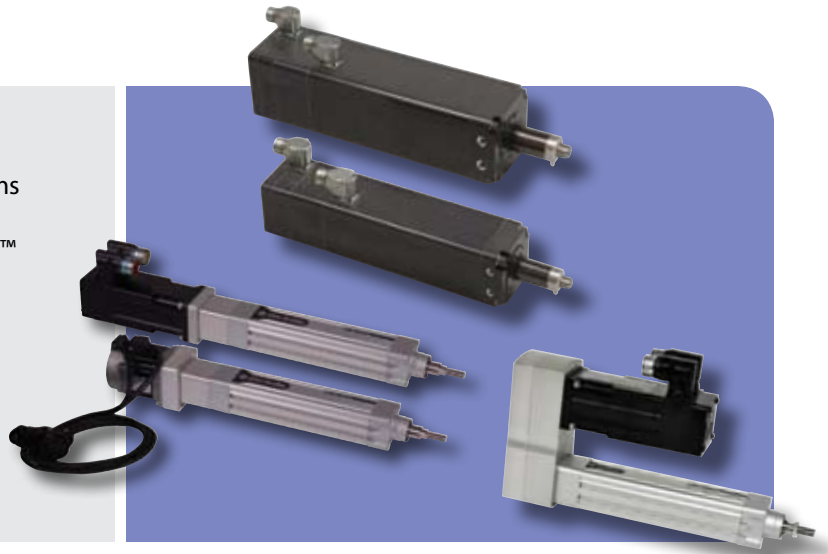


MP-Series and TL-Series Electric Cylinders

Flexibility and Efficiency for Industrial Applications

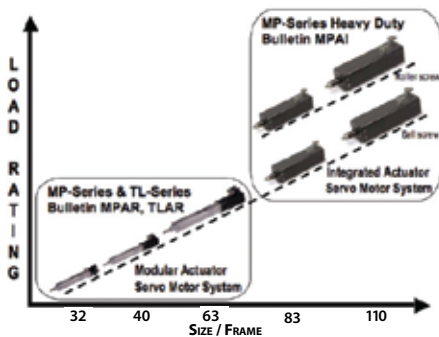
Linear motion applications using fluid power systems are often noisy and inefficient with limited control functionality. But with the MP-Series™ and TL-Series™ Electric Cylinders, your applications can experience flexible servo control providing both accurate positioning as well as forces which can build very quickly. These quiet, clean and energy-efficient piston rod actuators provide an excellent upgrade for your current systems.



Precise and Dynamic

With the ability to synchronize and coordinate with multi-axis machine motions, the TL-Series and MP-Series cylinders provide a dynamic, precise response for a wide range of linear motion applications. When seamlessly integrated into the Rockwell Automation Integrated Architecture™, these electric cylinders use RSLogix 5000™ software to extend and retract with precise positioning, velocity or force.

Electric Cylinder Product Range



Allen-Bradley Electric Cylinders have:

- Linear feed force of up to 8896 N (2000 lbs)
- Speeds up to 1 m/sec
- Linear stroke lengths to 800 mm
- Positioning repeatability of ± 0.02 mm
- High resolution absolute feedback
- 100% duty cycle rating

Ready-to-Install Solution

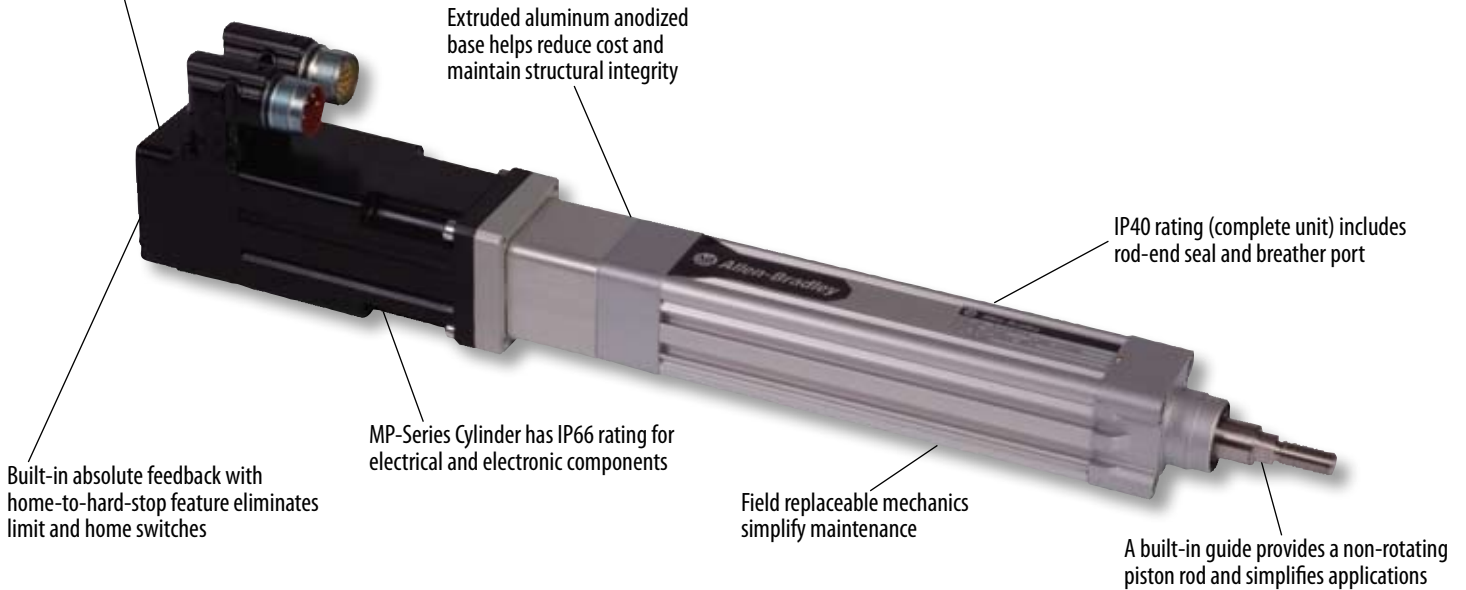
- These fully assembled and ready to mount cylinders contribute to reductions in mechanical design engineering, assembly, wiring and commissioning time
- Operates without externally mounted limit or home switches, retaining position in power loss for faster machine restart
- Integration is simplified with the use of the same power and feedback cables as Allen-Bradley® MP-Series Low Inertia and TL-Series Motors
- No piping, valving, air or oil supply required
- Flexible control (unlike fluid power cylinders)
 - Thrust forces can be controlled
 - Motion profiles can be customized
 - Movements can have smooth startups and soft stops
- Full setup and programming support in Allen-Bradley controllers and software (RSLogix 5000 and Ultraware) makes set up and commissioning fast and easy
- Easy sizing and operating life estimates using Motion Analyzer software
- 3D solid model files are available to simplify mechanical and electrical design
- Available with or without 24V DC holding brakes
- Use with either 230V AC or 480V AC Kinetix 2000 and 6000 servo drives as well as Ultra3000 and Kinetix 300 drives
- Versions available with UL, c-UL and CE

LISTEN.
THINK.
SOLVE.™

A Simplified, Precise Solution Designed to Meet the Needs of Your Industrial Application

Optional built-in electrically released brake is ideal for holding vertical loads

MP-Series Electric Cylinder (Bulletin MPAR)



MP-Series Heavy Duty Electric Cylinder Accessory Attachments

- Spherical rod eye
- Clevis
- Anti-rotate unit

Mounting Options

- Front flange kit
- Front trunion
- Rear clevis kits
- Bottom base mounting kit

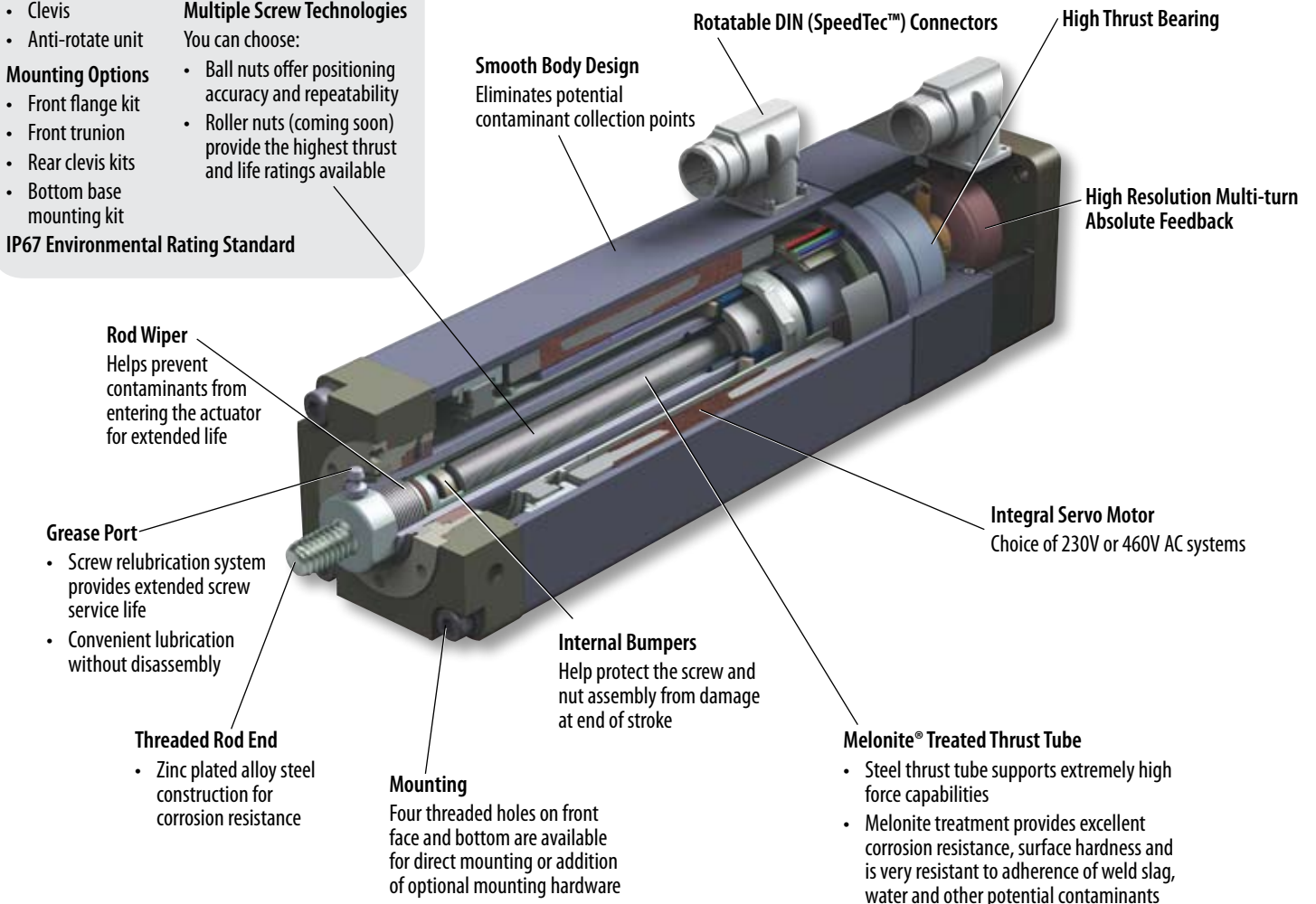
Multiple Screw Technologies

You can choose:

- Ball nuts offer positioning accuracy and repeatability
- Roller nuts (coming soon) provide the highest thrust and life ratings available

IP67 Environmental Rating Standard

MP-Series Heavy Duty Electric Cylinder (Bulletin MPAI)



Flexible, Sustainable and Cost-Effective at Each Phase of Development and Operation

Design Phase

- Eliminate mechanical design, selection and integration of multiple components from different suppliers
- Performance tested as a single integrated actuator
- Comprehensive support from established selection and support tools including Integrated Architecture Builder and Motion Analyzer

Assembly Phase

- Eliminate assembly of motor, coupler, adapter and ballscrew
- Eliminate installation, wiring and alignment of home and over-travel sensors

Commissioning Phase

- Complete integration using RSLogix 5000, Ultraware or Kinetix 300 software helps reduce time and related expense



Support Phase

- Integrated device reduces reliability problems caused by using separate components from different manufacturers
- Reduce operating expense with energy-efficient, clean and quiet alternative to fluid power actuators

Applications

Flexible Positioning and Controlled Force

- Push, pull, eject, pivot
- Divert, tilt, lower, insert
- Forming/stamping
- Tube bending
- Assembly presses
- Welding gun
- Molding
- Parts clamping
- Fastening/joining

Reach & Retract

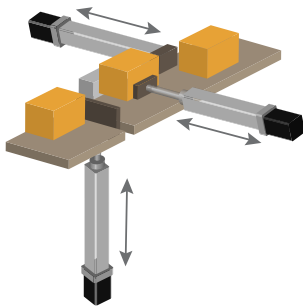
- Marking/labeling
- Measurement
- Inspection
- Parts loading/unloading
- Assembly
- Pick & place

Coordinated Control

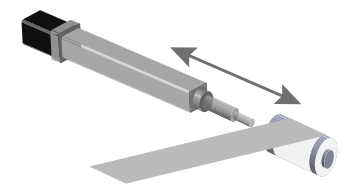
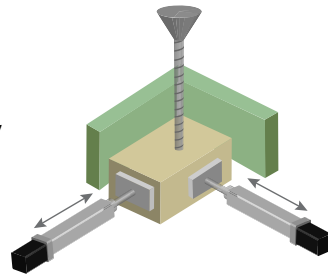
- Web tension control
- Web edge guiding
- Motion simulation
- Glue dispensing
- Mechanical CAM upgrade
- Servo valve control
- Flying die cut-to-length

Single or Multi-Axis Positioning

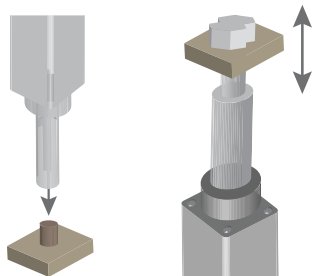
- Set works positioning
- Vertical stackers
- Blade positioning
- Hatch/door closures
- Lane diverters
- Volumetric filling
- On the fly set-up axes



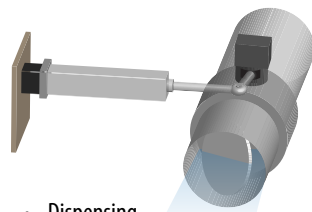
- Flexible positioning
- Parts, tools, gates, guards, guides, tables, cameras, probes, applicators, etc.



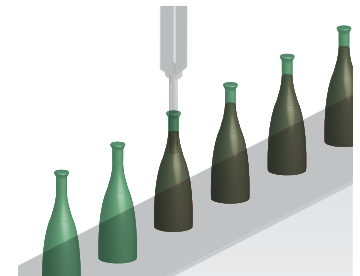
- Edge guides: paper, print, textile
- Roll positioning



- Component assembly/pressing/parts clamping
- Flexible force or speed: press, insert, lift



- Dispensing
- Valve timing
- Metering
- Damper



- Nozzle insertion, liquid dispensing

MP-Series Electric Cylinders



Frame ISO 1552	Maximum Feed Force N (lbs)	Continuous Feed Force N (lbs)	Maximum Speed m/sec (in/sec)	Screw Lead mm/rev	Maximum Acceleration mm/sec ² (in/sec ²)	Stroke Lengths		Catalog Number ⁽¹⁾
						mm	inches	
Size 32	300 (67)	240 (54)	.15 (5.9)	3	6 (236)	100, 200, 300, 400	4, 8, 12, 16	MPAR-B1xxxB-V2_
	350 (79)	280 (63)	.5 (19.7)	10				MPAR-B1xxxE-V2_
Size 40	525 (118)	420 (94)	.25 (9.8)	5		100, 200, 300, 400, 600	4, 8, 12, 16, 24	MPAR-B2xxxC-V2_
	800 (180)	640 (143)	.64 (25.2)	12.7				MPAR-B2xxxF-V2_
Size 63	2500 (562)	2000 (450)	.5 (19.7)	10		100, 200, 300, 400, 600, 800	4, 8, 12, 16, 24, 32	MPAR-B3xxxE-M2_
	1625 (365)	1300 (292)	1 (39.4)	20				MPAR-B3xxxH-M2_

Available with motor mounted in-line or parallel – as pictured above.

TL-Series Electric Cylinders



Frame ISO 1552	Maximum Feed Force N (lbs)	Continuous Feed Force N (lbs)	Maximum Speed m/sec (in/sec)	Screw Lead mm/rev	Maximum Acceleration mm/sec ² (in/sec ²)	Stroke Lengths		Catalog Number ^(1A, 1C)
						mm	inches	
Size 32	300 (67)	240 (54)	.15 (5.9)	3	6 (236)	100, 200, 300, 400	4, 8, 12, 16	TLAR-A1xxxB-B2A
	350 (79)	280 (63)	.5 (19.7)	10				TLAR-A1xxxE-B2A
Size 40	525 (118)	420 (94)	.25 (9.8)	5		100, 200, 300, 400, 600	4, 8, 12, 16, 24	TLAR-A2xxxC-B2A
	800 (180)	520 (116)	.64 (25.2)	12.7				TLAR-A2xxxF-B2A
Size 63	2500 (562)	1750 (393)	.5 (19.7)	10		100, 200, 300, 400, 600, 800	4, 8, 12, 16, 24, 32	TLAR-A3xxxE-B2A
	1625 (365)	975 (219)	1 (39.4)	20				TLAR-A3xxxH-B2A

- (1) Catalog number incomplete: (a) Specify the desired stroke length in mm by replacing xxx in the catalog number with a length listed in the mm column on the left.
 (b) Actuators listed are rated for an amplifier/system voltage of 380 to 480V AC. To specify MP-Series Actuators for use on 230V AC systems, change “-B” in the part# above to “-A.” Example: A 230V system catalog number begins with MPAR-A...
 (c) To specify an actuator with a 24V DC holding brake, substitute 4 for 2 in “2A”.

MP-Series Heavy Duty Electric Cylinders



Frame Size (Sq. Flange) mm (in)	Maximum Feed Force N (lbs)	Continuous* Feed Force @25C ambient temp N (lbs)	Maximum Speed mm/sec (in/sec)	Ball Screw Pitch mm/rev	Stroke Lengths mm	Dynamic Load Rating ^(1 mill rev/s) N (lbs)	Ball Screw
							Catalog Number ⁽¹⁾⁽²⁾
83 (3.3)	4448 (1000)	4003 (900)	279 (11.5)	5	150, 300, 450	7602 (1709)	MPAI-B3xxxCM32A
	4003 (900)	2002 (450)	559 (22)	10		5400 (1214)	MPAI-B3xxxEM32A
110 (4.3)	8896 (2000)	7784 (1750)	279 (11.5)	5	150, 300, 450	15100 (3395)	MPAI-B4xxxCM32A
	7784 (1750)	3892 (875)	559 (22)	10		15000 (3372)	MPAI-B4xxxEM32A

Frame Size (Sq. Flange) mm (in)	Maximum Feed Force N (lbs)	Continuous* Feed Force @25C amateur winding temp N (lbs)	Maximum Speed mm/sec (in/sec)	Roller Screw Pitch mm/rev	Stroke Lengths mm	Dynamic Load Rating ^(1 mill rev/s) N (lbs)	Roller Screw
							Catalog Number ⁽¹⁾⁽²⁾
83 (3.3)	7562 (1700)	3781 (850)	279 (11.5)	5	150, 300, 450	27198 (6564)	MPAI-B3xxxRM32A
	3781 (850)	1891 (425)	559 (22)	10		26013 (5848)	MPAI-B3xxxSM32A**
110 (4.3)	14679 (3300)	7340 (1650)	279 (11.5)	5	150, 300, 450	36831 (8280)	MPAI-B4xxxRM32A
	7340 (1650)	3670 (825)	559 (22)	10		34193 (7687)	MPAI-B4xxxSM32A**

* Characteristics w/mounting to 11" x 11" x 0.5" aluminum mounting surface.

- (1) Catalog number incomplete: (a) Specify the desired stroke length in mm by replacing xxx in the catalog number with a length listed in the mm column on the left.
 (b) Actuators listed are rated for an amplifier/system voltage of 380 to 480V AC.
 To specify MP Series Actuators for use on 230V AC systems, change “-B” in the part# above w/ “-A.” Example: A 230V system catalog number begins with MPAR-A...
 (2) Specifying an actuator w/ optional features
 (a) optional 24V DC holding brakes, substitute 4 for 2 in “M32A” at the end of the part#.
 (b) Std. actuator mounting: direct face or base (front flange, foot mount, and rear clevis w/ accessories)
 To specify front trunnion mounted actuators, substitute B for A in “M32A” at the end of the part#.

** Contact your Allen-Bradley distributor or Rockwell Automation sales office regarding product availability. Refer to Motion Control Selection Guide, pub GMC-SG001_ for complete specifications.

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Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846