

### Specifications for Partial Stroke Test Devices: D-Stop Series

#### Definition

DynaTorque Sandwich Mount Partial Stroke Test Device, the *DynaTorque D-Stop*, is a device used for the periodic testing of emergency shutdown valves (ESD) and other safety related process flow applications. The test may indicate whether the valve and actuator package is inoperable due to valve blockage, mechanical failure, control system anomalies, or misalignment.

Additionally, use of the D-Stop can also aid in compliance with ISA S84 and IEC 61508/61511 requirements for testing of the Safety Instrumentation System (SIS), especially in applications where exercising the final trip element may not be practical, such as when the ESD is installed in an active process flow line. The device limits the travel of the valve actuator to 20 degrees (or customized to other specifications), thus avoiding significant reduction of process flow. NOTE: Failure Modes, Effects and Diagnostic Analysis (FMEDA) available on request.

#### Construction

D-Stop models up to and including D260DS have iron housings and covers. Larger models are fabricated of carbon steel. Engagement cams and shafts are stainless steel, drive cams are cast ductile iron; shaft and drive cam seals are Viton, bushings are oil impregnated copper nickel steel alloy, cover-to-housing seal is 732 RTV. Engagement keys and socket covers are stainless steel. Standard D-Stops are supplied with blank drive couplings.

The D-Stop is totally enclosed, IP-67 certified, weatherproof, and permanently lubricated. Standard temperature application range is from -20F to +350F.

D-Stop models up to and including D21DS have black epoxy e-coated inside and out. Larger models are coated with black enamel painted interiors and black epoxy coating exteriors. See [www.dynatorque.com/dstop](http://www.dynatorque.com/dstop) for complete product details and dimensional data.

		Double Acting Actuators Maximum <u>Air</u> Start Torque <i>NOT TO EXCEED</i>			Spring Return Actuators Maximum <u>Spring</u> Start Torque <i>NOT TO EXCEED</i>		
Model	Unit Wgt. Lbs.	Inch Lbs.	Foot Lbs.	Newton Meters	Inch Lbs.	Foot Lbs.	Newton Meters
D3DS	12.5	3,000	250	339	2,250	188	254
D7DS	19.5	6,700	558	757	5,000	417	565
D12DS	38	10,700	892	1,209	8,000	667	904
D21DS	54	17,300	1,442	1,955	13,000	1,083	1,469
D36DS	110	42,000	3,500	4745	31,500	2,625	3,559
D60DS	208	120,000	10,000	13,558	90,000	7,500	10,170
D260DS	681	174,000	14,500	19,658	130,000	10,833	14,690
D500DS	*	333,000	27,750	37,623	250,000	20,833	28,250
D1000DS	*	667,000	55,583	75,359	500,000	41,667	56,490
D2000DS	*	1,333,000	111,083	150,604	1,000,000	83,333	113,000

\*Application modifications significantly affect product weight.

Larger D-Stop models are available. Consult factory.

See [www.DynaTorque.com/dstop](http://www.DynaTorque.com/dstop) for complete product details and dimensional data.