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

Christopher M. Nook
CEO
Helix Linear Technologies, Inc.

PRECISION MINIATURE LEAD SCREW ASSEMBLIES

2nd Edition

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www.helixlinear.com

Helix Linear Technologies, Inc., Beachwood, Ohio

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 on the market.

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.

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.

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.

INDEX

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

PTDA Member

MEMBER OF AMT The Association For Manufacturing Technology — Over 100 Years of Building Global Productivity

Certified Bearing Specialist

EPTDA Member

ASSOCIATION FOR HIGH TECHNOLOGY DISTRIBUTION AHTD

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 serves many customers in the Aerospace and Medical device markets and has complied with common Quality System Requirements.

ITAR

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

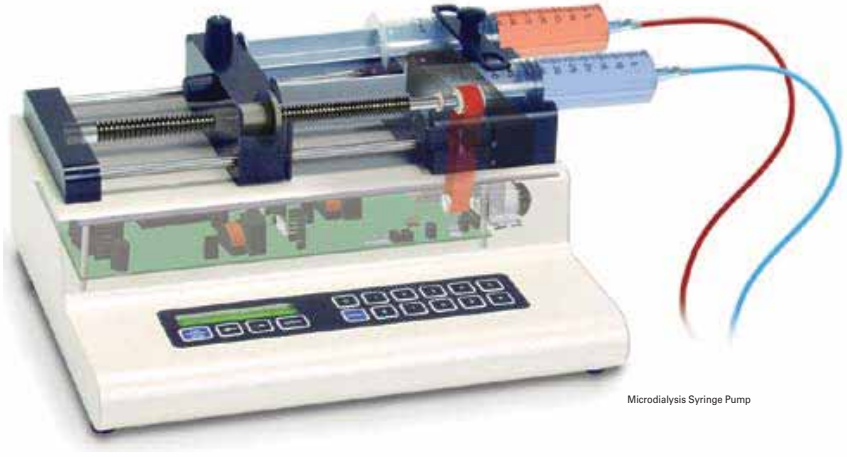
INSPECTION CAPABILITY

Laser Lead Measurement - Precise lead error gauging is utilized to validate processes to conform to Helix 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 processes when required.



Microdialysis Syringe Pump

QUALITY TOOLS:

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

TESTING

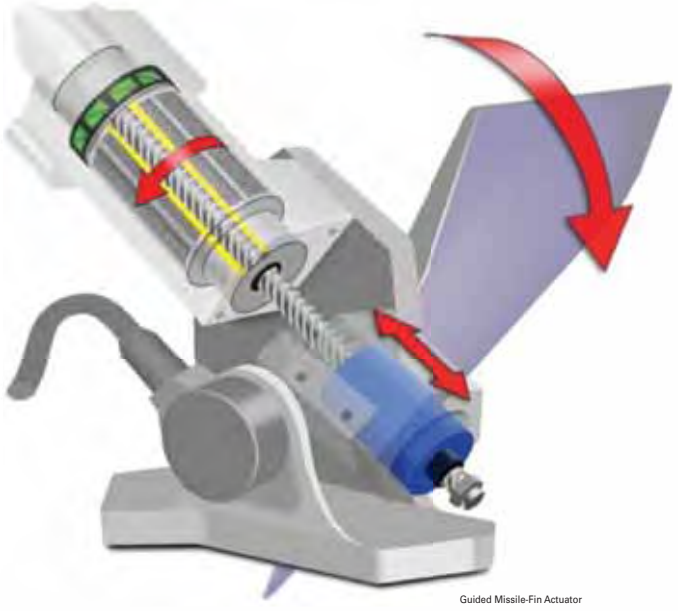
Efficiency Measurement - Helix Engineering has designed test machines to measure and validate screw assembly efficiency.

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.



Guided 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
- 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

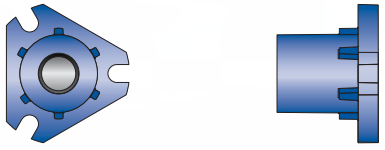
PLASTIC ACME & TRAPEZOIDAL NUTS

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.

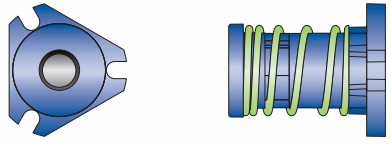
- Material: Helix™ ACETAL/PTFE blend
- Tensile Strength @70°F: 8,000 psi
- Compressive Strength @70°F: 16,000 psi
- PV Limit: 2,700 lubricated
- Coefficient of Friction: 0.10 lubricated

STANDARD NUT DESIGNS

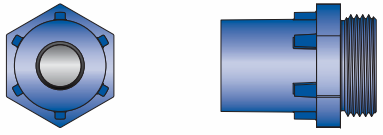
General Purpose Nut - NAB Series - Flange Mount Style



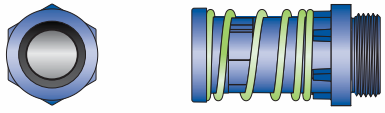
Anti-Backlash Nut - AAB Series - Flange Mount Style



General Purpose Nut - NAB Series - Thread Mount Style



Anti-Backlash Nut - AAB Series - Thread Mount Style



FLANGES FOR BRONZE & PLASTIC NUTS

Made from carbon steel with black oxide finish. See page 10 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 2½" dia.	⅛" to 6"	Limited only by material availability
	Stainless	Helix Centralizing 2C or Stub	± .0003 in/in up to 1½" dia.	⅛" to 1½"	Limited only by material availability
Milled	Alloy	Helix Centralizing 2C, 3C, 3G, 4C, 4G	± .002"/ft	½" to 3" (single starts)	up to 96"
	Stainless	Helix Centralizing 2C, 2G, 3C, 4G	± .002"/ft	½" to 3" (single starts)	up to 96"
Ground	Alloy	Helix Centralizing 2C, 3C, 3G, 4C, 4G	± .0005"/ft	¼" to 4"	up to 120"
	Stainless	Helix Centralizing 2C, 2G, 3C, 4G	± .0005"/ft	¼" to 4"	up to 120"

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

Lead screws control surveillance cameras

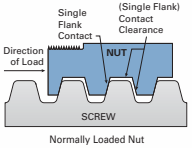
GLOSSARY AND TECHNICAL DATA

THREAD TYPES

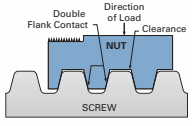
The acme thread form, established over 100 years ago, replaced square thread screws, which had straight-sided flanks and were difficult to manufacture.

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 × 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.

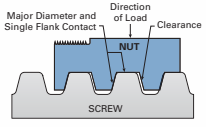
Compared to general-purpose thread forms, centralizing threads are manufactured with tighter tolerances and reduced clearance on the major diameter.



Normally Loaded Nut



Side Loaded Conventional 'G' Class Nut



Side Loaded Centralized 'C' Class Nut

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.

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.

PITCH × STARTS = 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.

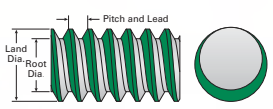
0.062" PITCH × TWO STARTS = 0.125" LEAD

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.

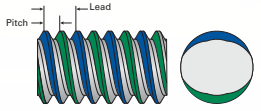
(24 Revolutions × .500 inches per revolution = 12.000 inches of travel)

With a lead accuracy of .0004"/inch, actual travel could be from 11.996 to 12.004 inches.

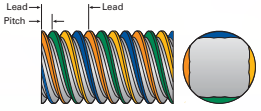
SCREW STARTS - The number of independent threads on the screw shaft; example one, two or four.



Single Start (Lead = Pitch)



Double Start (Lead = 2 x Pitch)



Four Start (Lead = 4 x Pitch)

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.

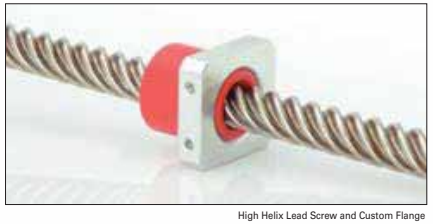
LIFE - Helix precision lead screws are manufactured from high quality materials with excellent dynamic properties. Because of the variable effects of friction, lubrication and cleanliness, a specific life cannot be predicted. Proper lubrication, regular maintenance, and operation within specified limits 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 self-locking assembly is required, select a nut with efficiency below 35%.

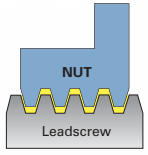
CAUTION: Vibration can cause any lead screw assembly to creep or backdrive. When using lead screws, applications should be analyzed to determine the necessity of a brake, especially when the possibility of injury may occur.


High Helix Lead Screw and Custom Flange

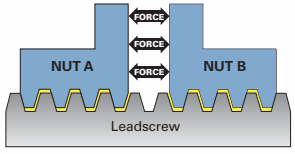
GLOSSARY AND TECHNICAL DATA (continued)

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.

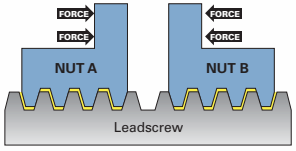
Standard Nut



Anti-Backlash Nut in Tension



Anti-Backlash Nut in Compression



PTFE Coated Trapezoidal Screw

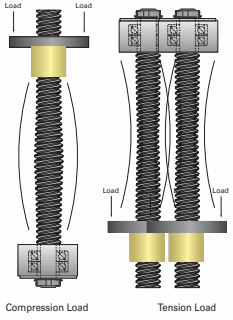
STATIC LOAD - The maximum thrust load – including shock – that should be applied to a non-moving nut assembly. Actual maximum static load may be reduced based on end machining and screw mounting hardware.

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.

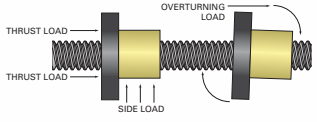
COMPRESSION LOAD - A load that tends to "squeeze" the screw.



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 84–85 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 specific 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.

Stainless Steel Acme 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.

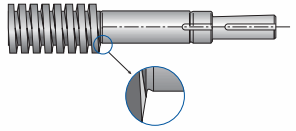
The three basic types of end fixity are:

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

See page 12 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.

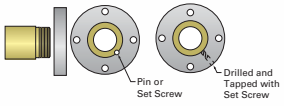
2D/3D CAD ONLINE

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	⅛ x ¼ Slotted Spring Pin	1
.75 to 1.0	#10 - 24 x ¼ 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 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 PTFE 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

$$T_j = I\alpha$$

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

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

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:

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

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 e-mail us your sketch, drawing, or 3D model and we will provide a quotation in 24 hours.

Custom Titanium Acme 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 Special Threads made to order	American Worm, Module Worm, Modified Buttress, Straight Knurling, Diamond Knurling
Class of Fit	2C, 2G, 3C, 3G, 4C, 4G	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 8 for details on load definitions.

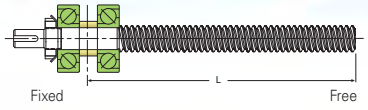
SPEED - The travel rate (linear speed) is the rpm at which the screw or nut is rotating multiplied by the lead of the screw.

LENGTH - The unsupported length of the screw.

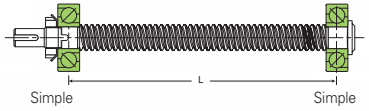
END FIXITY - End fixity refers to the method by which the ends of the screw are supported. The degree of end fixity is related to the amount of restraint of the ends of the screw. Here are four basic types of end fixity:

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

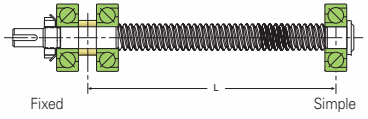
A. Fixed/Free



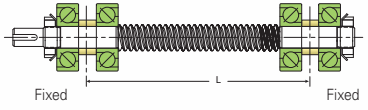
B. Simple/Simple



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:

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

SCREW INERTIA

Screw Size in (mm)	Screw Inertia (oz-in sec²/in)	Screw Size in (mm)	Screw Inertia (oz-in sec²/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 8), 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:

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

PV VALUE

For plastic nuts, the PV value needs to be checked (see the PV load definition on page 8). The operating load values for the plastic nuts are based on a pressure of 1,450 lb. per square inch. Any loads less than the operating load can be evaluated by using the following:

$$P = \frac{\text{Actual Operating Load}}{\text{Chart Operating Load}} \times 1{,}450$$

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

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

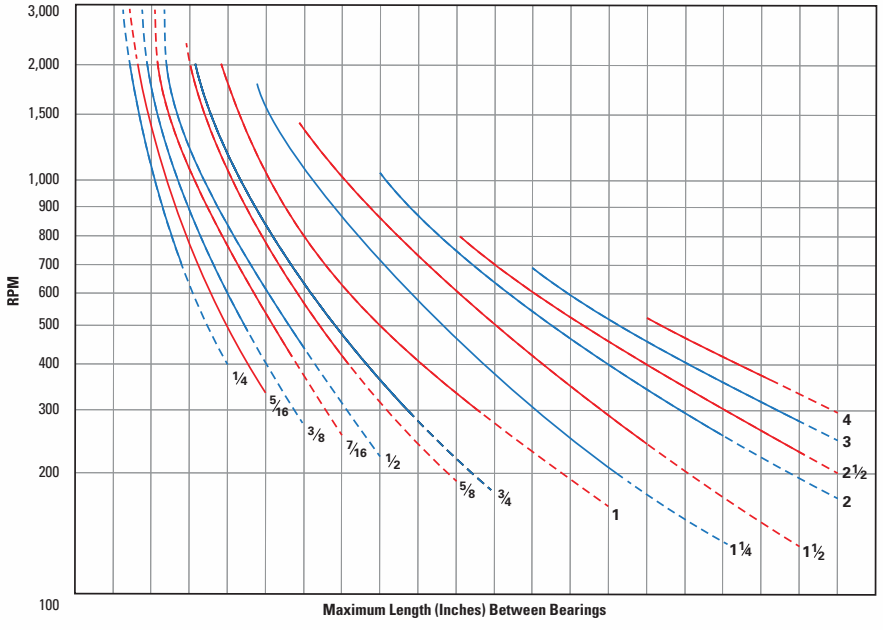
It is recommended that P x V be limited to values less than 2,700.

CRITICAL SPEED CHART - INCH SCREWS

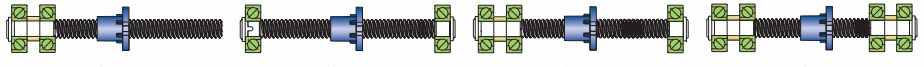
Every screw shaft has a rotational speed limit. That is the point at which the rotational speed sets up excessive vibration. This critical point can be modified by the type of end bearing support used.

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



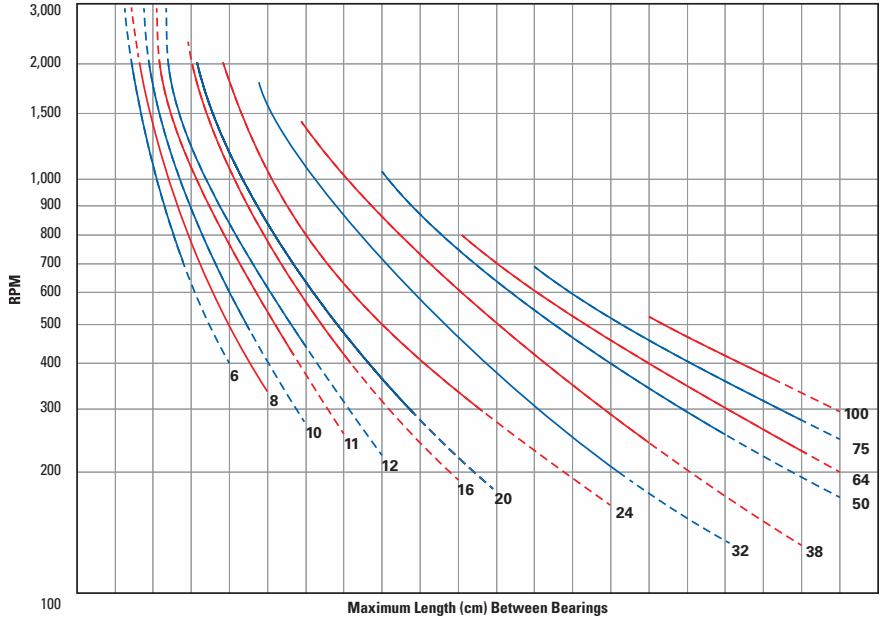
A) Fixed-Free B) Simple-Simple C) Fixed-Simple D) Fixed-Fixed

CRITICAL SPEED CHART - METRIC SCREWS

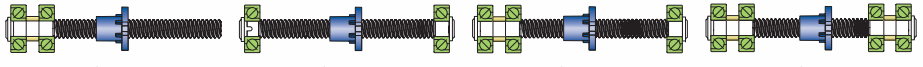
Every screw shaft has a rotational speed limit. That is the point at which the rotational speed sets up excessive vibration. This critical point can be modified by the type of end bearing support used.

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

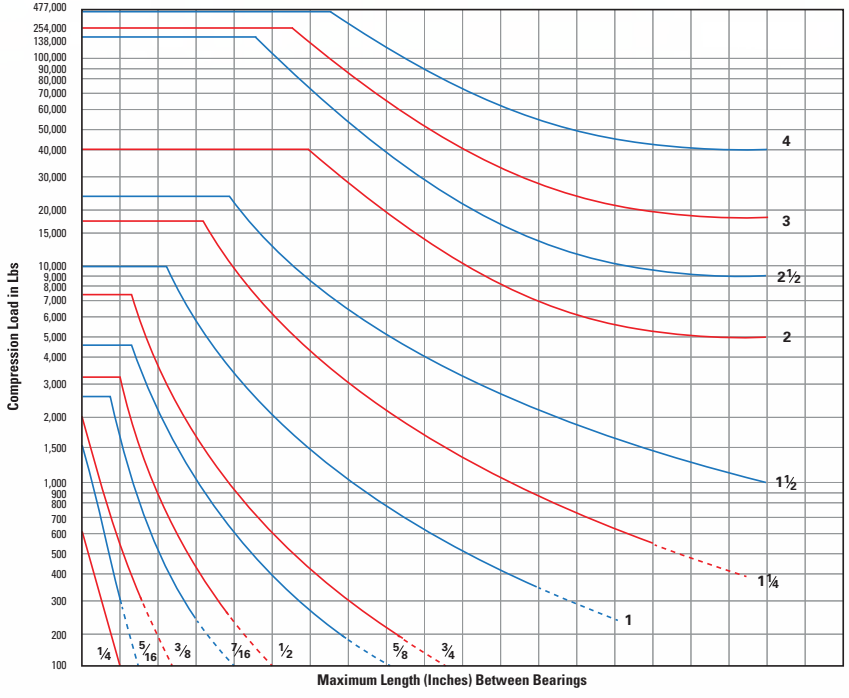


A) Fixed-Free B) Simple-Simple C) Fixed-Simple D) Fixed-Fixed

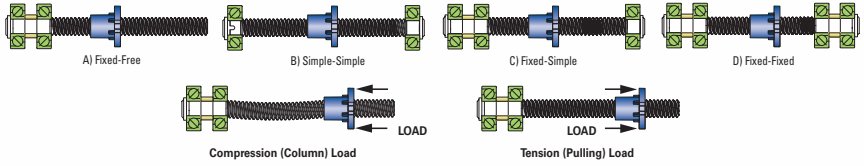
COLUMN LOADING CAPACITIES CHART - INCH SCREWS

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.



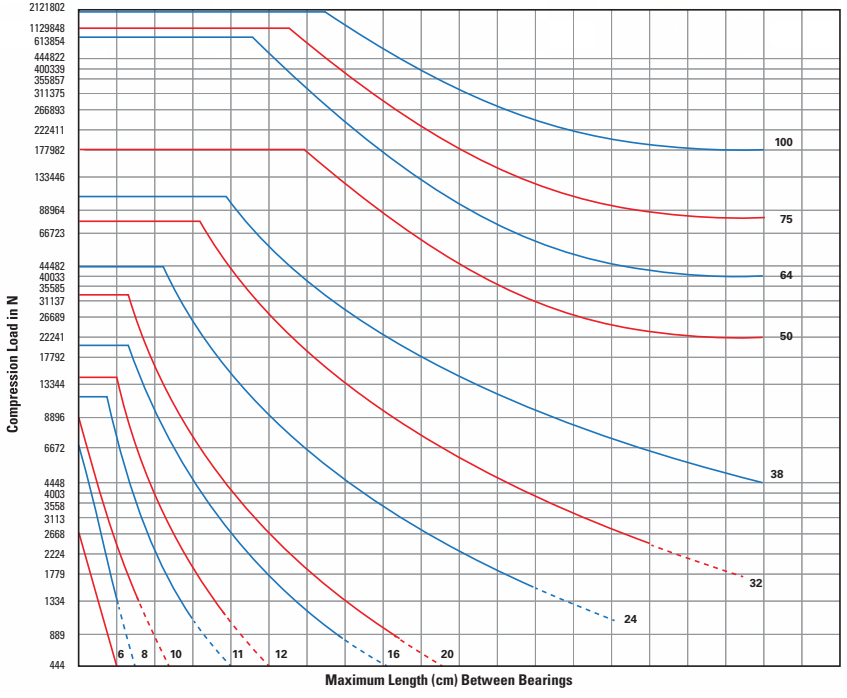
A)	Fixed Free	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
B)	Simple Simple	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	180
C)	Fixed Simple	14	28	42	57	71	85	99	113	127	141	156	170	184	198	212	226	240	255	270
D)	Fixed Fixed	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380



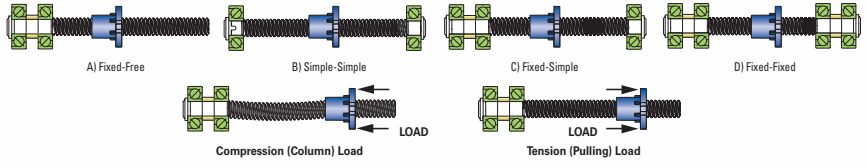
COLUMN LOADING CAPACITIES CHART - METRIC SCREWS

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.



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

- Sheer 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 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

PTFE coated Helix lead screws

MINIATURE LEAD SCREW ASSEMBLIES REFERENCE NUMBER SYSTEM

NTA025 – 062 – RA / 1K / 4N / 12.25 / FS

NUT

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

NUT MATERIAL CODE

A = Blue Acetal
B = Black Acetal
C = Natural (white) Acetal
D = Delrin AF

DIAMETER CODE

Example:
025 = 1/4" Diameter
See pages (78–82) for Diameter Codes

LEAD CODE

Example
062 = 0.0625" Lead
See pages (78–82) for Lead Codes

SCREW MATERIAL

RA

R = Right Hand Thread
L = Left Hand Thread

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

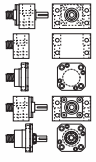
F = Flanged (if just a nut)
A = Alloy Steel, Rolled
B = Alloy Steel, Milled
C = Alloy Steel, Ground
S = Stainless Steel, Rolled
T = Stainless Steel, Milled
U = Stainless Steel, Ground

FIRST END CONFIGURATION

1K

End Machining
1 = Type 1
2 = Type 2
3 = Type 3
4 = Type 4

Shaft Extension (see pages 86-90)
K = Shaft Extension
L = Shaft Extension without Keyway
N = No Shaft Extension



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

G = Flanged Single Bearing Support Flange Away From Screw Thread
H = Flanged Double Bearing Support Flange Away From Screw Thread
00 = No End Machining (Screw will be cut to desired length)
XX = Custom Machining (Print or spedified 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.
Both Ends must be specified.
NOTE: 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

T = PTFE Coating (Optional)

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

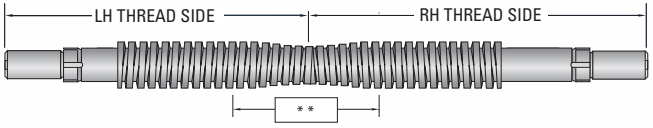
2D/3D CAD ONLINE

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 oxided for protection and can be assembled with Helix acme nuts, flanges and EZZE-MOUNT™ bearing supports (see pages 92-97) 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.



INCOMPLETE THREAD ** Consult chart for incomplete thread length

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"	22
1/8"	012	0.0313	031	0.094	6.0"	2.63"	0.75"	22
1/8"	012	0.0394	039	0.090	6.0"	2.63"	0.75"	22
3/16"	018	0.0240	024	0.177	8.0"	3.63"	0.75"	24
3/16"	018	0.0250	025	0.175	8.0"	3.63"	0.75"	24
3/16"	018	0.0313	031	0.172	8.0"	3.63"	0.75"	24
3/16"	018	0.0394	039	0.168	8.0"	3.63"	0.75"	24
3/16"	018	0.0480	048	0.164	8.0"	3.63"	0.75"	24
3/16"	018	0.0500	050	0.163	8.0"	3.63"	0.75"	24
1/4"	025	0.0240	024	0.223	12.0"	5.63"	0.75"	26
1/4"	025	0.0250	025	0.220	12.0"	5.63"	0.75"	26
1/4"	025	0.0312	031	0.214	12.0"	5.63"	0.75"	26
1/4"	025	0.0394	039	0.206	12.0"	5.63"	0.75"	26
1/4"	025	0.0480	048	0.197	12.0"	5.63"	0.75"	26
1/4"	025	0.0500	050	0.195	12.0"	5.63"	0.75"	26
1/4"	025	0.0625	062	0.178	12.0"	5.63"	0.75"	26
5/16"	031	0.1000	100	0.193	16.0"	7.63"	0.75"	28
6mm	024	0.07874	078	0.197	10.0"	4.63"	0.75"	38
8mm	032	0.3937	393	0.217	24.0"	11.63"	0.75"	40
8mm	032	1.1811	M30	0.295	24.0"	11.63"	0.75"	40

MINIATURE TWIN-LEAD SCREW ASSEMBLIES REFERENCE NUMBER SYSTEM

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

AF A 012 - 024 - TA / EK / 4N / 8.50 / 4.25 / 4.25 / A / FS

NUT
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

NUT MATERIAL CODE
A = Blue Acetal
B = Black Acetal
C = Natural (white) Acetal
D = Delrin AF

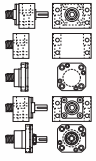
DIAMETER CODE
See page 20

SCREW MATERIAL
TA
A = Alloy Steel, Rolled
C = Alloy Steel, Ground
S = Stainless, Rolled
C = Stainless, Ground
T = Twin Lead

FIRST END / SECOND END CONFIGURATION
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.

EK
Shaft Extension (see pages 86-90)
K = Shaft Extension with Keyway
L = Shaft Extension without Keyway Extension
N = No Shaft
Q = Hand Wheel
EZZE-MOUNTTM / End Machining (see pages 92-97)

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

G = Flanged Single Bearing Support Flange Away From Screw Thread
H = Flanged Double Bearing Support Flange Away From Screw Thread
00 = No End Machining (Screw will be cut to desired length)
XX = Custom Machining (Print or spedified data must be provided)

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

OVERALL LENGTH (OAL)
Length in inches, 2 place decimal

LEFT HAND / RIGHT HAND THREAD
Length in inches, 2 place decimal. **NOTE:** *See figure on page 20.*

To select the nut direction, add:
A = Nut Thread or Flange installed toward center of screw
B = Nut Thread or Flange installed toward end of screw

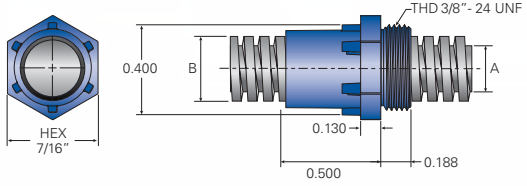
MODIFIER LIST
T = PTFE Coating (Optional)

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

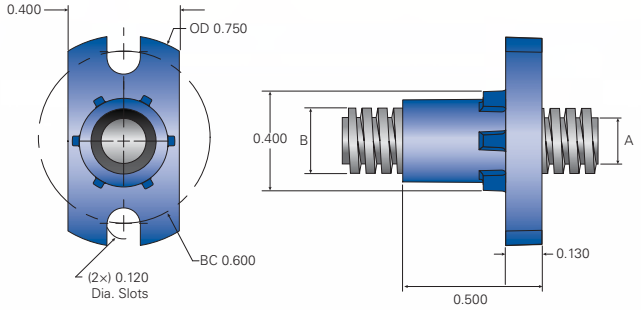
⅛ inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
⅛"	012	0.0240	024	0.0240	1	25-40	0.012	0.098	0.125	0.55
		0.0313	031	0.0313	1	30-47	0.013	0.094	0.130	0.55
		0.0394	039	0.0394	1	35-52	0.015	0.090	0.134	0.55
		0.0480	048	0.0240	2	40-57	0.016	0.098	0.125	0.55
		0.0625	062	0.0313	2	45-63	0.018	0.094	0.130	0.55
		0.0750	075	0.0250	3	49-67	0.021	0.096	0.127	0.55
		0.0787	078	0.0394	2	50-68	0.021	0.090	0.134	0.55
		0.0960	096	0.0240	4	55-71	0.096	0.098	0.125	0.55
		0.1250	125	0.0313	4	59-75	0.125	0.094	0.130	0.55
		0.1575	157	0.0394	4	63-78	0.158	0.090	0.134	0.55

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA012024R	NTA012024L	35	175	.064	HF10	0.06	NFA012024R	NFA012024L	20	100	.059
NTA012031R	NTA012031L	35	175	.064	HF10	0.06	NFA012031R	NFA012031L	20	100	.059
NTA012039R	NTA012039L	35	175	.064	HF10	0.06	NFA012039R	NFA012039L	20	100	.059
NTA012048R	NTA012048L	35	175	.064	HF10	0.06	NFA012048R	NFA012048L	20	100	.059
NTA012062R	NTA012062L	35	175	.064	HF10	0.06	NFA012062R	NFA012062L	20	100	.059
NTA012075R	NTA012075L	35	175	.064	HF10	0.06	NFA012075R	NFA012075L	20	100	.059
NTA012078R	NTA012078L	35	175	.064	HF10	0.06	NFA012078R	NFA012078L	20	100	.059
NTA012096R	NTA012096L	35	175	.064	HF10	0.06	NFA012096R	NFA012096L	20	100	.059
NTA012125R	NTA012125L	35	175	.064	HF10	0.06	NFA012125R	NFA012125L	20	100	.059
NTA012157R	NTA012157L	35	175	.064	HF10	0.06	NFA012157R	NFA012157L	20	100	.059

* See page 19 for material code

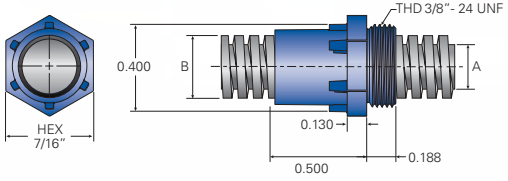
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

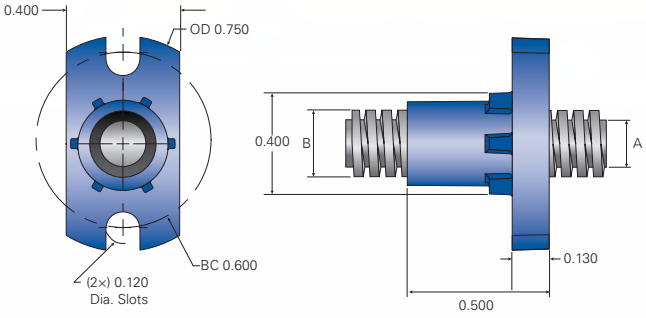
3/16 inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
3/16"	018	0.0240	024	0.0240	1	17-29	0.016	0.177	0.204	1.58
		0.0250	025	0.0250	1	17-29	0.017	0.175	0.205	1.58
		0.0313	031	0.0313	1	24-34	0.018	0.172	0.208	1.58
		0.0394	039	0.0394	1	24-39	0.020	0.168	0.213	1.58
		0.0480	048	0.0480	1	28-44	0.021	0.164	0.217	1.58
		0.0500	050	0.0500	1	29-45	0.022	0.163	0.218	1.58
		0.0625	062	0.0313	2	34-51	0.024	0.172	0.208	1.58
		0.0787	078	0.0394	2	39-56	0.027	0.168	0.213	1.58
		0.0960	096	0.0480	2	43-61	0.029	0.164	0.217	1.58
		0.1000	100	0.0500	2	44-62	0.030	0.163	0.218	1.58
		0.1250	125	0.0313	4	49-66	0.035	0.172	0.208	1.58
		0.1575	157	0.0394	4	54-71	0.040	0.168	0.213	1.58
		0.2000	200	0.0500	4	58-74	0.048	0.163	0.218	1.58

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA018024R	NTA018024L	55	275	.064	HF10	0.06	NFA018024R	NFA018024L	45	225	.059
NTA018025R	NTA018025L	55	275	.064	HF10	0.06	NFA018025R	NFA018025L	45	225	.059
NTA018031R	NTA018031L	55	275	.064	HF10	0.06	NFA018031R	NFA018031L	45	225	.059
NTA018039R	NTA018039L	55	275	.064	HF10	0.06	NFA018039R	NFA018039L	45	225	.059
NTA018048R	NTA018048L	55	275	.064	HF10	0.06	NFA018048R	NFA018048L	45	225	.059
NTA018050R	NTA018050L	55	275	.064	HF10	0.06	NFA018050R	NFA018050L	45	225	.059
NTA018062R	NTA018062L	55	275	.064	HF10	0.06	NFA018062R	NFA018062L	45	225	.059
NTA018078R	NTA018078L	55	275	.064	HF10	0.06	NFA018078R	NFA018078L	45	225	.059
NTA018096R	NTA018096L	55	275	.064	HF10	0.06	NFA018096R	NFA018096L	45	225	.059
NTA018100R	NTA018100L	55	275	.064	HF10	0.06	NFA018100R	NFA018100L	45	225	.059
NTA018125R	NTA018125L	55	275	.064	HF10	0.06	NFA018125R	NFA018125L	45	225	.059
NTA018157R	NTA018157L	55	275	.064	HF10	0.06	NFA018157R	NFA018157L	45	225	.059
NTA018200R	NTA018200L	55	275	.064	HF10	0.06	NFA018200R	NFA018200L	45	225	.059

* See page 19 for material code

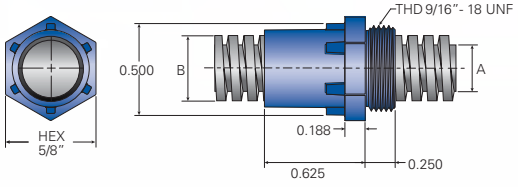
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

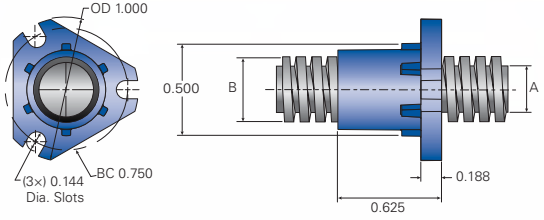
¼ inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
¼"	025	0.0240	024	0.0240	1	14-24	0.020	0.223	0.250	2.4
		0.0250	025	0.0250	1	14-25	0.021	0.220	0.250	2.4
		0.0313	031	0.0313	1	18-30	0.021	0.214	0.250	2.3
		0.0394	039	0.0394	1	21-35	0.022	0.206	0.250	2.2
		0.0480	048	0.0480	1	25-40	0.024	0.197	0.250	2.1
		0.0500	050	0.0500	1	26-41	0.024	0.195	0.250	2.2
		0.0625	062	0.0625	1	31-48	0.026	0.178	0.250	2.0
		0.0787	078	0.0394	2	35-52	0.029	0.206	0.250	2.3
		0.0960	096	0.0480	2	39-57	0.032	0.197	0.250	2.1
		0.1000	100	0.0500	2	41-58	0.032	0.195	0.250	2.0
		0.1250	125	0.0625	2	46-64	0.036	0.178	0.250	2.3
		0.1575	157	0.0394	4	50-67	0.043	0.206	0.250	2.3
		0.1969	196	0.0394	5	55-71	0.050	0.206	0.250	2.2
		0.2000	200	0.0500	4	60-75	0.058	0.195	0.250	2.1
		0.2500	250	0.0625	4	60-76	0.059	0.178	0.250	2.2
		0.3333	333	0.0833	4	63-79	0.075	0.192	0.250	2.0
		0.5000	500	0.1250	4	63-79	0.112	0.181	0.248	2.0
		1.0000	999	0.1000	10	63-79	0.224	0.165	0.250	1.9

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA025024R	NTA025024L	115	575	.15	HF25	0.28	NFA025024R	NFA025024L	75	375	.11
NTA025025R	NTA025025L	115	575	.15	HF25	0.28	NFA025025R	NFA025025L	75	375	.11
NTA025031R	NTA025031L	115	575	.15	HF25	0.28	NFA025031R	NFA025031L	75	375	.11
NTA025039R	NTA025039L	115	575	.15	HF25	0.28	NFA025039R	NFA025039L	75	375	.11
NTA025048R	NTA025048L	115	575	.15	HF25	0.28	NFA025048R	NFA025048L	75	375	.11
NTA025050R	NTA025050L	115	575	.15	HF25	0.28	NFA025050R	NFA025050L	75	375	.11
NTA025062R	NTA025062L	115	575	.15	HF25	0.28	NFA025062R	NFA025062L	75	375	.11
NTA025078R	NTA025078L	115	575	.15	HF25	0.28	NFA025078R	NFA025078L	75	375	.11
NTA025096R	NTA025096L	115	575	.15	HF25	0.28	NFA025096R	NFA025096L	75	375	.11
NTA025100R	NTA025100L	115	575	.15	HF25	0.28	NFA025100R	NFA025100L	75	375	.11
NTA025125R	NTA025125L	115	575	.15	HF25	0.28	NFA025125R	NFA025125L	75	375	.11
NTA025157R	NTA025157L	115	575	.15	HF25	0.28	NFA025157R	NFA025157L	75	375	.11
NTA025196R	NTA025196L	115	575	.15	HF25	0.28	NFA025196R	NFA025196L	75	375	.11
NTA025200R	NTA025200L	115	575	.15	HF25	0.28	NFA025200R	NFA025200L	75	375	.11
NTA025250R	NTA025250L	115	575	.15	HF25	0.28	NFA025250R	NFA025250L	75	375	.11
NTA025333R	NTA025333L	115	575	.15	HF25	0.28	NFA025333R	NFA025333L	75	375	.11
NTA025500R	NTA025500L	115	575	.15	HF25	0.28	NFA025500R	NFA025500L	75	375	.11
NTA025999R	NTA025999L	115	575	.15	HF25	0.28	NFA025999R	NFA025999L	75	375	.11

* See page 19 for material code

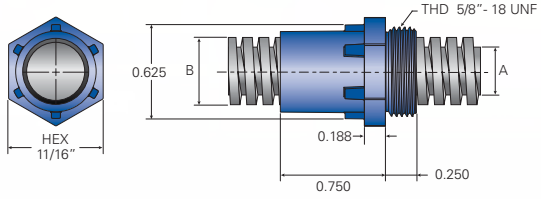
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

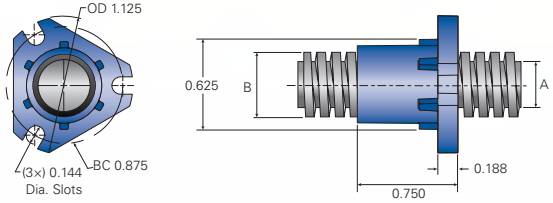
5/16 inch diameter
3/8 inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
5/16"	031	0.1000	100	0.1000	1	33-50	0.039	0.193	0.313	2.8
		0.2500	250	0.1250	2	58-73	0.063	0.216	0.313	3.1
		0.5000	500	0.1250	4	65-81	0.109	0.216	0.313	3.1
3/8"	037	0.0250	025	0.0250	1	10-18	0.028	0.345	0.375	5.3
		0.0394	039	0.0394	1	15-26	0.031	0.331	0.375	5.4
		0.0500	050	0.0500	1	18-31	0.033	0.320	0.375	5.1
		0.0625	062	0.0625	1	22-37	0.034	0.303	0.375	4.9
		0.0787	078	0.0787	1	27-43	0.036	0.286	0.375	4.7
		0.0833	083	0.0833	1	28-44	0.037	0.282	0.375	4.6
		0.1000	100	0.1000	1	33-50	0.039	0.255	0.375	4.3
		0.1250	125	0.0625	2	36-53	0.045	0.303	0.375	4.9
		0.1575	157	0.0787	2	42-59	0.050	0.286	0.375	4.7
		0.1667	166	0.0833	2	43-61	0.054	0.286	0.375	4.6
		0.1969	196	0.0394	5	45-63	0.058	0.330	0.375	5.3
		0.2000	200	0.1000	2	48-66	0.056	0.255	0.375	4.3
		0.2500	250	0.0625	4	51-68	0.067	0.303	0.375	5.0
		0.3333	333	0.0833	4	58-74	0.080	0.282	0.375	4.6
		0.3750	375	0.0938	4	59-75	0.089	0.303	0.375	4.9
		0.3937	393	0.0787	5	59-75	0.090	0.331	0.375	5.4
		0.4000	400	0.1000	4	61-77	0.092	0.255	0.375	4.3
		0.5000	500	0.2000	4	63-79	0.112	0.278	0.375	4.6
		1.0000	999	0.2000	5	64-80	0.221	0.238	0.375	4.0

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA031100R	NTA031100L	120	600	.22	HF37	0.64	NFA031100R	NFA031100L	80	400	.18
NTA031250R	NTA031250L	120	600	.22	HF37	0.64	NFA031250R	NFA031250L	80	400	.18
NTA031500R	NTA031500L	120	600	.22	HF37	0.64	NFA031500R	NFA031500L	80	400	.18
NTA037025R	NTA037025L	125	625	.22	HF37	0.64	NFA037025R	NFA037025L	85	425	.18
NTA037039R	NTA037039L	125	625	.22	HF37	0.64	NFA037039R	NFA037039L	85	425	.18
NTA037050R	NTA037050L	125	625	.22	HF37	0.64	NFA037050R	NFA037050L	85	425	.18
NTA037062R	NTA037062L	125	625	.22	HF37	0.64	NFA037062R	NFA037062L	85	425	.18
NTA037078R	NTA037078L	125	625	.22	HF37	0.64	NFA037078R	NFA037078L	85	425	.18
NTA037083R	NTA037083L	125	625	.22	HF37	0.64	NFA037083R	NFA037083L	85	425	.18
NTA037100R	NTA037100L	125	625	.22	HF37	0.64	NFA037100R	NFA037100L	85	425	.18
NTA037125R	NTA037125L	125	625	.22	HF37	0.64	NFA037125R	NFA037125L	85	425	.18
NTA037157R	NTA037157L	125	625	.22	HF37	0.64	NFA037157R	NFA037157L	85	425	.18
NTA037166R	NTA037166L	125	625	.22	HF37	0.64	NFA037166R	NFA037166L	85	425	.18
NTA037196R	NTA037196L	125	625	.22	HF37	0.64	NFA037196R	NFA037196L	85	425	.18
NTA037200R	NTA037200L	125	625	.22	HF37	0.64	NFA037200R	NFA037200L	85	425	.18
NTA037250R	NTA037250L	125	625	.22	HF37	0.64	NFA037250R	NFA037250L	85	425	.18
NTA037333R	NTA037333L	125	625	.22	HF37	0.64	NFA037333R	NFA037333L	85	425	.18
NTA037375R	NTA037375L	125	625	.22	HF37	0.64	NFA037375R	NFA037375L	85	425	.18
NTA037393R	NTA037393L	125	625	.22	HF37	0.64	NFA037393R	NFA037393L	85	425	.18
NTA037400R	NTA037400L	125	625	.22	HF37	0.64	NFA037400R	NFA037400L	85	425	.18
NTA037500R	NTA037500L	125	625	.22	HF37	0.64	NFA037500R	NFA037500L	85	425	.18
NTA037999R	NTA037999L	125	625	.22	HF37	0.64	NFA037999R	NFA037999L	85	425	.18

* See page 19 for material code

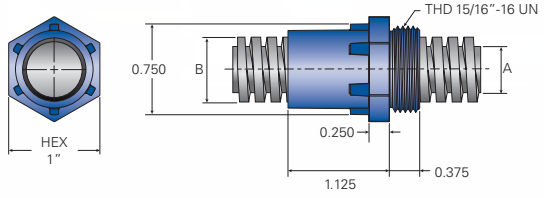
lubricants p. 18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

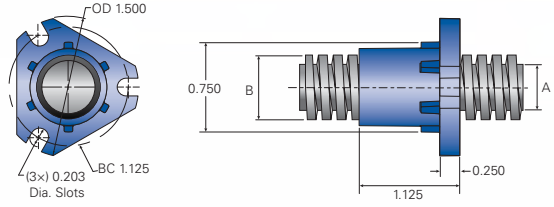
7/16 inch diameter
1/2 inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Inch (oz)
7/16"	043	1.2000	M31	0.2000	6	61-85	0.251	0.315	0.441	6.2
1/2"	050	0.1000	100	0.1000	1	32-40	0.044	0.359	0.500	7.9
		0.2000	200	0.1000	2	46-57	0.062	0.391	0.375	8.5
		0.2500	250	0.1250	2	50-63	0.071	0.332	0.500	7.4
		0.5000	500	0.1000	5	60-75	0.119	0.406	0.500	8.8
		1.0000	999	0.1250	8	64-80	0.221	0.392	0.500	8.5
		1.4000	M36	0.2000	7	69-86	0.290	0.378	0.504	8.3

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
NTA043M31R	NTA043M31L	200	1000	.60	HF50	1.34	NFA043M31R	NFA043M31L	150	750	.38
NTA050100R	NTA050100L	290	1450	.60	HF50	1.34	NFA050100R	NFA050100L	200	1000	.38
NTA050200R	NTA050200L	290	1450	.60	HF50	1.34	NFA050200R	NFA050200L	200	1000	.38
NTA050250R	NTA050250L	290	1450	.60	HF50	1.34	NFA050250R	NFA050250L	200	1000	.38
NTA050500R	NTA050500L	290	1450	.60	HF50	1.34	NFA050500R	NFA050500L	200	1000	.38
NTA050999R	NTA050999L	290	1450	.60	HF50	1.34	NFA050999R	NFA050999L	200	1000	.38
NTA050M36R	NTA050M36L	290	1450	.60	HF50	1.34	NFA050M36R	NFA050M36L	200	1000	.38

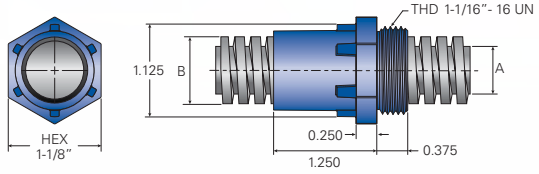
* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

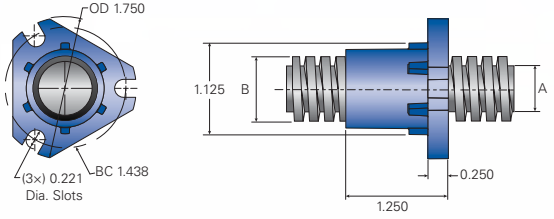
9/16 inch diameter
5/8 inch diameter
3/4 inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
9/16"	056	1.6000	M41	0.2000	8	69-86	0.330	0.411	0.567	14.0
5/8"	062	0.1000	100	0.1000	1	28-35	0.055	0.516	0.625	12.6
		0.1250	125	0.1250	1	32-40	0.069	0.457	0.625	13.2
		0.2000	200	0.1000	2	41-51	0.078	0.484	0.625	12.6
		0.3750	375	0.1250	3	53-66	0.101	0.457	0.625	12.1
3/4"	075	0.1000	100	0.1000	1	24-30	0.059	0.608	0.750	19.8
		0.1667	166	0.1667	1	34-43	0.070	0.537	0.750	17.8
		0.2000	200	0.2000	1	38-48	0.074	0.502	0.750	17.0
		0.3333	333	0.1667	2	54-60	0.093	0.537	0.750	17.8
		0.5000	500	0.1250	4	54-68	0.130	0.581	0.750	19.0

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA056M41R	NTA056M41L	335	1675	.96	HF60	2.2	NFA056M41R	NFA056M41L	220	1100	.75
NTA062100R	NTA062100L	350	1750	.96	HF60	2.2	NFA062100R	NFA062100L	250	1250	.75
NTA062125R	NTA062125L	350	1750	.96	HF60	2.2	NFA062125R	NFA062125L	250	1250	.75
NTA062200R	NTA062200L	350	1750	.96	HF60	2.2	NFA062200R	NFA062200L	250	1250	.75
NTA062375R	NTA062375L	350	1750	.96	HF60	2.2	NFA062375R	NFA062375L	250	1250	.75
NTA075100R	NTA075100L	440	2200	.96	HF60	2.2	NFA075100R	NFA075100L	330	1650	.75
NTA075166R	NTA075166L	440	2200	.96	HF60	2.2	NFA075166R	NFA075166L	330	1650	.75
NTA075200R	NTA075200L	440	2200	.96	HF60	2.2	NFA075200R	NFA075200L	330	1650	.75
NTA075333R	NTA075333L	440	2200	.96	HF60	2.2	NFA075333R	NFA075333L	330	1650	.75
NTA075500R	NTA075500L	440	2200	.96	HF60	2.2	NFA075500R	NFA075500L	330	1650	.75

* See page 19 for material code

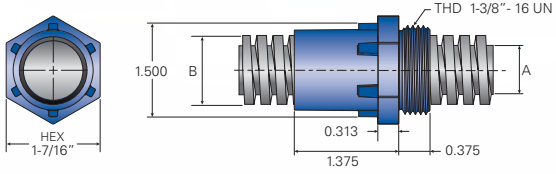
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

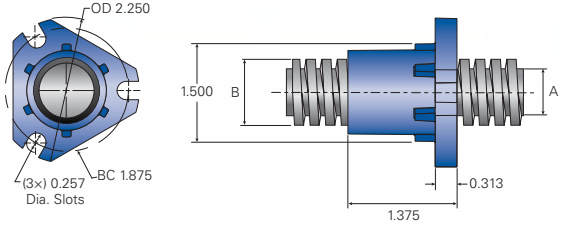
7/8 inch diameter
1 inch diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/8"	088	0.1667	166	0.1667	1	31-39	0.075	0.661	0.875	32.3
1"	100	0.1000	100	0.1000	1	19-24	0.072	0.786	1.000	36.9
		0.1667	166	0.1667	1	29-36	0.083	0.750	1.000	34.1
		0.2000	200	0.2000	1	32-40	0.088	0.698	1.000	32.8
		0.2500	250	0.2500	1	37-46	0.097	0.689	1.000	31.0
		0.5000	500	0.2500	2	50-63	0.142	0.906	1.000	31.0
		1.0000	999	0.1000	10	59-74	0.245	0.945	1.000	39.0
		3.0000	M76	0.2000	15	69-86	0.620	0.502	1.012	41.0

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
NTA088166R	NTA088166L	530	2650	1.6	HF75	3.2	NFA088166R	NFA088166L	400	2000	1.3
NTA100100R	NTA100100L	600	3000	1.6	HF75	3.2	NFA100100R	NFA100100L	460	2300	1.3
NTA100166R	NTA100166L	600	3000	1.6	HF75	3.2	NFA100166R	NFA100166L	460	2300	1.3
NTA100200R	NTA100200L	600	3000	1.6	HF75	3.2	NFA100200R	NFA100200L	460	2300	1.3
NTA100250R	NTA100250L	600	3000	1.6	HF75	3.2	NFA100250R	NFA100250L	460	2300	1.3
NTA100500R	NTA100500L	600	3000	1.6	HF75	3.2	NFA100500R	NFA100500L	460	2300	1.3
NTA100999R	NTA100999L	600	3000	1.6	HF75	3.2	NFA100999R	NFA100999L	460	2300	1.3
NTA100M76R	NTA100M76L	600	3000	1.6	HF75	3.2	NFA100M76R	NFA100M76L	460	2300	1.3

* See page 19 for material code

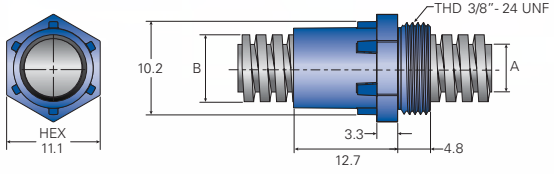
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

2D/3D CAD ONLINE

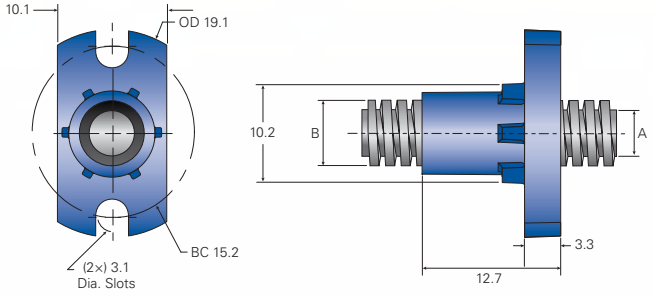
4mm diameter
5mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW										
Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
4MM	016	10.00	393	1.25	8	64-79	0.088	3.00	4.00	0.8
5MM	020	5.00	196	1.25	4	63-78	0.045	3.60	5.40	1.4

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA016393R	NTA016393L	45	225	0.06	HF10	0.06	NFA016393R	NFA016393L	35	175	0.06
NTA020196R	NTA020196L	60	300	0.06	HF10	0.06	NFA020196R	NFA020196L	50	250	0.06

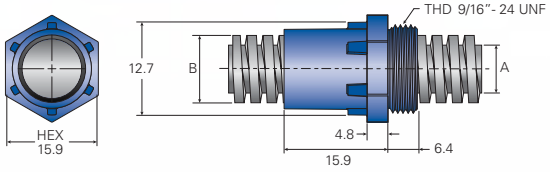
* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

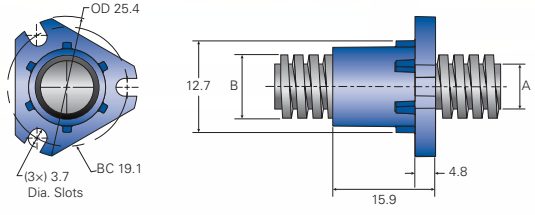
6mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
6MM	024	20.00	787	1.25	16	69-86	0.163	5.00	6.00	2.0

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA024787R	NTA024787L	110	550	0.15	HF25	0.28	NFA024787R	NFA024787L	75	350	0.11

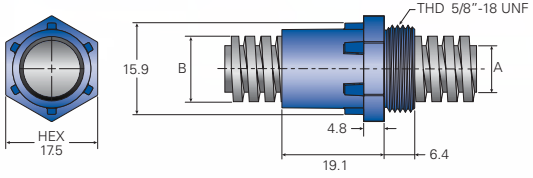
* See page 19 for material code

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

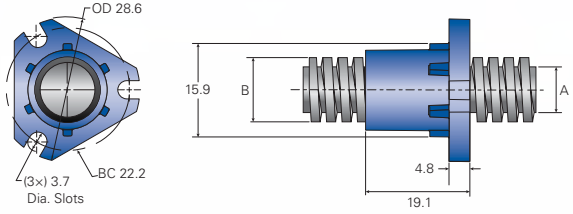
8mm diameter
10mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
8MM	032	4.00	157	2.00	2	51-68	0.042	5.50	7.90	3.0
		7.50	295	1.25	6	63-79	0.066	5.90	7.70	3.0
		8.00	315	2.00	4	64-80	0.070	5.74	8.00	3.2
		10.00	393	2.50	4	65-81	0.086	5.50	8.20	3.2
		12.00	472	2.40	5	65-81	0.103	5.90	8.10	3.3
		15.00	590	2.50	6	66-82	0.127	5.90	8.10	3.3
		20.00	787	4.00	5	67-84	0.167	5.80	8.90	3.6
		25.00	984	1.25	20	69-86	0.203	6.30	7.40	32
		30.00	M30	1.25	24	69-86	0.244	7.50	8.60	4.3
10MM	039	3.00	118	1.50	2	39-49	0.043	7.92	10.00	5.4
		10.00	393	1.25	8	63-79	0.088	8.20	10.00	5.5
		12.00	472	3.00	4	65-81	0.103	7.10	10.00	4.9
		15.00	590	2.00	5	66-82	0.127	7.40	10.00	5.0
		35.00	M35	1.25	28	69-86	0.285	8.90	10.00	6.0
		50.00	M50	5.00	10	67-84	0.418	7.40	10.00	5.0

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
NTA032157R	NTA032157L	122	610	0.22	HF37	0.64	NFA032157R	NFA032157L	82	410	0.18
NTA032295R	NTA032295L	122	610	0.22	HF37	0.64	NFA032295R	NFA032295L	82	410	0.18
NTA032315R	NTA032315L	122	610	0.22	HF37	0.64	NFA032315R	NFA032315L	82	410	0.18
NTA032393R	NTA032393L	122	610	0.22	HF37	0.64	NFA032393R	NFA032393L	82	410	0.18
NTA032472R	NTA032472L	122	610	0.22	HF37	0.64	NFA032472R	NFA032472L	82	410	0.18
NTA032590R	NTA032590L	122	610	0.22	HF37	0.64	NFA032590R	NFA032590L	82	410	0.18
NTA032787R	NTA032787L	122	610	0.22	HF37	0.64	NFA032787R	NFA032787L	82	410	0.18
NTA032984R	NTA032984L	122	610	0.22	HF37	0.64	NFA032984R	NFA032984L	82	410	0.18
NTA032M30R	NTA032M30L	122	610	0.22	HF37	0.64	NFA032M30R	NFA032M30L	82	410	0.18
NTA039118R	NTA039118L	145	725	0.22	HF37	0.64	NFA039118R	NFA039118L	100	500	0.18
NTA039393R	NTA039393L	145	725	0.22	HF37	0.64	NFA039393R	NFA039393L	100	500	0.18
NTA039472R	NTA039472L	145	725	0.22	HF37	0.64	NFA039472R	NFA039472L	100	500	0.18
NTA039590R	NTA039590L	145	725	0.22	HF37	0.64	NFA039590R	NFA039590L	100	500	0.18
NTA039M35R	NTA039M35L	145	725	0.22	HF37	0.64	NFA039M35R	NFA039M35L	100	500	0.18
NTA039M50R	NTA039M50L	145	725	0.22	HF37	0.64	NFA039M50R	NFA039M50L	100	500	0.18

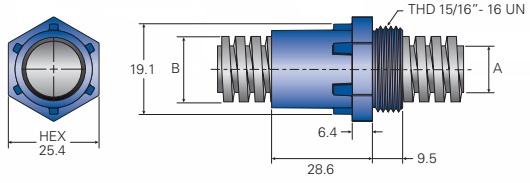
* See page 19 for material code

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

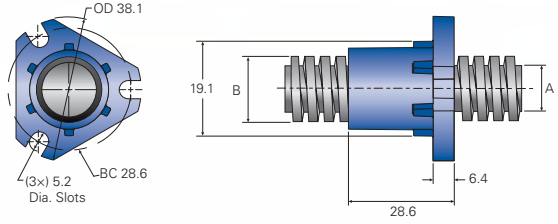
12mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
12MM	047	3.00	118	3.00	1	38-48	0.044	7.69	12.00	6.4
		15.00	590	3.00	5	65-82	0.129	9.20	12.00	7.6
		25.00	984	5.00	5	68-85	0.206	8.00	11.90	6.6
		40.00	M40	1.25	32	69-86	0.326	10.20	11.50	7.8
		45.00	M45	1.25	36	69-86	0.366	11.40	12.80	9.7
		60.00	M60	5.00	12	67-84	0.501	9.10	11.70	7.2

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA047118R	NTA047118L	245	1225	0.57	HF50	1.34	NFA047118R	NFA047118L	175	875	0.38
NTA047590R	NTA047590L	245	1225	0.57	HF50	1.34	NFA047590R	NFA047590L	175	875	0.38
NTA047984R	NTA047984L	245	1225	0.57	HF50	1.34	NFA047984R	NFA047984L	175	875	0.38
NTA047M40R	NTA047M40L	245	1225	0.57	HF50	1.34	NFA047M40R	NFA047M40L	175	875	0.38
NTA047M45R	NTA047M45L	245	1225	0.57	HF50	1.34	NFA047M45R	NFA047M45L	175	875	0.38
NTA047M60R	NTA047M60L	245	1225	0.57	HF50	1.34	NFA047M60R	NFA047M60L	175	875	0.38

* See page 19 for material code

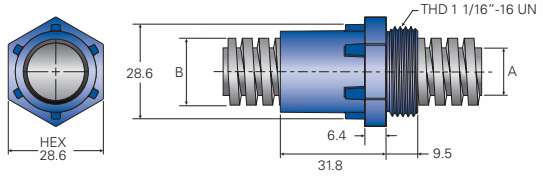
lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

2D/3D CAD ONLINE

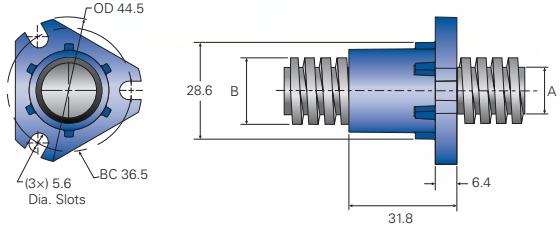
14mm diameter
16mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
14MM	055	8.00	315	4.00	2	56-70	0.080	9.80	14.00	9.4
		18.00	708	3.00	6	65-82	0.155	11.40	14.30	11.0
		20.00	787	5.00	4	67-83	0.167	8.80	13.30	8.2
		30.00	M30	5.00	6	68-85	0.247	10.10	13.90	9.6
		70.00	M70	5.00	14	67-84	0.585	10.90	13.50	9.9
16MM	063	4.00	157	4.00	1	37-46	0.061	10.90	16.00	12.0
		20.00	787	2.50	8	66-82	0.169	12.50	15.20	12.7
		21.00	826	3.00	7	66-82	0.178	13.60	16.50	15.0
		25.00	984	5.00	5	67-84	0.209	11.50	16.00	11.6
		35.00	M35	5.00	7	68-85	0.289	12.10	15.90	12.1
		45.72	M46	5.08	9	69-86	0.372	12.80	16.00	13.8
		80.00	M80	5.00	16	66-82	0.677	12.60	15.20	12.8
		90.00	M90	5.00	18	67-84	0.742	14.30	17.00	16.20

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
NTA055315R	NTA055315L	325	1625	0.96	HF60	2.2	NFA055315R	NFA055315L	210	1050	0.75
NTA055708R	NTA055708L	325	1625	0.96	HF60	2.2	NFA055708R	NFA055708L	210	1050	0.75
NTA055787R	NTA055787L	325	1625	0.96	HF60	2.2	NFA055787R	NFA055787L	210	1050	0.75
NTA055M30R	NTA055M30L	325	1625	0.96	HF60	2.2	NFA055M30R	NFA055M30L	210	1050	0.75
NTA055M70R	NTA055M70L	325	1625	0.96	HF60	2.2	NFA055M70R	NFA055M70L	210	1050	0.75
NTA063157R	NTA063157L	360	1775	0.96	HF60	2.2	NFA063157R	NFA063157L	260	1300	0.75
NTA063787R	NTA063787L	360	1775	0.96	HF60	2.2	NFA063787R	NFA063787L	260	1300	0.75
NTA063826R	NTA063826L	360	1775	0.96	HF60	2.2	NFA063826R	NFA063826L	260	1300	0.75
NTA063984R	NTA063984L	360	1775	0.96	HF60	2.2	NFA063984R	NFA063984L	260	1300	0.75
NTA063M35R	NTA063M35L	360	1775	0.96	HF60	2.2	NFA063M35R	NFA063M35L	260	1300	0.75
NTA063M46R	NTA063M46L	360	1775	0.96	HF60	2.2	NFA063M46R	NFA063M46L	260	1300	0.75
NTA063M80R	NTA063M80L	360	1775	0.96	HF60	2.2	NFA063M80R	NFA063M80L	260	1300	0.75
NTA063M90R	NTA063M90L	360	1775	0.96	HF60	2.2	NFA063M90R	NFA063M90L	260	1300	0.75

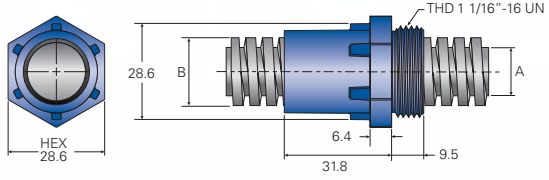
* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

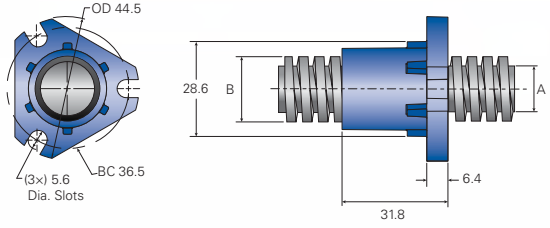
18mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW										
Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
18MM	071	16.00	629	4.00	4	62-77	0.145	14.30	18.00	17.4
		24.00	944	3.00	8	66-82	0.203	15.70	18.70	20.0
		30.00	M30	5.00	6	67-84	0.251	14.20	18.80	18.1
		40.00	M40	5.00	8	69-86	0.326	14.10	17.80	17.0
		50.80	M51	5.08	10	70-87	0.408	14.40	17.60	17.2
		100.00	M00	5.00	20	67-84	0.835	16.20	18.80	20.4

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
NTA071629R	NTA071629L	400	2000	0.96	HF60	2.2	NFA071629R	NFA071629L	300	1500	0.75
NTA071944R	NTA071944L	400	2000	0.96	HF60	2.2	NFA071944R	NFA071944L	300	1500	0.75
NTA071M30R	NTA071M30L	400	2000	0.96	HF60	2.2	NFA071M30R	NFA071M30L	300	1500	0.75
NTA071M40R	NTA071M40L	400	2000	0.96	HF60	2.2	NFA071M40R	NFA071M40L	300	1500	0.75
NTA071M51R	NTA071M51L	400	2000	0.96	HF60	2.2	NFA071M51R	NFA071M51L	300	1500	0.75
NTA071M00R	NTA071M00L	400	2000	0.96	HF60	2.2	NFA071M00R	NFA071M00L	300	1500	0.75

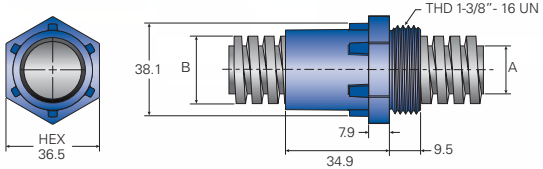
* See page 19 for material code

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

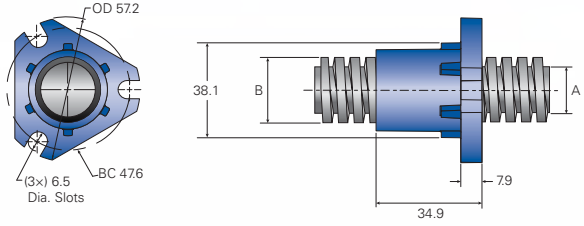
20mm diameter
22mm diameter
24mm diameter

- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

STANDARD THREADED NUT



STANDARD FLANGED NUT



LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter mm)	Weight Per Foot (oz)
20MM	079	4.00	157	4.00	1	32 - 40	0.070	14.90	20.00	20.2
		12.00	472	4.00	3	57 - 71	0.117	15.80	20.00	21.3
		27.00	M27	3.00	9	67 - 84	0.226	17.90	20.80	24.8
		45.00	M45	5.00	9	69 - 86	0.366	16.10	20.00	21.6
22MM	087	20.00	787	4.00	5	62 - 78	0.179	18.30	22.00	26.9
		35.00	M35	5.00	7	68 - 85	0.289	17.00	21.50	24.6
		50.00	M50	5.00	10	70 - 87	0.402	18.10	22.00	26.7
24MM	094	30.00	M30	3.00	10	66 - 82	0.254	20.00	23.00	30.7
		40.00	M40	5.00	8	67 - 84	0.334	19.80	24.30	32.3
		55.00	M55	5.00	11	69 - 86	0.448	20.10	24.00	32.2

* Torque required to raise 1lb.

STANDARD THREADED NUT					FLANGE		STANDARD FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
NTA079157R	NTA079157L	480	2400	1.59	HF75	3.2	NFA079157R	NFA079157L	370	1850	1.29
NTA079472R	NTA079472L	480	2400	1.59	HF75	3.2	NFA079472R	NFA079472L	370	1850	1.29
NTA079M27R	NTA079M27L	480	2400	1.59	HF75	3.2	NFA079M27R	NFA079M27L	370	1850	1.29
NTA079M45R	NTA079M45L	480	2400	1.59	HF75	3.2	NFA079M45R	NFA079M45L	370	1850	1.29
NTA087787R	NTA087787L	530	2650	1.59	HF75	3.2	NFA087787R	NFA087787L	400	2000	1.29
NTA087M35R	NTA087M35L	530	2650	1.59	HF75	3.2	NFA087M35R	NFA087M35L	400	2000	1.29
NTA087M50R	NTA087M50L	530	2650	1.59	HF75	3.2	NFA087M50R	NFA087M50L	400	2000	1.29
NTA094M30R	NTA094M30L	660	3300	1.59	HF75	3.2	NFA094M30R	NFA094M30L	500	2500	1.29
NTA094M40R	NTA094M40L	660	3300	1.59	HF75	3.2	NFA094M40R	NFA094M40L	500	2500	1.29
NTA094M55R	NTA094M55L	660	3300	1.59	HF75	3.2	NFA094M55R	NFA094M55L	500	2500	1.29

* See page 19 for material code

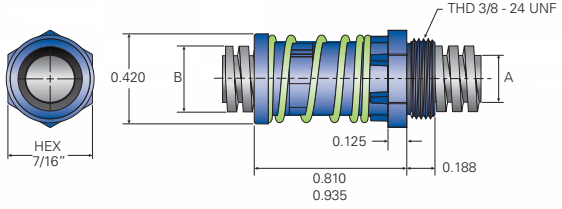
lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

1/8 inch diameter

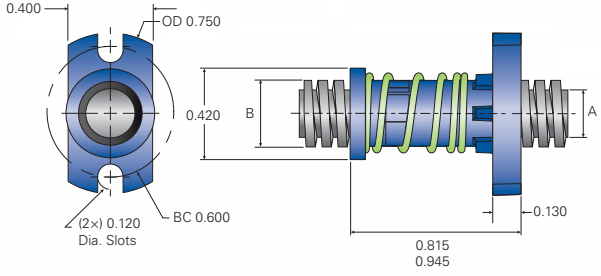
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per foot (oz)
1/8"	012	0.0240	024	0.0240	1	25-40	0.012	0.098	0.125	0.55
		0.0313	031	0.0313	1	30-47	0.013	0.094	0.130	0.55
		0.0394	039	0.0394	1	35-52	0.015	0.090	0.134	0.55
		0.0480	048	0.0240	2	40-57	0.016	0.098	0.125	0.55
		0.0625	062	0.0313	2	45-63	0.018	0.094	0.130	0.55
		0.0750	075	0.0250	3	49-67	0.021	0.096	0.127	0.55
		0.0787	078	0.0394	2	50-68	0.021	0.090	0.134	0.55
		0.0960	096	0.0240	4	55-71	0.024	0.098	0.125	0.55
		0.1250	125	0.0313	4	59-75	0.030	0.094	0.130	0.55
		0.1575	157	0.0394	4	63-78	0.036	0.090	0.134	0.55

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA012024R	ATA012024L	35	175	0.9	HF10	0.06	AFA012024R	AFA012024L	20	100	0.8
ATA012031R	ATA012031L	35	175	0.9	HF10	0.06	AFA012031R	AFA012031L	20	100	0.8
ATA012039R	ATA012039L	35	175	0.9	HF10	0.06	AFA012039R	AFA012039L	20	100	0.8
ATA012048R	ATA012048L	35	175	0.9	HF10	0.06	AFA012048R	AFA012048L	20	100	0.8
ATA012062R	ATA012062L	35	175	0.9	HF10	0.06	AFA012062R	AFA012062L	20	100	0.8
ATA012075R	ATA012075L	35	175	0.9	HF10	0.06	AFA012075R	AFA012075L	20	100	0.8
ATA012078R	ATA012078L	35	175	0.9	HF10	0.06	AFA012078R	AFA012078L	20	100	0.8
ATA012096R	ATA012096L	35	175	0.9	HF10	0.06	AFA012096R	AFA012096L	20	100	0.8
ATA012125R	ATA012125L	35	175	0.9	HF10	0.06	AFA012125R	AFA012125L	20	100	0.8
ATA012157R	ATA012157L	35	175	0.9	HF10	0.06	AFA012157R	AFA012157L	20	100	0.8

* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

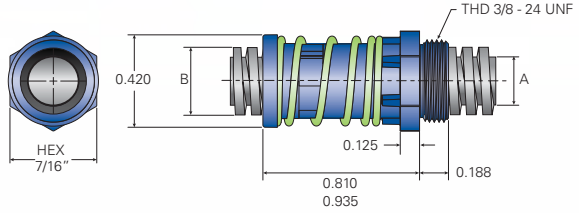
2D/3D CAD ONLINE

3/16 inch diameter

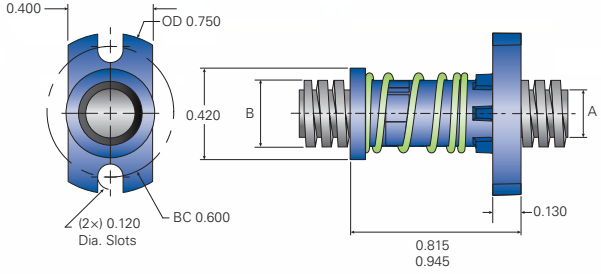
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
3/16"	018	0.0240	024	0.0240	1	17-29	0.016	0.177	0.204	1.58
		0.0250	025	0.0250	1	17-29	0.017	0.175	0.205	1.58
		0.0313	031	0.0313	1	21-34	0.018	0.172	0.208	1.58
		0.0394	039	0.0394	1	24-39	0.020	0.168	0.213	1.58
		0.0480	048	0.0480	1	28-44	0.021	0.164	0.217	1.58
		0.0500	050	0.0500	1	29-45	0.022	0.163	0.218	1.58
		0.0625	062	0.0313	2	34-51	0.024	0.172	0.208	1.58
		0.0787	078	0.0394	2	39-56	0.027	0.168	0.213	1.58
		0.0960	096	0.0480	2	43-61	0.029	0.164	0.217	1.58
		0.1000	100	0.0500	2	44-62	0.030	0.163	0.218	1.58
		0.1250	125	0.0313	4	49-66	0.035	0.172	0.208	1.58
		0.1575	157	0.0394	4	54-71	0.040	0.168	0.213	1.58
		0.2000	200	0.0500	4	58-74	0.048	0.163	0.218	1.58

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA018024R	ATA018024L	35	175	0.9	HF10	0.06	AFA018024R	AFA018024L	55	275	0.8
ATA018025R	ATA018025L	35	175	0.9	HF10	0.06	AFA018025R	AFA018025L	55	275	0.8
ATA018031R	ATA018031L	35	175	0.9	HF10	0.06	AFA018031R	AFA018031L	55	275	0.8
ATA018039R	ATA018039L	35	175	0.9	HF10	0.06	AFA018039R	AFA018039L	55	275	0.8
ATA018048R	ATA018048L	35	175	0.9	HF10	0.06	AFA018048R	AFA018048L	55	275	0.8
ATA018050R	ATA018050L	35	175	0.9	HF10	0.06	AFA018050R	AFA018050L	55	275	0.8
ATA018062R	ATA018062L	35	175	0.9	HF10	0.06	AFA018062R	AFA018062L	55	275	0.8
ATA018078R	ATA018078L	35	175	0.9	HF10	0.06	AFA018078R	AFA018078L	55	275	0.8
ATA018096R	ATA018096L	35	175	0.9	HF10	0.06	AFA018096R	AFA018096L	55	275	0.8
ATA018100R	ATA018100L	35	175	0.9	HF10	0.06	AFA018100R	AFA018100L	55	275	0.8
ATA018125R	ATA018125L	35	175	0.9	HF10	0.06	AFA018125R	AFA018125L	55	275	0.8
ATA018157R	ATA018157L	35	175	0.9	HF10	0.06	AFA018157R	AFA018157L	55	275	0.8
ATA018200R	ATA018200L	35	175	0.9	HF10	0.06	AFA018200R	AFA018200L	55	275	0.8

* See page 19 for material code

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

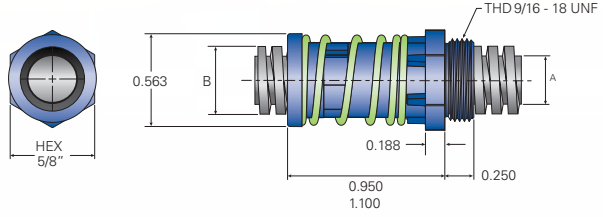
2D/3D CAD ONLINE

¼ inch diameter

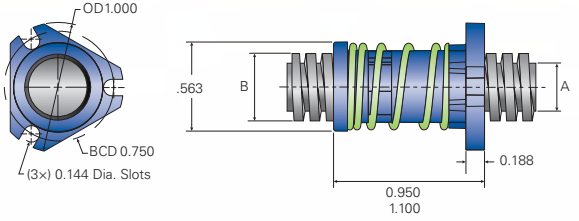
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
¼"	025	0.0240	024	0.0240	1	14-24	0.020	0.223	0.250	2.4
		0.0250	025	0.0250	1	14-25	0.021	0.220	0.250	2.4
		0.0313	031	0.0313	1	18-30	0.021	0.214	0.250	2.3
		0.0394	039	0.0394	1	21-35	0.022	0.206	0.250	2.3
		0.0480	048	0.0480	1	25-40	0.024	0.197	0.250	2.1
		0.0500	050	0.0500	1	26-41	0.024	0.195	0.250	2.1
		0.0625	062	0.0625	1	31-48	0.026	0.178	0.250	2.0
		0.0787	078	0.0394	2	35-52	0.029	0.206	0.250	2.3
		0.0960	096	0.0480	2	39-57	0.032	0.197	0.250	2.1
		0.1000	100	0.0500	2	41-58	0.032	0.195	0.250	2.1
		0.1250	125	0.0625	2	46-64	0.036	0.178	0.250	2.0
		0.1575	157	0.0394	4	50-67	0.043	0.206	0.250	2.2
		0.1969	196	0.0394	5	55-71	0.050	0.206	0.250	2.2
		0.2000	200	0.0500	4	60-75	0.058	0.195	0.250	2.1
		0.2500	250	0.0625	4	60-76	0.059	0.178	0.250	2.2
		0.3333	333	0.0833	4	63-79	0.075	0.192	0.250	2.0
		0.5000	500	0.1250	4	63-79	0.112	0.181	0.248	2.0
		1.0000	999	0.1000	10	63-79	0.224	0.165	0.250	1.9

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA025024R	ATA025024L	115	575	0.19	HF25	0.28	AFA025024R	AFA025024L	75	375	0.15
ATA025025R	ATA025025L	115	575	0.19	HF25	0.28	AFA025025R	AFA025025L	75	375	0.15
ATA025031R	ATA025031L	115	575	0.19	HF25	0.28	AFA025031R	AFA025031L	75	375	0.15
ATA025039R	ATA025039L	115	575	0.19	HF25	0.28	AFA025039R	AFA025039L	75	375	0.15
ATA025048R	ATA025048L	115	575	0.19	HF25	0.28	AFA025048R	AFA025048L	75	375	0.15
ATA025050R	ATA025050L	115	575	0.19	HF25	0.28	AFA025050R	AFA025050L	75	375	0.15
ATA025062R	ATA025062L	115	575	0.19	HF25	0.28	AFA025062R	AFA025062L	75	375	0.15
ATA025078R	ATA025078L	115	575	0.19	HF25	0.28	AFA025078R	AFA025078L	75	375	0.15
ATA025096R	ATA025096L	115	575	0.19	HF25	0.28	AFA025096R	AFA025096L	75	375	0.15
ATA025100R	ATA025100L	115	575	0.19	HF25	0.28	AFA025100R	AFA025100L	75	375	0.15
ATA025125R	ATA025125L	115	575	0.19	HF25	0.28	AFA025125R	AFA025125L	75	375	0.15
ATA025157R	ATA025157L	115	575	0.19	HF25	0.28	AFA025157R	AFA025157L	75	375	0.15
ATA025196R	ATA025196L	115	575	0.19	HF25	0.28	AFA025196R	AFA025196L	75	375	0.15
ATA025200R	ATA025200L	115	575	0.19	HF25	0.28	AFA025200R	AFA025200L	75	375	0.15
ATA025250R	ATA025250L	115	575	0.19	HF25	0.28	AFA025250R	AFA025250L	75	375	0.15
ATA025333R	ATA025333L	115	575	0.19	HF25	0.28	AFA025333R	AFA025333L	75	375	0.15
ATA025500R	ATA025500L	115	575	0.19	HF25	0.28	AFA025500R	AFA025500L	75	375	0.15
AT025999R	ATA025999L	115	575	0.19	HF25	0.28	AFA025999R	AFA025999L	75	375	0.15

* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

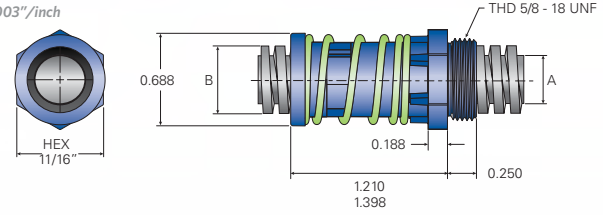
2D/3D CAD ONLINE

5/16 inch diameter
3/8 inch diameter

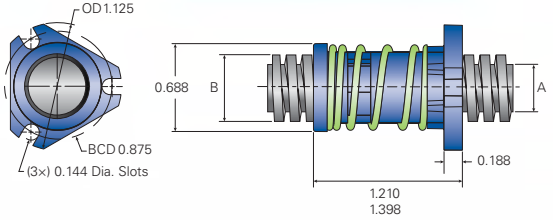
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.8 - 5.3

ANTI-BACKLASH THREADED NUT



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.8 - 5.3

LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
5/16"	031	0.1000	100	0.1000	1	33-50	0.039	0.193	0.313	2.8
		0.2500	250	0.1250	2	58-73	0.063	0.216	0.313	3.0
		0.5000	500	0.1250	4	65-81	0.109	0.216	0.313	3.0
3/8"	037	0.0250	025	0.0250	1	10-18	0.028	0.345	0.375	5.3
		0.0394	039	0.0394	1	15-26	0.031	0.331	0.375	5.4
		0.0500	050	0.0500	1	18-31	0.033	0.320	0.375	5.0
		0.0625	062	0.0625	1	22-37	0.034	0.303	0.375	5.0
		0.0787	078	0.0787	1	27-43	0.036	0.286	0.375	4.7
		0.0833	083	0.0833	1	28-44	0.037	0.282	0.375	4.6
		0.1000	100	0.1000	1	33-50	0.039	0.255	0.375	4.3
		0.1250	125	0.0625	2	36-53	0.045	0.303	0.375	5.0
		0.1575	157	0.0787	2	42-59	0.050	0.286	0.375	4.7
		0.1667	166	0.0833	2	43-61	0.051	0.286	0.375	4.6
		0.1969	196	0.0394	5	45-63	0.058	0.330	0.375	5.3
		0.2000	200	0.1000	2	48-66	0.056	0.255	0.375	4.3
		0.2500	250	0.0625	4	51-68	0.067	0.303	0.375	5.0
		0.3333	333	0.0833	4	58-74	0.080	0.282	0.375	4.6
		0.3750	375	0.0938	4	59-75	0.089	0.303	0.375	5.0
		0.3937	393	0.0787	5	59-75	0.094	0.331	0.375	5.4
		0.4000	400	0.1000	4	61-77	0.092	0.255	0.375	4.3
		0.5000	500	0.2000	4	63-79	0.112	0.278	0.375	4.6
		1.0000	999	0.2000	5	64-80	0.221	0.238	0.375	4.0

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA031100R	ATA031100L	120	600	0.30	HF37	0.64	AFA031100R	AFA031100L	80	400	0.26
ATA031250R	ATA031250L	120	600	0.30	HF37	0.64	AFA031250R	AFA031250L	80	400	0.26
ATA031500R	ATA031500L	120	600	0.30	HF37	0.64	AFA031500R	AFA031500L	80	400	0.26
ATA037025R	ATA037025L	125	625	0.30	HF37	0.64	AFA037025R	AFA037025L	85	425	0.26
ATA037039R	ATA037039L	125	625	0.30	HF37	0.64	AFA037039R	AFA037039L	85	425	0.26
ATA037050R	ATA037050L	125	625	0.30	HF37	0.64	AFA037050R	AFA037050L	85	425	0.26
ATA037062R	ATA037062L	125	625	0.30	HF37	0.64	AFA037062R	AFA037062L	85	425	0.26
ATA037078R	ATA037078L	125	625	0.30	HF37	0.64	AFA037078R	AFA037078L	85	425	0.26
ATA037083R	ATA037083L	125	625	0.30	HF37	0.64	AFA037083R	AFA037083L	85	425	0.26
ATA037100R	ATA037100L	125	625	0.30	HF37	0.64	AFA037100R	AFA037100L	85	425	0.26
ATA037125R	ATA037125L	125	625	0.30	HF37	0.64	AFA037125R	AFA037125L	85	425	0.26
ATA037157R	ATA037157L	125	625	0.30	HF37	0.64	AFA037157R	AFA037157L	85	425	0.26
ATA037166R	ATA037166L	125	625	0.30	HF37	0.64	AFA037166R	AFA037166L	85	425	0.26
ATA037196R	ATA037196L	125	625	0.30	HF37	0.64	AFA037196R	AFA037196L	85	425	0.26
ATA037200R	ATA037200L	125	625	0.30	HF37	0.64	AFA037200R	AFA037200L	85	425	0.26
ATA037250R	ATA037250L	125	625	0.30	HF37	0.64	AFA037250R	AFA037250L	85	425	0.26
ATA037333R	ATA037333L	125	625	0.30	HF37	0.64	AFA037333R	AFA037333L	85	425	0.26
ATA037375R	ATA037375L	125	625	0.30	HF37	0.64	AFA037375R	AFA037375L	85	425	0.26
ATA037393R	ATA037393L	125	625	0.30	HF37	0.64	AFA037393R	AFA037393L	85	425	0.26
ATA037400R	ATA037400L	125	625	0.30	HF37	0.64	AFA037400R	AFA037400L	85	425	0.26
ATA037500R	ATA037500L	125	625	0.30	HF37	0.64	AFA037500R	AFA037500L	85	425	0.26
ATA037999R	ATA037999L	125	625	0.30	HF37	0.64	AFA037999R	AFA037999L	85	425	0.26

* See page 19 for material code

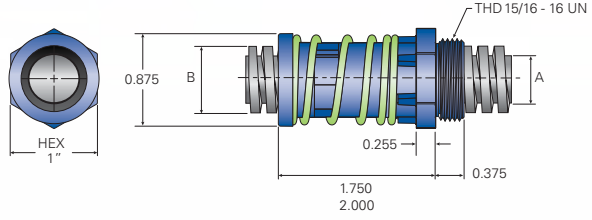
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

7/16 inch diameter
1/2 inch diameter

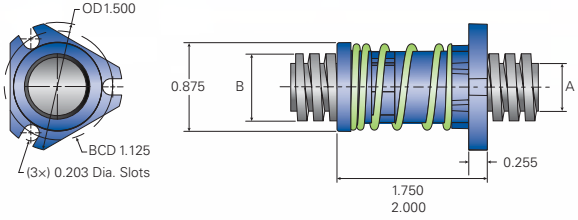
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/16"	043	1.2000	M31	0.2000	6	65-85	0.251	0.315	0.441	6.1
1/2"	050	0.1000	100	0.1000	1	32-40	0.044	0.359	0.500	7.9
		0.2000	200	0.1000	2	46-57	0.062	0.391	0.500	8.5
		0.2500	250	0.1250	2	50-63	0.071	0.332	0.500	7.4
		0.5000	500	0.1000	5	60-75	0.119	0.406	0.500	8.8
		1.0000	999	0.1250	8	64-80	0.221	0.392	0.500	8.5
		1.4000	M36	0.2000	7	69-86	0.290	0.378	0.504	8.3

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA043M31R	ATA043M31L	200	1000	0.73	HF50	1.34	AFA043M31R	AFA043M31L	80	400	0.54
ATA050100R	ATA050100L	290	1450	0.73	HF50	1.34	AFA050100R	AFA050100L	85	425	0.54
ATA050200R	ATA050200L	290	1450	0.73	HF50	1.34	AFA050200R	AFA050200L	85	425	0.54
ATA050250R	ATA050250L	290	1450	0.73	HF50	1.34	AFA050250R	AFA050250L	85	425	0.54
ATA050500R	ATA050500L	290	1450	0.73	HF50	1.34	AFA050500R	AFA050500L	85	425	0.54
ATA050999R	ATA050999L	290	1450	0.73	HF50	1.34	AFA050999R	AFA050999L	85	425	0.54
ATA050M36R	ATA050M36L	290	1450	0.73	HF50	1.34	AFA050M36R	AFA050M36L	85	425	0.54

* See page 19 for material code

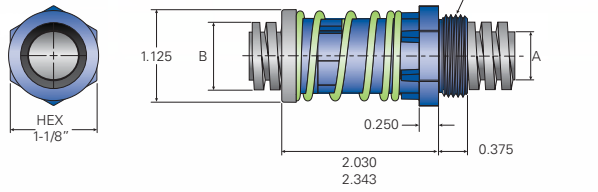
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

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

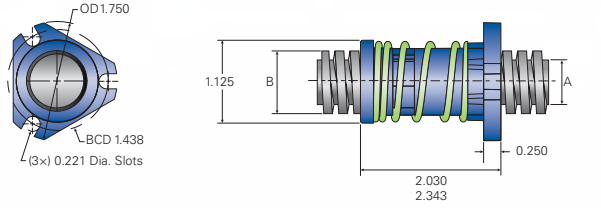
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (in)	Lead Code	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
9/16"	056	1.6000	M41	0.2000	8	69-86	0.050	0.411	0.567	14.0
5/8"	062	0.1000	100	0.1000	1	28-35	0.055	0.516	0.625	12.5
		0.1250	125	0.1250	1	32-40	0.069	0.457	0.625	13.2
		0.2000	200	0.1000	2	41-51	0.079	0.484	0.625	12.5
		0.3750	375	0.1250	3	53-66	0.101	0.457	0.625	12.1
3/4"	075	0.1000	100	0.1000	1	24-30	0.059	0.608	0.750	19.8
		0.1667	166	0.1667	1	34-43	0.070	0.537	0.750	17.7
		0.2000	200	0.2000	1	38-48	0.074	0.502	0.750	16.8
		0.3333	333	0.1667	2	54-60	0.093	0.537	0.750	17.7
		0.5000	500	0.1250	4	54-68	0.130	0.581	0.750	19.0

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA056M41R	ATA056M41L	335	1675	1.3	HF60	2.2	AFA056M41R	AFA056M41L	220	1100	1.1
ATA062100R	ATA062100L	350	1750	1.3	HF60	2.2	AFA062100R	AFA062100L	250	1250	1.1
ATA062125R	ATA062125L	350	1750	1.3	HF60	2.2	AFA062125R	AFA062125L	250	1250	1.1
ATA062200R	ATA062200L	350	1750	1.3	HF60	2.2	AFA062200R	AFA062200L	250	1250	1.1
ATA062375R	ATA062375L	350	1750	1.3	HF60	2.2	AFA062375R	AFA062375L	250	1250	1.1
ATA075100R	ATA075100L	440	2200	1.3	HF60	2.2	AFA0075100R	AFA075100L	330	1650	1.1
ATA075166R	ATA075166L	440	2200	1.3	HF60	2.2	AFA0075166R	AFA075166L	330	1650	1.1
ATA075200R	ATA075200L	440	2200	1.3	HF60	2.2	AFA0075200R	AFA075200L	330	1650	1.1
ATA075333R	ATA075333L	440	2200	1.3	HF60	2.2	AFA0075333R	AFA075333L	330	1650	1.1
ATA075500R	ATA075500L	440	2200	1.3	HF60	2.2	AFA0075500R	AFA075500L	330	1650	1.1

* See page 19 for material code

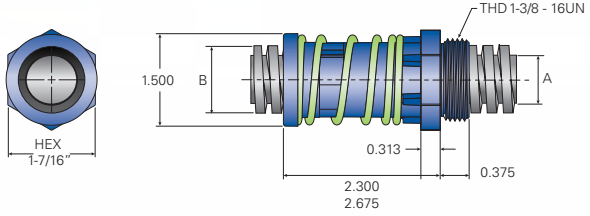
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

7/8 inch diameter
1 inch diameter

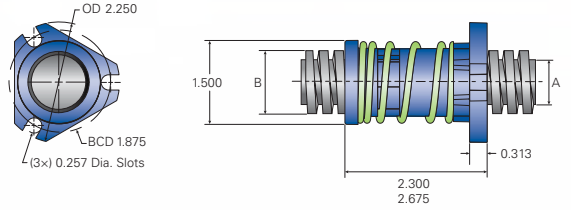
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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	Pitch (in)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (in)	"B" Outside Diameter (in)	Weight Per Foot (oz)
7/8"	088	0.1667	166	0.1667	1	31-39	0.075	0.661	0.875	25.3
1"	100	0.1000	100	0.1000	1	19-24	0.072	0.857	1.000	36.9
		0.1667	166	0.1667	1	29-36	0.083	0.786	1.000	34.1
		0.2000	200	0.2000	1	32-40	0.088	0.750	1.000	32.8
		0.2500	250	0.2500	1	37-46	0.097	0.698	1.000	30.9
		0.5000	500	0.2500	2	50-63	0.142	0.689	1.000	30.9
		1.0000	999	0.1000	10	59-74	0.245	0.906	1.000	38.9
		3.0000	M76	0.2000	15	69-86	0.620	0.945	1.012	40.9

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA088166R	ATA088166L	530	2650	2.1	HF75	3.2	AFA088166R	AFA088166L	400	2000	1.9
ATA100100R	ATA100100L	600	3000	2.1	HF75	3.2	AFA100100R	AFA100100L	460	2300	1.9
ATA100166R	ATA100166L	600	3000	2.1	HF75	3.2	AFA100166R	AFA100166L	460	2300	1.9
ATA100200R	AT100200L	600	3000	2.1	HF75	3.2	AFA100200R	AFA100200L	460	2300	1.9
ATA100250R	ATA100250L	600	3000	2.1	HF75	3.2	AFA100250R	AFA100250L	460	2300	1.9
ATA100500R	ATA100500L	600	3000	2.1	HF75	3.2	AFA100500R	AFA100500L	460	2300	1.9
ATA100999R	ATA100999L	600	3000	2.1	HF75	3.2	AFA100999R	AFA100999L	460	2300	1.9
ATA100M76R	ATA100M76L	600	3000	2.1	HF75	3.2	AFA100M76R	AFA100M76L	460	2300	1.9

* See page 19 for material code

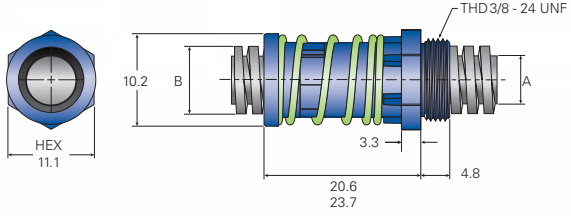
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

4mm diameter
5mm diameter

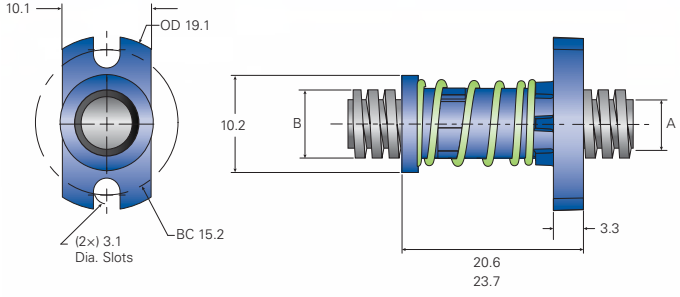
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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 (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
4MM	016	10.00	393	1.25	8	64-79	0.088	3.0	4.00	0.8
5MM	020	5.00	196	1.25	4	63-78	0.045	3.60	5.39	1.4

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb.)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb.)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA016393R	ATA016393L	45	225	0.9	HF10	0.06	AFA016393R	AFA016393L	35	175	.08
ATA020196R	ATA020196L	60	300	0.9	HF10	0.06	AFA020196R	AFA020196L	50	250	.08

* See page 19 for material code

METRIC SCREWS - ANTI-BACKLASH NUTS

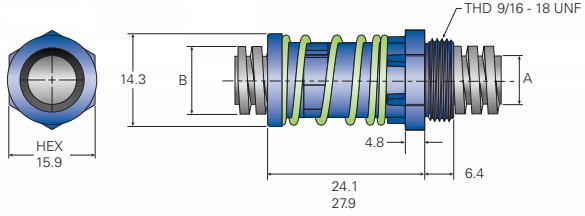
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

6mm diameter

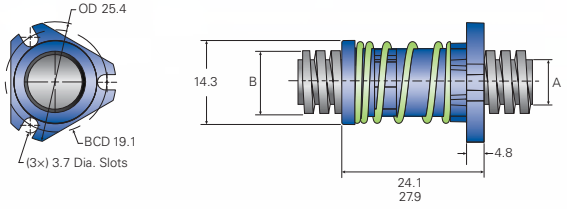
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

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



ANTI-BACKLASH FLANGED 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 (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
6MM	024	20.00	787	1.25	16	68-86	0.163	5.00	6.00	2.1

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb.)					Part Number		Load Capacity (lb.)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA024787R	ATA024787L	110	550	0.19	HF25	0.28	AFA024787R	AFA024787L	70	350	0.15

* See page 19 for material code

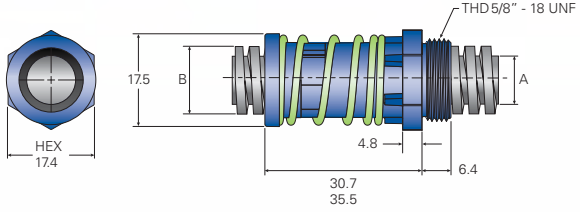
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

8mm diameter
10mm diameter

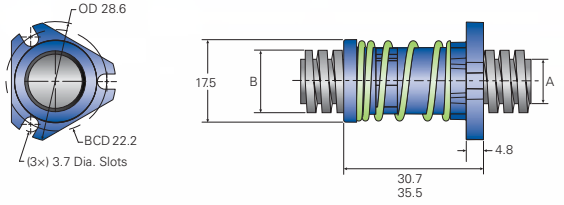
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.8 - 5.3



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.0 - 2.5
High Force Spring	1.8 - 5.3

LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
8MM	032	4.00	157	2.00	2	51-68	0.042	5.51	7.90	3.1
		7.50	295	1.25	6	63-79	0.066	5.89	7.70	3.1
		8.00	315	2.00	4	64-80	0.070	5.74	8.00	3.2
		10.00	393	2.50	4	65-81	0.086	5.51	8.20	3.2
		12.00	472	2.40	5	65-81	0.103	5.89	8.10	3.3
		15.00	590	2.50	6	66-82	0.127	5.89	8.10	3.3
		20.00	787	4.00	5	67-84	0.167	5.79	8.90	3.6
		25.00	984	1.25	20	69-86	0.203	6.30	7.40	3.2
		30.00	M30	1.25	24	69-86	0.244	7.49	8.60	4.3
10MM	039	3.00	118	1.50	2	39-49	0.043	7.92	10.00	5.4
		10.00	393	1.25	8	63-79	0.088	8.20	10.00	5.5
		12.00	472	3.00	4	65-81	0.103	7.10	10.00	4.9
		15.00	590	2.00	5	66-82	0.127	7.40	10.00	5.0
		35.00	M35	1.25	28	69-86	0.285	8.90	10.00	6.0
		50.00	M50	5.00	10	67-84	0.418	7.40	10.00	5.0

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb.)					Part Number		Load Capacity (lb.)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA032157R	ATA032157L	122	610	0.30	HF37	0.64	AFA032157R	AFA032157L	82	410	0.26
ATA032295R	ATA032295L	122	610	0.30	HF37	0.64	AFA032295R	AFA032295L	82	410	0.26
ATA032315R	ATA032315L	122	610	0.30	HF37	0.64	AFA032315R	AFA032315L	82	410	0.26
ATA032393R	ATA032393L	122	610	0.30	HF37	0.64	AFA032393R	AFA032393L	82	410	0.26
ATA032472R	ATA032472L	122	610	0.30	HF37	0.64	AFA032472R	AFA032472L	82	410	0.26
ATA032590R	ATA032590L	122	610	0.30	HF37	0.64	AFA032590R	AFA032590L	82	410	0.26
ATA032787R	ATA032787L	122	610	0.30	HF37	0.64	AFA032787R	AFA032787L	82	410	0.26
ATA032984R	ATA032984L	122	610	0.30	HF37	0.64	AFA032984R	AFA032984L	82	410	0.26
ATA032M30R	ATA032M30L	122	610	0.30	HF37	0.64	AFA032M30R	AFA032M30L	82	410	0.26
ATA039118R	ATA039118L	100	500	0.30	HF37	0.64	AFA039118R	AFA039118L	145	725	0.26
ATA039393R	ATA039393L	100	500	0.30	HF37	0.64	AFA039393R	AFA039393L	145	7 25	0.26
ATA039472R	ATA039472L	100	500	0.30	HF37	0.64	AFA039472R	AFA039472L	145	725	0.26
ATA039590R	ATA039590L	100	500	0.30	HF37	0.64	AFA039590R	AFA039590L	145	725	0.26
ATA039M35R	ATA039M35L	100	500	0.30	HF37	0.64	AFA039M35R	AFA039M35L	145	725	0.26
ATA039M50R	ATA039M50L	100	500	0.30	HF37	0.64	AFA039M50R	AFA039M50L	145	725	0.26

* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

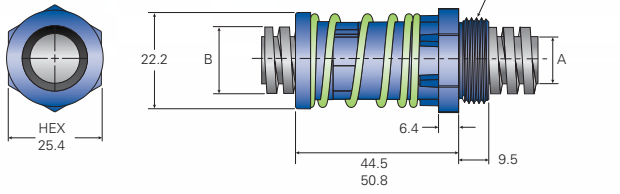
2D/3D CAD ONLINE

12mm diameter

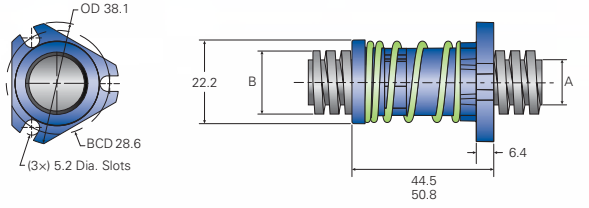
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.80 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
12MM	047	3.00	118	3.00	1	38-48	0.044	7.69	12.00	6.5
		15.00	590	3.00	5	65-82	0.129	9.20	12.20	7.6
		25.00	984	5.00	5	68-85	0.206	8.00	11.90	6.6
		40.00	M40	1.25	32	69-86	0.326	10.20	11.50	7.8
		45.00	M45	1.25	36	69-86	0.366	11.40	12.80	9.7
		60.00	M60	5.00	12	67-84	0.501	9.10	11.70	7.2

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb.)					Part Number		Load Capacity (lb.)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA047118R	ATA047118L	245	1225	0.73	HF50	1.34	AFA047118R	AFA047118L	175	875	0.54
ATA047590R	ATA047590L	245	1225	0.73	HF50	1.34	AFA047590R	AFA047590L	175	875	0.54
ATA047948R	ATA047984L	245	1225	0.73	HF50	1.34	AFA047984R	AFA047984L	175	875	0.54
ATA047M40R	ATA047M40L	245	1225	0.73	HF50	1.34	AFA047M40R	AFA047M40L	175	875	0.54
ATA047M45R	ATA047M45L	245	1225	0.73	HF50	1.34	AFA047M45R	AFA047M45L	175	875	0.54
ATA047M60R	ATA047M60L	245	1225	0.73	HF50	1.34	AFA047M60R	AFA047M60L	175	875	0.54

* See page 19 for material code

METRIC SCREWS - ANTI-BACKLASH NUTS

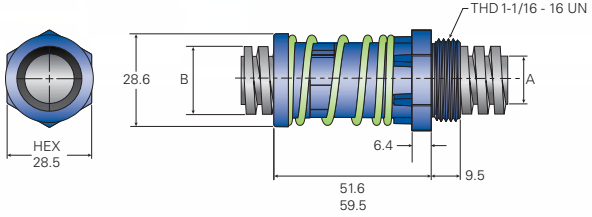
lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

14mm diameter
16mm diameter

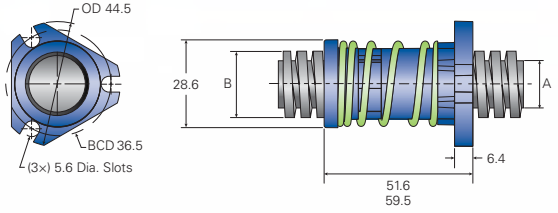
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
14MM	055	8.00	315	4.00	2	56-70	0.080	9.80	14.00	9.4
		18.00	708	3.00	6	65-82	0.155	11.40	14.30	11.0
		20.00	787	5.00	4	67-83	0.167	8.80	13.30	8.1
		30.00	M30	5.00	6	68-85	0.247	10.10	13.90	9.6
		70.00	M70	5.00	14	67-84	0.585	10.90	13.50	9.9
16MM	063	4.00	157	4.00	1	37-46	0.061	10.90	16.00	12.1
		20.00	787	2.50	8	66-82	0.169	12.50	15.20	12.8
		21.00	826	3.00	7	66-82	0.178	13.60	16.50	15.0
		25.00	984	5.00	5	67-84	0.209	11.50	16.00	11.7
		35.00	M35	5.00	7	68-85	0.289	12.10	15.90	12.1
		45.72	M46	5.08	9	69-86	0.372	12.80	16.00	13.8
		80.00	M80	5.00	16	66-82	0.677	12.60	15.20	12.8
		90.00	M90	5.00	18	67-84	0.742	14.30	17.00	16.2

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb.)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb.)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA055315R	ATA055315L	325	1625	1.32	HF60	2.2	AFA055315R	AFA055315L	210	1050	1.12
ATA055708R	ATA055708L	325	1625	1.32	HF60	2.2	AFA055708R	AFA055708L	210	1050	1.12
ATA055787R	ATA055787L	325	1625	1.32	HF60	2.2	AFA055787R	AFA055787L	210	1050	1.12
ATA055M30R	ATA055M30L	325	1625	1.32	HF60	2.2	AFA055M30R	AFA055M30L	210	1050	1.12
ATA055M70R	ATA055M70L	325	1625	1.32	HF60	2.2	AFA055M70R	AFA055M70L	210	1050	1.12
ATA063157R	ATA063157L	360	1775	1.32	HF60	2.2	AFA063157R	AFA063157L	260	1300	1.12
ATA063787R	ATA063787L	360	1775	1.32	HF60	2.2	AFA063787R	AFA063787L	260	1300	1.12
ATA063826R	ATA063826L	360	1775	1.32	HF60	2.2	AFA063826R	AFA063826L	260	1300	1.12
ATA063984R	ATA063984L	360	1775	1.32	HF60	2.2	AFA063984R	AFA063984L	260	1300	1.12
ATA063M35R	ATA063M35L	360	1775	1.32	HF60	2.2	AFA063M35R	AFA063M35L	260	1300	1.12
ATA063M46R	ATA063M46L	360	1775	1.32	HF60	2.2	AFA063M46R	AFA063M46L	260	1300	1.12
ATA063M80R	ATA063M80L	360	1775	1.32	HF60	2.2	AFA063M80R	AFA063M80L	260	1300	1.12
ATA063M90R	ATA063M90L	360	1775	1.32	HF60	2.2	AFA063M90R	AFA063M90L	260	1300	1.12

* See page 19 for material code

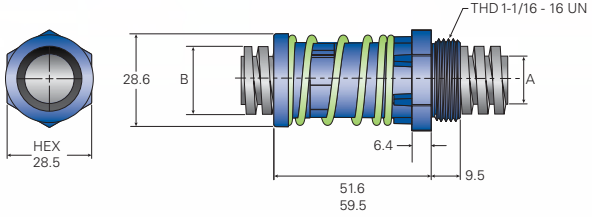
lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

18mm diameter

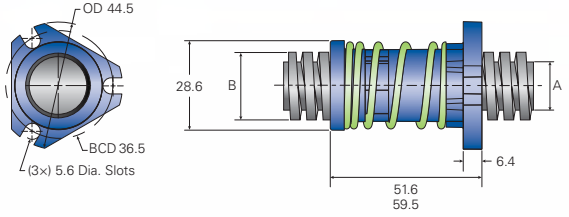
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
18MM	071	16.00	629	4.00	4	62-77	0.145	14-30	18.00	17.4
		24.00	944	3.00	8	66-82	0.203	15.70	18.70	19.7
		30.00	M30	5.00	6	67-84	0.251	14.20	18.80	18.1
		40.00	M40	5.00	8	69-86	0.326	14.10	17.80	17.0
		50.80	M51	5.08	10	70-87	0.408	14.40	17.60	17.2
		100.00	M00	5.00	20	67-84	0.835	16.20	18.80	20.3

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)					Part Number		Load Capacity (lb)		
Right Hand	Left Hand	Dynamic	Static	Weight (oz)	Part Number	Weight (oz)	Right Hand	Left Hand	Dynamic	Static	Weight (oz)
ATA071629R	ATA071629L	400	2000	1.32	HF60	2.2	AFA071629R	AFA071629L	300	1500	1.12
ATA071944R	ATA071944L	400	2000	1.32	HF60	2.2	AFA071944R	AFA071944L	300	1500	1.12
ATA071M30R	ATA071M30L	400	2000	1.32	HF60	2.2	AFA071M30R	AFA071M30L	300	1500	1.12
ATA071M40R	ATA071M40L	400	2000	1.32	HF60	2.2	AFA071M40R	AFA071M40L	300	1500	1.12
ATA071M51R	ATA071M51L	400	2000	1.32	HF60	2.2	AFA071M51R	AFA071M51L	300	1500	1.12
ATA071M00R	ATA071M00L	400	2000	1.32	HF60	2.2	AFA071M00R	AFA071M00L	300	1500	1.12

* See page 19 for material code

lubricants p.18
twin-lead screws p. 20-21
end machining p. 86-90
flanges p. 91
EZZE-MOUNT™ bearing supports p. 92-95
motor mounts p. 96-97

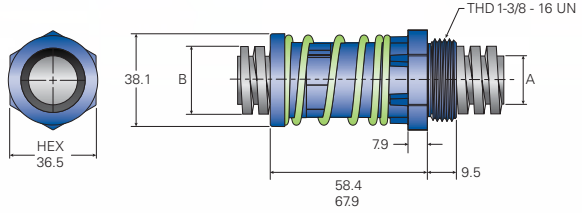
2D/3D CAD ONLINE

20mm diameter
22mm diameter
24mm diameter

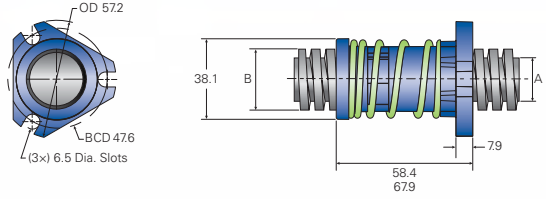
- *Helix Engineered Acetal*
- *Excellent Lubricity and Low Friction*
- *Precision Positioning to 0.0003"/inch*

ANTI-BACKLASH THREADED NUT

Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5



ANTI-BACKLASH FLANGED NUT



Preload Force (lb)	
Low Force Spring	1.8 - 4.0
High Force Spring	3.8 - 9.5

LEAD SCREW

Screw Diameter	Diameter Code	Lead (mm)	Lead Code	Pitch (mm)	Starts	% Efficiency	Torque* (in-lb)	"A" Root Diameter (mm)	"B" Outside Diameter (mm)	Weight Per Foot (oz)
20MM	079	4.00	157	4.00	1	32-40	0.070	14.90	20.00	20.2
		12.00	472	4.00	3	57-71	0.117	15.80	20.00	21.3
		27.00	M27	3.00	9	67-84	0.226	17.90	20.80	24.9
		45.00	M45	5.00	9	69-86	0.366	16.10	20.00	21.6
22MM	087	20.00	787	4.00	5	62-78	0.179	18.30	22.00	26.9
		35.00	M35	5.00	7	68-85	0.289	17.00	21.50	24.6
		50.00	M50	5.00	10	70-87	0.402	18.10	22.00	26.7
24MM	094	30.00	M30	3.00	10	66-82	0.254	20.00	23.00	30.7
		40.00	M40	5.00	8	67-84	0.334	19.80	24.30	32.3
		55.00	M55	5.00	11	69-86	0.448	20.10	24.00	32.3

* Torque required to raise 1lb.

ANTI-BACKLASH THREADED NUT					FLANGE		ANTI-BACKLASH FLANGED NUT				
Part Number		Load Capacity (lb)		Weight (oz)	Part Number	Weight (oz)	Part Number		Load Capacity (lb)		Weight (oz)
Right Hand	Left Hand	Dynamic	Static				Right Hand	Left Hand	Dynamic	Static	
ATA079157R	ATA079157L	480	2400	2.17	HF75	3.2	AFA079157R	AFA079157L	370	1850	1.87
ATA079472R	ATA079472L	480	2400	2.17	HF75	3.2	AFA079472R	AFA079472L	370	1850	1.87
ATA079M27R	ATA079M27L	480	2400	2.17	HF75	3.2	AFA079M27R	AFA079M27L	370	1850	1.87
ATA079M45R	ATA079M45L	480	2400	2.17	HF75	3.2	AFA079M45R	AFA079M45L	370	1850	1.87
ATA087787R	ATA087787L	530	2650	2.17	HF75	3.2	AFA087787R	AFA087787L	400	2000	1.87
ATA087M35R	ATA087M35L	530	2650	2.17	HF75	3.2	AFA087M35R	AFA087M35L	400	2000	1.87
ATA087M50R	ATA087M50L	530	2650	2.17	HF75	3.2	AFA087M50R	AFA087M50L	400	2000	1.87
ATA094M30R	ATA094M30L	660	3300	2.17	HF75	3.2	AFA094M30R	AFA094M30L	500	2500	1.87
ATA094M40R	ATA094M40L	660	3300	2.17	HF75	3.2	AFA094M40R	AFA094M40L	500	2500	1.87
ATA094M55R	ATA094M55L	660	3300	2.17	HF75	3.2	AFA094M55R	AFA094M55L	500	2500	1.87

* See page 19 for material code

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

LEAD SCREW SIZE LIST

- *Precision Rolled to 0.0003"/inch Lead Accuracy*
- *300 Series Stainless Steel*
- *Optional PTFE Coating*

Diameter	Diameter Code	Lead (in)	Lead (mm)	Lead Code	Pitch	Starts	Outside Diameter (in)	Outside Diameter (mm)	Root Diameter (in)	Root Diameter (mm)	Efficiency* (%)
1/8"	012	0.0240	0.61	024	0.0240	1	0.125	3.18	0.098	2.49	25 - 40
		0.0313	0.79	031	0.0313	1	0.130	3.30	0.094	2.39	30 - 47
		0.0394	1.00	039	0.0394	1	0.134	3.40	0.090	2.29	35 - 52
		0.0480	1.22	048	0.0240	2	0.125	3.18	0.098	2.49	40 - 57
		0.0625	1.59	062	0.0313	2	0.130	3.30	0.094	2.39	45 - 63
		0.0750	1.91	075	0.0250	3	0.127	3.23	0.096	2.44	49 - 67
		0.0787	2.00	078	0.0394	2	0.134	3.40	0.090	2.29	50 - 68
		0.0960	2.44	096	0.0240	4	0.125	3.18	0.098	2.49	55 - 71
		0.1250	3.18	125	0.0313	4	0.130	3.30	0.094	2.39	59 - 75
		0.1575	4.00	157	0.0394	4	0.134	3.40	0.090	2.29	63 - 78
4mm	016	0.3937	10.00	393	1.25	8	0.158	4.00	0.118	3.00	64 - 79
3/16"	018	0.0240	0.61	024	0.0240	1	0.204	5.18	0.177	4.50	17 - 29
		0.0250	0.64	025	0.0250	1	0.205	5.21	0.175	4.45	17 - 29
		0.0313	0.79	031	0.0313	1	0.208	5.28	0.172	4.37	21 - 34
		0.0394	1.00	039	0.0394	1	0.213	5.41	0.168	4.27	24 - 39
		0.0480	1.22	048	0.0480	1	0.217	5.51	0.164	4.17	28 - 44
		0.0500	1.27	050	0.0500	1	0.218	5.54	0.163	4.14	29 - 45
		0.0625	1.59	062	0.0313	2	0.208	5.28	0.172	4.37	34 - 51
		0.0787	2.00	078	0.0394	2	0.213	5.41	0.168	4.27	39 - 56
		0.0960	2.44	096	0.0480	2	0.217	5.51	0.164	4.17	43 - 61
		0.1000	2.54	100	0.0500	2	0.218	5.54	0.163	4.14	44 - 62
		0.1250	3.18	125	0.0313	4	0.208	5.28	0.172	4.37	49 - 66
		0.1575	4.00	157	0.0394	4	0.213	5.41	0.168	4.27	54 - 71
		0.2000	5.08	200	0.0500	4	0.218	5.54	0.163	4.14	58 - 74
5mm	020	0.1969	5.00	196	1.25	4	0.212	5.39	0.142	3.60	63 - 78
6mm	024	0.7874	20.00	787	1.25	16	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 PTFE coated screws.

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

LEAD SCREW SIZE LIST

- *Precision Rolled to 0.0003"/inch Lead Accuracy*
- *300 Series Stainless Steel*
- *Optional PTFE Coating*

Diameter	Diameter Code	Lead (in)	Lead (mm)	Lead Code	Pitch	Starts	Outside Diameter (in)	Outside Diameter (mm)	Root Diameter (in)	Root Diameter (mm)	Efficiency* (%)
1/4"	025	0.0240	0.60	024	0.0240	1	0.250	6.35	0.223	5.66	14 - 24
		0.0205	0.63	025	0.0250	1	0.250	6.35	0.220	5.59	14 - 25
		0.0312	0.79	031	0.0313	1	0.250	6.35	0.214	5.44	18 - 30
		0.0394	1.00	039	0.0394	1	0.250	6.35	0.206	5.23	21 - 35
		0.0480	1.21	048	0.0480	1	0.250	6.35	0.197	5.00	25 - 40
		0.0500	1.27	050	0.0500	1	0.250	6.35	0.195	4.95	26 - 41
		0.0625	1.58	062	0.0625	1	0.250	6.35	0.178	4.52	31 - 48
		0.0787	2.00	078	0.0394	2	0.250	6.35	0.206	5.23	35 - 52
		0.0960	2.43	096	0.0480	2	0.250	6.35	0.197	5.00	39 - 57
		0.1000	2.54	100	0.0500	2	0.250	6.35	0.195	4.95	41 - 58
		0.1250	3.17	125	0.0625	2	0.250	6.35	0.178	4.52	46 - 64
		0.1575	4.00	157	0.0394	4	0.250	6.35	0.206	5.23	50 - 67
		0.1969	5.00	196	0.0394	5	0.250	6.35	0.206	5.23	55 - 71
		0.2000	5.08	200	0.0500	4	0.250	6.35	0.195	4.95	60 - 75
		0.2500	6.35	250	0.0625	4	0.250	6.35	0.178	4.52	60 - 76
		0.3330	8.46	333	0.0833	4	0.250	6.35	0.192	4.88	63 - 79
		0.5000	12.70	500	0.1250	4	0.248	6.30	0.181	4.60	63 - 79
		1.0000	25.40	999	0.1000	10	0.250	6.35	0.165	4.20	63 - 79
5/16"	031	0.1000	2.54	100	0.1000	1	0.313	7.94	0.193	4.90	33 - 50
		0.2500	6.35	250	0.1250	2	0.313	7.94	0.216	5.49	58 - 73
		0.5000	12.70	500	0.1250	4	0.313	7.94	0.216	5.49	65 - 81
8mm	032	0.1575	4.00	157	2.00	2	0.311	7.90	0.217	5.50	51 - 68
		0.2953	7.50	295	1.25	6	0.303	7.70	0.232	5.90	63 - 79
		0.3150	8.00	315	2.00	4	0.315	8.00	0.226	5.74	64 - 80
		0.3937	10.00	393	2.50	4	0.323	8.20	0.217	5.50	65 - 81
		0.4724	12.00	472	2.40	5	0.319	8.10	0.232	5.90	65 - 81
		0.5906	15.00	590	2.50	6	0.319	8.10	0.232	5.90	66 - 82
		0.7874	20.00	787	4.00	5	0.350	8.90	0.228	5.80	67 - 84
		0.9843	25.00	984	1.25	20	0.291	7.40	0.248	6.30	69 - 86
		1.1811	30.00	M30	1.25	24	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 PTFE coated screws.

LEAD SCREW SIZE LIST

- *Precision Rolled to 0.0003"/inch Lead Accuracy*
- *300 Series Stainless Steel*
- *Optional PTFE Coating*

		Lead					Outside Diameter		Root Diameter		
Diameter	Diameter Code	(in)	(mm)	Lead Code	Pitch	Starts	(in)	(mm)	(in)	(mm)	Efficiency* (%)
3/8"	037	0.0250	0.64	025	0.0250	1	0.375	9.525	0.345	8.76	10 - 18
		0.0394	1.00	039	0.0394	1	0.375	9.525	0.331	8.40	15 - 26
		0.0500	1.27	050	0.0500	1	0.375	9.525	0.320	8.12	18 - 31
		0.0625	1.59	062	0.0625	1	0.375	9.525	0.303	7.69	22 - 37
		0.0787	2.00	078	0.0787	1	0.375	9.525	0.286	7.26	27 - 43
		0.0833	2.12	083	0.0833	1	0.375	9.525	0.282	7.16	28 - 44
		0.1000	2.54	100	0.1000	1	0.375	9.525	0.255	6.47	33 - 50
		0.1250	3.18	125	0.0625	2	0.375	9.525	0.303	7.69	36 - 53
		0.1575	4.00	157	0.0787	2	0.375	9.525	0.286	7.26	42 - 59
		0.1667	4.23	166	0.0833	2	0.375	9.525	0.286	7.26	43 - 61
		0.1969	5.00	196	0.0394	5	0.375	9.525	0.330	8.38	45 - 63
		0.2000	5.08	200	0.1000	2	0.375	9.525	0.255	6.47	48 - 66
		0.2500	6.35	250	0.0625	4	0.375	9.525	0.303	7.69	51 - 68
		0.3333	8.47	333	0.0833	4	0.375	9.525	0.282	7.16	58 - 74
		0.3750	9.53	375	0.0938	4	0.375	9.525	0.303	7.69	59 - 75
		0.3937	10.00	393	0.0787	5	0.375	9.525	0.331	8.40	59 - 75
		0.4000	10.16	400	0.1000	4	0.375	9.525	0.255	6.47	61 - 77
		0.5000	12.70	500	0.2000	4	0.375	9.525	0.278	7.06	63 - 79
		1.0000	25.40	999	0.2000	5	0.375	9.525	0.238	6.04	64 - 80
10mm	039	0.1181	3.00	118	1.50	2	0.394	10.00	0.312	7.92	39 - 49
		0.3937	10.00	393	1.25	8	0.394	10.00	0.323	8.20	63 - 79
		0.4724	12.00	472	3.00	4	0.394	10.00	0.280	7.10	65 - 81
		0.5906	15.00	590	2.00	5	0.394	10.00	0.291	7.40	66 - 82
		1.3780	35.00	M35	1.25	28	0.398	10.10	0.350	8.90	69 - 86
		1.9685	50.00	M50	5.00	10	0.394	10.00	0.291	7.40	67 - 84
7/16"	043	1.2008	30.50	M31	0.2000	6	0.441	11.20	0.315	8.00	68 - 85
12mm	047	0.1181	3.00	118	3.00	1	0.472	12.00	0.303	7.69	38 - 48
		0.5906	15.00	590	3.00	5	0.480	12.20	0.362	9.20	65 - 82
		0.9843	25.00	984	5.00	5	0.469	11.90	0.315	8.00	68 - 85
		1.5748	40.00	M40	1.25	32	0.453	11.50	0.402	10.20	69 - 86
		1.7717	45.00	M45	1.25	36	0.504	12.80	0.449	11.40	69 - 86
		2.3622	60.00	M60	5.00	12	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 PTFE coated screws.

lubricants p.18 | twin-lead screws p. 20-21 | end machining p. 86-90 | flanges p. 91 | EZZE-MOUNT™ bearing supports p. 92-95 | motor mounts p. 96-97

LEAD SCREW SIZE LIST

- *Precision Rolled to 0.0003"/inch Lead Accuracy*
- *300 Series Stainless Steel*
- *Optional PTFE Coating*

		Lead					Outside Diameter		Root Diameter		
Diameter	Diameter Code	(in)	(mm)	Lead Code	Pitch	Starts	(in)	(mm)	(in)	(mm)	Efficiency* (%)
1/2"	050	0.1000	2.54	100	0.1000	1	0.500	12.70	0.359	9.12	32 - 40
		0.2000	5.08	200	0.1000	2	0.500	12.70	0.391	9.93	46 - 57
		0.2500	6.35	250	0.1250	2	0.500	12.70	0.332	8.43	50 - 63
		0.5000	6.35	500	0.1000	5	0.500	12.70	0.406	10.31	60 - 75
		1.0000	25.40	999	0.1250	8	0.500	12.70	0.392	9.96	64 - 80
		1.4016	35.60	M36	0.2000	7	0.504	12.80	0.378	9.60	69 - 86
14mm	055	0.3150	8.00	315	4.00	2	0.551	14.00	0.386	9.80	56 - 70
		0.7087	18.00	708	3.00	6	0.563	14.30	0.449	11.40	65 - 82
		0.7874	20.00	787	5.00	4	0.524	13.30	0.347	8.80	67 - 83
		1.1811	30.00	M30	5.00	6	0.547	13.90	0.398	10.10	68 - 85
		2.7559	70.00	M70	5.00	14	0.532	13.50	0.429	10.90	67 - 84
9/16"	056	1.5984	40.60	M41	0.200	8	0.567	14.40	0.441	11.20	69 - 86
5/8"	062	0.1000	2.54	100	0.1000	1	0.625	15.88	0.516	13.11	28 - 35
		0.1250	6.35	125	0.1250	1	0.625	15.88	0.457	11.61	32 - 40
		0.2000	6.35	200	0.1000	2	0.625	15.88	0.484	12.29	41 - 51
		0.3750	9.53	375	0.1250	3	0.625	15.88	0.457	11.61	53 - 66
16mm	063	0.1575	4.00	157	4.00	1	0.630	16.00	0.429	10.90	37 - 46
		0.7874	20.00	787	2.50	8	0.598	15.20	0.492	12.50	66 - 82
		0.8268	21.00	826	3.00	7	0.650	16.50	0.535	13.60	66 - 82
		0.9843	25.00	984	5.00	5	0.630	16.00	0.453	11.50	67 - 84
		1.3780	35.00	M35	5.00	7	0.626	15.90	0.476	12.10	68 - 85
		1.8000	45.72	M46	5.08	9	0.630	16.00	0.504	12.80	69 - 86
		3.1496	80.00	M80	5.00	16	0.598	15.20	0.496	12.60	66 - 82
		3.5433	90.00	M90	5.00	18	0.669	17.00	0.563	14.30	67 - 84
18mm	071	0.6299	16.00	629	4.00	4	0.709	18.00	0.563	14.30	62 - 77
		0.9449	24.00	944	3.00	8	0.736	18.70	0.618	15.70	66 - 82
		1.1811	30.00	M30	5.00	6	0.740	18.80	0.559	14.20	67 - 84
		1.5748	40.00	M40	5.00	8	0.705	17.90	0.555	14.10	69 - 86
		2.0000	50.80	M51	5.08	10	0.693	17.60	0.567	14.40	70 - 87
		3.9370	100.00	M00	5.00	20	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 PTFE coated screws.

2D/3D CAD ONLINE

LEAD SCREW SIZE LIST

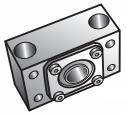
- *Precision Rolled to 0.0003"/inch Lead Accuracy*
- *300 Series Stainless Steel*
- *Optional PTFE Coating*

		Lead					Outside Diameter		Root Diameter		
Diameter	Diameter Code	(in)	(mm)	Lead Code	Pitch	Starts	(in)	(mm)	(in)	(mm)	Efficiency* (%)
3/4"	075	0.1000	2.54	100	0.1000	1	0.750	19.050	0.608	15.44	24 - 30
		0.1667	4.23	166	0.1667	1	0.750	19.050	0.537	13.64	34 - 43
		0.2000	5.08	200	0.2000	1	0.750	19.050	0.502	12.75	38 - 48
		0.3333	8.47	333	0.1667	2	0.750	19.050	0.537	13.64	54 - 60
		0.5000	12.70	500	0.1250	4	0.750	19.050	0.581	14.75	54 - 68
20mm	079	0.1575	4.00	157	4.00	1	0.787	20.00	0.587	14.90	32 - 40
		0.4724	12.00	472	4.00	3	0.787	20.00	0.622	15.80	57 - 71
		1.0630	27.00	M27	3.00	9	0.819	20.80	0.705	17.90	67 - 84
		1.7717	45.00	M45	5.00	9	0.787	20.00	0.634	16.10	69 - 86
22mm	087	0.7874	20.00	787	4.00	5	0.866	22.00	0.721	18.30	62 - 78
		1.3780	35.00	M35	5.00	7	0.847	21.50	0.669	17.00	68 - 85
		1.9685	50.00	M50	5.00	10	0.866	22.00	0.713	18.10	70 - 87
7/8"	088	0.1660	4.22	166	0.1667	1	0.875	22.23	0.661	16.79	31 - 39
24mm	094	1.1811	30.00	M30	3.00	10	0.906	23.00	0.787	20.00	66 - 82
		1.5748	40.00	M40	5.00	8	0.957	24.30	0.780	19.80	67 - 84
		2.1654	55.00	M55	5.00	11	0.945	24.00	0.791	20.10	69 - 86
1.00	100	0.1000	2.54	100	0.1000	1	1.000	25.400	0.857	21.76	19 - 24
		0.1667	4.23	166	0.1667	1	1.000	25.400	0.786	19.96	29 - 36
		0.2000	5.08	200	0.2000	1	1.000	25.400	0.750	19.05	32 - 40
		0.2500	6.35	250	0.2500	1	1.000	25.400	0.698	17.72	3 7 - 46
		0.5000	12.70	500	0.2500	2	1.000	25.400	0.698	17.72	50 - 63
		1.0000	25.40	999	0.1000	10	1.000	25.400	0.906	23.01	59 - 74
		3.000	M76	M76	0.2000	15	1.012	25.700	0.502	12.75	69 - 86

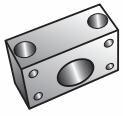
* Range in Theoretical Efficiency on screw assemblies that are unlubricated and lubricated respectively.
An increase in efficiency of 4 to 5 percentage points can be expected with PTFE coated screws.

Standard EZZE Mount Bearing Supports

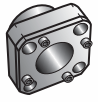
QUICK REFERENCE
MACHINED ENDS AND BEARING SUPPORTS



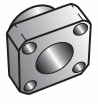
Universal Mount
Double Bearing



Universal Mount
Single Bearing



Flange Mount
Double Bearing



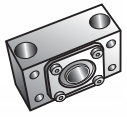
Flange Mount
Single Bearing

EZZE-MOUNT™

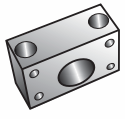
Nominal Dia-Lead	End Code Type 1,2,3	End Code Type 4	Universal Mounts Double	Universal Mounts Single	Flange Mounts Double	Flange Mounts Single
012-xxx	--	--	COMING SOON Contact Helix Sales Engineers for custom solutions.		COMING SOON Contact Helix Sales Engineers for custom solutions.	
016-xxx	3 *	2 *				
018-xxx	3	2				
020-xxx	3	2				
024-xxx	3	2				
025-xxx	3	2				
031-xxx	5 *	2				
032-xxx	5	2				
037-025	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-039	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-050	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-062	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-078	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
037-157	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-166	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-196	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
037-333	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-375	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-393	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
037-400	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 *	—	—	—	—
039-118	8 *	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
039-393	8	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
039-472	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007

* Some journals may show thread tracings.

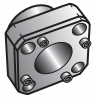
QUICK REFERENCE
MACHINED ENDS AND BEARING SUPPORTS



Universal Mount
Double Bearing



Universal Mount
Single Bearing



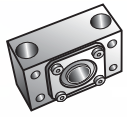
Flange Mount
Double Bearing

Flange Mount
Single Bearing

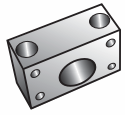
EZZE-MOUNT™

Nominal Dia-Lead	End Code Type 1,2,3	End Code Type 4	Universal Mounts Double	Universal Mounts Single	Flange Mounts Double	Flange Mounts Single
039-590	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
039-M35	8	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
039-M50	7	4	EZM-1007	EZM-4007	EZF-1007	EZF-4007
043-M31	8*	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-118	8*	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-590	8	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-984	8*	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-M40	8	6	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-M45	8	6	EZM-1008	EZM-4008	EZF-1008	EZF-4008
047-M60	8	4	EZM-1008	EZM-4008	EZF-1008	EZF-4008
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
050-M36	9	6	EZM-1009	EZM-4009	EZF-1009	EZF-4009
055-315	9	6	EZM-1009	EZM-4009	EZF-1009	EZF-4009
055-708	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
055-787	9*	4	EZM-1009	EZM-4009	EZF-1009	EZF-4009
055-M30	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
055-M70	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
056-M41	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
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
063-157	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010
063-787	12	6	EZM-3012	EZM-4012	EZF-3012	EZF-4012
063-826	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
063-984	10	6	EZM-3010	EZM-4010	EZF-3010	EZF-4010

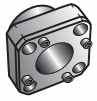
QUICK REFERENCE
MACHINED ENDS AND BEARING SUPPORTS



Universal Mount
Double Bearing



Universal Mount
Single Bearing



Flange Mount
Double Bearing

Flange Mount
Single Bearing

EZZE-MOUNT™

Nominal Dia-Lead	End Code Type 1,2,3	End Code Type 4	Universal Mounts Double	Universal Mounts Single	Flange Mounts Double	Flange Mounts Single
063-M35	12	6	EZM-3012	EZM-4012	EZF-3012	EZF-4012
063-M46	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
063-M80	12	8*	EZM-3012	EZM-4012	EZF-3012	EZF-4012
063-M90	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
071-629	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
071-944	15	8	EZM-3015	EZM-4015	EZF-3015	EZF-4015
071-M30	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
071-M40	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
071-M51	12	8	EZM-3012	EZM-4012	EZF-3012	EZF-4012
071-M00	15	10	EZM-3015	EZM-4015	EZF-3015	EZF-4015
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
079-157	15*	8	EZM-3015	EZM-4015	EZF-3015	EZF-4015
079-472	15	8	EZM-3015	EZM-4015	EZF-3015	EZF-4015
079-M27	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
079-M45	15	10	EZM-3015	EZM-4015	EZF-3015	EZF-4015
087-787	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
087-M35	17*	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
087-M50	17	10	EZM-3017	EZM-4017	EZF-3017	EZF-4017
088-166	15	10	EZM-3015	EZM-4015	EZF-3015	EZF-4015
094-M30	20*	12	EZM-2020	EZM-4020	EZF-2020	EZF-4020
094-M40	20	12	EZM-2020	EZM-4020	EZF-2020	EZF-4020
094-M55	20	12	EZM-2020	EZM-4020	EZF-2020	EZF-4020
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

MACHINED ENDS: Drawings and Codes

Various Custom Machined Ends

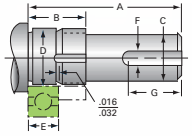
Machined End Code	TYPE 1 (K, L, N) Typical Journal for Single Bearing A	B	E	TYPE 2 (K, L, N) Typical Journal for Duplexed Bearing A	B	E	TYPE 3 (K, L, N) Typical Journal for Multiple Sets of Duplexed Bearing A	B	E	COMMON DIMENSIONS FOR TYPE 1, 2, 3 (K, L, N) C	D	F	G	Locknut	Lock-washer
3	0.63	0.36	0.156	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	1/4-20	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

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

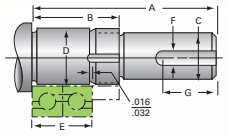
Specifying standard machined ends results in quicker deliveries. The machined ends shown below represent designs that are compatible with common application requirements for either simple or fixed bearing support. These standard ends may be machined and ground to finish size.

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



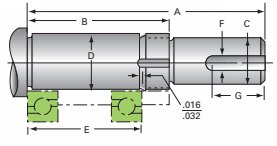
Driven Support End
Single Bearing

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



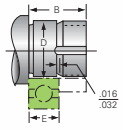
Driven Support End
Double Bearing

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



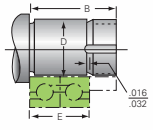
Driven Support End
Double Bearing

Type 1N



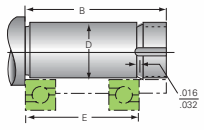
Non-Driven
Support End
Single Bearing

Type 2N



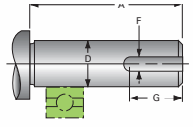
Non-Driven
Support End
Double Bearing

Type 3N



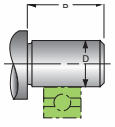
Non-Driven
Support End
Double Bearing

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



Standard Journal
for Pillow
Block Single Bearing

Type 4N



Standard Journal
for Pillow Block
Single Bearing

END TYPES

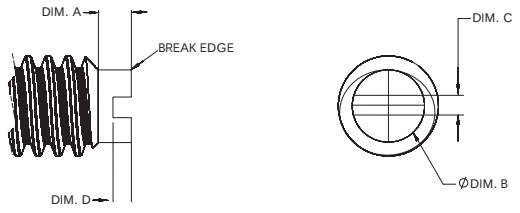
- 1K, 2K, 3K and 4K are designed with a shaft extension and keyway for square keys.
- 1L, 2L, 3L and 4L are designed with a shaft extension without a keyway.
- 1N, 2N, 3N and 4N are designed to be a non-driven support end.
- Double bearing supports use a Type 3N, 3L and 3K.
- Single bearing supports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

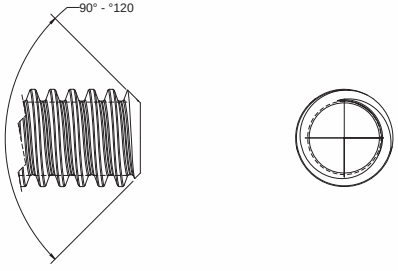
OPTIONAL MACHINED ENDS

Note: Any combination of these machined ends may be added to a screw using the "M" modifer in a part number. See page 19.

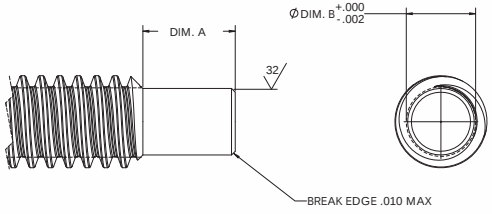
Screwdriver Slot



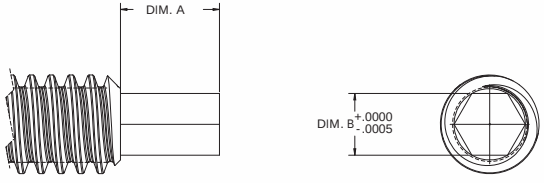
Standard Edge Break



Turned Journal

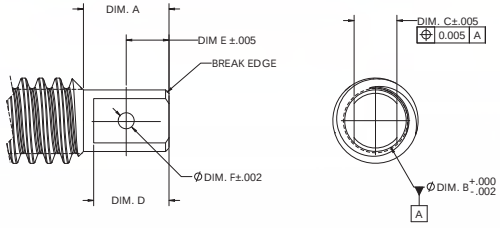


Hex Drive End

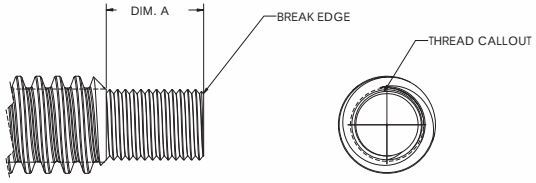


OPTIONAL MACHINED ENDS

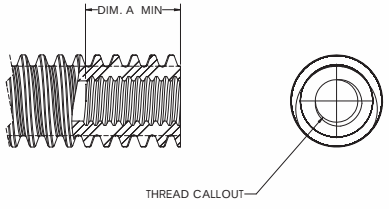
Crossed Drilled Hole



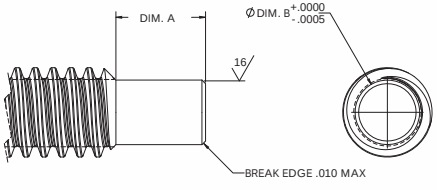
Male Thread



Female Thread

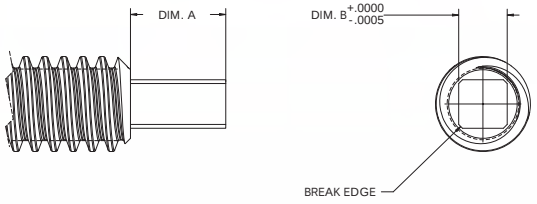


Ground Journal

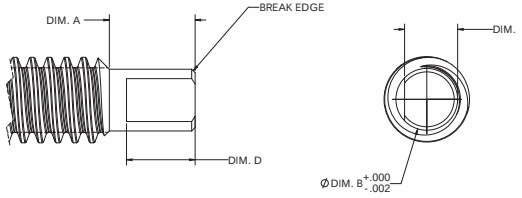


OPTIONAL MACHINED ENDS

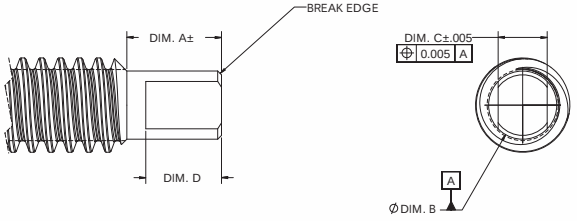
Square End



Single Flat

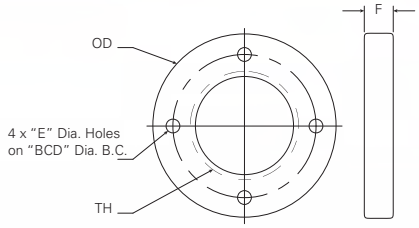


Double Flat



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.

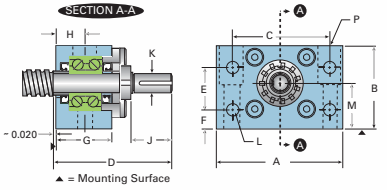
Aluminum (6061-T651) Flanges for Standard and Anti-Backlash Threaded Nuts

Part Number	Flange Dimensions					
	OD	E	BCD	F	TH	Weight (oz)
HF10	1.00	0.129	0.75	0.188	3/8" - 24 UNF	0.06
HF25	1.25	0.144	1.00	0.250	9/16" - 18 UNF	0.28
HF37	1.63	0.177	1.25	0.250	5/8" - 18 UNF	0.64
HF50	2.00	0.266	1.50	0.375	15/16" - 16 UN	1.34
HF60	2.50	0.266	2.00	0.375	1-1/16" - 16 UN	2.2
HF75	3.00	0.266	2.38	0.375	1-3/8" - 16 UN	3.2

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.

EZZE-MOUNT™
UNIVERSAL MOUNT SINGLE AND DOUBLE BEARING SUPPORT

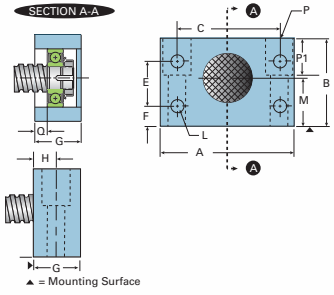
Universal-Mount Double
Double Angular Contact Bearing - use with Type 3 Standard Ends



Universal Double Part No.	A	B	C	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

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	1/4 x 1 3/8	0.28	0.41	0.41	- -	7
1.06	0.50	0.56	0.250 0.249	0.22	0.687	1/4 x 1 3/8	0.28	0.41	0.41	- -	8
1.19	0.56	0.56	0.250 0.249	0.28	1.000	5/16 x 2	0.34	0.50	0.56	- -	9
1.19	0.56	0.69	0.312- -0.311	0.28	1.000	5/16 x 2	0.34	0.50	0.56	- -	10
1.38	0.69	1.30	0.406 0.405	0.28	1.187	3/8 x 1 3/4	0.41	0.62	1.00	- -	12
1.38	0.69	1.30	0.500 0.499	0.28	1.438	3/8 x 2 1/8	0.41	0.62	1.00	- -	15
1.69	0.84	1.30	0.500 0.499	0.41	1.500	1/2 x 2 1/4	0.53	0.88	1.25	- -	17
1.72	0.86	1.30	0.625 0.624	0.47	1.625	5/8 x 2 1/2	0.66	1.00	1.50	- -	20

Universal-Mount Single
Single Radial Bearing - use with Type 1 Standard Ends

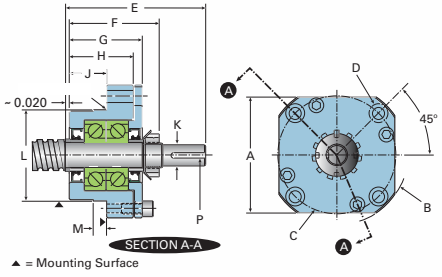


Universal Double Part No.	A	B	C	D	E	F
EZM-4007	2.00	1.38	1.50	- -	0.88	0.25
EZM-4008	2.00	1.38	1.50	- -	0.88	0.25
EZM-4009	2.75	2.00	2.00	- -	1.38	0.31
EZM-4010	2.75	2.00	2.00	- -	1.38	0.31
EZM-4012	3.50	2.22	2.75	- -	1.25	0.50
EZM-4015	3.50	2.52	2.75	- -	1.25	0.80
EZM-4017	4.50	2.69	3.38	- -	1.38	0.62
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	- -	- -	0.22	0.687	1/4 x 1 3/8	0.28	0.41	0.41	0.19	7
1.06	0.50	- -	- -	0.22	0.687	1/4 x 1 3/8	0.28	0.41	0.41	0.19	8
1.19	0.56	- -	- -	0.28	1.000	5/16 x 2	0.34	0.50	0.56	0.38	9
1.19	0.56	- -	- -	0.28	1.000	5/16 x 2	0.34	0.50	0.56	0.38	10
1.38	0.69	- -	- -	0.28	1.187	3/8 x 1 3/4	0.41	0.62	1.00	0.33	12
1.38	0.69	- -	- -	0.28	1.438	3/8 x 2 1/8	0.41	0.62	1.00	0.33	15
1.69	0.84	- -	- -	0.41	1.500	1/2 x 2 1/4	0.53	0.88	1.25	0.38	17
1.72	0.86	- -	- -	0.47	1.625	5/8 x 21/2	0.66	1.00	1.50	0.5	20

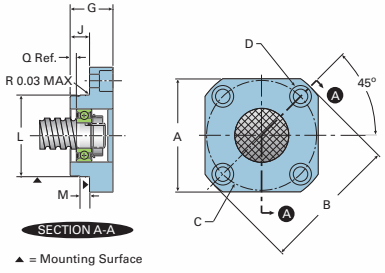
EZZE-MOUNT™
FLANGE-MOUNT SINGLE AND DOUBLE BEARING SUPPORT

Flange-Mount Double
Double Angular Contact Bearing - use with Type 3 Standard Ends



Flanged Double Part No.	A	B	C	D Thru	Counterbore	E	F	G	H	J	K Shaft Dia.	L	M	P	Q	End Code
EZF-1007	1.88	2.44	1.875	0.266	0.44	1.94	1.44	1.06	0.82	0.50	0.187 - 0.186	1.3775 - 1.3770	0.188	0.063	- -	7
EZF-1008	1.88	2.44	1.875	0.266	0.44	2.00	1.44	1.06	0.82	0.50	0.250 - 0.249	1.3775 - 1.3770	0.188	0.094	- -	8
EZF-1009	2.00	2.60	2.000	0.266	0.44	2.38	1.81	1.33	1.09	0.71	0.250 - 0.249	1.4957 - 1.4951	0.188	0.094	- -	9
EZF-3010	2.00	2.60	2.000	0.266	0.44	2.50	1.81	1.33	1.09	0.71	0.312 - 0.311	1.4957 - 1.4951	0.190	0.125	- -	10
EZF-3012	2.50	3.17	2.500	0.266	0.44	3.29	1.99	1.57	1.38	0.75	0.406 - 0.405	1.8894 - 1.8888	0.312	0.125	- -	12
EZF-3015	2.70	3.27	2.750	0.281	0.44	3.50	2.10	1.71	1.50	0.88	0.500 - 0.499	2.1256 - 2.1250	0.312	0.125	- -	15
EZF-3017	3.38	4.03	3.250	0.344	0.53	3.65	2.33	1.93	1.63	0.94	0.500 - 0.499	2.5193 - 2.5185	0.312	0.125	- -	17
EZF-2020	3.38	4.03	3.250	0.344	0.53	4.03	2.71	1. 98	1.72	1.03	0.625 - 0.624	2.5193 - 2.5185	0.312	0.188	- -	20

Flange-Mount Single
Single Radial Bearing - use with Type 1 Standard Ends



Flanged Single Part No.	A	B	C	D Thru	Counterbore	E	F	G	H	J	K Shaft Dia.	L	M	P	Q	End Code
EZF-4007	1.88	2.44	1.875	0.266	0.44	- -	- -	1.00	- -	0.40	- -	1.3775 - 1.3770	0.188	- -	0.13	7
EZF-4008	1.88	2.44	1.875	0.266	0.44	- -	- -	1.00	- -	0.40	- -	1.3775 - 1.3770	0.188	- -	0.13	8
EZF-4009	2.00	2.60	2.000	0.266	0.44	- -	- -	1.00	- -	0.44	- -	1.4957 - 1.4951	0.188	- -	0.13	9
EZF-4010	2.00	2.60	2.000	0.266	0.44	- -	- -	1.00	- -	0.44	- -	1.4957 - 1.4951	0.190	- -	0.13	10
EZF-4012	2.50	3.17	2.500	0.266	0.44	- -	- -	1.15	- -	0.55	- -	1.8894 - 1.8888	0.312	- -	0.13	12
EZF-4015	2.70	3.27	2.750	0.281	0.44	- -	- -	1.25	- -	0.63	- -	2.1256 - 2.1250	0.312	- -	0.20	15
EZF-4017	3.38	4.03	3.250	0.344	0.53	- -	- -	1.32	- -	0.63	- -	2.5193 - 2.5185	0.312	- -	0.20	17
EZF-4020	3.38	4.03	3.250	0.344	0.53	- -	- -	1.47	- -	0.72	- -	2.5193 - 2.5185	0.312	- -	0.20	20

NOTES: