



Valve Automation

Any valve. Any application. Best-fit valve automation solutions.



Comprehensive valve automation solutions for the global energy and industrial markets.

Our valve automation portfolio includes power actuation and manual gear technologies that complement the operational excellence of Cameron manufactured valve brands, as well as third-party valve products. Engineered to deliver solutions across the entire industry, our valve automation team offers a single, comprehensive 6D valve automation portfolio — for any valve in any application.

Actuators and control systems

LEDEEN* actuators and control systems offer a full line of power actuators and control systems to meet the most challenging applications across all markets.

High-performance worm gear operators

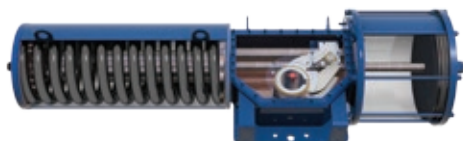
MAXTORQUE* valve accessories provide for the high-performance engineered gear solutions and valve accessory needs of the onshore and offshore production, unconventional and shale, subsea, transmission and storage, and LNG markets around the globe.

Manual gear operators and valve accessories

The DYNATORQUE* gear operators support the valve operation, safety, and testing needs of the valve industry with innovative engineering and rapid delivery.

Cameron Valve Automation Brands

Built on years of engineering expertise and a history of valve-neutral proven performance, our valve automation brands deliver solutions with local support to the global valve market.



LEDEEN

Actuators, control systems

The LEDEEN portfolio of actuators and control systems has represented excellence since 1948, and continues to deliver customer-focused solutions to all markets and applications.



MAXTORQUE

High-performance worm gear operators

The MAXTORQUE line of high-performance gear solutions and valve accessories help reduce workload and provide high-torque capabilities to some of the harshest environments in the industry.



DYNATORQUE

Gear operators, valve accessories

The DYNATORQUE manual gear operators and valve accessories provide single-source solutions from an innovative engineering team and state-of-the-art US manufacturing.

Gear Solutions

From highly customized, critical application to daily service, high-cycle gear solutions

We provide world-class, industry-leading manual and motorized gear solutions to the global valve market. Relying on sound engineering principles and best practices, the portfolio of MAXTORQUE and DYNATORQUE gears delivers customer-driven responses to all markets and applications involving significant volumes of high-specification valves, valve automation options, and support services.

- High quality
- Global support
- Quick turnaround

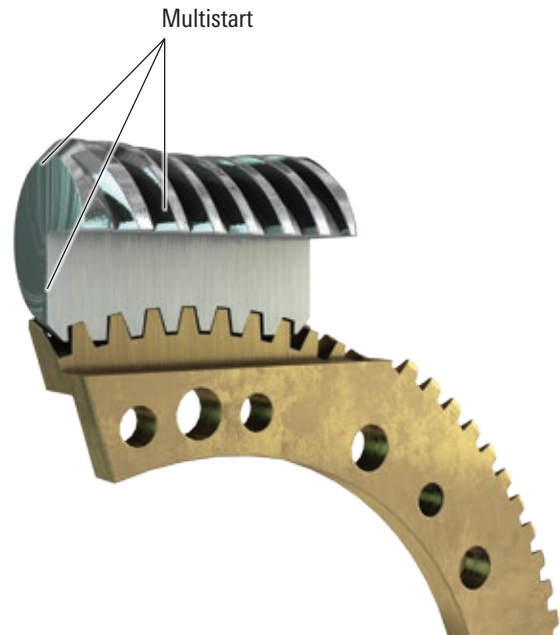
MAXTORQUE

High-performance engineered gear operators



Efficiency, durability, quality

MAXTORQUE* gears feature patented AutoLock* technology that allows for high-performance worm gear solutions with the self-locking characteristics of conventional gearboxes. This means up to a 75% reduction in the workload required to operate a valve, leading to an improved HSE profile and worker efficiency on manual valves and smaller actuators on motorized valves.



Multistart technology: double-enveloping worm gear

Standard worm gears maintain 1.23 to 2.98 teeth in contact. The multistart technology that MAXTORQUE gears utilize provides for 6 to 13 teeth in contact, reducing the amount of work required to operate the gear by up to 75%.



MAXTORQUE high-performance worm-gear operator

PORTFOLIO

High-performance worm-gear operators

- Manual
- Motorized/process control
- Specialty and custom
- Ultra-large
- Subsea

Valve accessories

- Declutch and manual overrides
- Temperature compensators
- Dual-input gears
- High-thrust spur gears
- Subsea accessories

DYNATORQUE

Manual gear operators and valve accessories



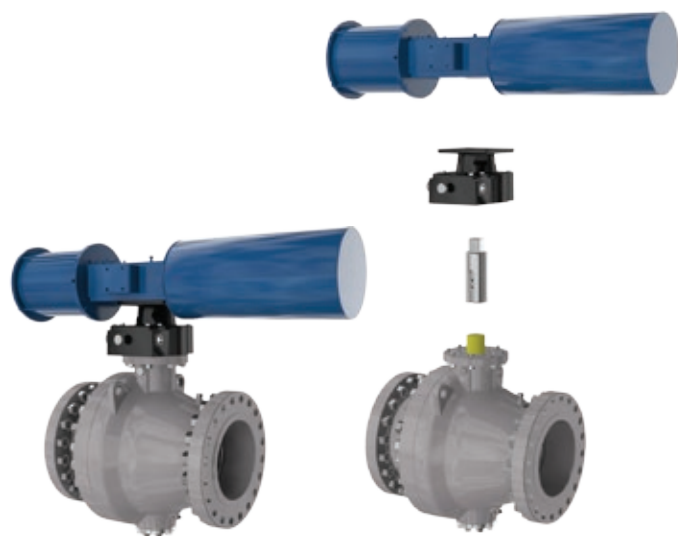
DYNATORQUE D-Stop partial-stroke test device direct-mounted to a LEDEEN pneumatic actuator

Delivering customer-focused solutions— rapidly and economically

For years, DYNATORQUE gear operators have been recognized as an innovator in manufacturing technology, with commitments to quality and design that result in a trustworthy and solid product portfolio. The DYNATORQUE product line is a customer-driven solution for both standard and customized gears and valve accessories.

Actuator-to-valve direct interface mounting

All DYNATORQUE automated valve accessories, manual overrides, partial-stroke test devices, and valve locking devices utilize a direct interface mounting concept; the product fits between the actuator and the valve. The actuator-valve driver and the top and bottom of our device can be machined to custom fit your valve and actuator combination. DYNATORQUE automated valve accessories can be provided as a component of a new automated valve or easily field-retrofit to an existing valve and actuator package.



DYNATORQUE D-Stop partial-stroke test device

PORTFOLIO

Automated valve accessories

- Manual overrides
- D-Stop partial-stroke test device
- D-Lock valve-locking device

Manual gear operators

- Worm gear operators

Valve accessories

- Ground position indicators
- Handwheels
- Locking accessories



Actuators and control systems



Solid engineering principles, field-proven experience, customer-confident solutions

LEDEEN actuator and control systems have been consistently providing exceptional valve automation performance to the oil and gas industry for more than 60 years. There is no shortcut or substitution for valuable product knowledge obtained through years of successful operations in the brutal environmental conditions of desert, arctic, offshore, and subsea applications. Relying on extensive global experience and applying it during the evaluation of every requirement is a commitment to best practices that every customer benefits from when working with Cameron.



Pneumatic actuator



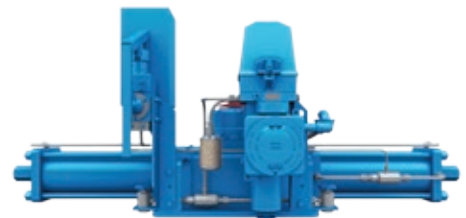
Electric actuator



Hydraulic actuator



Gas-over-oil actuator



Direct gas actuator

Quarter-Turn Core Products

	Series	Torque outputs, in-lb [N·m]	Supply inputs	Temperature range, degF [degC]
Pneumatic	GS series, SY series	5,700,000 [644,000]	40–175 psig [3–12 barg]	-22–212 [-30–100] Low temperature options to -50 [-45]
	VA series	9,700 [1,100]	40–175 psig [3–12 barg]	
Hydraulic	GS series, SY series	5,700,000 [644,000]	145–3,000 psig [10–207 barg]	
Hydraulic subsea	Deepwater series (water depth > 500 ft [152 m])	3,600,000 [400,000]	150–3,000 psig [10–207 barg]	
	Shallow-water series (water depth ≤ 500 ft [152 m])	5,700,000 [644,000]	150–3,000 psig [10–207 barg]	
Compact hydraulic	HS series [†]	340,000 [38,500]	145–3,000 psig [10–207 barg]	
Gas-over-oil	GS series, SY series	5,700,000 [644,000]	145–1,500 psig [10–104 barg]	
Direct gas	GS series, SY series	5,700,000 [644,000]	145–1,500 psig [10–104 barg]	
Electric	DiM series	5,974,250 [675,000]	AC 1 Ph and 3 Ph 50 Hz and 60 Hz	-13–140 [-25–60] [‡]

[†] Only sold on Cameron valves

[‡] Low temperature options to -67 degF [-55 degC]

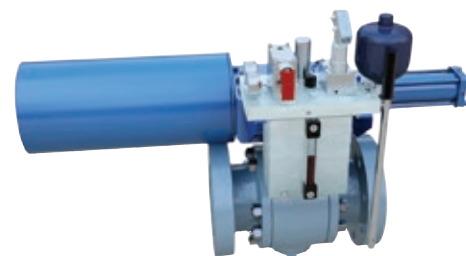
Linear Core Products

	Series	Torque outputs, lb [N]	Supply inputs	Temperature range, degF [degC]
Pneumatic	LP series	4,400,000 [19,500,000]	40–175 psig [3–12 barg]	-22°–212 [-30–100] Low temperature options to -50 [-45]
Hydraulic	LH series	4,400,000 [19,500,000]	145–3,000 psig [10–207 barg]	
Subsea	Mytilus series	4,400,000 [19,500,000]	150–3,000 psig [10–207 barg]	
Gas-over-oil	LG series	4,400,000 [19,500,000]	145–1,500 psig [10–104 barg]	
Direct gas	LD series	4,400,000 [19,500,000]	145–1,500 psig [10–104 barg]	
Electric	DiM series	48,783 [217,000]	AC 1 Ph and 3 Ph 50 Hz and 60 Hz	-13–140 [-25–60] [†]

[†] Low temperature options to -67 degF [-55 degC]

Control systems and accessory products

- Low-pressure pneumatic controls
- Hydraulic self-contained controls
- High-pressure gas controls
- Hydraulic power units
- Electronic linebreaks
- Position-monitoring switches



Self-contained control system

Manufacturing Excellence



Globally sourced and delivered actuation

LEDEEN actuators and control systems are engineered and manufactured in our Voghera, Italy, facility.[†] Including in-house hyperbaric testing, 17 test benches, and design and engineering capabilities, the facility is equipped to handle any request for any application.

The Ville Platte, La., USA rapid response center helps support the need for quick turnaround valve and valve automation products, taking advantage of our full suite of engineering, testing, and logistical support while offering an independently managed rapid response business for a variety of applications and challenges.

LEDEEN — Manufactured in Voghera, Italy

Quality certifications

- ATEX 94/9/EC
- ISO 9001:2008
- PED 97/23/EC H
- GOST-R
- RTN



MAXTORQUE and DYNATORQUE — Manufactured in Muskegon, Mich., USA

Designed, engineered, and manufactured in the US, the Cameron portfolio of gears provides a quality solution for manual valve operation. Based on years of expertise and knowledge in the valve industry, Cameron is able to provide turnkey solutions for all markets and applications.

Quality certifications

- ATEX 94/9/EC
- PC/PLC Cycle Testing and Qualification
- IP 68 Rating
- AWWA Compliant
- ISO 9001:2008

[†] Electric actuators manufactured in Wenden, Germany

Services for Actuation and Valves

We build it. We back it.



Startup and commissioning

Our experts understand that each project is unique. That's why our support services help facilitate commissioning and startup activities.

- Integrated solutions, onsite or at our global service centers
- Increased equipment and product performance
- The shortest possible trouble-free startup for your critical assets



Spare parts and asset management

We offer the assets and expertise to cover all aspects of valve management.

- Full inventory of quality exact OEM parts and spares
- Complete asset risk and criticality assessments
- Comprehensive inventory of your assets, including a complete recommended spare valves and parts list



Operational support

Cameron has the ability to address valve requirements in the field is a reflection of our commitment to life-of-asset support.

- Innovative asset management solutions
- Trouble-free installation, startup, and operations
- Support from commission to operation—extending through all phases of a valve's life cycle
- Extensive inventory of spare valves and parts

Our site management support helps mitigate the risk of project delays by identifying issues in the construction process prior to valve installation to ensure valve integrity.

Valve Automation



cameron.slb.com

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