

Dynatorque D-Stop



Partial-stroke test devices

Applications

- Primarily used on emergency shutdown valves (ESDVs) while they are flowing process fluids and full-stroke valve testing is not practical

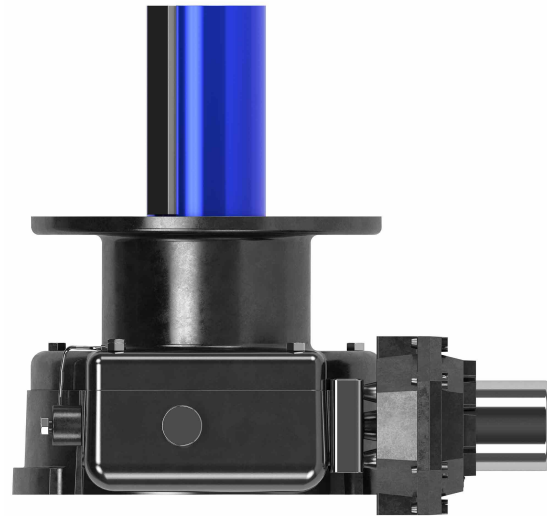
Benefits

- **Simplicity:** No integration required with control loops or extra controls, unlike electric systems
- **Cost-effectiveness:** Lower cost than electric or controls-driven systems and no need for special personnel, commissioning, or calibration
- **Reliable safety tests:** Activation of all safety instrumented system (SIS) components in an ESDV or safety valve because of absence of extraneous controls
- **Durability:** Vibration-resistant, factory sealed device with corrosion protection, IP67 certification, stainless steel trim, and permanent lubrication for maintenance-free operation

Features

- SIL* -capable, certified by an independent third party; copy of our failure modes, effects, and diagnostic analysis (FMEA) and other information required for SIL calculations available on request
- Cathodic epoxy coating provided as standard on all units up to and including Model D60DS, resulting in a durable black finish that protects all surfaces; two-part epoxy coating standard on larger sizes
- Factory-drilled drive couplings for compatibility with multiple valve and actuator setups per customer specifications available on request
- Various options, including custom or ISO bolt patterns, custom bores and drive adapters, adjustable travel limits, automation mounting package, limit switches, remote operation, lock-in tag-out configuration

* Safety integrity level



Dynatorque D-Stop partial-stroke test device.

How they improve performance

Dynatorque D-Stop™ partial-stroke test devices are among the world's premier mechanical devices for partial-stroke testing of installed critical service valves, such as ESDVs. They can be supplied as a component of a new automated valve or retrofitted in the field to an existing valve or actuator package. The complete kit consists of the test device, engagement key, and drive coupler to adapt to the valve and actuator. Custom-machined drive couplers are available on request.

How they work

Each device is equipped with two internal cams. During standard valve operation, the test device remains disengaged, allowing the actuator to freely move the valve as required. When a partial-stroke test needs to be performed, a stainless steel engagement key is inserted into the key socket of the Dynatorque D-Stop device.

Engagement procedure and safety feature

A built-in safety feature ensures that engaging the test device requires a deliberate, two-handed operation. First, the safety release mechanism must be pulled, which permits the engagement cam to rotate 90° counterclockwise. Subsequently the key is turned and locked into the device and the engagement cam rotates, engaging the Dynatorque D-Stop device.

Partial-stroke testing process

When the valve actuator is directed to the test position, the drive cam—attached to the actuator via the drive coupling—rotates until it meets the engagement cam. This typically occurs at 20°, although the angle can be specified as required. The device's metal-to-metal safety mechanism prevents the actuator from rotating beyond the designated set point, ensuring controlled partial-stroke testing.

Dynatorque D-Stop



Dynatorque D-Stop Specifications

Specifications	Models D3DS to D21DS	Model D36DS	Models D60DS and D260DS
Gear type	Partial-stroke test device	Partial-stroke test device	Partial-stroke test device
Applications	Standard and low temperatures	Standard and low temperatures	Standard and low temperatures
Approx. torque rating	0–26,000 lbf.in	26,000–63,000 lbf.in	63,000–300,000 lbf.in

Dynatorque D-Stop Specifications

Specifications	Models D500DS and D1000DS	Models D2000DS and D4000DS
Gear type	Partial-stroke test device	Partial-stroke test device
Applications	Standard and low temperatures	Standard and low temperatures
Approx. torque rating	300,000–1,000,000 lbf.in	1,000,000–4,000,000 lbf.in

All specifications are subject to change without notice.



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