



HANNA
ACTUATION



**FLOW CONTROL AND
VALVE AUTOMATION**



*Linear & Rotary Actuation
for Locks, Dams, Pipelines
& Flow Control Applications*

Est. 1901



DESIGNING AND BUILDING ACTUATION FOR DEMANDING 21ST CENTURY APPLICATIONS

Today, many valve actuation applications such as sluice gates and quarter turn valves, demand more from hydraulic and pneumatic actuators than ever before.

Greater pressures. Higher speeds. Closer tolerances. Zero leakage performance. Extreme temperature ranges. Harsh climate conditions. High shock and vibration. Electronic position sensing.

Meeting these high performance demands requires true premium-quality actuators — such as the product lines by Hanna Actuation.



For over a century, Hanna, a small business, has earned a reputation as an industry innovator. We continually strive to stay on the leading edge of motion control technology by utilizing the latest in state-of-the-art designs and materials in our products. Only

Hanna offers a single source for safety-related and commercial tie-rod, mill-type, rotary, and custom-welded actuators, ASME-U Stamped certified pressure vessels, and valve manifolds.

With over 100 years of experience engineering and manufacturing custom actuators, whether it's reverse engineering of long-obsolete actuator designs or new projects, we can make any standard, custom, or private-labeled actuator from 4.00" to 40.00" bore with stroke lengths up to 400" and pressures up to 10,000 psi. **We can — AND WILL — do it all.**

Our 108,000 ft² state-of-the-art facility has 3D CAD and ERP systems, large machining centers, boring mills, honing equipment, in-house painting, and special packaging. All of these capabilities along with our quality assurance program, which meets 10 CFR 50 Appendix B and AWWA C540 requirements, ensures that all of our products meet industry standards and your specifications.

From harsh environment applications to complex actuators, we can design and build an actuator to meet all of your requirements.

To achieve this we have developed a simple ideology when it comes to work ethic and project management known to us as "**The First 10%.**" This entails spending extra time and focus at the beginning of a project to ensure everything is right before any chips are even cut. This paves the way for smooth progress throughout the entire job and helps to eliminate potential issues that would usually surface in the last 10% of a project.

When it comes to **quality, delivery, and technical support, WE'RE 2ND TO NO ONE!**



PROVEN. RELIABLE. VALVE ACTUATION.



Your Choice of Warranty

Hanna believes strongly in providing our customers the best quality actuators. As such, we offer a 2-year warranty standard, but you can upgrade to a 3-year or 5-year warranty. Contact your Hanna representative for details.

Certification/Qualification

All of our linear and rotary actuators are designed and built to exacting standards to maximize longevity and reliability. Some of these standards include the following:

- ANSI N45.2
- ASME NQA-1
- ASME Section 9 (Coming Soon)
- ASME N Stamp (Coming Soon)
- ASME U-Stamp
- AWS D1.1
- AWWA C540
- IEEE Qualification
- US NRC 10 CFR 50 Appendix B*

Customers We Served

The following is a sampling of many locks, dams and valve companies we have built linear and rotary actuators for:

- Emerson Process Management
- GA Industries
- GE Oil & Gas
- Golden Harvest
- Henry Pratt
- Hydrogate
- Rodney Hunt
- Steel Fab
- US Army Corp of Engineers
- Whipps

Applications

Since 1901, we have built millions of linear and rotary actuators to meet the needs of hundreds of applications. These include, but are not limited to:

- Ball valves
- Butterfly valves
- Cone valves
- Crest gates
- Culvert valves
- Globe valves
- Jet flow gates
- Knife gates
- Miter gates
- Plug valves
- Roller gates
- Slide gates
- Sluice gates
- Wedge gates
- **and many more.**



*US NRC 10 CFR 50 Appendix B quality control management is a derivative of ISO 9001 with greater emphasis on part traceability.

VALVE ACTUATION PRODUCTS & SERVICES

Hanna offers the water control, oil, gas, and petrochemical markets a wide array of products, services and capabilities.

Services and Capabilities

- Like-for-like Reverse Engineering
- OEM Inventory Management
- Actuator Repair/Refurbishment
- Individual Parts Machining
- Special Packaging
- Design and Manufacture Manifold Panels
- Precision Machining
- Custom Materials
- Plumbed/Fixtured per Customer Specifications

ACCESSORIES

Piston Accumulators

Highly-customizable

Materials: Per Design Specifications
Volumetric Sizes: Per Design Specifications
Port Sizes: Per Design Specifications
Pressure Rating: Up to 10,000 psi
Options: Pressure Relief Valves
Charging Valves
Blow-off Discs
Customer Specific Coatings & Mounting
ASME Section 8 U-Stamp Certified



Snubbers

Heavy-Duty Tie Rod Construction

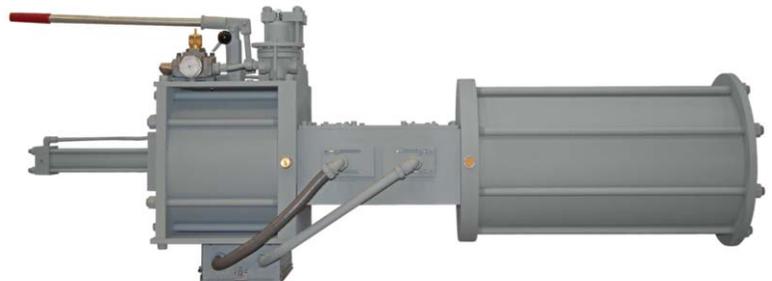
Bore Sizes: 1.50" – 14.00"
Stroke Lengths: Per design specifications
Pressure Rating: up to 3000 psi
Features include: Pivot Mounted Both Ends
Compensated Flow Control Valves
Hi-load Piston & Gland w/ Synthetic Bearing

ROTARY ACTUATORS

Quarter-turn Scotch Yoke

Heavy-duty construction

Bore Sizes: 6.00" – 32.00"
Torque: Up to 500,000 in-lbf
Pressure Rating: Hydraulic: 5,000 psi
Pneumatic: 500 psi
Operation: Double Acting
Spring Fail Open
Spring Fail Close
Options: End of Stroke Sensing
Manual Override
Plumbed/Fixtured per Customer Specifications



LINEAR ACTUATORS

Hydraulic Actuators

Types:	Mill-type NFFPA interchangeable Welded
Construction:	Painted Steel Plated Steel (Nickel, Chrome, Zinc) Stainless Steel
Bore Sizes:	4.00" – 40.00"
Stroke Lengths:	Per Design Specifications
Pressure Rating:	Up to 10,000 psi
Thrust:	Per Design Specifications
Operation:	Double Acting — Cushion or Non-cushion Tandem
Options:	Adjustable Stroke End-of-stroke Sensing Integral Electronic Feedback Manual Override (Gear or Jackscrew) Under Water Submersion Plumbed/Fixtured per Customer Specifications



Pneumatic & Low-pressure Hydraulic Actuators

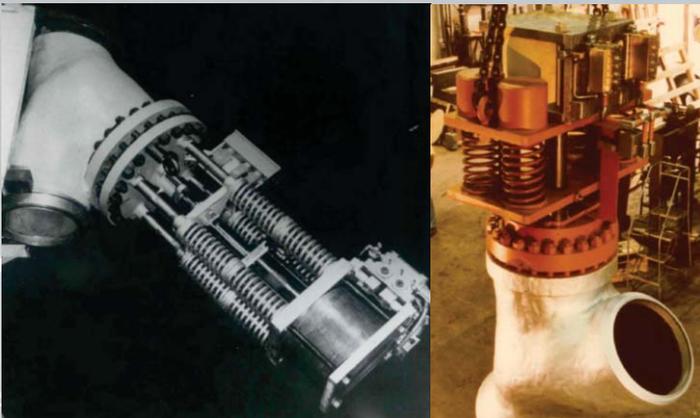
Construction:	Aluminum Bronze Non-metallic (Phenolic/Graphite) Painted or Plated (Nickel, Chrome, Zinc) Steel Stainless Steel
Bore Sizes:	4.00" – 40.00"
Stroke Lengths:	Per Design Specifications
Pressure Rating:	250 psi – air / 500 psi – oil or water
Thrust:	Per design specifications
Operation:	Double Acting — Cushion or Non-cushion Single-acting, Spring-return Tandem
Options:	Adjustable Stroke End-of-stroke Sensing Integral Electronic Feedback Manual Override (Gear or Jackscrew) Under Water Submersion Plumbed/Fixtured per Customer Specifications

Rising Stem Actuators

Bore Sizes:	4.00" – 40.00"
Stroke Lengths:	Per Design Specifications
Pressure Rating:	Up to 150 psi
Thrust:	Up to 188,000 lbs
Operation:	Double Acting Spring Fail Open Spring Fail Close
Options:	End-of-stroke Sensing Manual Override Plumbed/Fixtured per Customer Specifications



OUR HISTORY IN PICTURES



External spring packs controlling a rising stem actuator (above) regulates the flow through a globe valve. Each are equipped with manifolds and piping that help control actuation on both extend and retract. Hanna has the capability to provide a complete assembly for easy customer installation.



This Ø24" cone valve (above) is controlled by a Ø6" x 14" stroke actuator with a 2" stroke adjustment, stainless steel rod and special protective paint.



This spillway is operated by two Ø8" x 120" stroke, flange-mounted, mill-type actuators with a Ø4" high-strength, stainless steel piston rod, and protected from the outdoor elements by special paint.



Ø18.00" actuator has a Ø4" stainless steel piston rod with a 4" stroke adjustment rod operates a Ø30" cone valve via a light hydraulic control panel.

WE CONTROL THE FLOW

WHAT SETS US APART



This $\varnothing 5''$ x 32.00'' stroke actuator has a $\varnothing 2''$ rod and is equipped with full stroke position indication to determine percentage of valve positioning.

Speed of Delivery

Hanna provides customers with industry-leading speed of delivery while designing and manufacturing actuators tailored to your exact specifications. We're able to do this by having nearly every aspect of production in one location — and having a 10 CFR 50 quality assurance program optimized for speed and efficiency.

In-house Manufacturing

By having our 108,000 ft² facility full of multiple machining centers, welding machines, assembly stations, paint booths, and testing benches all under one roof, we're able to control all of the actuator manufacturing processes and throughput resulting in reduced lead time.

As an additional benefit, it gives us the flexibility to offer customers inventory logistics, enabling them to have greater delivery control as orders expand due to demand.

Product Repairs

Maintaining actuators is essential to the operation and safety of a dam, lock or valve actuators. Hanna has designed its actuators to be field serviceable, and we can supply any other component to get you back up and running. Also, we can perform complete or partial actuator refurbishment at our factory.

Product Range

When it comes to type of actuator, bore size, stroke length, or available options, Hanna provides original equipment manufacturers and actuator end users with the widest range of actuation products and services — period.

Quality From Start to Finish

Hanna prides itself on providing our customers with world class quality actuators. We start by using the finest material, check quality at each step of the manufacturing process and then, unlike others, we test each and every actuator we make.



This butterfly valve is controlled by a $\varnothing 10''$ actuator equipped with a $\varnothing 3.5''$ high-strength stainless steel piston rod along with electronic feedback and banked accumulators

Call or email us, or visit our website, to learn more about our valve actuation manufacturing capabilities.



OUR CUSTOMERS COME FIRST!

Since 1901, Hanna has been striving to have the highest quality product on the market that can be delivered as quickly as possible with the right personnel on staff to assist our customers in any means necessary for technical support and assistance on any past and current jobs, or future inquiries. It's our belief, if we can provide those three things — **quality, delivery and technical support** — everything else will fall into place.

We've instituted a quality management system that seeks continuous improvement in our machinery, equipment, software, procedures and employee skills to provide products that satisfy — **and exceed** — customer and regulatory requirements.

Our Live Design platform allows customers to draw, model and obtain a quote on basic actuators in about 10 minutes. For your more complex applications our sales and design team are available via phone, fax, email or web-based conferencing — and we turnaround quotes within 24 hours and approval drawings and models within 1 – 3 business days.

When it comes to quality, delivery and technical support, **Hanna strives to be 2nd to no one!**

Major Industries Served



CON-AG



INDUSTRIAL



MILITARY



NUCLEAR



OIL + GAS

Proud members of:



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