

# DYNATORQUE

## Valve accessories

### APPLICATIONS

Valve operations

### ADVANTAGES

- Reliability and durability
- Standard and customized options
- Manual and automated options
- Broad range of products and services to accommodate a wide envelope of applications

The Cameron portfolio of DYNATORQUE\* valve accessories is a single-source solution for both standard and customized gears and automated valve accessories.

### Worm gear operators

DYNATORQUE worm gear accessories are used with quarter-turn valves and dampers. Commercial-grade units have been designed to withstand loads far in excess of their rated torques. Operators are totally enclosed, weatherproof, and permanently lubricated. Other grades of service include American Water Works Association (AWWA), all stainless steel, severe service, buried service, and high and low temperature.

### Valve actuator manual overrides

Valve actuator manual overrides are used with automated valve packages to provide manual operation in the event of actuator failure or power loss. These gear operators are mounted between the valve and the actuator. Cameron manufactures two types of actuator-to-valve direct interface overrides:

- DYNATORQUE SRD\* nondeclutchable manual override, which are used for spring-return applications
- DYNATORQUE SD\* declutchable manual override, which are suitable for either double-acting or spring-return actuators.

### DYNATORQUE D-Stop device

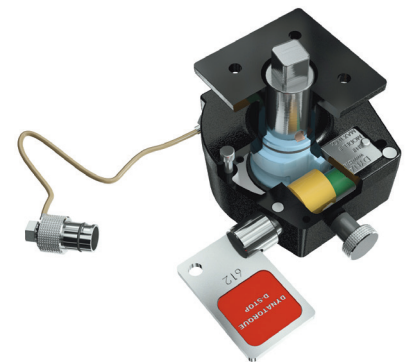
The DYNATORQUE D-Stop\* partial-stroke test device is used in automated quarter-turn valve applications where compliance with standards such as ISA-S84 and IEC 61511 is of concern. The device enables testing of the entire safety instrumented system (SIS) in applications where exercising the final trip element (the valve) may not be practical, such as when the valve is installed in an active process flow line.



*Worm gear operators*



*DYNATORQUE SD declutchable manual override.*



*DYNATORQUE D-Stop partial-stroke test device.*

# DYNATORQUE

## DYNATORQUE D-Lock device

The DYNATORQUE D-Lock\* valve-locking device is suited for applications where powered equipment, such as pneumatic, hydraulic, or electric actuators, must be locked in either the full clockwise or counter-clockwise positions. This product provides lockout capabilities for all types of valve and other rotational devices where the function of the device requires the prevention of rotation (i.e., such as torque-seated butterfly valves).

## Stainless steel worm gear operators

These operators are developed for corrosive, radioactive, or other extreme environments where standard iron or steel may not be suitable. Unit housings, covers, indicators and bolting hardware are 300 series stainless steel; worms are heat-treated carbon steel; worm wheels are cast ductile iron (or manganese bronze as an option); input shafts are 17-4 PH® stainless steel; shaft and worm seals are nitrile rubber; housing to cover seals are liquid gasket; and bushings are oil impregnated copper nickel steel alloy.

## Multiturn bevel gear operators

Bevel gear operators are suited for applications with rising stem valves such as gate valves and knife gate valves. All units are designed to withstand loads far in excess of the rated thrusts and torques. Actuators in this category are totally enclosed, weatherproof, and permanently lubricated. Units are suitable for use in all handwheel and chainwheel applications.

## Partial and multiturn worm gear operators and memory-stop gear operators

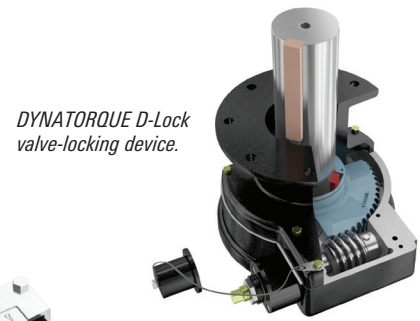
Partial-turn and multiturn worm gear operators and memory-stop gear operators are supplied for actuation of specialty equipment such as multipoint valves, nonthrust gate or globe valves, payoff reel applications that require a self-locking feature, and more. Because the partial-turn operator includes adjustable end position stops in both the clockwise and counter-clockwise positions, many may be used in memory-stop applications. The multiturn operators do not include stops, requiring stops built into the driven equipment to provide end positioning.

## Ground position indicator

The ground position indicator (GPI) can be used to indicate the position relative to open or closed buried service valves, dampers, payoff reels, or any other rotating device. Standard ranges are available from 1 to 938 handwheel turns. Requirements for greater numbers of turns are available upon request. Each position indicator comes complete with valve box adapter and is ready to install in a standard 5¼-in valve box. Available in both sealed and unsealed versions.

## Handwheels and locking accessories

Cameron handwheels are manufactured in cast iron or tubular carbon and stainless steel from 6-in to 48-in diameters. The fabricated handwheels are manufactured to both recessed and flat designs. Locking devices are available for all of Cameron's DYNATORQUE accessory gear operators as well as retrofit to other brands of gear operators and handwheels.



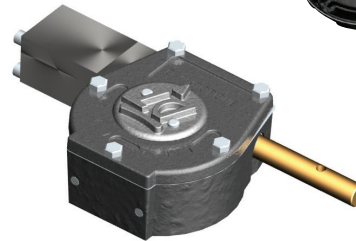
*DYNATORQUE D-Lock valve-locking device.*



*Stainless steel worm gear operator.*



*Multiturn bevel gear operator.*



*Partial and multiturn worm gear operators and memory-stop gear operators.*



*GPI.*



*Handwheel.*

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