in)	(mm)	Lead Code	(in)	(mm)	(in)	(mm)	Efficiency* (%)
3/4"	075	0.1000	2.54	100	0.750	19.050	0.608	15.443	24 - 30
		0.1667	4.23	166	0.750	19.050	0.537	13.640	34 - 43
		0.2000	5.08	200	0.750	19.050	0.502	12.751	38 - 48
		0.3333	8.47	333	0.750	19.050	0.537	13.640	54 - 60
		0.5000	12.70	500	0.750	19.050	0.581	14.757	54 - 68
20mm	079	0.1575	4.00	157	0.787	20.00	0.587	14.90	32 - 40
		0.4724	12.00	472	0.787	20.00	0.622	15.80	57 - 71
		1.0630	27.00	M27	0.819	20.80	0.705	17.90	67 - 84
		1.7717	45.00	M45	0.787	20.00	0.634	16.10	69 - 86
22mm	087	0.7874	20.00	787	0.866	22.00	0.721	18.30	62 - 78
		1.3780	35.00	M35	0.847	21.50	0.669	17.00	68 - 85
		1.9685	50.00	M50	0.866	22.00	0.713	18.10	70 - 87
7/8"	088	0.1660	4.22	166	0.875	22.23	0.661	16.79	31 - 39
24mm	094	1.1811	30.00	M30	0.906	23.00	0.787	20.00	66 - 82
		1.5748	40.00	M40	0.957	24.30	0.780	19.80	67 - 84
		2.1654	55.00	M55	0.945	24.00	0.791	20.10	69 - 86
1.00	100	0.1000	2.54	100	1.000	25.400	0.857	21.768	19 - 24
		0.1667	4.23	166	1.000	25.400	0.786	19.964	29 - 36
		0.2000	5.08	200	1.000	25.400	0.750	19.050	32 - 40
		0.2500	6.35	250	1.000	25.400	0.698	17.729	37 - 46
		0.5000	12.70	500	1.000	25.400	0.698	17.729	50 - 63
		1.0000	25.40	999	1.000	25.400	0.906	23.012	59 - 74

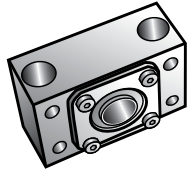


Standard EZZE Mount Bearing Supports

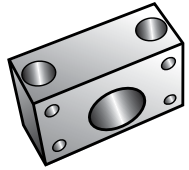
REFERENCE
MACHINED ENDS AND BEARING SUPPORTS



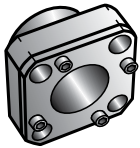
EZZE-MOUNT™



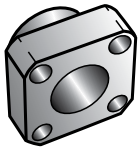
Universal Mount
Double Bearing



Universal Mount
Single Bearing



Flange Mount
Double Bearing



Flange Mount
Single Bearing

Nominal Dia-Lead	End Code Type 1,2,3,4		Universal Mounts		Flange Mounts	
			Double	Single	Double	Single
025-050	3	2	Contact HELIX™ Sales Engineers for custom solutions.		Contact HELIX™ Sales Engineers for custom solutions.	
025-250	3	2				
025-333	3	2				
031-250	5	2				
031-500	5	2				
037-062	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-083	7*	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-100	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-125	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-166	7*	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-200	7*	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-250	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-500	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-999	6	4*	--	--	--	--
050-100	9	6*	EZM-1009	EZM-4009	EZF-1009	EZF-4009
050-200	9	6	EZM-1009	EZM-4009	EZF-1009	EZF-4009
050-250	8	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
050-500	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
050-999	9	6	EZM-1009	EZM-4009	EZF-1009	EZF-4009
062-100	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
062-125	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
062-200	12	6	EZM-3012	EZM-4012	EZF-3012	EZF-4012
062-375	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
075-100	15	8	EZM-3015	EZM-4015	EZF-3015	EZF-4015
075-166	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
075-200	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
075-333	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
075-500	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
087-166	15	10	EZM-3015	EZM-4015	EZF-3015	EZF-4015
100-100	20	12	EZM-2020	EZM-4020	EZF-2020	EZF-4020
100-166	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
100-200	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
100-250	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
100-500	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
100-999	20	12	EZM-2020	EZM-4020	EZF-2020	EZF-4020

* Some journals may show thread tracings.

MACHINED ENDS: Drawings and Codes (continued)



Various Custom Machined Ends

Machined End Code	TYPE 1 (K, L, N) Typical Journal for Single Bearing			TYPE 2 (K, L, N) Typical Journal for Duplexed Bearing			TYPE 3 (K, L, N) Typical Journal for Multiple Sets of Duplexed Bearing			COMMON DIMENSIONS FOR TYPE 1, 2, 3 (K, L, N)						Lock- washer
	A	B	E	A	B	E	A	B	E	C	D	F	G	Locknut		
3	0.63	0.36	0.156	0.75	0.52	0.312	1.09	0.83	0.624	.093/.092	.1251/.1248	N/A	N/A	#5-40	N/A	
5	0.88	0.55	0.236	1.09	0.78	0.472	1.56	1.26	0.944	.125/.124	.1970/.1967	N/A	N/A	#10-32	N/A	
6	0.88	0.55	0.236	1.09	0.78	0.472	1.56	1.26	0.944	.125/.124	.2363/.2360	N/A	N/A	#10-32	N/A	
7	1.12	0.65	0.276	1.41	0.93	0.552	1.94	1.48	1.104	.187/.186	.2757/.2754	0.063	0.34	1¼-20	N/A	
8	1.31	0.68	0.276	1.56	0.96	0.552	2	1.44	1.06	.250/.249	.3151/.3148	0.094	0.46	5⁄16-24	N/A	
9	1.38	0.72	0.315	1.69	1.04	0.63	2.38	1.81	1.438	.250/.249	.3544/.3541	0.094	0.46	5⁄16-24	N/A	
10	1.37	0.69	0.315	1.67	1	0.63	2.5	1.81	1.438	.312/.311	.3939/.3936	0.125	0.5	N-00	W-00	
12	2.11	0.81	0.394	2.5	1.2	0.788	3.29	1.99	1.576	.406/.405	.4726/.4723	0.125	1	N-01	W-01	
15	2.15	0.84	0.433	2.59	1.27	0.866	3.5	2.18	1.732	.500/.499	.5908/.5905	0.125	1	N-02	W-02	
17	2.23	0.92	0.472	2.71	1.39	0.944	3.65	2.33	1.888	.500/.499	.6695/.6692	0.125	1	N-03	W-03	
20	2.37	1.06	0.551	2.93	1.61	1.102	4.03	2.71	2.204	.625/.624	.7877/.7873	0.188	1	N-04	W-04	
25	2.68	1.12	0.591	3.27	1.71	1.182	4.45	2.89	2.364	.750/.749	.9846/.9842	0.188	1	N-05	W-05	
30	2.97	1.16	0.63	3.6	1.79	1.26	4.86	3.05	2.52	1.000/.999	1.1814/1.1810	0.25	1.25	N-06	W-06	

TYPE 4 (K, L, N)
Typical Journal for Pillow Block

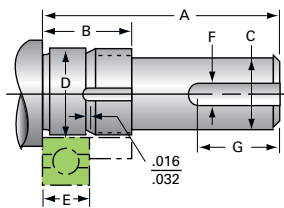
Machined End Code	A	B	D	F	G
2	.75	.25	.1251 / .1248	N/A	N/A
4	1.38	.50	.2501 / .2498	.063	.63
6	1.50	.75	.3751 / .3748	.125	.75
8	2.63	1.00	.5000 / .4995	.125	1.50
10	2.63	1.25	.6250 / .6245	.188	1.50
12	2.72	1.50	.7500 / .7495	.188	1.50
16	2.84	1.50	1.0000 / .9995	.250	1.50

MACHINED ENDS: Drawings and Codes

Specifying standard machined ends results in quicker deliveries. The machined ends shown below represent designs that are compatible with common application requirements for either simple or fixed

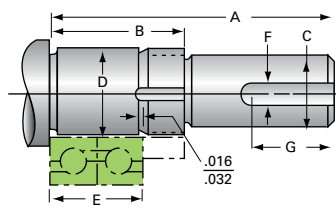
bearing support. These standard ends may be machined and ground to finish size.

*Type 1K (with keyway)
Type 1L (without keyway)*



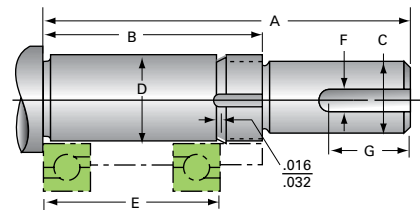
*Driven Support End
Single Bearing*

*Type 2K (with keyway)
Type 2L (without keyway)*



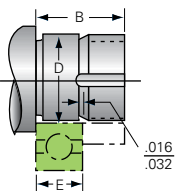
*Driven Support End
Double Bearing*

*Type 3K (with keyway)
Type 3L (without keyway)*



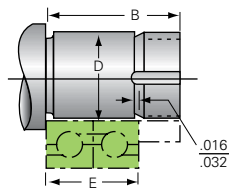
*Driven Support End
Double Bearing*

Type 1N



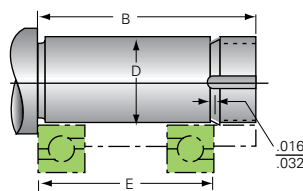
*Non-Driven
Support End
Single Bearing*

Type 2N



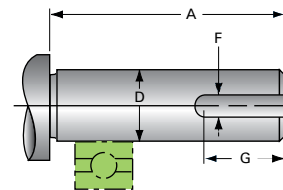
*Non-Driven
Support End
Double Bearing*

Type 3N



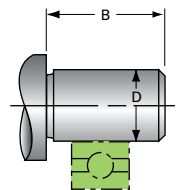
*Non-Driven
Support End
Double Bearing*

*Type 4K (with keyway)
Type 4L (without keyway)*



*Standard Journal
for Pillow
Block Single Bearing*

Type 4



*Standard Journal
for Pillow Block
Double Bearing*

END TYPES

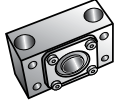
- 1K, 2K, 3K and 4K are designed with a shaft extension and keyway for square keys.
- 1L, 2L, 3L and 4L are designed with a shaft extension without a keyway.
- 1N, 2N, 3N and 4N are designed to be a non-driven support end.

- Double bearing supports use a Type 3N, 3L and 3K.
- Single bearing supports use Type 1N.

Where standard ends do not satisfy the application requirements, special ends may be machined to customer specifications. Please submit a print for a prompt and competitive quotation.

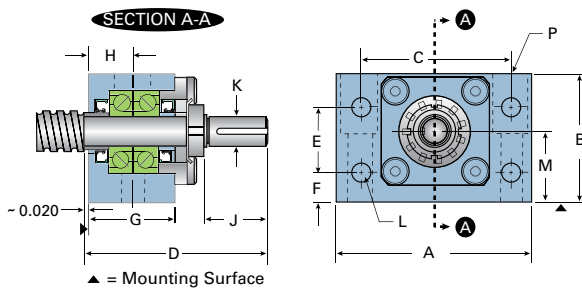
EZZE-MOUNT™

UNIVERSAL MOUNT SINGLE AND DOUBLE BEARING SUPPORT

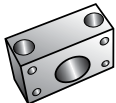


Universal-Mount Double

Double Angular Contact Bearing - use with Type 3 Standard Ends

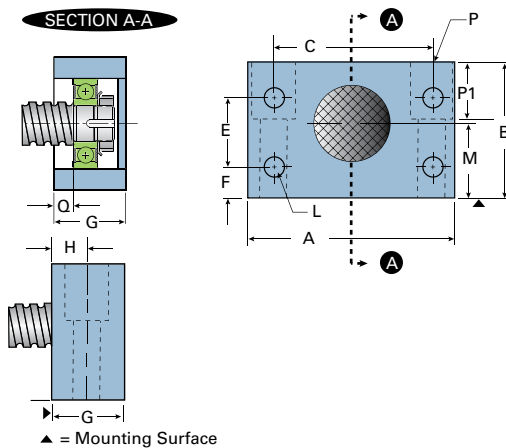


Universal Double Part No.	A	A	A	D	E	F
EZM-1007	2.00	1.38	1.50	1.94	0.88	0.25
EZM-1008	2.00	1.38	1.50	2.00	0.88	0.25
EZM-1009	2.75	2.00	2.00	2.38	1.38	0.31
EZM-3010	2.75	2.00	2.00	2.50	1.38	0.31
EZM-3012	3.50	2.22	2.75	3.29	1.25	0.50
EZM-3015	3.50	2.52	2.75	3.50	1.25	0.80
EZM-3017	4.50	2.69	3.38	3.65	1.38	0.62
EZM-2020	5.00	3.03	3.75	4.03	1.50	0.75



Universal-Mount Single

Single Radial Bearing - use with Type 1 Standard Ends



Universal Double Part No.	A	A	A	D	E	F
EZM-4007	2.00	1.38	1.50	--	0.88	0.25
EZM-4008	2.00	1.38	1.50	--	0.88	0.25
EZM-4009	2.75	2.00	2.00	--	1.38	0.31
EZM-4010	2.75	2.00	2.00	--	1.38	0.31
EZM-4012	3.50	2.22	2.75	--	1.25	0.50
EZM-4015	3.50	2.52	2.75	--	1.25	0.80
EZM-4017	4.50	2.69	3.38	--	1.38	0.62
EZM-4020	5.00	3.03	3.75	--	1.50	0.75

G	H	J	K Shaft Dia.	L Thru	M	Bolt Size	Thru	C'Bore	P1	Q	End Code
1.06	0.50	0.46	0.187 - 0.186	0.22	0.687	$\frac{1}{4} \times 1\frac{3}{8}$	0.28	0.41	0.41	--	7
1.06	0.50	0.56	0.250 0.249	0.22	0.687	$\frac{1}{4} \times 1\frac{3}{8}$	0.28	0.41	0.41	--	8
1.19	0.56	0.56	0.250 0.249	0.28	1.000	$\frac{5}{16} \times 2$	0.34	0.50	0.56	--	9
1.19	0.56	0.69	0.312 - 0.311	0.28	1.000	$\frac{5}{16} \times 2$	0.34	0.50	0.56	--	10
1.38	0.69	1.30	0.406 0.405	0.28	1.187	$\frac{3}{8} \times 1\frac{3}{4}$	0.41	0.62	1.00	--	12
1.38	0.69	1.30	0.500 0.499	0.28	1.438	$\frac{3}{8} \times 2\frac{1}{8}$	0.41	0.62	1.00	--	15
1.69	0.84	1.30	0.500 0.499	0.41	1.500	$\frac{1}{2} \times 2\frac{1}{4}$	0.53	0.88	1.25	--	17
1.72	0.86	1.30	0.625 0.624	0.47	1.625	$\frac{5}{8} \times 2\frac{1}{2}$	0.66	1.00	1.50	--	20

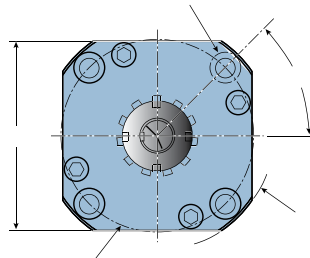
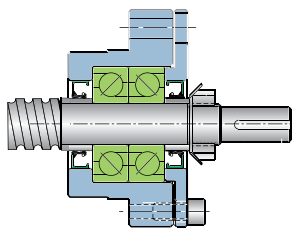
G	H	J	K Shaft Dia.	L Thru	M	Bolt Size	Thru	C'Bore	P1	Q	End Code
1.06	0.50	--	--	0.22	0.687	$\frac{1}{4} \times 1\frac{3}{8}$	0.28	0.41	0.41	0.19	7
1.06	0.50	--	--	0.22	0.687	$\frac{1}{4} \times 1\frac{3}{8}$	0.28	0.41	0.41	0.19	8
1.19	0.56	--	--	0.28	1.000	$\frac{5}{16} \times 2$	0.34	0.50	0.56	0.38	9
1.19	0.56	--	--	0.28	1.000	$\frac{5}{16} \times 2$	0.34	0.50	0.56	0.38	10
1.38	0.69	--	--	0.28	1.187	$\frac{3}{8} \times 1\frac{3}{4}$	0.41	0.62	1.00	0.33	12
1.38	0.69	--	--	0.28	1.438	$\frac{3}{8} \times 2\frac{1}{8}$	0.41	0.62	1.00	0.33	15
1.69	0.84	--	--	0.41	1.500	$\frac{1}{2} \times 2\frac{1}{4}$	0.53	0.88	1.25	0.38	17
1.72	0.86	--	--	0.47	1.625	$\frac{5}{8} \times 2\frac{1}{2}$	0.66	1.00	1.50	0.5	20

EZZE-MOUNT™ FLANGE-MOUNT SINGLE AND DOUBLE BEARING SUPPORT



Flange-Mount Double

Double Angular Contact Bearing - use with Type 3 Standard Ends



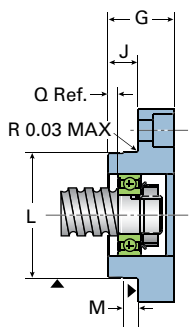
Flanged Double
Part No.

	A	B	C	D Thru	Counterbore
EZF-1007	1.88	2.44	1.875	0.266	0.44
EZF-1008	1.88	2.44	1.875	0.266	0.44
EZF-1009	2.00	2.60	2.000	0.266	0.44
EZF-3010	2.00	2.60	2.000	0.266	0.44
EZF-3012	2.50	3.17	2.500	0.266	0.44
EZF-3015	2.70	3.27	2.750	0.281	0.44
EZF-3017	3.38	4.03	3.250	0.344	0.53
EZF-2020	3.38	4.03	3.250	0.344	0.53



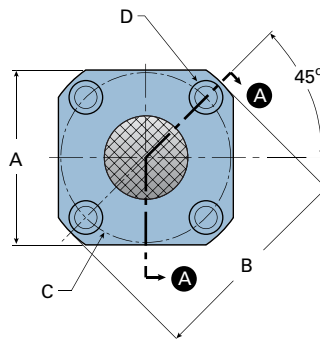
Flange-Mount Single

Single Radial Bearing - use with Type 1 Standard Ends



SECTION A-A

▲ = Mounting Surface



Flanged Single
Part No.

	A	B	C	D Thru	Counterbore
EZF-4007	1.88	2.44	1.875	0.266	0.44
EZF-4008	1.88	2.44	1.875	0.266	0.44
EZF-4009	2.00	2.60	2.000	0.266	0.44
EZF-4010	2.00	2.60	2.000	0.266	0.44
EZF-4012	2.50	3.17	2.500	0.266	0.44
EZF-4015	2.70	3.27	2.750	0.281	0.44
EZF-4017	3.38	4.03	3.250	0.344	0.53
EZF-4020	3.38	4.03	3.250	0.344	0.53

E	F	G	H	J	K Shaft Dia.	L	M	P	Q	End Code
1.94	1.44	1.06	0.82	0.50	0.187 - 0.186	1.3775 - 1.3770	0.188	0.063	--	7
2.00	1.44	1.06	0.82	0.50	0.250 - 0.249	1.3775 - 1.3770	0.188	0.094	--	8
2.38	1.81	1.33	1.09	0.71	0.250 - 0.249	1.4957 - 1.4951	0.188	0.094	--	9
2.50	1.81	1.33	1.09	0.71	0.312 - 0.311	1.4957 - 1.4951	0.190	0.125	--	10
3.29	1.99	1.57	1.38	0.75	0.406 - 0.405	1.8894 - 1.8888	0.312	0.125	--	12
3.50	2.10	1.71	1.50	0.88	0.500 - 0.499	2.1256 - 2.1250	0.312	0.125	--	15
3.65	2.33	1.93	1.63	0.94	0.500 - 0.499	2.5193 - 2.5185	0.312	0.125	--	17
4.03	2.71	1.98	1.72	1.03	0.625 - 0.624	2.5193 - 2.5185	0.312	0.188	--	20

E	F	G	H	J	K Shaft Dia.	L	M	P	Q	End Code
--	--	1.00	--	0.40	--	1.3775 - 1.3770	0.188	--	0.13	7
--	--	1.00	--	0.40	--	1.3775 - 1.3770	0.188	--	0.13	8
--	--	1.00	--	0.44	--	1.4957 - 1.4951	0.188	--	0.13	9
--	--	1.00	--	0.44	--	1.4957 - 1.4951	0.190	--	0.13	10
--	--	1.15	--	0.55	--	1.8894 - 1.8888	0.312	--	0.13	12
--	--	1.25	--	0.63	--	2.1256 - 2.1250	0.312	--	0.20	15
--	--	1.32	--	0.63	--	2.5193 - 2.5185	0.312	--	0.20	17
--	--	1.47	--	0.72	--	2.5193 - 2.5185	0.312	--	0.20	20

EZZE-MOUNT™: FLANGE MOUNT BEARING SUPPORT WITH MOTOR MOUNT



Flange Mount with motor mount includes an EZZE-MOUNT™ block with a motor mount for easy, accurate installation of acme screw assemblies.

Note: When selecting the bearing support for an application with high axial loads, the capacities of the bearings and locknuts must be considered. See page 30.

EXAMPLE: AT050-025 / Y1 / 4N / 12.25 / FS



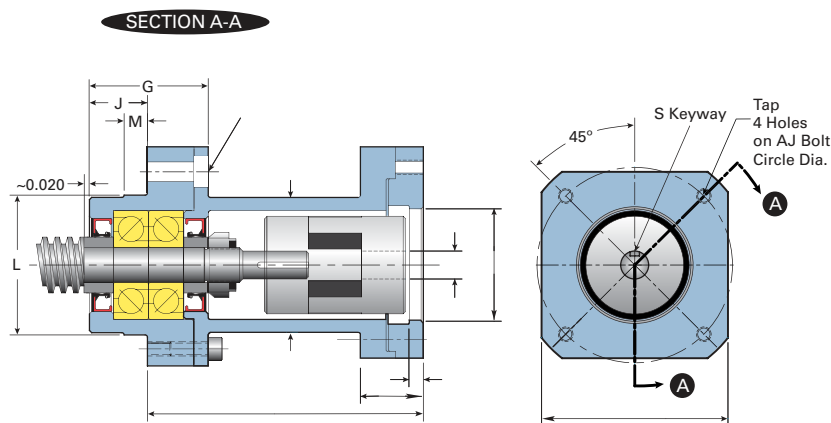
EXAMPLES OF EZF DESIGNATIONS:

Y1, Y2, Y3, Y4 = Standard Mount available above

YX = modified, further description needed

(i.e. - Special Frame)

Part No.	Ref. Code	Nema Frame Ref.	AA	BB	T	U	S	Y	W	AK	AJ	TAP
EZF-1008-17	Y1	17	1.75	0.25	2.84	0.25	0.094	2.2	0.52	.868/.871	1.725	#8-32
EZF-1009-23	Y2	23	2.50	0.19	3.41	0.38	0.125	2.1	0.88	1.503/1.506	2.625	#10-32
EZF-3010-23	Y2	23	2.50	0.19	3.41	0.38	0.125	2.1	0.88	1.503/1.506	2.625	#10-32
EZF-3012-23	Y2	23	2.50	0.19	3.70	0.38	0.125	1.81	0.88	1.503/1.506	2.625	#10-32
EZF-3012-34	Y3	34	3.25	0.16	4.14	0.50	0.125	1.81	1.31	2.878/2.882	3.875	#10-32
EZF-3015-23	Y2	23	2.50	0.19	3.84	0.38	0.125	1.98	0.88	1.503/1.506	2.625	#10-32
EZF-3015-34	Y3	34	3.25	0.16	4.61	0.50	0.125	1.98	1.31	2.878/2.882	3.875	#10-32
EZF-3017-34	Y3	34	3.25	0.16	4.62	0.50	0.125	2.25	1.67	2.878/2.882	3.875	#10-32
EZF-3017-42	Y4	42	4.50	0.19	5.37	0.63	0.188	2.25	2.41	2.504/2.508	5.000	1/4"-20
EZF-2020-34	Y3	34	3.44	0.16	4.92	0.50	0.125	2.37	1.67	2.878/2.882	3.875	#10-32
EZF-2020-42	Y4	42	4.50	0.19	5.67	0.63	0.188	2.37	2.41	2.504/2.508	5.000	1/4"-20



Note: For complete EZZE-MOUNT™ measurements, see chart on page 84-87.

EZZE-MOUNT™: UNIVERSAL MOUNT BEARING SUPPORT WITH MOTOR MOUNT



Universal Mount with motor mount includes an EZZE-MOUNT™ block with a motor mount for easy, accurate installation of acme screw assemblies.

Note: When selecting the bearing support for an application with high axial loads, the capacities of the bearings and locknuts must be considered. See page 30.

EXAMPLE: NT025-062 / RA / U3 / 4N / 12.82 / FS

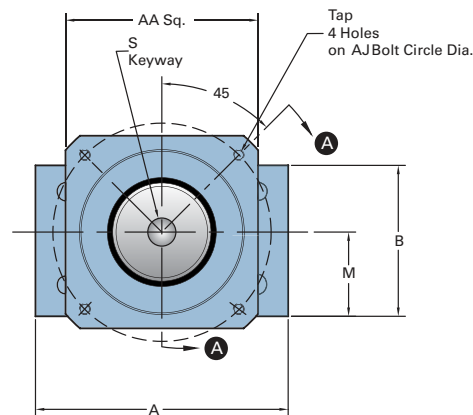
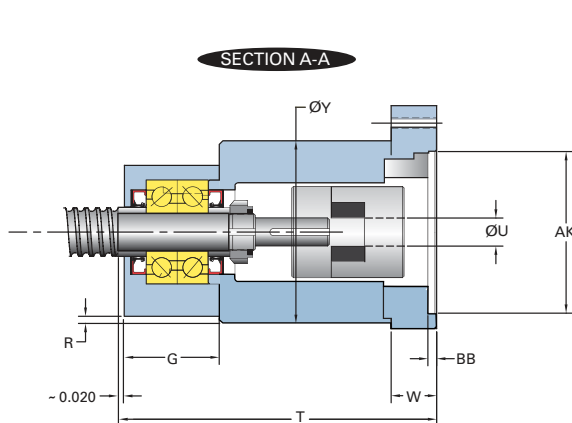
EZM-2020-34



EXAMPLES OF EZM DESIGNATIONS:

U1, U2, U3 or U4 = Standard Mount available above
UX = modified, further explanation needed
(i.e. - Special Frame)

Part No.	Ref. Code	Nema Frame Ref.	AA	BB	T	U	S	Y	W	AK	AJ	TAP	R
EZM-1008-17	U1	17	1.75	0.25	3.35	0.25	0.094	1.75	0.52	.868/.871	1.725	#8-32	0.19
EZM-1009-23	U2	23	2.50	0.19	4.10	0.38	0.125	2.50	0.38	1.503/1.506	2.625	#10-32	0.26
EZM-3010-23	U2	23	2.50	0.19	4.10	0.38	0.125	2.50	0.38	1.503/1.506	2.625	#10-32	0.26
EZM-3012-23	U2	23	2.50	0.19	4.48	0.38	0.125	2.50	0.38	1.503/1.506	2.625	#10-32	0.10
EZM-3012-34	U3	34	3.25	0.16	4.92	0.50	0.125	2.50	0.81	2.878/2.882	3.875	#10-32	0.10
EZM-3015-23	U2	23	2.50	0.19	4.69	0.38	0.125	2.50	0.38	1.503/1.506	2.625	#10-32	–
EZM-3015-34	U3	34	3.25	0.16	5.13	0.50	0.125	2.50	0.81	2.878/2.882	3.875	#10-32	0.19
EZM-3017-34	U3	34	3.25	0.16	5.56	0.50	0.125	3.12	0.81	2.878/2.882	3.875	#10-32	0.13
EZM-3017-42	U4	42	4.50	0.19	6.31	0.63	0.188	3.12	1.56	2.504/2.508	5.000	1/4"-20	0.13
EZM-2020-34	U3	34	3.44	0.16	5.96	0.50	0.125	3.44	0.81	2.878/2.882	3.875	#10-32	0.10
EZM-2020-42	U4	42	4.50	0.19	6.71	0.63	0.188	3.44	1.56	2.504/2.508	5.000	1/4"-20	0.10

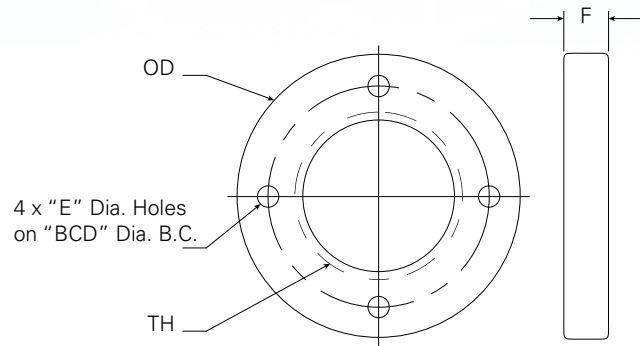


NOTE: For complete EZZE-MOUNT™ measurements see chart on page xxx.

Note: For complete EZZE-MOUNT™ measurements, see chart on page 84-87.

STANDARD MOUNTING FLANGES

- For Standard and Anti-Backlash Threaded Nuts



These mounting flanges are designed for easy mounting when fixed to Standard and Anti-Backlash Threaded Nuts.

Aluminum (6061-T651) Flanges for Standard and Anti-Backlash Threaded Nuts

Part Number	Flange Dimensions					Weight (oz)
	D	E	BCD	F	TH	
HF1	1.00	0.129	0.75	0.188	3/8" - 24 UNF	0.1
HF2	1.25	0.144	1.00	0.250	9/16" - 18 UNF	0.4
HF3	1.63	0.177	1.25	0.250	5/8" - 18 UNF	0.7
HF4	2.00	0.266	1.50	0.375	15/16" - 16 UN	1.5
HF5	2.50	0.266	2.00	0.375	1-1/16" - 16 UN	2.4
HF6	3.00	0.266	2.38	0.375	1-3/8" - 16 UN	3.3

Aluminum flanges do not have a set screw which could deform the nut and possibly cause binding. Aluminum flanges should be pinned or bonded to nuts to prevent disassembly during operation.

NOTES

[illegible]

[illegible]

*Our products make us industry leaders.
Our people make us world class.*

Christopher M. Nook
CEO
HELIX Linear Technologies, Inc.

