

TECHNICAL MANUAL

MODEL D87 HANDWHEEL OVERTORQUE CLUTCH

Purpose

Model D87 Valve Overtorque Clutches prevent valve damage caused by use of excessive operating torque.

Applications

Valves and other equipment driven by manual gearboxes or electric actuators.

Operation

Operating torque is applied to either end of the D87. The torque is transmitted through the D87 mechanism and into the valve or actuator. If excessive torque is applied, the D87 drive will disengage and prevent damage. Operation is the same in either direction of rotation. Re-engagement is automatic with further rotation in either direction.

Construction and Corrosion Protection

The mechanism is permanently lubricated and hermetically sealed inside a rugged steel housing. The D87 features stainless-steel fasteners and is corrosion protected by fusion-bonded epoxy, with industrial enamel topcoat for ultraviolet protection.

Maintenance

No maintenance is required.

Mounting and Dimensions

The unit is mounted directly on the valve, actuator or gearbox input shaft - either between the actuator and handwheel, or between the actuator and valve. No special tools or valve/actuator modifications are required.

Operating Environment

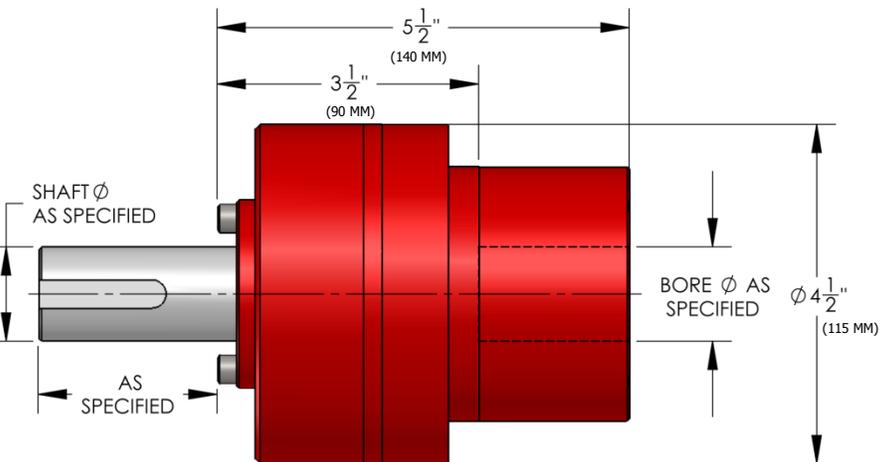
Trip Torque:

D87-250 **75 lbft** to **250 lbft** (100 Nm to 340 Nm)

D87-500 **100 lbft** to **500 lbft** (135 Nm to 680 Nm)

Higher and lower torque capacity models are available.

Operating temperature: -20 ° F to 200 ° F.
 Suitable for buried and submerged service.



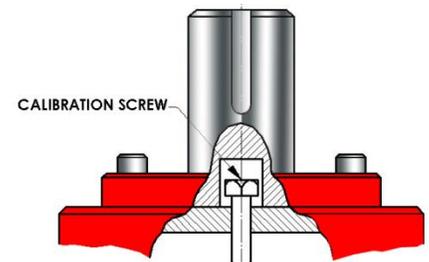
Splined & other end-connections are available

Higher and lower temperature models are available.

Trip Torque Adjustment

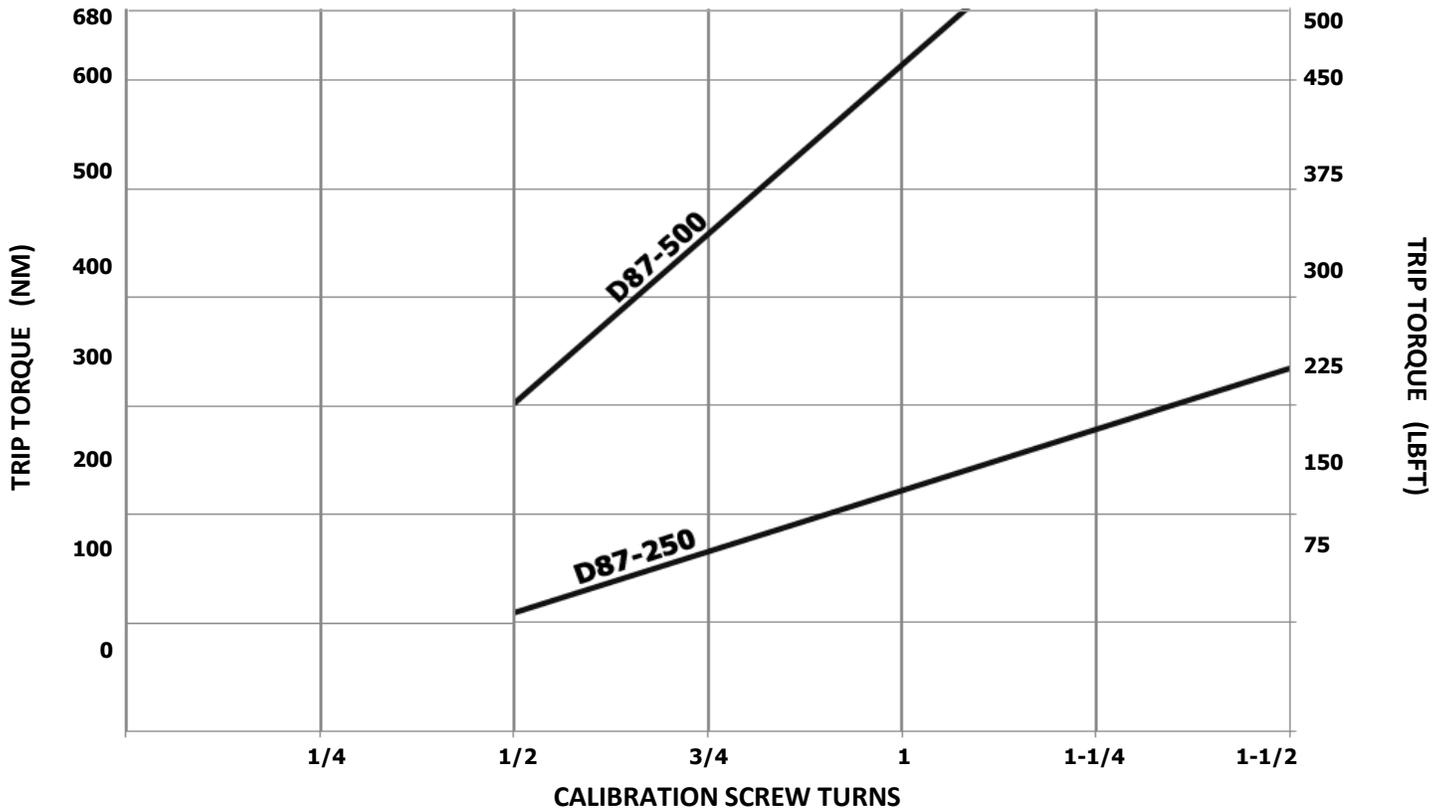
Units are shipped fully calibrated and ready to mount. The trip torque calibration screw is concealed to prevent tampering. Trip torque can be adjusted by the following procedure:

1. Remove the shaft from the bonnet to expose the calibration screw.
2. Rotate the calibration screw inward (CW) to increase trip torque, or outward (CCW) to decrease. Reference Calibration Curve on P2.
3. After calibration put a drop of Loctite 290 liquid on threads. Replace shaft.



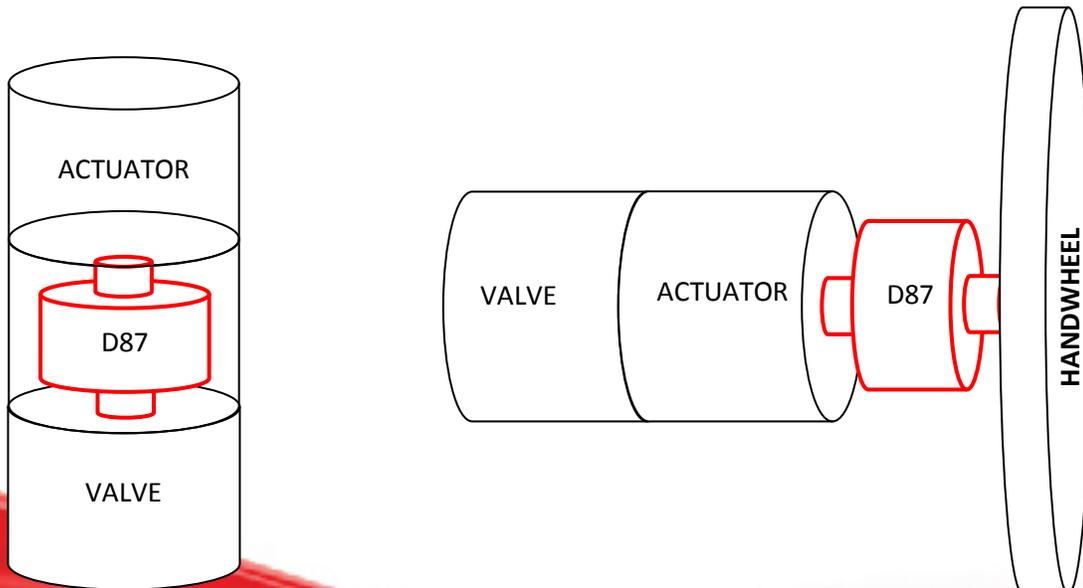
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Calibration Curve



The calibration information above is representative of all standard D87 models.
Contact factory if more precise calibration of individual units is desired.

Applications



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