



Custom and Tie Rod Cylinders

Solutions Focus

Eaton® Custom Cylinders for Bridges and Gates



Civil Engineering installations require actuation system solutions that are tailored to the physical and environmental characteristics of each specific site. From turbine governors, to intake gates, to radial gates, to miter gates, to culvert valves, to movable bridges, Eaton has the product, global presence, application experience and resources to support existing and new installations.

Our engineering teams are familiar with industry specifications and standards and are prepared to convince you we are the most relevant hydraulic supplier for your next project. We consider overall loading and kinematics, mounting configurations, seal system design, imbedded sensor requirements, corrosion protection needs, installation and maintenance practices. Our actuation systems are installed everywhere in the world and we are positioned to support the project from the specification stage, through commissioning and for the life of the installation.

Best-In-Class Simulation & Modeling Tools

Comprehensive 3D drawing capability and finite element analysis expertise, coupled with **years of experience**, results in improved design quality. Eaton excels at using these cutting edge tools to simulate components and assemblies in real-world applications, to assess areas like pressure loading and stress impact.

Advanced Rod Coating Capability

Eaton offers a comprehensive line of coatings, ranging from Nickel Chromium to Laser Clad, that provide the perfect balance of wear and corrosion resistance to meet your **specific application needs**. What's more, our Innovation Team pursues cutting edge R&D, advancing our work on next generation technologies.

Custom Cylinders Built to Your Specifications

Eaton engineers welcome atypical application or cylinder needs; with decades of experience, they will **configure the right solutions** quickly. Whether it means solving unique application problems, upgrading existing products, or designing new cylinders, we're up to the challenge.

Decades of Experience in Application Engineering

Creativity, global availability, and experience make the perfect combination for our Application Engineering team. They are eager and willing to help you design your application, with 'Expertise You Can Count On.'



PRODUCT CAPABILITY

Electrohydraulic, Pneumatic and Hydraulic Custom Cylinders available

Comprehensive Range of Sizes

Bore Sizes	to 47in. / 1200 mm
Stroke Sizes	to 866 in. / 22,000 mm

Pressure Ratings

Hydraulic	to 10,000 psi / 690 bar
Pneumatic	to 250 psi / 17 bar

Features/Benefits

- World Class Base Design
- Leading Tools, Processes
- Broad Application Expertise

Eaton Tie Rod Cylinders for Turbine Governor Runner Blades and Wicket Gates

Turbine Governor control is a very demanding application that requires cylinders to provide precise positioning, as well as be extremely reliable and durable due to the nature of this continuous production process. Eaton Tie Rod Cylinders are designed to provide the performance, seal integrity and design options required for Turbine Governors.

Eaton has decades of application expertise and cylinder experience which translates to better solutions for industrial applications.



Tie Rod Cylinders

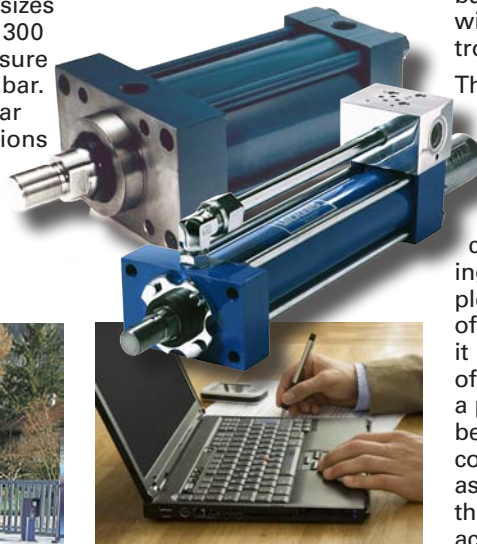
Eaton offers a broad range of NFPA and ISO Hydraulic, Pneumatic and Electrohydraulic cylinders. This comprehensive line features a proven design with robust materials and a smarter sealing system, for improved performance and better serviceability. This line offers virtually unlimited options.

Eaton Tie Rod Cylinders are available in a comprehensive range of standard sizes to 30 in./800 mm bore, 300 in./8 m stroke and pressure ratings to 3000 psi/210 bar. Custom products that far exceed these specifications are also available.

Configurator: Professional Grade Tools To Build Your Own Cylinder

ProSpec/HLSpec are on-line cylinder selection tools to streamline the specification process using sound engineering principles. Available only from Eaton, these tools provide literally billions of configurable part numbers and drawings.

Tie Rod Cylinder (left) and the LESA TT Series Actuator (right)



LESA TT Series Linear Electrohydraulic Servo Actuators

The Vickers™ LESA Series TT servo actuator combines a high performance hydraulic cylinder and a control valve mounting manifold in one convenient package. Advanced, closed loop motion control is readily attainable with the simple addition of a proportional or servo valve and a precision non-contacting feedback transducer coupled with the appropriate electronic controls.

The LESA series servo actuators are designed to eliminate the need for separate hydraulic manifolds, plumbing between control valve and cylinder, transducer mounting brackets, and other complex arrangements typical of the cumbersome systems it replaces. With the option of the cast aluminum cover, a position transducer can be conveniently and safely contained within the cylinder assembly. All of this allows the LESA Series TT servo actuator to work comfortably in harsh environments that can easily damage most electric servo motors with ball screws and other types of actuators.

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