

NEW



Lead Screws, Nuts, & Hybrid Linear Actuators

The nuts are self-lubricating, maintenance free, and require no external lubrication in most applications — resulting in a smooth, quiet operation with no metal-to-metal contact.

NUT OPTIONS

CONSTANT FORCE NUT

- Greater consistency and resistance to backlash
- Configurable for various torque requirements
- Patent pending self-adjusting anti-backlash feature
- Custom solutions available

ADJUSTABLE COIL SPRING ANTI-BACKLASH NUT

- Patent pending coil spring anti-backlash feature

MACHINED NUT

- Two standard mounting options: flange or threaded O.D.
- Custom mounting options available

LEAD SCREW FEATURES

- 300 series stainless steel with PTFE coating
- 6, 10, 12, and 16 mm diameters available
- 1, 2, 4, 5, 6, 8, 10, 12, 16, 25 mm leads
- Custom sizes, materials, and finishes available

Constant Force Nut



Coil Spring Adjustable Anti-Backlash Nut



Machined Fixed Nut



Machined Fixed Nut



NEW

PBC Patent Pending

CONSTANT FORCE SCREW & NUT

Constant Force Technology applies a uniform pressure to the nut at all stages of a motion profile and throughout its life.

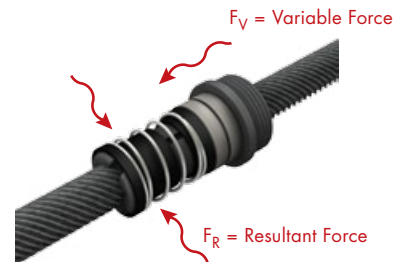


NEW

PBC Patent Pending

COIL SPRING ADJUSTABLE NUT

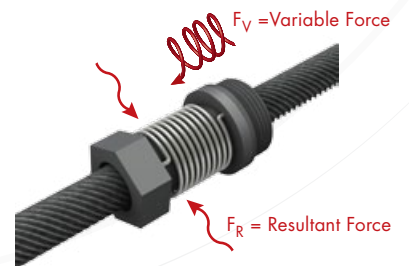
Coil spring design results in transferred pressure, removing play between the nut and screw.



Compared to:

TRADITIONAL TORSION SPRING DESIGN

Variable twisting spring force can result in loss of pressure on the nut requiring manual adjustment.



INTEGRATED HYBRID LINEAR ACTUATORS

- Reduced number of components
- Eliminate component tolerance stack-up
- Improved rigidity and performance

FEATURES & BENEFITS

- External nut type: 3 nut options available
- Utilizes Constant Force Technology, adjustable, or machined fixed nut and lead screws
- Smooth, quiet, consistent operation
- NEMA 17, 23, 34 flange sizes
- Single, double, and triple stack motors available



PBC
LINEAR
A PACIFIC BEARING CO.

NEW CONSTANT FORCE TECHNOLOGY

NUTS & LEAD SCREWS

NUT OPTIONS

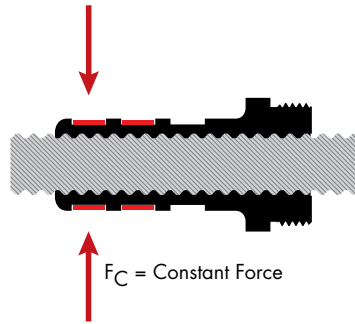
- Constant Force Nut
- Coil Spring Adjustable Anti-Backlash Nut
- Machined One-Piece Nut

SCREWS

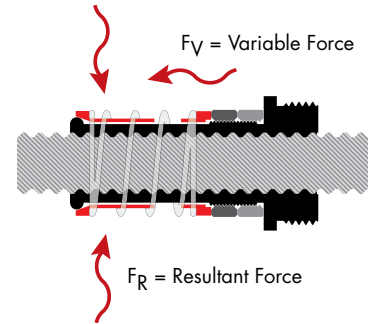
- Screws are 300 series stainless steel with PTFE coating
- Special end machining available



PBC Patent Pending
Constant Force Nut



PBC Patent Pending
Coil Spring Adjustable Anti-Backlash Nut



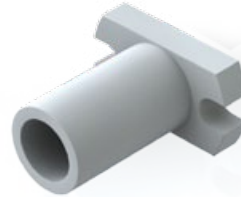
PBC Patent Pending
Constant Force Nut



PBC Patent Pending
**Coil Spring Adjustable
Anti-Backlash Nut**



Machined Fixed Nut



Machined Fixed Nut



Nut Performance Selection Chart

Acceptable X

Excellent XX

Optimum XXX

| Performance Characteristic | Constant Force Nut | Coil Spring Adjustable Anti-Backlash Nut | Machined Nut |
|----------------------------|--------------------|--|--------------|
| Dynamic Capacity | X | XX | XX |
| Minimal Drag Torque | XX | X | XXX |
| Backlash/Wear Compensation | XXX | XX | N/A |
| Vibration Damping Ability | XXX | XX | N/A |
| Rigidity | XXX | XX | X |
| Consistent Smoothness | XXX | XX | X |

Standard Major Diameter / Lead Combinations

Contact an application engineer for custom combinations.

| Major Diameter | Lead (mm) | | | | | | | | | |
|----------------|-----------|---|---|---|---|---|----|----|-----|-----|
| | 1 | 2 | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 25 |
| 6 mm | X | X | X | X | X | X | X | X | N/A | N/A |
| 10 mm | X | X | X | X | X | X | X | X | X | X |
| 12 mm | X | X | X | X | X | X | X | X | X | X |
| 16 mm | X | X | X | X | X | X | X | X | X | X |

Note: Screws are available with simple cut ends, or with custom machined ends.

INTEGRATED HYBRID LINEAR ACTUATORS

HLA SERIES

- Sizes: 35 mm - 86 mm (NEMA 17, 23, 34)
- Single, double, triple stack
- Integrate any screw / lead from PBC Linear
 - Multiple nut options

NEW
CONSTANT FORCE
TECHNOLOGY

Hybrid Linear Actuator Selection Chart

| Motor Frame | Screw Size | | |
|-----------------------|------------|-----|----|
| | 6 | 10 | 12 |
| NEMA 34, Single Stack | N/A | N/A | X |
| NEMA 23, Double Stack | N/A | X | X |
| NEMA 23, Single Stack | N/A | X | X |
| NEMA 17, Triple Stack | X | X | X |
| NEMA 17, Double Stack | X | X | X |
| NEMA 17, Single Stack | X | X | X |

Assembled in USA from domestic and foreign components



Integrated Hybrid Linear Actuator Setup

- Lead screw aligned and fixed directly with motor
- Fewer components
- Greater accuracy
- More reliable
- Higher rigidity
- Greater value



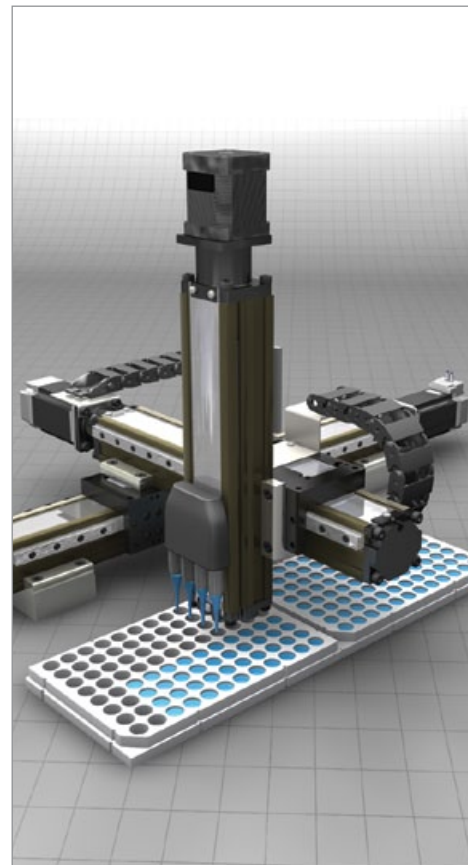
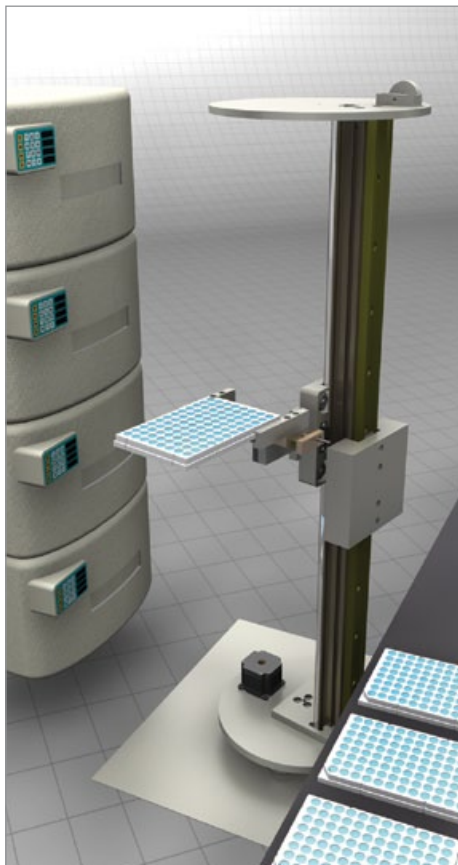
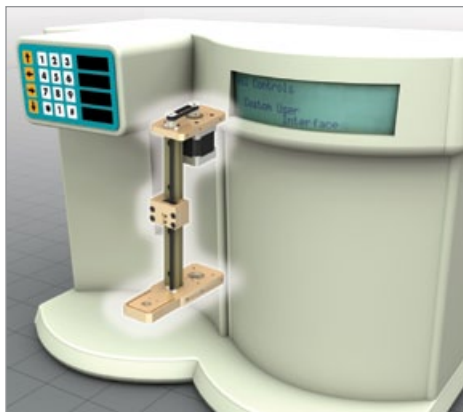
Traditional Motor/Screw Setup

- Multiple components that require assembly
- Difficult to align
- Play and tolerance between components result in lost accuracy
- Increased potential for failure
- Higher costs

NEW CONSTANT FORCE TECHNOLOGY

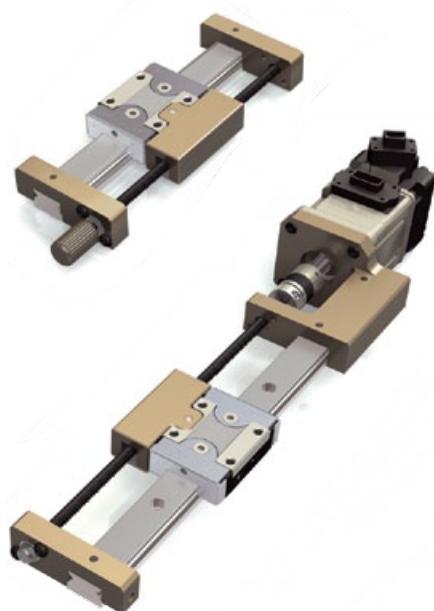
APPLICATION EXAMPLES

- X-Y-Z assemblies
- Medical equipment
 - Well plate handling
 - Blood analyzers
- Valve controls
- Semiconductor manufacturing



Products that Utilize Constant Force Technology from PBC Linear

Gliding Surface Technology MS Group

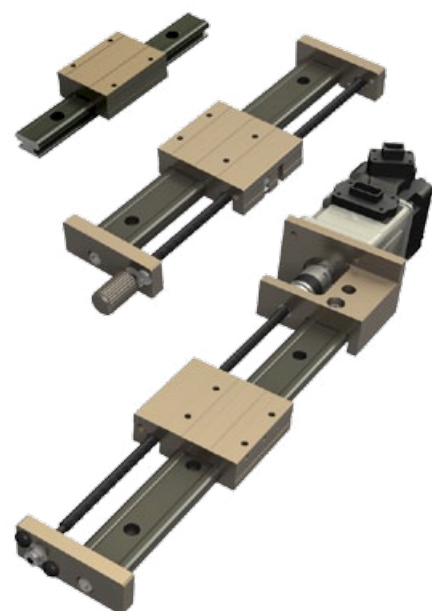


NEW Simo Series Linear Motion Platform



SIMO SERIES
SIMULTANEOUS INTEGRAL
MILLING OPERATION

Gliding Surface Technology MR Group – Mini Rail



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