



Electric Cylinders



Solutions for Life



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Electric linear cylinders

ERD Electric Cylinders for Pneumatic Cylinder Replacement

ERD low-cost electric cylinder series are the perfect alternative to pneumatic cylinders for automating manual processes.

The ERD is an economical electric cylinder and is compatible with many NEMA & metric mount stepper and servo motors to create a flexible, powerful, yet cost-effective electric cylinder solution over traditional pneumatic cylinders.

Perfect for gating, sorting, diverting and product change overs, ERD electric cylinders offer these features:

- 4 body sizes
- Ball and acme screw choices
- Force/thrust capabilities up to 2.2 kN
- Stroke lengths up to 610 mm
- Guide and anti-rotate options
- Stepper and servo drive/controller and motor solutions
- IP67 and IP69K options
- All stainless steel body options



ERD-SS2 Stainless Steel Electric Actuators with Integrated Motor

ERD stainless steel electric actuators are IP69k rated and are washdown ready.

The all stainless steel ERD actuator with integrated motor in protective enclosure (ERD-SS2) accommodates both servo (23-frame) and stepper (NEMA 17 and NEMA 23-frame) motors. Combine any ERD-SS2 with the Tolomatic ACS servo or stepper drive and get a complete motion control system with high performance at a very competitive price.

- 3 body sizes
- Ball and acme screw choices
- Force/thrust capabilities up to 2.2 kN
- Stroke lengths up to 610 mm
- Choice of stepper and servo drive/controller and motor solutions
- Clean-in-place compatible
- Simplifies and lowers cost of machine design by eliminating protective guards around standard actuators





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ERD Hygienic (3A/USDA approved) Electric Actuators

ERD hygienic electric actuators are approved by 3A and USDA for food and beverage applications.

Tolomatic's line of hygienically designed all stainless steel electric actuators offer up to 35 kN and they are the perfect solution for food and beverage applications where higher forces are required for pressing, pumping, cutting or slicing. Use the Tolomatic Your Motor Here® database to select from a wide variety of stainless steel motor manufacturers for a complete all stainless package.

- 3 body sizes
- Ball, acme and roller screw choices
- Force/thrust capabilities up to 35 kN
- Stroke lengths up to 1 m
- IP69K with all stainless steel construction is standard
- USDA and 3A approved hygienic option for over food operation standard 15-day built-to-order shipping
- Clean-in-place compatible
- Simplifies and lowers cost of machine design by eliminating protective guards around standard

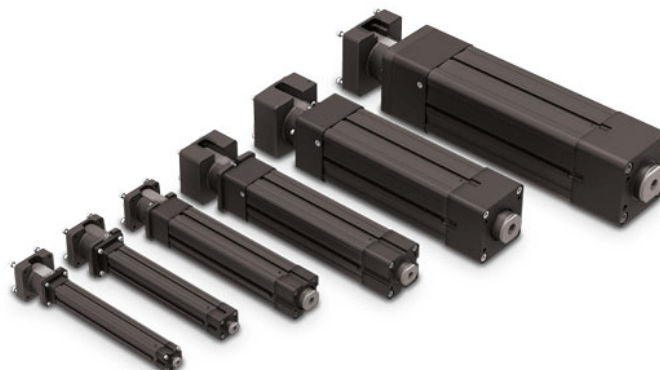


RSA/RSM-ST Electric Linear Rod Actuators

The RSA-ST electric linear rod actuator combines excellent accuracy with a low-to-medium thrust capacity

RSA-ST electric linear rod actuators feature accurate, medium force performance making them ideal for replacing pneumatic cylinders. High thrust bearings and internal bumpers deliver heavy duty performance. A rigid, strong aluminum housing allows for easy mounting of switches and sensors. These electric linear rod actuators are suitable for pneumatic replacement, general motion control applications and many more

- 6 body sizes with built-to-order stroke lengths of 305 to 1,524 mm
- Maximum thrusts of up to 4,038 lbf (40,257 N)
- Solid, ball and bronze screw/nut combinations
- Available with low-backlash ball screw/nut
- Multiple mounting options





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RSA/RSM-HT Heavy Duty, High Force Electric Rod Actuators

Heavy duty electric rod actuator ideal for applications requiring high force performance in tough environments.

The RSA/RSM-HT heavy duty electric rod actuator accommodates larger motors and delivers high force with excellent accuracy.

These high force electric linear actuators feature ball or roller screw selections, an enhanced high thrust bearing and heavy duty internal bumpers. The standard grease zerk extends screw life by making relubrication easy and convenient without disassembly. RSA/RSM-HT actuators are suitable for valve actuation, punch press, injection molding applications and many more.

- 4 body sizes with stroke lengths from 457 to 1,524 mm
- Maximum force/thrust up to 58,001 N
- Positional accuracy of +/- 0.0102mm/300mm for roller screw actuators or +/- 0.051mm/300mm for ball screw models
- Optional IP67 linear actuator configuration available to protect against dust and moisture



RSX Extreme Force Electric Linear Actuators

Replace hydraulics to eliminate messy leaks and increase system performance

The RSX family of extreme force electric linear actuators are more efficient and offer increased precision compared to hydraulic cylinders. Tolomatic precision ground planetary roller screws are utilized to achieve long life and precision. The RSX platform is designed and tested for long life and reliable performance in demanding conditions including cold weather operation. The RSX family includes two frame sizes capable of achieving 80 kN to 133 kN max force.

RSX extreme force electric linear actuators offer these features:

- Planetary roller screw driven for long consistent life
- Type III hard coat anodized aluminum housing to withstand demanding environments
- Standard thrust rod anti-rotation feature
- IP67 rated for water, dust and corrosion resistance
- Compatible with servo motors and gearboxes up to 215mm frame sizes
- Available with white epoxy coating and stainless steel thrust rod





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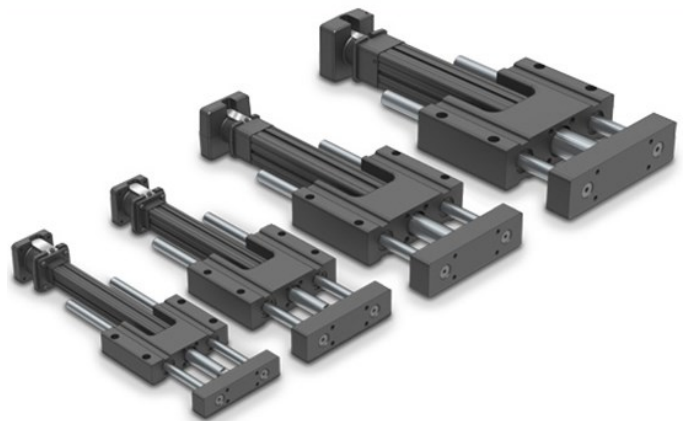
Electric linear cylinders

GSA/GSM Linear Slide Actuators

The GSA linear slide actuator is ideal for medium- to high-thrust applications.

GSA/GSM Linear Slide Actuators combine an electric rod actuator with guide rods, mounting blocks and bearings. A complete selection of sizes, options and system components are available. The GSA/GSM Linear Slide Actuator offers high performance, dependability and mounting flexibility for pivotal applications.

- 4 U.S. customary and metric body sizes
- Thrust capacities range from 0.31 to 4.2 kN
- Wide tooling plate for end effector mounting
- Choice of linear ball or composite bearings with internal lubrication of guide rods for increased bearing life
- Standard or oversized guide rod diameter for increased rigidity and lower deflection
- Strokes in any incremental length up to 914 mm depending on body size



IMA Linear Servo Actuators

The IMA servo linear actuator has a unique integrated servo motor design.

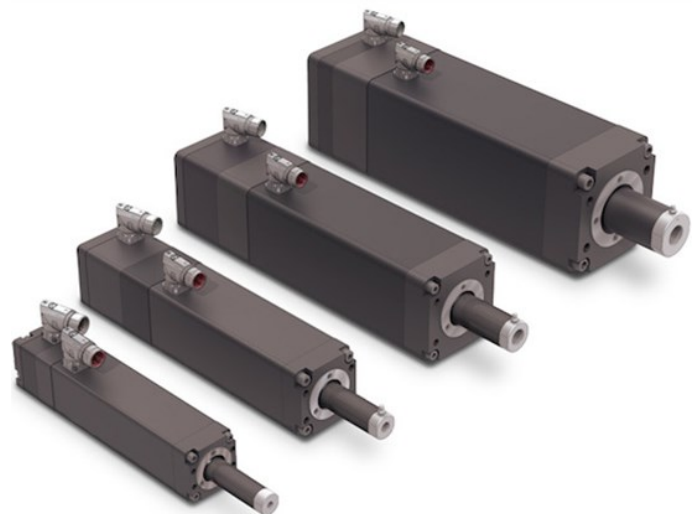
The IMA is an integrated linear servo actuator design in a compact, heavy duty package. Available in both ball and roller screw configurations, the IMA servo linear actuators provide forces up to 30.6 kN even in high duty cycle applications. The IMA utilizes a standard servo motor available with many feedback types. Available in food-grade coating for sanitary wash-down applications.

Get extremely long service life with IMA linear servo actuators
Utilizing Tolomatic's patented re-lubrication design, the IMA heavy duty linear servo actuators can easily be re-lubricated without disassembly for extremely long service life.

IMA linear servo actuator simplifies mechanical design.

Tolomatic's unique integrated linear servo actuator design eliminates:

- Hydraulic systems
- Pneumatic systems
- Contamination from air or oil
- Motor couplers, adapters, timing belts and gear boxes
- Forced air or water cooling
- Need for multiple vendors
- Unneeded assembly labor





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IMA Food Grade Servo Actuator

The IMA food grade servo linear actuator offers sanitary protection in wash-down applications.

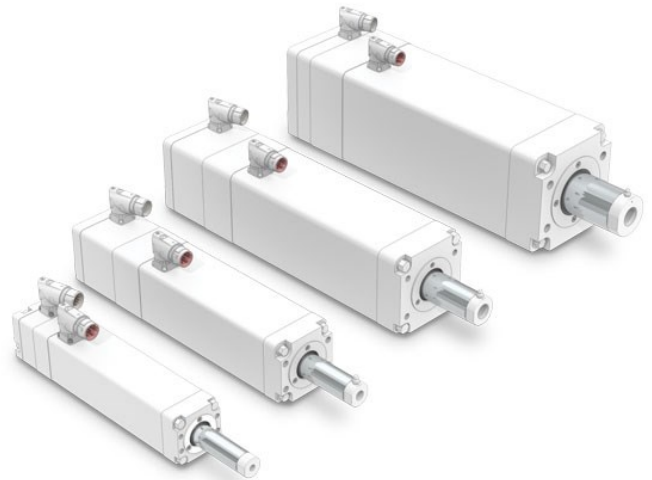
IMA food grade servo actuators offer a white epoxy food grade coating, food grade grease and are available with stainless-steel fasteners, rod and rod ends. Using the same integrated servo motor design as IMA servo linear actuators they offer a compact footprint. Available in both ball and roller screw configurations, IMA food grade servo actuators provide forces up to 30.6 kN (6875 lbf) even in high duty cycle applications. The standard servo motor is available with many feedback types to integrate with most servo drives.

Get sanitary protection and long service life with IMA food grade servo actuators

Tolomatic's patented re-lubrication design offers easy re-lubrication with food grade grease and do not require disassembly for reduced maintenance.

Tolomatic IMA food grade servo actuator design eliminates:

- Contamination from air or oil
- Hydraulic systems
- Pneumatic systems
- Forced air or water cooling
- Need for multiple vendors
- Unneeded assembly labor
- Motor couplers, adapters, timing belts and gear boxes



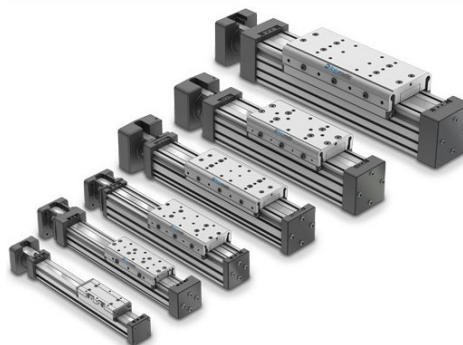
MXE-S Screw Actuators

The MXE-S electric linear screw actuator with a solid bearing design reduces stress concentration for optimal performance.

The MXE-S electric linear screw actuator is designed for applications requiring moderate load carrying and guidance.

The MXE-S actuator utilizes two field replaceable solid bearings that optimize stress distribution for optimal performance.

- Large bearing surface contact area optimizes stress distribution on bearing for long service life
- Large carrier mounting pattern for more load stability and compatibility
- Engineered bearing material does not require additional lubrication
- Field replaceable bearings

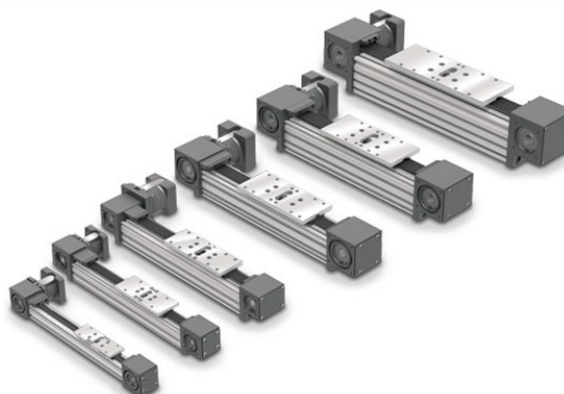


MXB-U Unguided Belt Driven Actuators

MXB-U belt driven actuators are designed for applications where loads are externally guided and supported.

The MXB-U belt driven actuator is a pre-assembled compact linear belt solution for use in applications where higher speeds are desired but loads are supported by existing guides & supports.

- High speed and acceleration capabilities up to 30.5 mm/sec²
- 6 body sizes accommodate a wide range of forces and loads
- Polyurethane belt with steel members resists stretching
- Excellent repeatability, high duty cycle performance
- Choose MXB belt drive for longer strokes than screw drive actuators

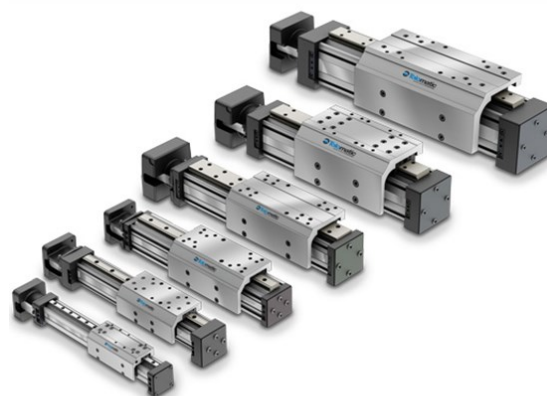


MXE-P Screw Driven Actuators

The MXE-P screw driven actuators with profiled rail bearing offers high load and bending moment capacities in a low profile package

The MXE-P screw driven actuator is designed for applications requiring moderate to heavy load carrying and guidance. MXE-P screw driven actuators features a profiled rail system with recirculating ball linear guides for optimal performance.

- Recirculating ball bearings with reduced friction for reliable long life
- High load and bending moment capacities
- Low profile to fit your application
- High precision bearings feature smooth, low breakaway motion



MXB-P Heavy Duty Linear Actuator

MXB-P heavy duty linear actuators with profiled rail bearing support offers high load and bending moment capacities in a low profile package.

The MXB-P heavy duty linear actuator is designed for applications requiring moderate to heavy load carrying and guidance. The MXB-P actuator features a profiled rail system with recirculating ball linear guides and belt drive train for optimal performance and high speeds.

- High speed and acceleration capabilities up to 30.43 m/sec²
- 6 body sizes accommodate a wide range of forces and loads
- Polyurethane belt with steel members resists stretching
- Excellent repeatability, high duty cycle performance
- Choose MXB belt drive for longer strokes than screw drive actuators





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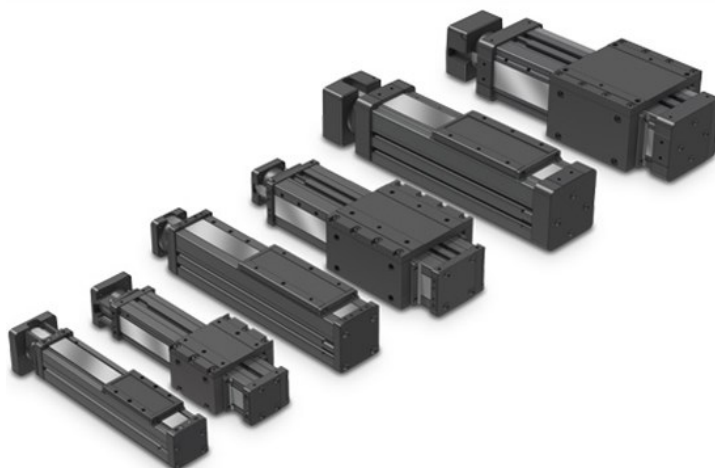
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B3S Ball Screw Linear Actuators

B3S ball screw linear actuators have an enclosed ball bearing design that accommodates heavy loads, high bending moments and delivers long service life.

The B3S/M3S ball screw linear actuator is capable of accommodating heavy loads and handling high bending moments with consistent, smooth operation. B3S/M3S ball screw actuators incorporate an enclosed recirculating ball bearing system that eliminates the need for external load guidance. The B3S/M3S ball screw linear actuator delivers repeatability and 100% duty cycle with long service life.

- 3 body sizes
- Ball or acme screw choices
- Load carrying capacities up to 35.7 kN
- Strokes up to 4,547mm depending on screw selections
- US customary (standard) and metric (optional) construction
- Mount your motor of choice with Tolomatic's Your Motor Here® program



MXB-S Linear Belt Drive Actuator

MXB-S linear belt drive actuators provide optimal performance, rigidity and life.

The MXB-S is a compact belt drive linear actuator for use in applications requiring light to moderate load carrying and guidance.

The bearing system of the MXB-S linear belt drive utilizes two field-replaceable solid bearings that optimize performance, rigidity and life. Featuring a trapezoidal, self-cleaning bearing system, the MXB-S linear belt drive is a good choice for applications in paper production or sawmills. This low-cost, economical belt drive actuator features speeds up to 2540 mm/sec and thrusts up to 1860 N.

All MXB-S linear belt drive actuators are built-to-order in stroke lengths up to 200 inches (5080 mm).

- 6 body sizes
- Oversized pulley bearings for longer life
- High-power polyurethane belt resists stretching
- Easy access belt tensioning system with no disassembly required
- Field replaceable bearings for extended service life
- Large, flexible carrier mounting surface
- Your Motor Here® compatible for easy direct drive motor installation



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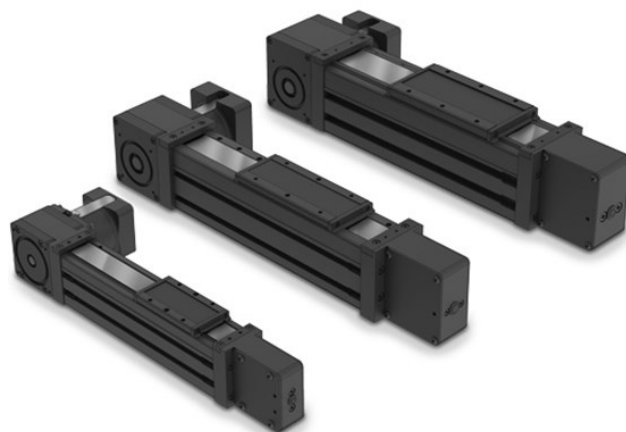
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B3W Linear Belt-Drive Actuators

B3W linear belt drive actuators have an enclosed ball bearing design for heavy loads, high bending moments, and long service life.

The B3W/M3W linear belt drive actuator is capable of accommodating heavy loads and handling high bending moments with consistent, smooth operation. B3W linear belt drive actuators incorporate an enclosed recirculating bearing system eliminating the need for external load guidance. The B3W linear belt drive actuator delivers repeatability and 100% duty cycle with long service life.



- Wide urethane-steel belt delivers greater thrust with no stretch
- Load carrying capacities up to 35.7 kN
- Strokes up to 5,258 mm
- US customary (standard) and metric (optional) construction
- Mount your motor of choice with Tolomatic's Your Motor Here® program

TKS Precision Linear Actuators for X-Y Tables and Stages

TKS precision linear actuators offer a dual profile rail with wide, low profile base ideal for XY tables/stages and XYZ systems.

The TKS precision linear actuator is designed for applications carrying moderate load and requiring high precision in parameters such as flatness, straightness and accuracy. XY or XYZ tables/stages can easily be created using TKS precision linear actuators. Two parallel profiled rails with four recirculating ball linear guides provide consistent and precise performance.

- 3 compact actuators with corresponding screw sizes
- Choice of either acme or ball nuts
- System payloads ranging from 45 to 340.5 kg
- 11 metric body size screw/nut combinations
- Strokes in any incremental length up to 2438 mm



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TKB Precision Linear Stages

TKS precision linear actuators offer a dual profile rail with wide, low profile base ideal for XY tables/stages and XYZ systems.

The TKS precision linear actuator is designed for applications carrying moderate load and requiring high precision in parameters such as flatness, straightness and accuracy. XY or XYZ tables/stages can easily be created using the TKS Precision Linear Actuator. Two parallel profiled rails with four recirculating ball linear guides provide consistent and precise performance to the TKS Precision Linear Actuator.

- 3 Compact actuators with corresponding belt sizes.
- System payloads ranging from 100 to 750 lb
- Strokes in any incremental length up to 96"



BCS/MCS Rodless Screw Actuators

BCS rodless screw actuators are designed for carrying light to moderate loads at a low price.

The BCS rodless screw actuator guidance system uses a patented adjustable carrier bracket that transmits the load to the cylinder body instead of the screw for good tracking, superior load support and controlled minimum friction load. The screw actuator's patented band retention system forms a tight metal-to-metal seal keeping contaminants out.

- 3 actuator body sizes
- Maximum loads range from 27 to 272 kg depending on load carrying selection
- Same envelope size as the B3S Series Screw Drive electric cylinder
- 12 U.S. customary screw/nut combinations
- 12 metric screw/nut combinations
- Strokes are available in any incremental length up to 3048 mm depending on screw selections





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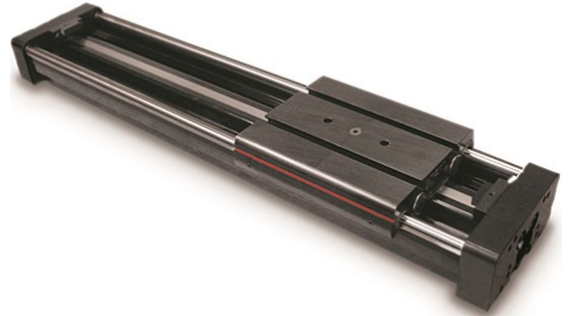
Electric linear cylinders

SLS/MLS Electric Linear Slide Actuator

SLS series electric linear slide actuators are pre-engineered, load-supporting and compact.

The SLS/MLS series electric linear slide actuator is designed for carrying light to moderate loads on a wide, rigid base. A similar design as our LS pneumatic linear slide, it utilizes a guidance system consisting of two linear guide rods with recirculating ball bearings for stable, smooth and low friction operation.

- Rigid low-profile design is ideal for space sensitive applications
- 1 body size in U.S. customary and metric models.
- Wide actuator base for easy mounting
- Strokes in any incremental length up to 3048 mm depending on screw selections



ACS Servo Drive / Servo Controller and Motors

The ACS servo drive creates a low cost, easy-to-use single axis actuator solution.

The ACS is an extremely easy-to-use, low cost servo drive developed specifically for electric actuators. Simply select the configured Tolomatic electric actuators in the drive software to automatically set-up most of the necessary parameters to create motion in the desired linear units (mm or inch). Available with NEMA 23 & 34 servo motors which are pre-tuned in the drive, making the entire servo system very simple to deploy. EtherNet/IP and Modbus TCP options available with dual Ethernet ports for infinite positioning and control from any PLC.

ACS Servo Drive / Controller basic features include:

- Easy Operating Modes: Index move, pneumatic, and analog positions (0-10 Vdc or 4-20 mA)
- Controlled using Modbus RTU Network Mode over RS485 provides infinite positioning capability or configurable digital I/O (24 Vdc Opto-Isolated)(NPN or PNP) for up to 16 move commands
- High current brake output
- Easy to use Tolomatic Motion Interface (TMI) configuration software knows the actuator mechanics, no need to calculate
- Options for gearhead and inline brakes.





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Electric linear cylinders

ACS Stepper Driver, Controller and Motors

The ACS stepper drive creates A low cost, easy-to-use Single Axis actuator solution.

The ACS is an extremely easy-to-use, low-cost stepper drive developed specifically for electric actuators. Simply select the configured Tolomatic electric actuator in the drive software to automatically set-up most of the necessary parameters to create motion in the desired linear units (mm or inch). Available with Nema 11, 17, 23, and 34 size stepper motors with options for gearheads, inline brakes and encoders.

Capabilities of the ACS stepper driver and controller include:

- Several modes of operation including; Index move, pneumatic mode, and analog position mode (configurable for 0-10 Vdc or 4-20 mA input)
- Controlled using Modbus RTU Network Mode over RS485 provides infinite positioning capability or configurable digital I/O (24 Vdc Opto-Isolated)(NPN or PNP) for up to 16 move commands
- High current brake output control
- Easy to use Tolomatic Motion Interface (TMI) configuration software knows the actuator mechanics, no need to calculate





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High speed electric actuators

High speed, compact and price-competitive cylinder actuators that provide an alternative to pneumatic cylinders with superior performance. SMAC electric cylinders offer life cycle well beyond 100 million cycles and the ability to repeat a move within one millisecond with no stiction. The conventional cylinder actuator shape and multiple mounting points allow the electric cylinders to be directly retrofitted in most cases.

CBL Series

The latest series of SMAC electric actuators. Designed to overcome problems with conventional devices in the packaging industry. The CBL offers speed, accuracy and efficiency while remaining competitive on price. Superior performance and operational costs, the CBL is an ideal solution for new machine designs and upgrades.

Features

- Cost competitive
- Independent control of velocity, position, and force simultaneously
- Airless and quiet operation
- Long life expectancy over 100 million cycles
- Programmable position, velocity and force
- Fast cycle time >2000 CPR
- Soft-Land function gives extremely accurate sensing of product location
- 100% data feedback for all operations as a standard feature
- Ideal for clean room environments



CBL Series with build-in-Controller

An electric cylinder with a built-in controller in a single, compact package for simple installation. Ideal for applications with limited space but requiring accurate control. The electric cylinders provide significantly longer life, programmability, high speed, accuracy, and energy efficiency while remaining price-competitive. Graphical User Interface is available for the built-in controller for easy, straightforward setup of parameters. It allows you to change product profiles on the fly and improves factory uptime.

Features

- Built-in controller
- Programmable position, velocity and force
- Long life expectancy over 100 million cycles
- Airless and quiet operation
- Graphical User Interface is available for simple set-up
- Space saving



CAL Series

SMAC's first series of Electric Cylinders designed to challenge pneumatic devices. CAL Series Electric Cylinders offer longer life than pneumatic cylinders, as well as more precise and repeatable force control and positioning than conventional pneumatic devices.

Features

- Quiet and airless operation
- Long life cycle
- Programmable position, velocity and force
- Soft-Land function and precise force control
- 100% Data feedback
- No external switches or sensors are required
- Ideal for clean room environments



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Linear actuators

A comprehensive selection of electric linear actuators are offered in a wide range of sizes, styles, and options for automated manufacturing, packaging, assembly applications, and more.

These programmable linear actuators range from units with 10mm stroke in a compact unit only 8mm in height, to units with 250mm of stroke length or up to 500N peak force

LAL Series

SMAC's original series of linear actuators with stroke 5mm to 150mm. Standard resolution is 5µm with 1µm, 0.5µm and 0.1µm options available on most models.

Features

- Programmable speeds, positions and forces
- Soft-Land capability and precise force control
- High cycle
- Data feedback
- Airless & clean operation
- Spring and vacuum option available



LCA Series

Developed as next generation servo motor based on moving coil technology.

SMAC's "Snap-Together" design controls tight tolerance stack-up to assure high product quality and achieves competitive price due to fewer parts.

The LCA is designed to offer extremely long life cycle well over 100 million cycles at high speed applications.

The range starting compact size with 8mm in height, ideal for electronics pick and place head, or force up to 90N for high speed and high cycle applications.

As with all SMAC actuators the LCA are fully programmable in position, velocity and force with feedback capability. SMAC's patented "Soft-Land" function is incorporated for precise force control.

Features

- Cost Effective
- Built-in lubrication for long life over 100 million cycle
- High cycle and acceleration
- IP65 rate available
- Energy efficient: low power consumption of average 1.5 amps peak at 24V or 48V
- Quiet & clean operation
- Data feedback



The precision Z-theta motion within one small actuator, providing a convenient pick, orient and place. A wide variety of linear rotary actuators are offered with either direct drive or gearbox equipped rotary units.

The vacuum-built-in shaft through the rotary motor is available for some models to prevent dust build-up in the unit. These z-theta actuators can easily be programmed to control force/torque, position and velocity in all axes at the same time with feedback capability. SMAC's unique, patented "Soft-Land" function enables the unit to gently land on a delicate component with a controlled force to avoid damage of both the component and the actuator.

LAR Series

The precision Z-theta motion within one small actuator, providing a convenient pick, orient and place. A wide variety of linear rotary actuators are offered with either direct drive or gearbox equipped rotary units.

The vacuum-built-in shaft through the rotary motor is available for some models to prevent dust build-up in the unit. These z-theta actuators can easily be programmed to control force/torque, position and velocity in all axes at the same time with feedback capability. SMAC's unique, patented "Soft-Land" function enables the unit to gently land on a delicate component with a controlled force to avoid damage of both the component and the actuator.

Features

- Features Soft-Land function and precise force/torque control
- Precision Positioning
- Vacuum built-in through the shaft
- Safty return spring option available
- Data Feedback

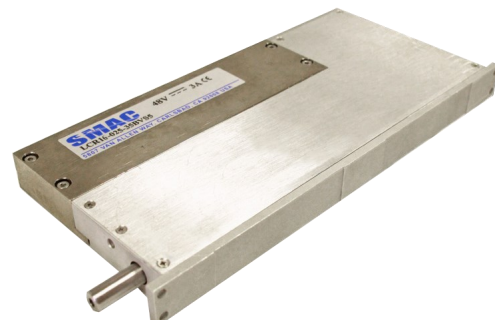


LCR Series

The LCR series is the first linear rotary versions of the LCA series. The actuator is available with direct drive brushless servo motor. It's designed with linear guide built-in lubrication to offer long life cycle. Programmable force and "Soft-Land" capabilities. Absolute control over: force/torque, position, acceleration and velocity.

Features

- Soft-Land
- MTBF 100 million life cycle
- Vacuum through shaft prevents dust accumulation





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Linear slide actuators

Linear Slide Actuators

SMAC's linear slide actuators are designed based on linear actuators and their performance characteristics are largely the same. SMAC offers electric linear slides ranging from compact to the units with long travels with precision positioning to fulfill a wide variety of automation system applications.

LAS Series

The LAS series is designed based on the LAL series linear actuator. Stroke ranging from 10mm to 150mm, peak force up to approx. 200N.

Features

- Soft-Land capability and precise force control, ideal for handling fragile components/materials
- Ideal for precision positioning
- Airless and quiet operation



LSC Series

The LCS series is designed based on the LCA series.

These electric slide are available in a wide range of style and options with stroke from 10mm to 250mm, peak force up to 90N. High or low speed and precise positioning with high repeatability make them ideal for applications such as parts feeding, scanning, esting, and measuring in wide range of industries.

Features

- Force, Position and Velocity Control
- Soft-Land capability
- Long life cycle



SLA Series Linear Slide Actuators

Designed for precision movement applications. A very light moving mass results in high accelerations with no backlash. The SLA incorporates precision Cross Roller Guides with anti-creep protection for increased stiffness and lower friction. The Moving Coil drive is centered between Cross Rollers thus eliminating moment effects from the drive. The SLA is available with encoder resolution down to 50 nm.

Features

- Ideal for precision movements/scanning
- No backlash
- Programmable speeds, positions and forces





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Electric gripper

SMAC electric grippers incorporate programmable speeds, positions and forces with data feedback.

The ability to independently control each jaw allows precise force control, measurement and positioning.

This makes them ideal for a wide range of positioning, measuring, and inspection applications, particularly where 100% verification is required.

MGR Series

A lightweight micro gripper, the MGR was designed for small, fragile part assembly. The MGR brings operation force 10 gram or less capability into range. Light moving mass reduces impact force during small product placement.

Features

- Compact and lightweight
- Light force capability 10g or less
- Soft-Land capability for pick and place of delicate and fragile parts
- Each jaw can be independently controlled in force, position and velocity
- 5 micron linear encoder standard, 1 micron optional



GRP Series

The GRP Series gripper offers a peak force up to 45N, and a working stroke up to 30mm. The built-in linear encoder delivers 0.1 micron precision.

Features

- Precision positioning ideal for measurements
- Soft-Land capability for sensing product location and dimensions
- Data feedback





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XY Stage

XY Stage

SMAC offers high-speed precision XY stages.

SMAC virtues of a direct drive zero backlash system, which can be controlled with great accuracy and repeatability.

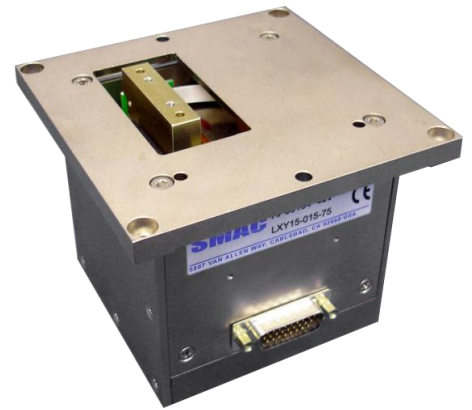
SMAC XY stages are equipped as standard with 5µm encoder with options down to 50nm encoder resolution for ultra precise positioning and scanning for industries such as bio-science, medical and photonics.

They are also used for quality measurement in automotive, and other industrial automation applications.

The capability of controlling the velocity, acceleration, positioning and force of each axis independently, gives you a flexible and accurate tool.

Features

- No backlash, no cogging
- Control speed, acceleration, positioning and force of each axis independently
- High repeatability
- Collect precise positioning data





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SMAC moving coil controllers

CBC Controller - Integrated Driver & Controller

Single axis miniature integrated driver & controller for single phase brush/3 phase brushless motor. The CBC can be perfectly integrated in SMAC actuators in applications with limited space but requiring accurate control.

Feature

- Compact: 20 mm W x 28 mm L x 16 mm H when folded, and 45.7 mm W x 28 mm L x 7 mm H when unfolded
- Combines controller, driver, and stand-alone programmability into single unit
- Programmable motion controller
- Digital and analog command source
- Ability to switch between motion modes
- Easy expansion to multi-axis



LCC-10 Single axis brushless controller

Single axis brushless controller with built-in amplifier, 10 bit analogue output.

Features

- Single phase / 3 phase brushless motor
- Mode: Position Velocity Force
- Built-in amplifier
- Easy expansion to multi-axis
- 24-48VDC
- 4TTL input/output
- 2 Analog inputs, 1 analog out put, 10 bit (16 bit optional as LCC-11)
- RS232 and CAN bus interface
- Can be run as drive only



LAC-1 Single axis controller

High speed single axis controller with built in amplifier

Features

- Compact: 20 mm W x 28 mm L x 16 mm H when folded, and 45.7 mm W x 28 mm L x 7 mm H when unfolded
- Combines controller, driver, and stand-alone programmability into single unit
- Programmable motion controller
- Digital and analog command source
- Ability to switch between motion modes
- Easy expansion to multi-axis





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Smac actuator controllers

LAC-25 Dual axis controller

High speed dual axis controller with built in amp and AMC drive

Features

- Two axis controller
- Built-in amplifier
- 1st axis single phase brush
- 2nd axis brush/brushless motor
- Mode: Position Velocity Force Gearing
- 12-48 VDC
- 3amp cont. per axis, 6amp peak per axis
- Independent or coordinated 2 axis motion
- 3 opto-isolated input, 2 opto-isolated output
- 1 analog output/axis
- RS232



LAC-45 Four axis controller

High speed 4 axis controller with built in amp and AMC drive

Features

- 4 axis controller
- Built-in amplifier
- Single phase brush motor
- Mode: Position Velocity Force Gearing
- 12-48 VDC
- 3amp cont. per axis, 6amp peak per axis
- Independent or coordinated 4 axis motion
- 8 opto-isolated input/output
- 1 analog output/axis



MAAC4-7 Four axis controller

Four Axes brushed/ brushless controller, integrated high end amplifier, advanced math capability, circular interpolation, and teach path function. Additional controllers can be added to work together on systems requiring more than four axes.

Features

- 4 axis brushed / brushless controller
- Integrated high end amplifier
- Advanced math capability
- Circular interpolation
- Teach path function
- 24-48 VDC
- 6amp cont. per axis, 10amp peak per axis
- 7TTL input, 7TTL output
- RS232 and Ethernet interface





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SMAC actuators controllers

Master Controller

The MC-1 Master Controller can coordinate multiple SMAC CANopen-based slave controllers in a multi-axis motion system, and at the same time can communicate with a PLC through standard industrial fieldbus protocols such as Ethernet/IP and PROFINET. The hardware platform of MC-1 is a mini computer. Additionally, it provides interfaces to a CANopen network and requires a 24 VDC power supply.

The control and communication functionalities of MC-1 are accommodated by a firmware that runs within the MC-1 operating system. To create an MC-1 program, a set of commands and parameters (having a syntax similar to the SMAC LCC control center program) are written in a configuration software that can be accessed from the MC-1 operating system

The MC-1 can serve solely as a coordinator of up to 127 CANopen-based slave controllers. The MC-1 can also act as a "slave" of a PLC and at the same time, the MC-1 acts as a "master" that coordinates the slave controllers.

The MC-1 can therefore be viewed as an intelligent gateway device, as it is capable of performing the coordination tasks, in addition to providing a communication between a given industrial ethernet protocol and the CANopen protocol that is recognized by the slave controllers.

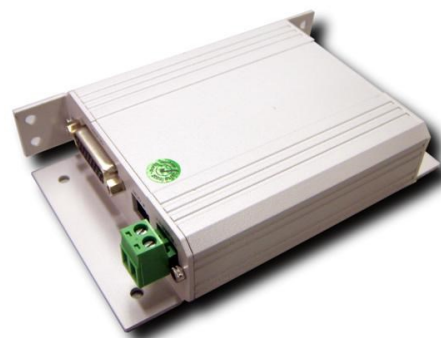


MIOE-8/8 Expansion Module

16 Channel I/O Expansion Module, 8 input, 8 output, Opto-isolated general purpose I/O. If more I/O channels are required, then the MIO can be linked to either the LAC1, LAC25 and LAC-45 controllers to give 16 I/O channels.

Features

- 24-48VDC
- 8 opto-isolated input/output





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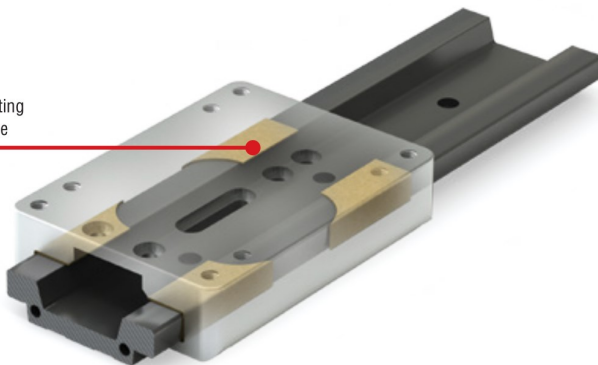
Responsible products

SIMO series - compact actuators

At the core of the SIMO® Series Linear Motion Platform is a SIMO qualified linear rail. The Simultaneous Integral Milling Operation qualifies the rail to tolerances that have 6x less bow, 2x less twist, and 2x better flatness. The result is a base rail with machined precision at aluminum extrusion prices.

The SIMO Series rails are available as components combined with 3 options of bearing tribologies for the carriage; self-lubricating FrelonGOLD® plain bearings which are ideally suited for contaminated environments, V-wheel roller bearings for high speed applications, and profile rail linear guideways with recirculating ball bearings for rigidity and precision.

FrelonGold® self-lubricating
maintenance-free surface



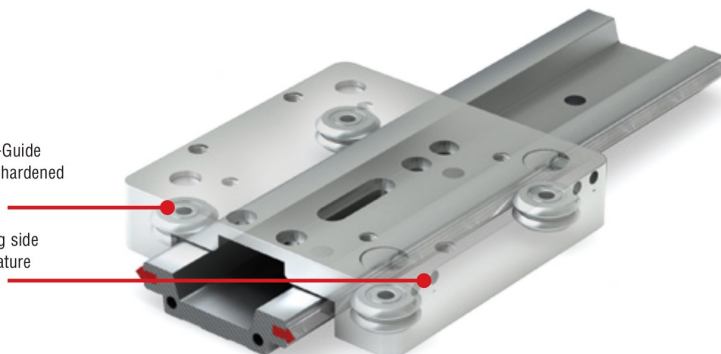
Gliding Surface Technology

PLAIN BEARING

- Low cost
- Utilizes bonded **FrelonGOLD®** bearing surfaces
- Self-lubricating and maintenance free
- No catastrophic failure
- No metal-to-metal contact, vibration damping
- Max speed – 1.53 m/s (300 ft/min) (dry running)
- Wide temperature range
- Resists contamination
- Precision or compensated running clearance

Double row V-Guide
bearings on a hardened
steel raceway

Patent pending side
adjustment feature

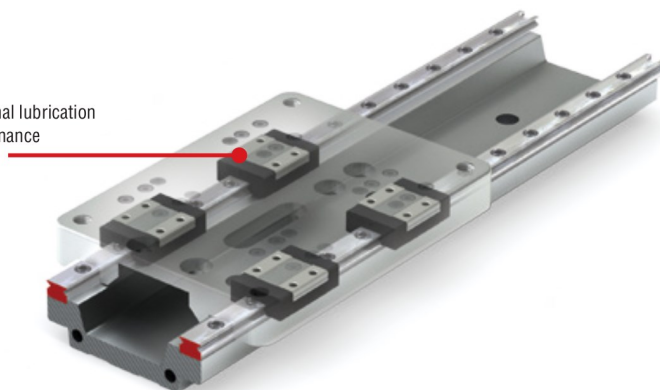


Cam Roller Technology

V-GUIDE BEARINGS

- High speeds – to 5 m/s (984 ft/min)
- Quick change of direction
- Good for cantilevered loads
- Handles contamination
- Built in lubricators standard
- Patented side-adjust preload feature
- 420 stainless steel race – hardened to RC60 – swaged in

Carriage with internal lubrication
for reduced maintenance



Profile Rail Technology

PROFILE RAIL GUIDEWAYS

- High precision and high speeds – to 3 m/s (590 ft/min)
- Size: 7 mm recirculating ball bearing blocks
- Increased stiffness and preloaded bearing performance
- Supports cantilevered loads
- Extra long blocks for increased load capacity are available – consult factory



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SIMO series - compact actuators

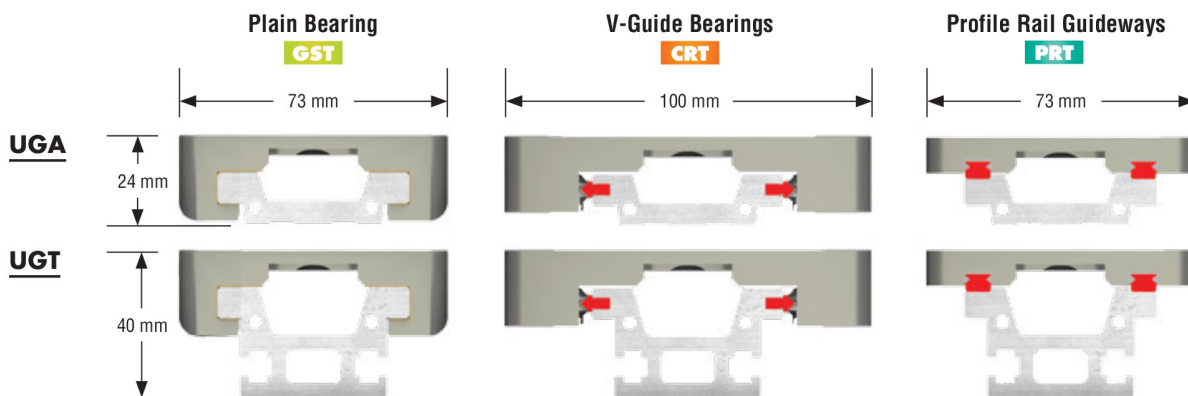
Three bearing system options are available with SIMO Series:
Plain Bearing, V-Guide Bearings and **Profile Rail Guideways**.

- Choose the bearing system that best supports the application requirements



SIMO SERIES BASE COMBINATIONS

A choice of bearing systems within the same base linear motion platform



Drive Options

Lead Screw – Low Cost

- Standard fixed or anti-backlash nut options
- Good rigidity and vibration dampening
- Self-lubricating and maintenance free



Belt Drive – High Speed

- Good for long stroke applications
- Tolerates contaminated environments



Ball Screw – High Rigidity and Precision

- Multiple accuracy classes available
- Rigid preloaded nut design



Lead Screw Driven System

OVERVIEW

- Utilizes a self-lubricating and maintenance free nut
- Standard fixed nut or Constant Force anti-backlash nut available
- Lead screw material:
 - 10 mm diameter
 - 300 series stainless steel with PTFE coating
 - 1, 2, 5, 10, 16 mm leads most common
 - Other leads available – consult factory
- Ideal for a broad range of applications such as kiosks, assembly, automation, medical, and laboratory



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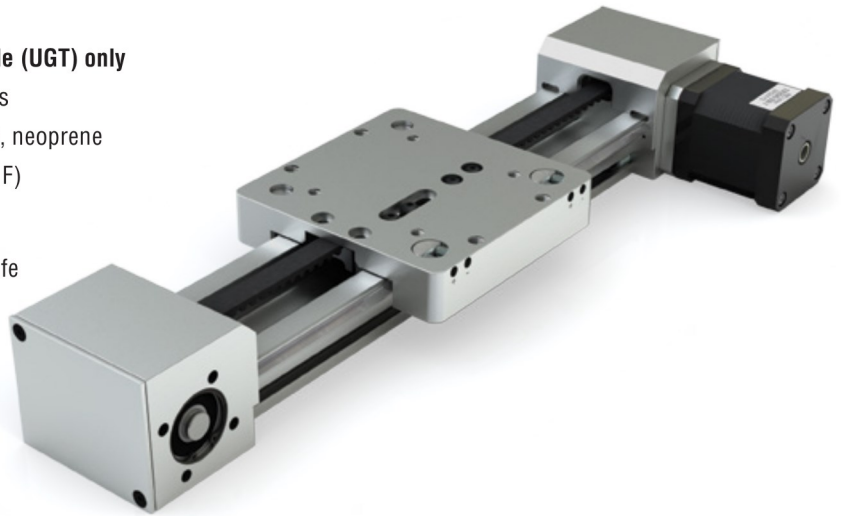
Responsible products

SIMO series - compact actuators

Belt Drive System – Horizontal Motor Mount

OVERVIEW

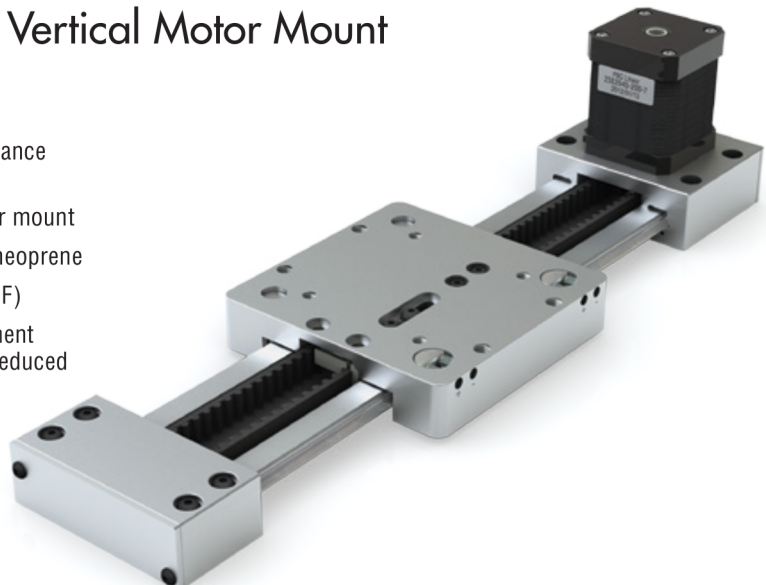
- Horizontal motor mount available in the tall profile (UGT) only
- Ideal for higher speed, high duty cycle applications
- Belt material: nylon covered, fiberglass reinforced, neoprene
- Temperature range: 0° C to +80° C (32° F to 176° F)
- Rounded GT®2 tooth design creates better engagement with the pulley resulting in greater torque transfer, reduced vibration, and extended life



Belt Drive System – Vertical Motor Mount

OVERVIEW

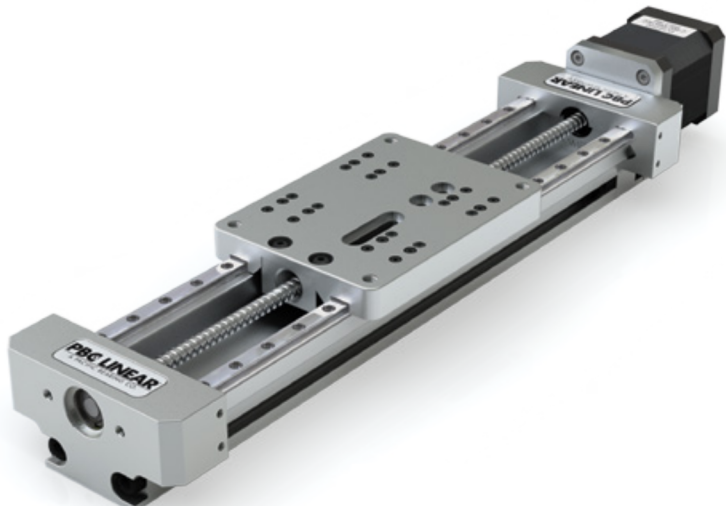
- Vertical motor mount allows for high speed performance in the (UGA) low profile rail
- Consult factory for (UGT) tall rail with vertical motor mount
- Belt material: nylon covered, fiberglass reinforced, neoprene
- Temperature range: 0° C to +80° C (-32° F to +176° F)
- Rounded GT®2 tooth design creates better engagement with the pulley resulting in greater torque transfer, reduced vibration, and extended life



Ball Screw System

OVERVIEW

- Recirculating ball nut provides low friction drive
- Preloaded design for stiffness and rigidity
- Ideal for applications that require precise positional accuracy
- Consult factory with application requirements to optimize integrated screw and nut parameters
- Selection of leads
- Choice of screw accuracy class





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Responsible products

Linear actuators

Electrak 10 Linear Actuators

The Electrak® 10 actuators incorporate a screw drive system for applications requiring maximum load capacity. A specially designed anti-back driving brake holds tension or compression loads in position when the actuator is not in use. This holding brake activates automatically when the actuator is turned off and will continue to hold the load in position without power consumption until the actuator is started.



Electrak 5 AC Linear Actuators

The Electrak® 5 actuator is designed for intermittent duty applications. Consisting of a highly efficient ball bearing screw drive system coupled through a gear train to an AC motor, these actuators feature robust, strong, and reliable quality construction with a stainless steel extension tube and slip clutch to protect the maintenance free unit from overload.





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Responsible products

Electric grippers

Series EGRK Heavy Duty Parallel Electric Grippers provide the highest grip force and moment capacity in their class of electric powered end effectors.

A wear-compensating jaw guidance system enables precision jaw movement throughout the life of the unit. To simplify installation, an optional pre-programmed controller is available.

Series EGRK Electric Grippers combine performance, precision, and ease of use for many industrial applications.



Advantages

Three sizes with either long and short jaw travels, choice of specifying maximum jaw speed or jaw force, available with two-position teachable magnetic switches, quality construction for long life, "Plug and Grip" pre-programmed

Benefits

- Available in three sizes with four variations per size, the heavy duty design provides high grip force up to 1700N and large moment capacities.
- Simple easy-to-use "Plug and Grip" electric grippers. No programming needed at customer site.
- Available with a motor controller in a DIN rail mountable enclosure.
- The controller is pre-programmed to operate the gripper at maximum speed and grip force, and grip at any jaw position within the total jaw travel.
- Low electric power consumption, operating on 24 VDC power supply.



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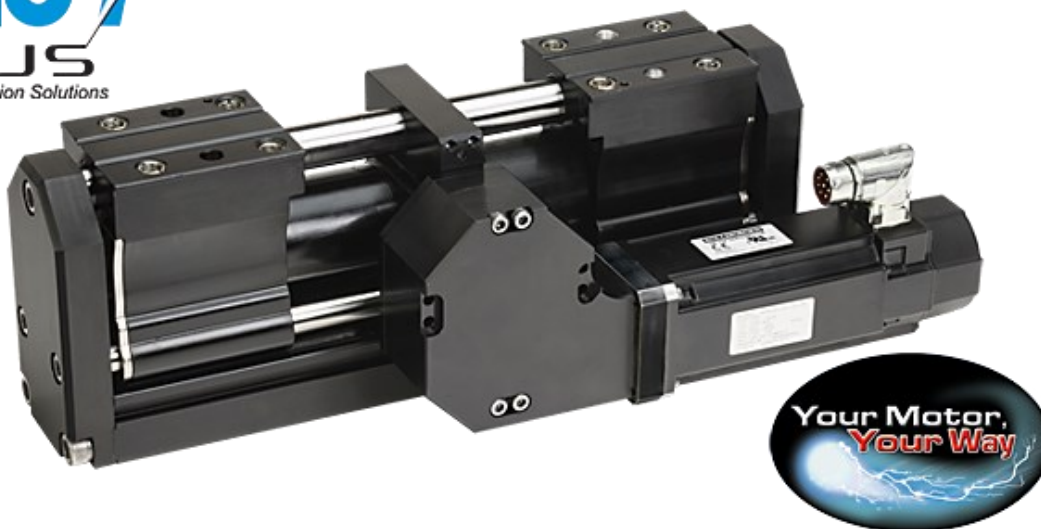
Electric grippers

Series EGRR High Capacity Electric Parallel Grippers built on the field proven Series GRR chassis, the electric version offers many of the same benefits as the pneumatic with the design and flexibility of Your Motor, Your Way.

The EGRR provides high grip force, long jaw travels, and high jaw loads.

This heavy duty end effector's rugged design and jaw construction can withstand high impact and shock loads.

Series EGRR Grippers are designed for gripping large objects in demanding industrial applications.



Advantages

Narrow width, long jaw travels, high grip force, large moment capacity, rugged design, true parallel jaw motion, with servomotor control on jaw acceleration, velocity, and position feedback.

Benefits

- Servomotor control provides acceleration, velocity, and position feedback.
- Compact design provides high grip force, large moment capacities, long jaw travel, and low overall weight for applications with limited space.
- Rugged construction withstands high impact and shock loads in demanding industrial environments.
- Your Motor, Your Way allows motor and controls flexibility at no additional cost.
- Optional PHD-supplied Kollmorgen® motor matches performance of popular pneumatic Series GRR Guardian® Gripper



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Responsible products

Electric clamps

Series GRME Electric Workholding Clamps are ideal for sheet metal clamping and feature a simple design, clamp force up to 125 kg, and durability.

Units are available in 13 jaw styles, 24 jaw openings, and include many options for mounting, switches, and tips. This electric clamp has integrated the controller into the motor cover to protect the controller from physical and electrical damage.

Series GRME Clamps offer the best price, design, and delivery for solutions involving the transfer of sheet metal or other like objects.



Advantages

Electric, simple design, thirteen jaw styles, high clamp force

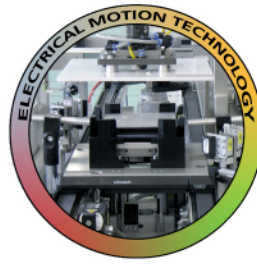
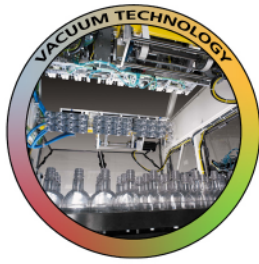
Benefits

- Ideal for sheet metal handling, the GRME features a simple design, long life, high clamp force, and fast field maintenance.
- Available in 13 jaw styles and 24 jaw openings to fit a wide range of clamping applications.
- With a compact envelope size and high clamp force, the GRME size 2 generates up to 250 lb [1112N] of total clamp force for maximum flexibility and performance.
- Six modular designed jaw tips are offered for maximum clamping performance in a variety of applications.
- The jaws of the GRME lock in the closed position ensuring part retention if power is lost.



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