

## LSI PRECISION GROUND BALL SCREWS

### PRECISION BALL SCREWS FOR REPLACEMENT AND OEM APPLICATIONS

If you need a ball screw for an existing or new application, we can help. We design and manufacture custom ball screw assemblies ranging in size from 0.50" diameter to 6.00" diameter with virtually unlimited lengths. Your choices are not limited to a few ball screw and nut designs in a catalog; we build your screw to your exact specifications. In order to give our customers as many choices as possible, we also work with a wide range of materials.

### FULL SERVICE REPAIR AND REVERSE ENGINEERING SERVICES

With over 25 years of experience, we have seen just about every type of screw in every condition. Our expert technicians can repair or rebuild your ball screw, acme screw, lead screw or specialty threads to save you money and extend the life of your old screw before a costly replacement becomes necessary.

### IS YOUR BALL SCREW LOSING ACCURACY?

Contact us for a free repair/replace analysis of your precision ball screw assembly.

### NEED TO GET BACK UP AND RUNNING IN A HURRY?

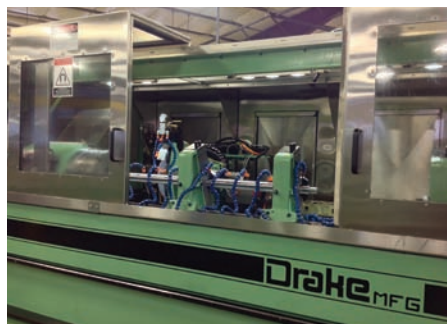
We can reload your screw in 24 hours to get you back up and running.

### DON'T HAVE PRINTS?

Our team of engineers will reverse engineer your screw to meet your exact specifications.

### RESPONSIVE SUPPORT, WHEN AND WHERE YOU NEED IT

Our network of sales representatives across North America offer technical support at your facility. Design assistance is a phone call away from our expert engineering staff at Dynatect Lead Screws International, Inc. Reach us at (800) 678-0726 or sales@lsitvc.com or find a local representative on our website at: www.dynatect.com.



Drake 4M Thread Grinder



Leistritz High Precision Whirling Machine



Mori Seiki 7-Axis Mill Turn



Hembrug Lathe

## DESIGN FEATURES

LSI precision ground ball screws offer distinct advantages over competitive offerings:

### High Precision

Ball screws manufactured up to ANSI Class 2 or DIN/JIS Class 1 specification.

### Large Diameter Up to 6 Inches

Screw diameters from 1/2" to 6" (16mm to 150mm). Larger diameters may be available upon request.

### Long Screw Lengths

Available in virtually any length. (Our longest ball screw is 54 feet in length.)

### "Zero Lost Motion" Solutions

We customize your design to minimize backlash and eliminate deadband.

### Internal Ball Return Design\*

Our internal ball return design gives you the following benefits:

- **Optimal life** – balls travel in paths that are tangent to the pitch, resulting in longer life and reduced speed
- **Higher operating speeds** – travel path increases permissible speed
- **Smooth operation and low noise** – balls spend less time traveling unloaded
- **Cost-effective design** – a single component which allows for smallest overall package sizes
- **Ease of installation** – components protected by design means low risk of damage during installation

### Customization

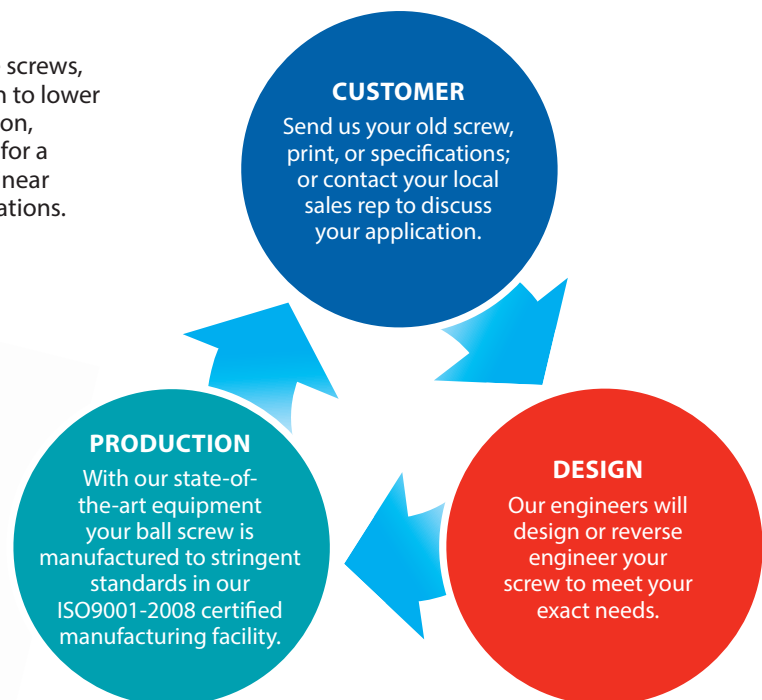
Your ball screw will be configured with the options you specify, and can be further customized for a complete turn-key solution that is quick and easy to install, saving you time and money.

- Ball nut configuration (single or double nut, 2-piece flange to flange nut, middle flange nut)
- Internal or external ball returns
- Wipers and end seals
- Custom journal ends
- Custom housing and mounting blocks

\*External tube ball return designs can be provided to accommodate shorter length nut designs and multi-start screws can be provided for long lead – high capacity applications.

## WHY PRECISION GROUND BALL SCREWS?

A ball screw offers greater energy efficiency than acme screws, converting nearly all input torque to thrust. In addition to lower energy consumption, a ball screw offers greater precision, predictability of life and long-term preload. Why settle for a standard design, when the experts at LSI can create a linear motion component precisely matched to your specifications.



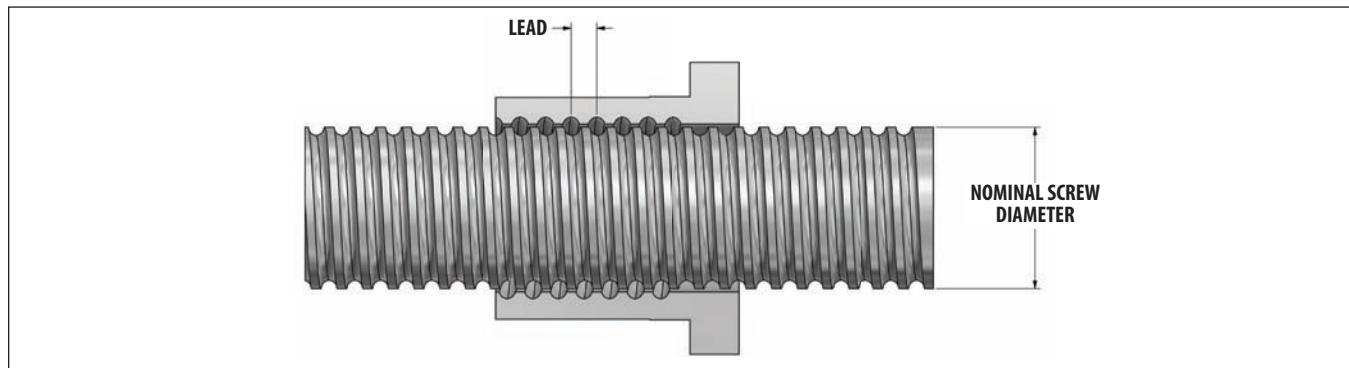
**Our Process is Designed Around Your Needs**

## CAPABILITIES | BALL SCREW DIAMETER AND LEADS

The combinations of ball screw diameter and lead shown below are most common to LSI capabilities. Sizes are offered in both imperial and metric sizes. Additional screw diameters, leads, and combinations are available, including multiple start screws. Please contact Dynatect LSI to evaluate your specific needs.

NORMAL SCREW DIAMETER (inches)	LEAD (inch)										
	0.100	0.125	0.158	0.200	0.250	0.375	0.400	0.500	0.625	0.750	1.000
0.625											
0.750											
0.875											
1.000											
1.125											
1.250											
1.500											
1.625											
1.750											
2.000											
2.250											
2.500											
2.750											
3.000											
3.500											
4.000											
6.000											

NORMAL SCREW DIAMETER (mm)	LEAD (mm)										
	3	4	5	6	8	10	16	18	20	25	40
12											
16											
20											
25											
32											
40											
50											
63											
80											
100											
125											
150											



# LSI PRECISION GROUND BALL SCREWS | QUOTE REQUEST FORM

Date \_\_\_\_\_ Address \_\_\_\_\_  
 Company Name \_\_\_\_\_ City \_\_\_\_\_ State/Prov. \_\_\_\_\_  
 Contact \_\_\_\_\_ Country \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_  
 Quantity \_\_\_\_\_ Telephone \_\_\_\_\_ Fax \_\_\_\_\_  
 Email \_\_\_\_\_

Please use this form to request a quote for a custom ball screw. Fill in as many specification values as possible. If measurement units are different than the options shown, please specify unit of measure.

## 1. Application Information



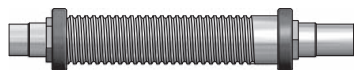
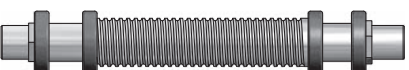
New Design or Replacement Application:  New Design  Replacement (machine and model: \_\_\_\_\_)

Linear Velocity: _____ <input type="checkbox"/> in/min <input type="checkbox"/> mm/sec	Input RPM: _____
Maximum Load: _____ <input type="checkbox"/> lbf <input type="checkbox"/> N	Cycle Time: _____ <input type="checkbox"/> min. <input type="checkbox"/> sec.
Equivalent Load: _____ <input type="checkbox"/> lbf <input type="checkbox"/> N	Duty Cycle (%): _____
Maximum Speed: _____ <input type="checkbox"/> ft/min <input type="checkbox"/> m/min	Static Load Rating: _____ <input type="checkbox"/> lbf @ <input type="checkbox"/> N @
Equivalent Speed: _____ <input type="checkbox"/> ft/min <input type="checkbox"/> m/min	1M inches 1M revolutions
Required Preload: _____ <input type="checkbox"/> lbf <input type="checkbox"/> Ns	Dynamic Load Rating: _____ <input type="checkbox"/> lbf @ <input type="checkbox"/> N @
Required Stiffness: _____ <input type="checkbox"/> lbf/in <input type="checkbox"/> N/mm	1M inches 1M revolutions
	Expected Life (L10): _____ <input type="checkbox"/> hours <input type="checkbox"/> revolutions

## 2. Ball Screw and Nut Material

Carbon Steel  Stainless Steel  Other (please specify) \_\_\_\_\_

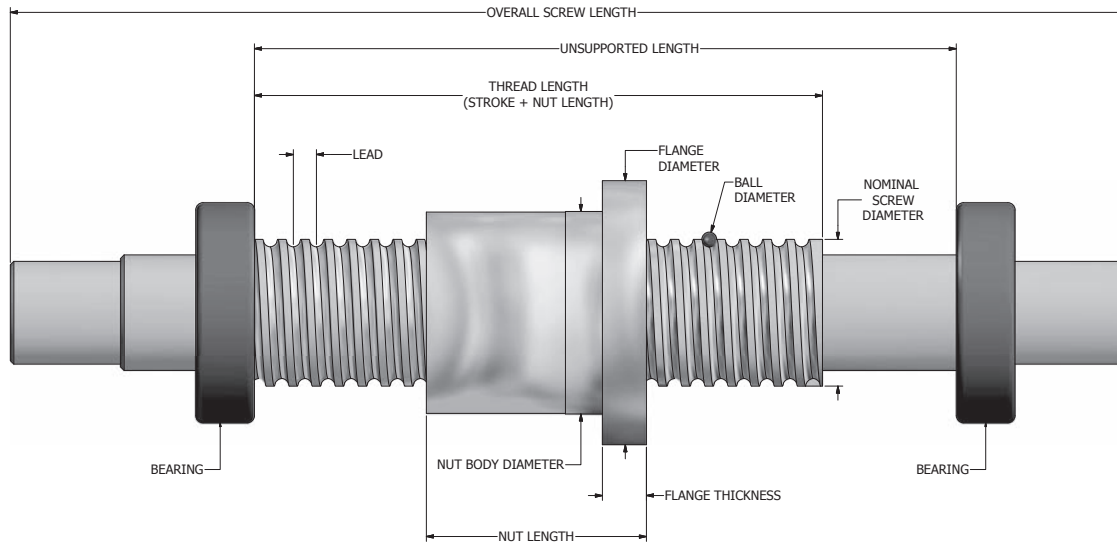
## 3. Ball Screw Mounting Style

<input type="checkbox"/> Fixed-Free 	<input type="checkbox"/> Fixed-Support 
<input type="checkbox"/> Support-Support 	<input type="checkbox"/> Fixed-Fixed 

## 4. Ball Screw Protection

For longer life, we recommend a bellows to protect the screw from contaminants.  
 Would you like more information on Gortite® bellows?  Yes  No

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## 5. Ball Screw and Nut Specifications

Ball Diameter: \_\_\_\_\_  in  mm  
 Screw Diameter: \_\_\_\_\_  in  mm  
 Lead: \_\_\_\_\_  in  mm

Screw Orientation:  Horizontal  Vertical

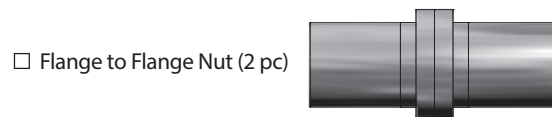
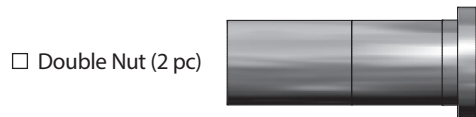
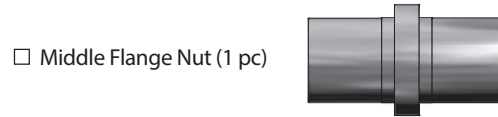
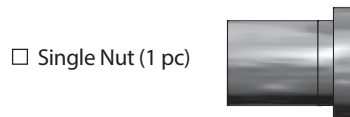
Lead Accuracy:  .0002 in/ft or 5 μm/300mm (ANSI C2, DIN/JIS C1)  
 .0005 in/ft or 12 μm/300mm (ANSI C5, DIN C3)  
 .001 in/ft or 25 μm/300mm (ANSI C7, DIN C5)  
 .006 in/ft or 150 μm/300mm (ANSI C8)

Maximum Nut  
 Body Diameter: \_\_\_\_\_  in  mm  
 Flange Diameter: \_\_\_\_\_  in  mm  
 Flange Thickness: \_\_\_\_\_  in  mm

Overall Screw Length: \_\_\_\_\_  in  mm  
 Screw Stroke: \_\_\_\_\_  in  mm  
 Unsupported Screw Length: \_\_\_\_\_  in  mm

Journal Ends must be specified by customer; please see our website for typical configurations.

## 6. Ball Nut Style (Note: Internal and external returns can be applied to all styles.)



Ball Return Type: \_\_\_\_\_  Internal (recommended)  External

## 7. Additional Design Details

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## LSI PRECISION GROUND BALL SCREWS | SCREW REPAIR EVALUATION

### FREE\* SCREW REPAIR EVALUATION

Our expert technicians can repair or rebuild your ball screw, acme screw, lead screw or specialty threads to save you money and extend the life of your old screw before a costly replacement becomes necessary. We repair nearly all brands of screws. Here is how and where to send in your part for evaluation:

#### Shipping Instructions:

- You do not need an RMA (return material authorization).
- Please call ahead for rush repair orders.
- Please include a packing slip with your company name, address, a contact name and phone number and fax number.
- Also include any information that would be helpful in identifying your machine, such as machine name, part number, model or model number.
- Please ship all items "pre-paid."
- The repair evaluation is free, however all freight costs are the responsibility of the customer.
- No freight collect items will be accepted without prior approval.

#### Shipping Address:

Dynatect Lead Screws International, Inc. (LSI)  
 2101 Precision Drive  
 Traverse City, MI 49686 USA  
 Toll Free: (800) 678-0726  
 Phone: (231) 947-4124  
 Fax: (231) 947-3851



\*Please note: You may accrue a disassembly fee if the repair department has to disassemble components that are unrelated to the ball screw/nut assembly (i.e. bearings, housings, etc.). Once the disassembly fee has been received, we will proceed with your free evaluation of the ball screw assembly. The additional components will be shipped back to you disassembled from the ball screw assembly. Please contact sales prior to shipping in any units that will require disassembly of other components.