DYNATECT®

DYNAMIC EQUIPMENT PROTECTION

LSI PRECISION GROUND BALL SCREWS

Full-service design, manufacturing, and repair

Manufacturer of Customized Precision Ball Screw Assemblies

Over 30 Years of Experience · ISO 9001:2015 Certified Facility

PRECISION GROUND BALL SCREWS

Dynatect is a full-service ball screw manufacturer specializing in "precision ground" assemblies with lead accuracy of +/- 0.0005"/ft cumulative. In addition to high precision, ground ball screws are superior in predictability of life, maintaining set preload, and energy efficiency.

Dynatect designs ball screw assemblies for both new designs (OEM) as well as replacement, with special expertise in the following areas:

Ultimate Design Flexibility and Optimization – Dynatect offers complete options to providing the best balance of price, size, uptime, and performance for an application. In addition, Dynatect can now provide twice as many varieties of long lead applications where lead is greater than 50% of the screw diameter.

Best Lead Times in the Industry – New and replacement precision ground ball screws typically just 5 weeks from order placement to ship day.

"Zero Lost Motion" Solutions – We customize your design to minimize backlash and eliminate deadband.

Superior Wiper Technology – Dynatect's unique wiper design results in greater wiping surface and better sealing than traditional wipers.

Easy to Work With – Ball screw assemblies can be manufactured based on drawings, a sample unit, or the specifications you provide. Need CAD files? Our fully automated CAD system allows us to design in real time, so we can deliver a model early in your project.

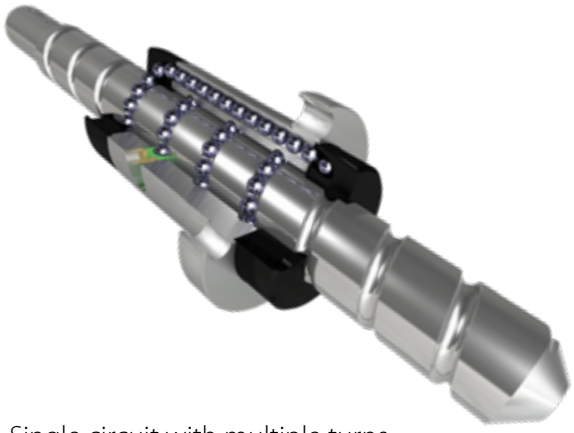
Made to Your Specification – You are not "locked in" to a few ball screw and nut designs in a catalog. We can offer a solution that is easy to install, saving you money by minimizing the need to retrofit or adjust other components.

Size Flexibility and Unlimited Selection – Ball screw diameter and lead sizes are offered in both imperial and metric sizes. We manufacture ball screw diameters from 5/8" to 6" and specialize in long screws (longest to date was 54 feet).

Rebuild and Replacement Options – If we can't offer a standard repair, we can typically regrind your screw and manufacture a new ball nut.

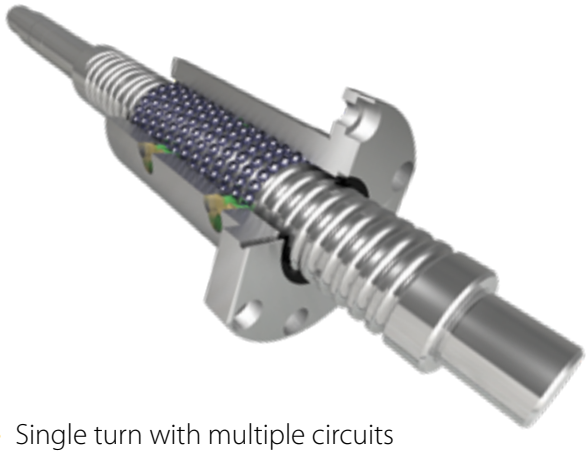
DESIGN FLEXIBILITY ▶ OPTIMIZED PERFORMANCE

End Cap Style Internal Ball Return



- Single circuit with multiple turns
- Best for long lead applications where lead is greater than 50% of the screw diameter
- Reduced wear thanks to patented fingerless pickup that eliminates the common end-cap wear point and allows for refurbishing

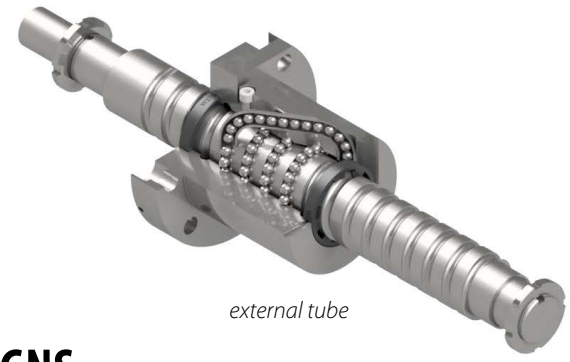
Button Style Internal Ball Return



- Single turn with multiple circuits
- Good for typical lead and diameter combinations

External Tube Ball Return

- Dynatect also has external tube capabilities to accommodate replacements and shorter length nut designs



external tube

COMPARISON OF BALL RETURN DESIGNS

KEY ADVANTAGE	BUTTON	END CAP	EXTERNAL TUBE
Double load capacity / increase life by adding multiple starts while maintaining the same package size	⊘	Option	Option
Optimal form factor of ball nut	Most Favorable	Favorable	Least Favorable
Optimal life – balls travel in paths that are tangent to the pitch, resulting in longer life and reduced wear	Most Favorable	Favorable	Least Favorable
Higher operating speeds – travel path increases permissible speed	Most Favorable	Favorable	Least Favorable
Smooth operation and low noise – balls spend less time traveling unloaded	Most Favorable	Favorable	Least Favorable
Ease of installation – components protected by design means low risk of damage during installation	Most Favorable	Favorable	Least Favorable

DYNATECT LSI REPAIR SERVICES

Save Money Before Replacing Ball Screws

Ball screw repair options are crucial to managing the uptime of machine tools. When unique designs, large sizes, or new ball screws have long lead times, reliable repair can ensure mission-critical production machines are online faster. Machine tool owners often leverage a combination repair, emergency stock, and replenishment — for which Dynatect is ideally positioned to provide all three services. Dynatect has been a ball screw manufacturer for over 30 years and has also been repairing ball screws ever since.

Dynatect offers the **most competitive lead times** in the industry and the highest quality:

- Most standard repairs are turned around in 5 days.
- Expedited repairs (emergency reload) are typically 48 hours and have been as short as 12 hours. (Call ahead for service).
- Dynatect LSI's repair and manufacturing facility in Traverse City, MI is ready to support all your ball screw needs.

Repair for (almost) Any Brand:

- Acme Screw or Lead Screws — We can repair them, or replace them with a ball screw design.
- Ball screws from any machine tool — no matter what make or model.
- We have experience with the following types of machines: Mazak, Okuma, Mori Seiki, Haas, K&T, Bullard, G&L, Cincinnati, Leblond, Fellows/J&L, Devlieg, AM Broach, Clausing, Gilman, Heald, Kasper, Shoda, Kitamura, Lodge & Shipley, and Werth.

Repair Evaluation Service

Dynatect's standard service includes an evaluation of the returned ball-screw and nut assembly including a multi-step cleaning, inspection, and quotation.

REPAIR SERVICE OPTIONS
RELOAD
• Cleaned unit is reloaded with new balls, tested, and inspected
• Warranty Reload (1 yr.)
• Temporary Reload
REBUILD
• Regrind Screw & New Ball Nut
• 1 year warranty
REPLACE
• **Damaged Beyond Repair?** We can make a new one from prints or reverse engineering

BEFORE

AFTER

DYNATECT®
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CONTACT INFORMATION

2101 Precision Drive | Traverse City, MI 49686 | Phone (231) 947-4124 | TF (800) 298-2066
Email: sales@dynatect.com | dynatect.com

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