EZ-STACK

Selection & Technical Guide

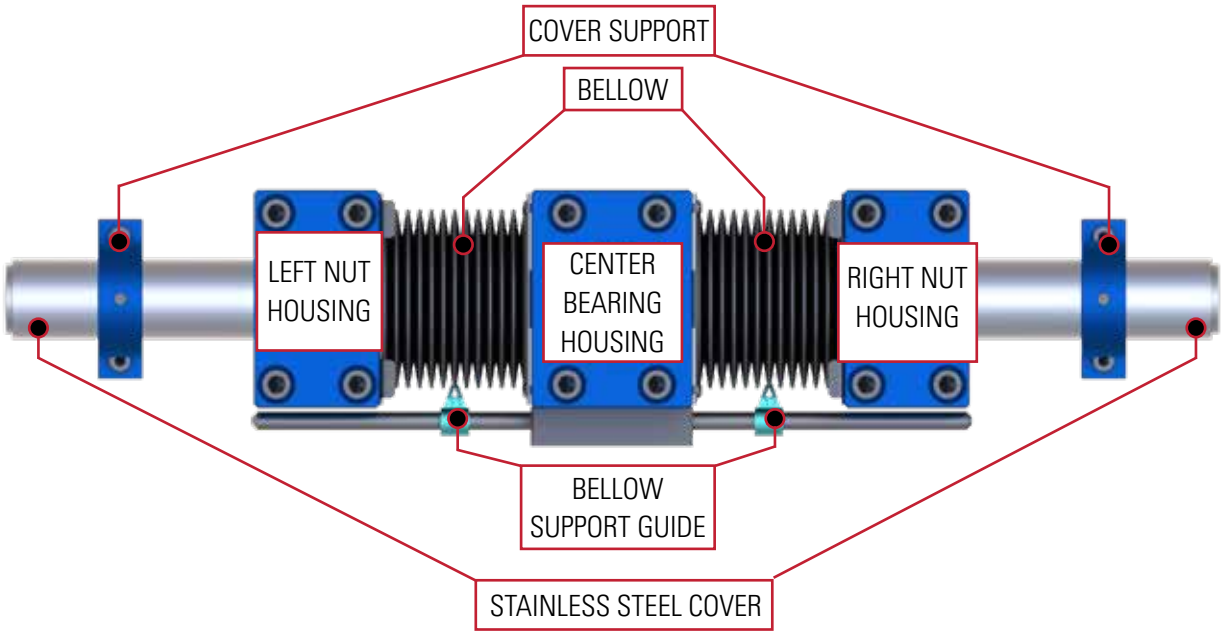
DME EZ-STACK
INTRODUCTION

DME's EZ-STACK BALL SCREW CENTERING DEVICE is designed for use in all Stack tooling applications. Complete assemblies are available from stock and custom fit to your mold within three days.

All the moving parts are contained within the bellows and stainless tubes protecting the moving parts while keeping contaminates away from the molded parts.

The maintenance on the EZ-Stack is simple and can be done without having to use any type of wrenches. The "One Touch" retainer allows easy access for lubrication.

A bellow support keeps the bellows from sagging during the open phase of the molding cycle.



DME EZ-STACK

PART DESCRIPTION

EASY

Stop washers are incorporated to prevent any over-travel of the ballscrew nuts.

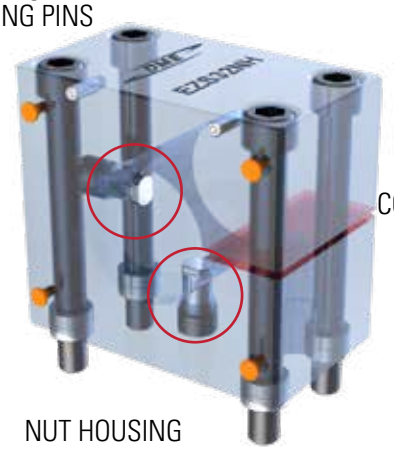
The EZ-Stack uses a precision ground case-hardened shaft and hardened ballscrew nuts. The rolling coefficient of friction is less than 0.01 ensuring reliable performance cycle by cycle.

LH BALL NUT / RETURNER

RH BALL NUT / RETURNER

BALLNUT SCREW

TWO LOCKING PINS



COMPRESSION SLOT

NUT HOUSING

DME EZ-STACK

NUT HOUSING FEATURES

A compression slot though the ballscrew nut housings and two lock pins keep these ballscrew nuts in position within the housing. The lock pins have clearance on the bottom so the shaft can rotate without resistance. The housings come assembled on the shaft. To locate them on the mounting position, simply rotate the ballscrew nuts by hand into the mounting position that is on your mold.

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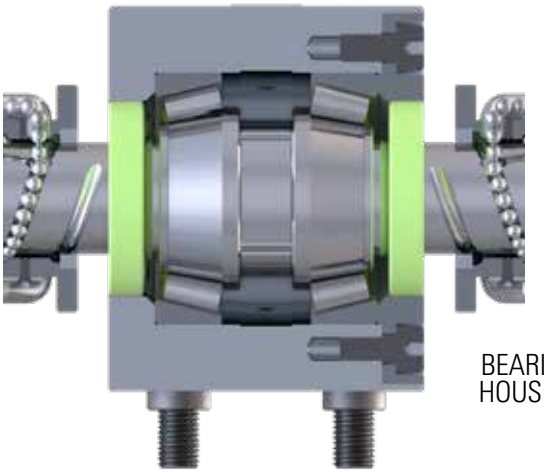
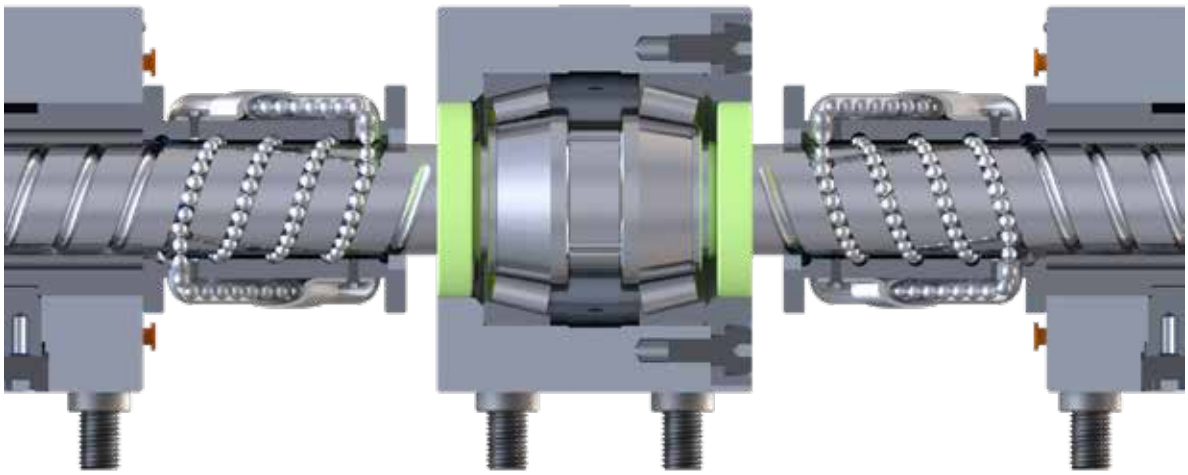
PART DESCRIPTION



BEARING HOUSING

The bearing housing is a one piece housing with an end cap. There are two thrust bearings inside used for support of the ball screw rod and are designed to handle the acceleration when the mold opens and closes. The green image shows the seals that are used to retain the grease for the bearings lubrication.



BEARING HOUSING

The bellows are fixed to the bearing housing and attached to the nut housings by the "One Touch" designed retainer.
The bellow support mechanism is fixed on the bottom of bearing housing. A clip guide is attached to the center of bellows and slides on the support rod when the mold opens and closes.

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DYNAMIC & STATIC LOADS

The force (load) on EZ-Stack for opening and closing the center portion is mainly related to the center portion mass and acceleration.

The EZ-stack is not for support and guidance of the center portion of the mold. The center portion must be supported and guided by using leader pins and bushings. Large mold should include a center support.

Other sources of resistance, which including mold misalignment, improper part draft or undercuts will add extra load on the EZ-stack ballscrew shaft. in the worst case the miss alignment could damage the EZ-Stack centering device.

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EACH EZ-STACK LOAD

ITEM#	DYNAMIC LOAD (KN)	STATIC LOAD (KN)
EZS32	21	58
EZS40	35	98

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REFERENCE SELECTION GUIDE

The balance is more important than the force. Selecting 2 or 4 sets of the EZ-Stack mainly depends on the size the of mold. The press opening and closing acceleration is related to the whole moving mass and force, we recommend not more than 2M/S^2. The center portion acceleration is half of that (1M/S^2).

For ease of selection, we are using the WEIGHT in the chart instead of the MASS. The recommended EZ-Stack in the chart is for reference only, use the Center Potion Max Weight and Sizes to choose the quantity of the EZ-Stack Centering Devices to mount on your mold.

For Safety, set the max load at 10% of the dynamic load and center portion acceleration as a 2.0 M/ S^2.

BALLSCREW SHAFT SIZE & QUANTITY	DYNAMIC LOAD	STATIC LOAD	MAX LOAD	CENTER PORTION MAX WEIGHT	CENTER PORTION MAX SIZES
(2) EZS32	42KN	116KN	4KN	2,000 KG 4,400 LBS	800 X 800 X 350 (MM) 32 x 32 x 14 (INCH)
(2) EZS40	70KN	196KN	7KN	3,500 KG 6,600 LBS	1,000 X 1,000 X 400 (MM) 40 x 40 x 16 (INCH)
(4) EZS32	84KN	232KN	8KN	4,000 KG 8,800 LBS	1,200 X 1,200 X 350 (MM) 48 X 48 X 14 (INCH)
(4) EZS40	140KN	392KN	14KN	7,000 KG 13,200 LBS	1,400 x 1,400 x 400 (MM) 55 x 55 x 16 (INCH)

DME EZ-STACK

INSTALLATION

The Ball Screw Centering Device only works properly if all three portions of the stack mold are stable and fully aligned.

Important note:

1. The EZ-Stack Ball Screw Centering Device does not substitute the functionality of the leader pins for alignment and the support of the center portion.

2. If only two EZ-Stack centering devices are used, they must be placed in the middle of the side, symmetrically. Never mount in a kitty-corner arrangement.

	THREAD IN ALUMINUM		THREAD IN STEEL	
SHCS	N*m	ft*lbs.	N*m	ft*lbs.
M6 x 1.00	14.7	10.8	16	11.7
M8 x 1.25	35.9	26.5	39	29.2
M10 x 1.50	70.8	52.2	77	56.7
M12 x 1.75	124.2	91.6	135	100

USE A TORQUE WRENCH TO TIGHTEN ALL OF THE SCREWS

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QR CODE FOR INSTALLATION & MAINTENANCE VIDEO

- Grease every 100,000 cycles or once a month
- Every 1,000,000 cycles, wipe excess grease buildup

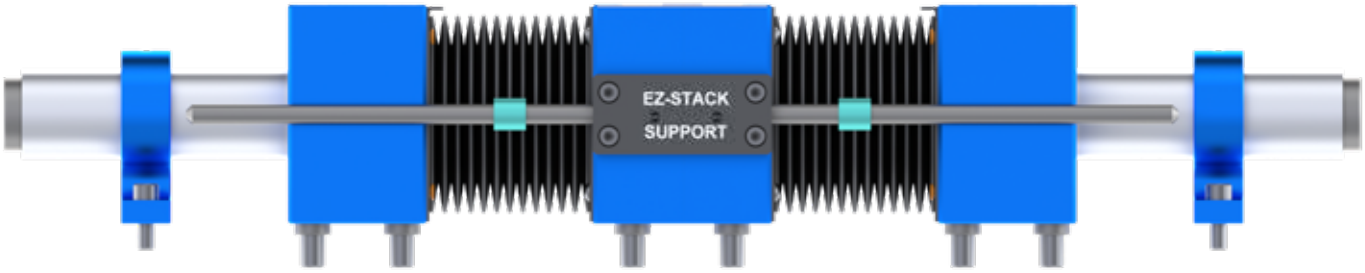
Always use synthetic grease such as SLIDE Super Grease for lubrication

SCAN FOR MAINTENANCE VIDEOS

DME EZ-STACK
MOUNTING OPTIONS

The DME EZ-STACK Ball Screw Centering Device offers flexible installation to suit a wide range of mold configurations. There are **three standard mounting options**, each designed to ensure optimal alignment, structural integrity, and performance of the centering system. The mounting method you choose depends on the mold base design, available space, and ejection requirements.

MOUNTING OPTION 1: Direct Mounting to the Mold Base



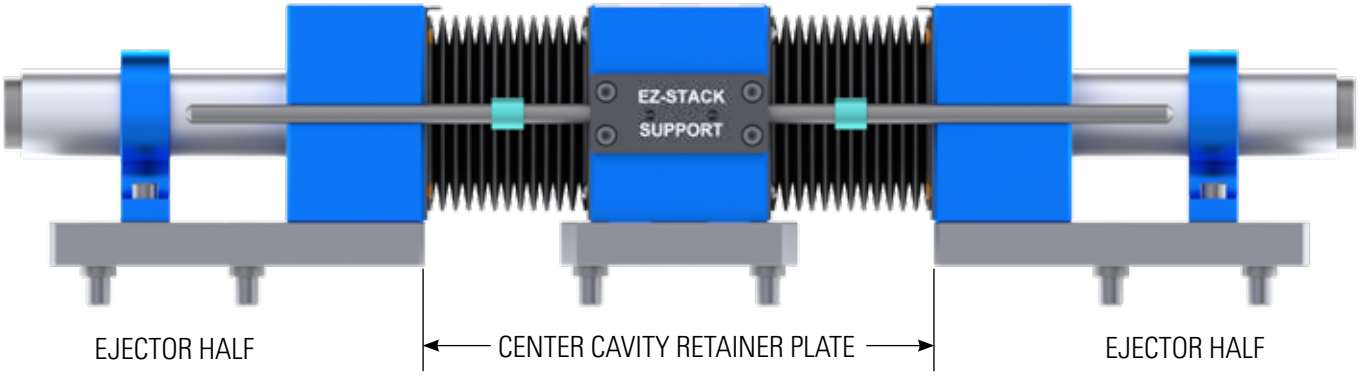
This is the most straightforward method.

- The EZ-STACK device is **bolted directly onto the surface** of the mold base.
- Ideal for molds with sufficient space on the mold plate surface for mounting.
- **No additional machining or relief pockets** are required, making installation quick and cost-effective.
- Offers **maximum structural support,** especially in compact mold designs.
- Recommended when **alignment and rigidity are not compromised by center mold sag or space limitations.**

EZ-STACK Mounted Directly on the Mold Base

MOUNTING OPTION 2:

Retrofit Existing Helical Gear Centering Device Using Adapter Plates

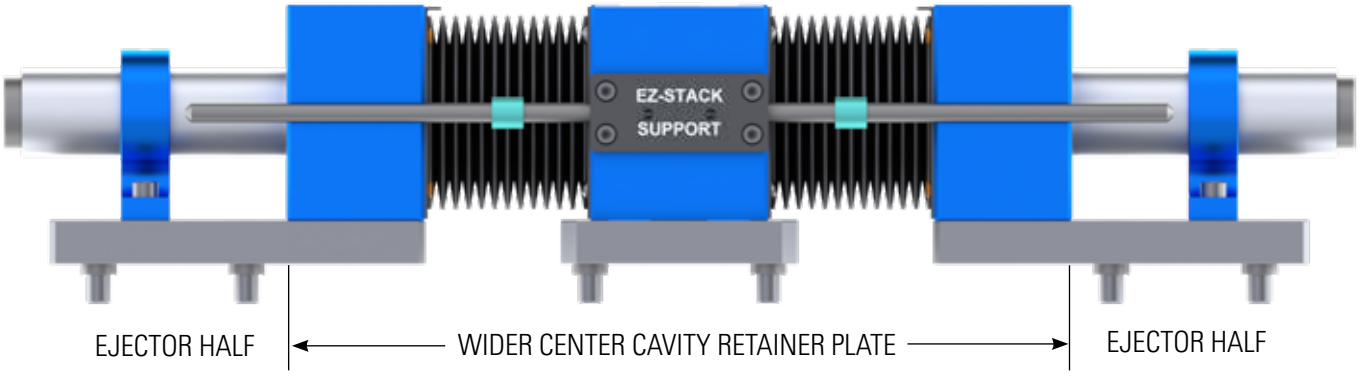


This option is designed specifically for molds that already use a **Helical Gear Centering Device** and require an upgrade to EZ-STACK without major rework.

- EZ-STACK can be **retrofitted** using the existing mounting holes of the Helical Gear Centering Device - minimizing downtime and machining effort.
- **Adapter plates** are used as an interface between the mold base and EZ-STACK, allowing the new system to align with the pre-drilled hole pattern.
- A **bearing housing floating plate** comes standard with EZ-STACK to **accommodate center mold sag up to 2mm**, helping to protect the lead screw from misalignment or stress during operation.

MOUNTING OPTION 3:

Adapter Plate Installation for Large Center Mold Sections



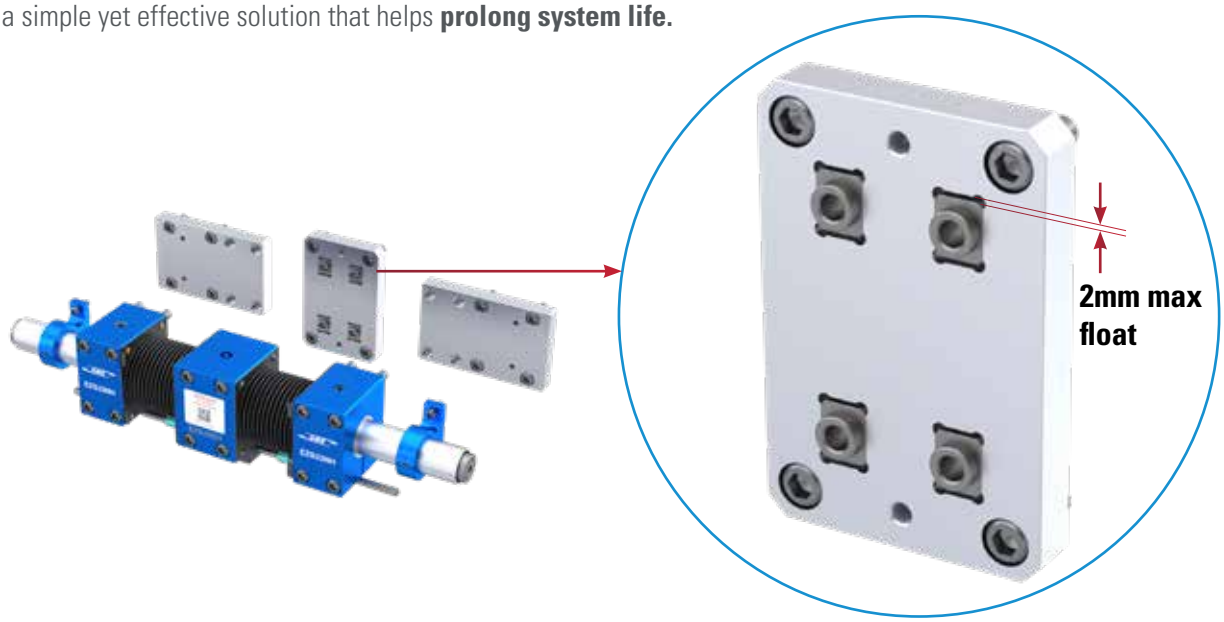
This method is ideal for molds with a large center section, where a wider ejection stroke or robotic access is required.

- The EZ-Stack Ball Screw Centering Device can be mounted using **adapter plates** that extend inward from the **ejector halves toward the center** of the mold.
- This positions the **ball screw nuts closer to the parting line**, increasing ejection stroke and allowing more room for robotic part removal.
- A **bearing housing floating plate** comes standard with EZ-Stack, helping to **absorb center mold sag up to 2mm,** preventing excessive stress on the lead screw.
- To prevent interference, a **relief cut is required** in the center portion of the mold, ensuring smooth movement of the adapter plates during operation.

FLOATING NUT FEATURE IN BEARING HOUSING ADAPTER PLATES

EZ-STACK's bearing housing adapter plates come with an **integrated floating nut design** that enhances system performance in wider mold configurations.

- These **floating nuts reduce direct load transfer** to the ball screw shaft, minimizing stress from mold sag.
- The design allows for **controlled movement** and automatic alignment under load.
- It's a simple yet effective solution that helps **prolong system life.**



ADAPTER PLATE INSTALLATION METHODS

CHOOSE THE RIGHT FIT FOR YOUR MOLD LAYOUT

EZ-Stack adapter plates can be installed using two methods, depending on the mold design and space constraints:

- **Direct Mounting** – Plates are screwed directly onto the mold surface, allowing for fast and simple installation with minimal machining.
- **Flush Mounting** – Plates are recessed into machined pockets within the mold, providing a flush surface that enables a more compact and integrated setup.

Direct Mounting

Flush Mounting

With tens of thousands of products to choose from, DME is your one-stop shop for everything molding.
From complex undercuts solutions and plate control to standard pins, bushings and interlocks, the DME line of mold components will help you build or rebuild your mold base inside out, top to bottom. Industrial Supplies, Mold Bases, MUD Quick-Change, Control Systems, and Hot Runner solutions round out our extensive offering to truly be your one-stop shop.

DME®

DME Company LLC
42827 Irwin Drive
Harrison Twp., MI 48045
800-626-6653 *toll-free tel*
248-398-6000 *tel*
www.DME.net *web*
DME@DME.net *e-mail*

DME Canada
5345 Outer Drive - Unit 3
Oldcastle, Ontario
Canada N9G 0C4
800-387-6600 *toll-free tel*
905-677-6370 *tel*
DME_Canada@DME.net *e-mail*

DME Mexico / South America
Circuito el Marques Notre, No.55
Parque Industrial El Marqués
El Marqués, Querétaro, CP 76246
52.442.713.5666 *tel*
DME_MX@DME.net *e-mail*

eSTORE
store.dme.net
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