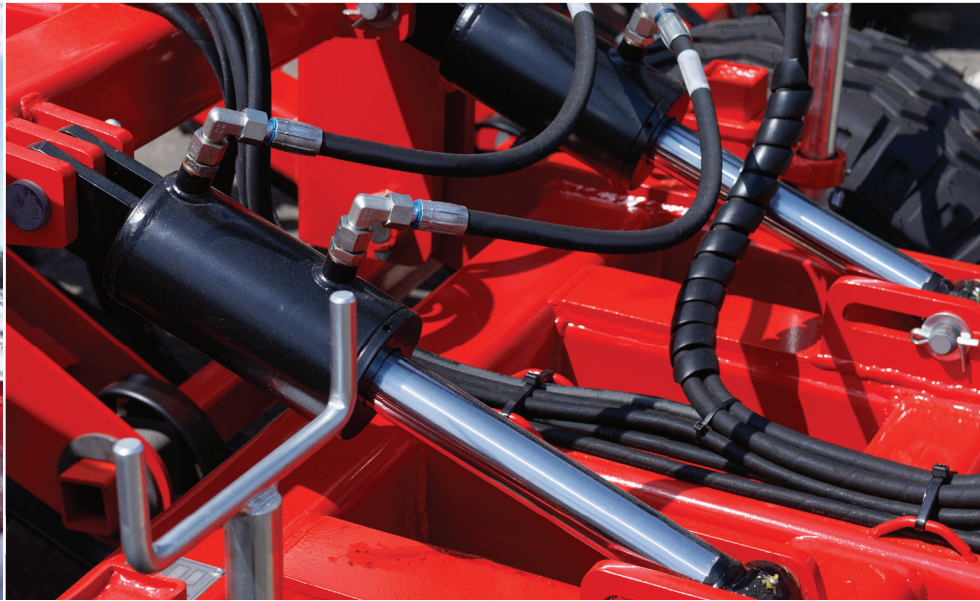


HYDRAULIC CYLINDERS & ACCESSORIES

DELAN

Engineered smarter. Built tougher. Made to last.



Why Delavan Fluid Power?

At Delavan Fluid Power our manufacturing process is optimized to deliver maximum value while delivering uncompromising quality. From our first contact with you to the delivery of your finished fluid power product every phase of sales, engineering and manufacturing is monitored. This results in the production of consistent high-quality products, uniquely suited to the specific needs of today's OEMs. Through a constantly monitored production chain we assure product quality to the highest efficiencies and precision available today.

Manufacturing Capabilities

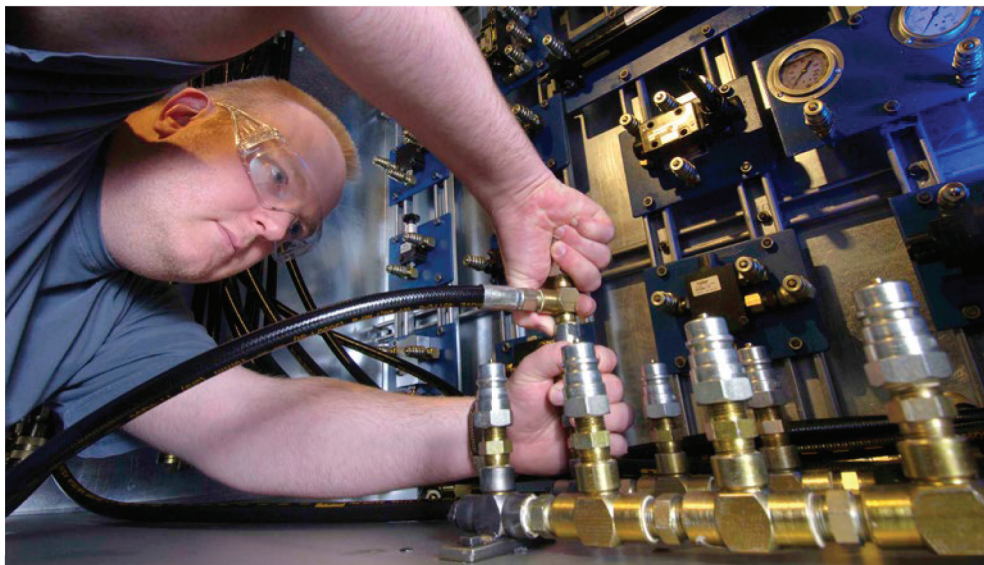
Delavan Fluid Power provides OEM custom cylinder manufacturing in both Imperial and Metric units of measure. Our processes include engineering, machining, painting, testing/monitoring and storage.

Cylinder Capabilities

- Typical bore sizes 1" to 10"
- Typical stroke length up to 20' long for single stage
- Operating pressures up to 5,000 psi with peak pressure of up to 10,000 psi

Cylinder Styles

- Welded
- Bolted head
- Double rod
- Tie rod
- Single-acting rod displacement
- Integrated accumulator
- Multi-stage telescopic
- Piggyback
- Master/Slave
- Integrated valve options
- Counterbalance
- Pilot operated check
- Regenerative
- Thermal relief protection
- Overload protection
- Sequencing
- Solenoid control



Hydraulic Cylinders

Engineered for Excellence

Quality

Delavan Fluid Power is committed to delivering only the highest quality products for our customers. To meet our own high standards for efficiency and minimum maintenance, all of our cylinders are assembled in a state-of-the-art dedicated purpose clean room. We also are continuously investing in manufacturing best practices and we utilize fully automated equipment in our production facilities. Delavan Fluid Power is dedicated to delivering timely prototype designs and we offer complete cylinder analysis and testing capabilities that include:

- Proof Pressure Testing
- Endurance Testing
- Burst Testing
- Impulse Testing

All completed cylinders are 100% dimension checked and pressure tested to 1.5X the required working pressure to ensure safe operation and to guarantee products are free from leakage and dimensional errors.

Incoming raw materials are subject to rigorous inspection to validate quality and technical requirements. Quality protocols are in full compliance with ISO 9001:2008.

Our tubing materials are micro honed or skived & roller burnished for superior finish with Ra value less than 0.3μ with material grade ST 52.3 and DIN 2391.

We employ a single piece design for our pistons in order to accommodate specifically selected low friction seals that are able to withstand peak operating pressures of 6000 PSI. The complementing piston rod is either CK45 or AISI-1045 which is ground and hard chrome plated with 20μ minimum thickness.

Clevises are forged and accurately machined. Glands are cast from Ductile Iron ASTM A536 65-45-12. Positive guidance is guaranteed by the use of Turcite/Phosphor bronze bushings.



Delavan Standard Hydraulic Cylinders

Delavan Hydraulic Cylinders are available with either standard high quality hard chrome rod plating or optional Delavan Diamond™ 1000 hour ASTM B117 Salt-Spray rated chrome bar. Ask your Delavan sales representative for details about the right choice for your application.

- 100% oil tested for quality assurance
- Hard chrome rod plating for corrosion & wear resistance
- Proven seal and guide engineering
- Top port design
- Stroke control options available
- Custom colors available
- SAE O-ring ports for reliable & leak-free connection
- Optional thread-in gland design for easy serviceability
- Standard black and red high-luster two-component paint provides exceptional protection

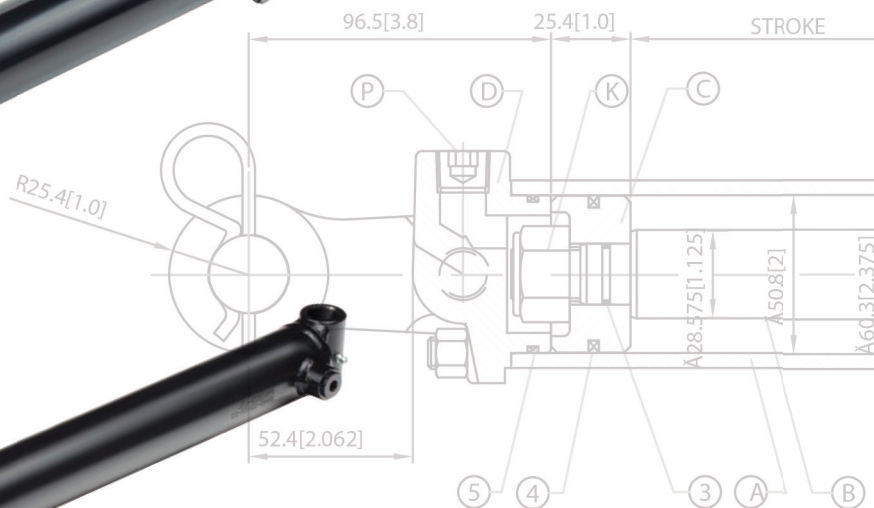
SERIES A

Spherical Bearing Style
3000 PSI Rated Size Availability
Bore: 1" to 3" Stroke 4" to 48"



SERIES B

Cross Tube Design
3000 PSI Rated Size Availability
Bore: 1.5" to 5" Stroke 4" to 48"



31.75 [1.250] FOR 2008&2016-A(ASAE) = 82.55 [3.25]

Hydraulic Cylinders

Engineered for Excellence

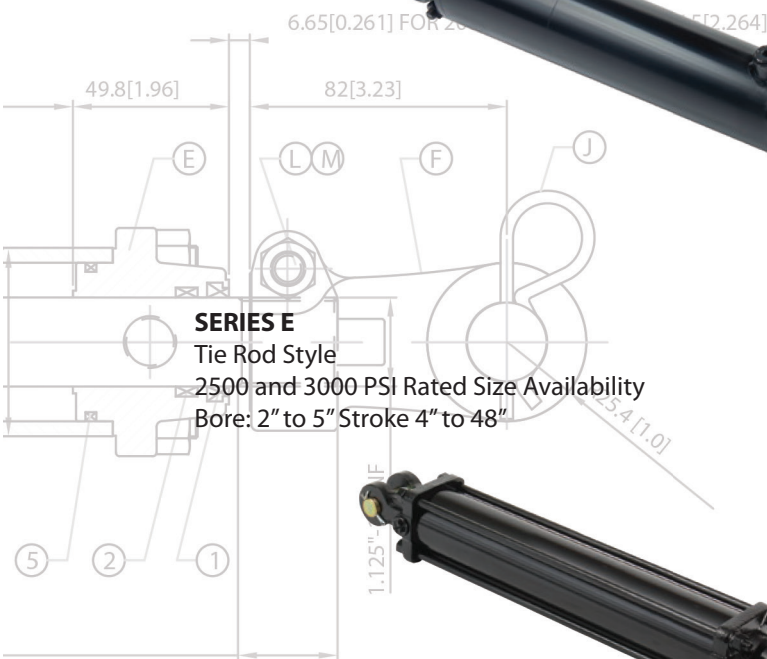
SERIES C

Welded Clevis
3000 PSI
Bore: 1.5" to 5" Stroke 4" to 48"



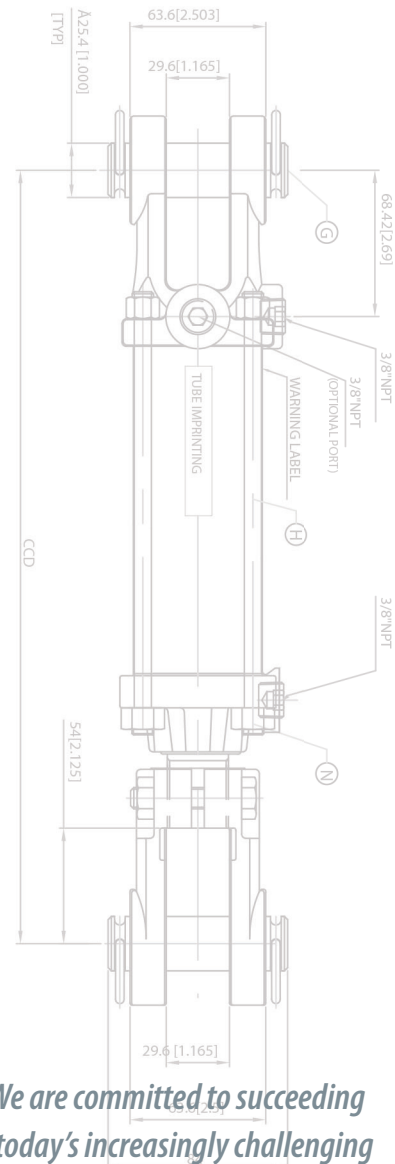
SERIES D

Threaded Clevis
3000 PSI Rated Size Availability
Bore: 2" to 5" Stroke 4" to 48"



SERIES E

Tie Rod Style
2500 and 3000 PSI Rated Size Availability
Bore: 2" to 5" Stroke 4" to 48"



"We are committed to succeeding in today's increasingly challenging marketplace by responding to each varied and dynamic individual customer requirement with an exclusive and custom tailored solution."

Delavan Custom Hydraulic Cylinders

- Integrated sensors
- Limit and pressure switches
- Position output hydraulic cushions
- Rod and base cushions
- Integrated free return flow check
- Progressive deceleration profiles

Along with our exhaustive standard build options, we offer the flexibility to manufacture cylinders specifically for your needs. We have a dedicated team to provide special custom designs based on specific requirements.

Hydraulic Cylinder Construction Details

TUBE: Steel, stainless steel, aluminum alloy or other special material

ROD: Standard 96 hour Salt-Spray rated chromium plated or Delavan Diamond™ 1000 hour rated chrome rod. Options on request include hardened, nickel plated, nitrided, other variants.

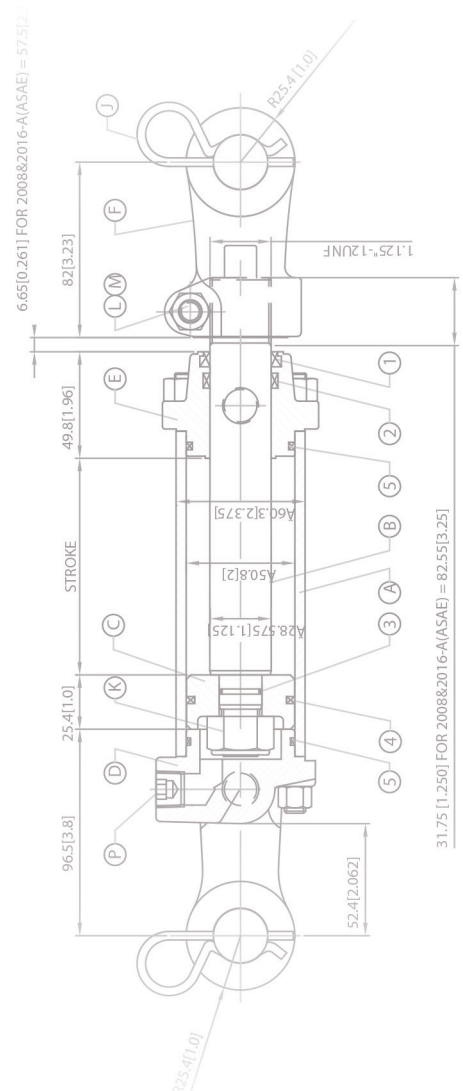
JACKET: Chromium plated, nitrided available on request.

CUSHIONING: Both standard and unique cushioning requirements are available on request.

FEEDING PORTS: SAE, CETOP, GAS and NPT

SEALS: In order to design the best sealing system for a specific application, the total tribological system; the piston seal surface, lubricant, and the seal material and construction itself are closely analyzed prior to its use in the field.

When required, Delavan Fluid Power works closely with the application engineers at several major seal manufacturers to develop comprehensive technical recommendations.



Custom Cylinders & Accessories

Engineered for Excellence



Counterbalance Valves



Cross-over Relief Valves



Flow Control Valves



Mono Block Control Valves



Log Splitter Valves



Joystick Valves



Telescopic Cylinder



Trunion Mount Cylinder



Custom Feed Lines



Custom Mounted Cylinders

"We engineer, we manufacture and we source exceptional products for you, our customer, here in North America and throughout the world."

Dave Beaudry - President, Delavan Products



Turbine Pumps



Roller Pumps



Diaphragm Pumps

*Other Superior Products
from Delavan*

Our History

Behind every successful company, there is a story of a driven entrepreneur, devoted to building a company—often from little or nothing. Nelson B. Delavan was the man behind the company known today as Delavan Fluid Power. Understanding Nelson Delavan helps to paint a portrait of a company that—some 80 years later—is still committed to serving its customers faithfully and delivering innovation and value to the marketplace.

Nelson B. Delavan was born in 1897 in Norwich, New York. In 1936 Nelson formed Delavan Engineering. The goal of the company was to be manufacturer's representatives for producers of electrical and mechanical equipment in Iowa, Nebraska, Minnesota and the Dakotas. In 1941, Nelson founded Delavan Manufacturing Company in Des Moines, Iowa to produce high precision nozzles for oil burners, agricultural spraying equipment, and special components for aircraft engines.

Nelson Delavan died in 1971 and in 1984, Delavan's wife Elizabeth established a non-profit trust, The Nelson B. Delavan Foundation, in her late husband's honor. This trust donates money in support of education, historical, cultural and arts-related endeavors and is still operating to this very day.

Delavan never quit dreaming and—maybe more importantly—never stopped doing. His life's story proves this and both his family and the company he started back in 1936 are extremely proud of him.

Now known familiarly as Delavan Fluid Power, our current President and Owner, David Beaudry, shares his vision of the future of the company in no uncertain terms. "We have a rich history of entrepreneurship at Delavan thanks to our founder, Nelson Delavan. Over the last 80 years, we have kept ourselves in business with firm commitments to product innovation coupled with sterling customer service that treats every customer like our last customer."

Our Mission Today

"To create value through innovation, delivering a WOW experience one customer at a time."

At Delavan Fluid Power we clearly understand the trajectory of change. We envision the top-two customer demands of the future as "more customized products and services" and "faster order fulfillment times."

In order to meet those demands we strive to be (fit-for-purpose) based on a unique value proposition for each particular customer.

We are committed to succeeding in today's increasingly challenging marketplace by responding to each varied and dynamic individual customer requirement with an exclusive and custom tailored solution.

We engineer, we manufacture and we source exceptional products for you, our customer, here in North America and throughout the world.



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