Electromechanical Actuator Products

ET Series Electric Cylinders
ER Series Rodless Actuators
ERV Series Rodless Actuators

Catalog 1894-1/US
Welcome to Automation Actuator Division of Parker’s Automation Group

Along with Compumotor and the Daedal Division, we are your single source for all your industrial automation needs. AAD is focused on providing solutions for your linear motion requirements with a complete offering of electromechanical actuators, machine structure and guarding systems, end effectors, and multiple standard and custom system configurations.

Selectable levels of integration provide unlimited options for our customers who require either a total system or individual components, all tailored to meet specific application requirements.

Parker Hannifin is the world's largest supplier of motion and control products, systems and services. Customers of AAD enjoy the benefits of outstanding product and application expertise coupled with the highest standards of manufacturing and quality control. Additionally, Parker provides worldwide distribution, extensive field support, unparalleled breadth of line and the industry’s most respected premier customer service initiatives.

AAD has developed a business model that is based totally on customer needs. Unlike most suppliers who try to squeeze a customer’s request into a limited range of solutions, AAD allows the customer to select the level of integration that best meets that customer’s specific requirements. Customers can choose from Parker’s extensive product offering, can opt to design a complete automation system using any of the six pre-engineered system configurations, or partner with AAD to design and build a totally custom solution.
**System Connectivity**

Parker’s selectable levels of integration include mechanics, drives and controls. They can be easily linked to each other, and to the outside world.

Advantages associated with our solutions include ease of operation, ease of integration, proven reliability and dependable performance.

The 6K Motion Controller is capable of controlling up to 8 axes of motion, and provides a flexible communications scheme compatible with hundreds of Ethernet devices, from vision to I/O to PCs.

Parker systems provide flexible mechanical solutions that are easily configured to meet a wide variety of automation requirements.

Powerstation HMIs have drivers for virtually every PLC, making machine control and motion control come together seamlessly.

Parker’s comprehensive line of servo and stepper drives offers connectivity to field and motion buses and simple configuration.

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Selectable Levels of Integration

**Components**
Successful factory automation solutions begin with products that are engineered and manufactured to deliver the widest range of performance characteristics. AAD has over 26,000 different part numbers in its system including electric actuators and cylinders, end effectors and structural framing technologies. All products are manufactured, tested and delivered to meet or exceed customer expectations.

**Systems**
AAD has pre-engineered six basic system configurations that provide the building blocks for an unlimited range of multi-axis solutions. These standard systems are designed to help the customer shorten engineering lead times while reducing costs. AAD can also provide systems requiring HMI, motion controllers and drives, linear motor driven tables or planetary and right angle gearheads.

Additionally, a comprehensive global network of Automation Technology Centers (ATCs) offers local product availability, product demonstrations, programming assistance, systems integration and local customer training.

**Custom Applications**
A growing number of customers have special applications requiring component or system performance that is not easily met with standard products or configurations. AAD is well established as a provider of engineering and application expertise in the field of factory automation, and can design, build and test a cost-effective custom system.
**Components**

**ET Series Electric Cylinder**
The ET Series cylinder offers an unmatched, robust design with modularity to accommodate different mounting options and motor types.
- Five ISO mounting sizes from 32 to 125 mm
- Thrusts to over 45,000 N
- Speeds exceeding 1.5 m/sec
- Linear guide modules for supporting external loads
- Gear drive option for higher thrusts, with smaller motors
- Stroke lengths to 2400 mm
- Inline and Parallel motor mounting options
- ACME and ball screw options
- Clean room compatible

**ER Series Electric Rodless Actuator**
The ER Series actuator is offered with a belt or screw driven internal carriage design. A sturdy, single piece roller bearing carriage provides load support for long life in a compact package size.
- ISO mounting sizes: 32, 50, 80 mm
- Inline and parallel motor mounting options
- Ideal for dusty environments with IP-30 rated strip seal
- Normal load:
  - 4480 N with a square rail
  - 668 N with roller carriage
- Speeds up to 5 m/sec
- Repeatability: ±0.102 mm
- Strokes to 6 meters
- Clean room compatible

**ERV Series Electric Rodless Actuator**
Expanding on the ER, the new ERV Series was designed with an external carriage containing outboard roller bearing support for higher loads. The actuator is designed to directly interface with our structural framing, providing a simple and cost effective solution for single or multi-axis systems.
- Two sizes: 56, 80 mm
- Carriage loads to 4480 N
- Extended carriage option
- Speeds up to 5 m/sec
- Repeatability: ±0.102 mm
- Strokes to 6 meters
- Internal drive belt

**Robotic Grippers**
Parker’s new range of robotic grippers includes angular and parallel motion grippers in two and three finger configurations, providing tooling solutions for part transfer and factory floor automation needs. We have expanded the product offering to compliment our electromechanical linear actuators and gantry systems.
- Grip forces: 8 to 3000 lb (13,345 N)
- Types:
  - 30°, 180° Angular
  - Two Jaw Parallel
  - Long Stroke, High Load Parallel
  - Three Jaw Parallel Grippers

As a final check before shipment, all of our products are function tested to meet stringent performance standards. State-of-the-art testing equipment ensures that our products will meet your requirements.
AAD Gantry Systems come in six standard configurations that provide a pre-engineered system at various levels of integration. These systems provide the building blocks for multi-axis solutions that range from basic mechanical connection hardware to complete automated motion systems.

**System Accessories**
- Cable carriers
- Cable carrier troughs
- Special motor, brake and limit switch/sensor cabling
- Structural framework and related accessories
- System guarding
- Custom mounting hardware for customer supplied accessories

### Type 1: X-X'-Y 2-Axis
A dual actuator x-axis supports a single y-axis actuator. The dual x-axis may be belt-driven with a linked drive shaft, dual screw drive or driven by one actuator, while the other actuator serves as a non-driven idler.

### Type 2: X-X'-Y-Y' 2-Axis
A dual actuator x-axis supports dual y-axis actuators. Both the x-axis and y-axis may be belt-driven with a linked drive shaft, dual screw drive or driven by one actuator, while the other actuator serves as a non-driven idler.

### Type 3: X-Z 2-Axis
A single actuator x-axis supports a single z-axis. The z-axis may be an ER Series rodless actuator or an ET Series electric cylinder.

### Type 4: X-X'-Z 2-Axis
A dual actuator x-axis supports a single z-axis. The z-axis may be an ER Series rodless actuator or an ET Series electric cylinder. The second x-axis actuator aids in load support and stability and may or may not be driven.

### Type 5: X-X'-Y-Z 3-Axis
A dual actuator x-axis supports a single y-axis, which supports a single z-axis. The z-axis may be an ER Series rodless actuator or an ET Series electric cylinder. The second x-axis actuator aids in load support and stability and may or may not be driven.

### Type 6: X-X'-Y-Y'-Z 3-Axis
A dual actuator x-axis supports a dual actuator y-axis. The y-axis supports the z-axis. The z-axis may be an ER Series rodless actuator or an ET Series electric cylinder. Both the x- and y-axis may be belt-driven with a linked drive shaft, dual screw drive or driven by one actuator, while the other actuator serves as a non-driven idler.
AAD provides an extensive range of extruded aluminum framework and mounting accessories. Completely modular in concept, the structural framing systems are easy to design, build and modify. Easy to use 3D-CAD design software reduces design time and produces a complete Bill of Materials and labeled drawings.

**Features**
- Over 80 extruded aluminum profiles available
- Fasteners, connectors and accessories available for all profile sizes
- Linear guide units for low-cost bearing support
- Extremely short turnaround from design to completion: no welding, no grinding, no painting

**Applications**
- Guarding/enclosures
- Linear motion
- Work stations
- Machine bases
- Material handling
- Gantry systems
- Fixtures

**Design Software**
- 3D solids
- Isometric and 6 views simultaneously
- Detailed dimensional drawings
- Bill of Materials with machining operations

Accuracy and speed are improved with enhanced features such as:
- Auto zoom
- Door and panel designer
- Fastener check

Pro-E CAD files available
- Now on Parker’s website
- Converts to Solid Works
Custom Systems and Applications

Modifications to meet specific application requirements:
- Extended carriages
- Dual carriages
- Linear potentiometers
- Dual lead screw actuators
- Special coatings for washdown applications
- Special bearing configurations for increased load capacities
- Helical and Bellows couplings for improved repeatability

Vision System

Ultrasonic Testing

Linear Potentiometers

Biomedical Application

Automotive Glue Applicator

Special Long Stroke Electric Rodless Cylinder
Think it.
Design it.
Build it.

Wherever in the world machinery is designed, manufactured or used, Parker is there with a complete line of electromechanical actuators, end effectors, machine structure and guarding systems, technical assistance and worldwide availability to meet your linear motion requirements.

AADsales@parker.com

www.parker.com/automation

Parker’s extensive web site offers the most up-to-date product information and additional resources. It is the industry’s most comprehensive site and includes product data, downloadable catalogs, contact information, training materials, product selection software and live order capabilities.

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