

TECHNICAL MANUAL
MODEL D81 HANDWHEEL OVERTORQUE CLUTCH
Purpose

Model D81 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 D81. The torque is transmitted through the D81 mechanism and into the valve or actuator. If excessive torque is applied, the D81 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, and is corrosion protected by fusion-bonded polyester.

Maintenance

No maintenance is required.

Mounting

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

Operating Environment

Trip Torque: 0 to 140 Nm
0 to 100 lbft

Higher and lower torque capacity models are available.

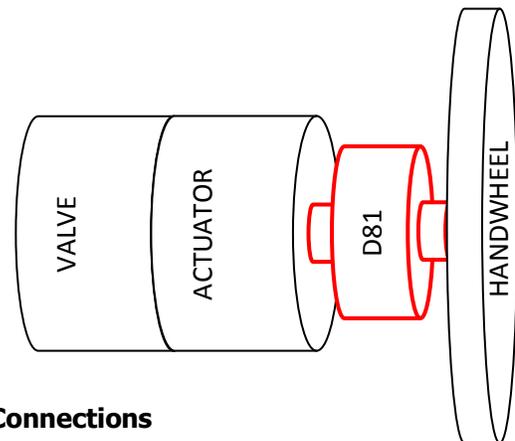
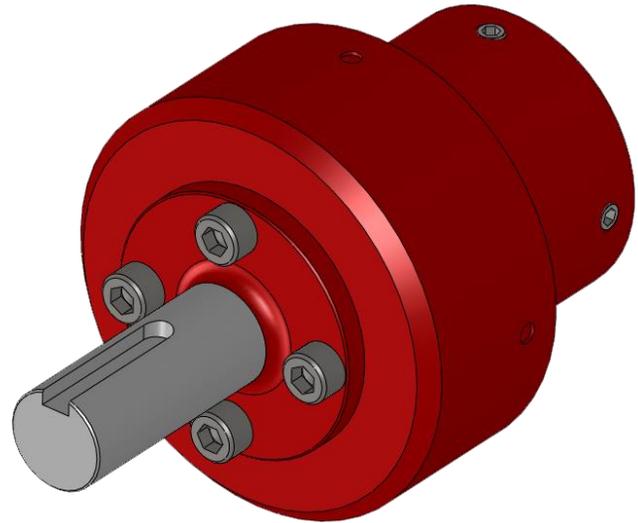
Operating temperature: -25° to 100° C
0° to 250° F

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:

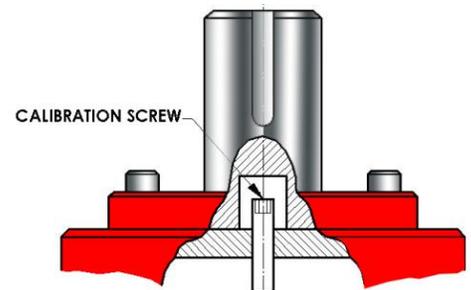
1. Remove the shaft from the housing to expose the calibration screw.
2. Rotate the calibration screw inward (CW) to increase trip torque, or outward (CCW) to decrease. Reference Calibration Curve on P2.
3. After calibration, put a drop of Loctite 290 liquid on threads. Replace shaft.


End-Connections

Standard Max Bore : \varnothing 30 mm
 \varnothing 1.181 in

Standard Max Shaft : \varnothing 30 mm
 \varnothing 1.181 in

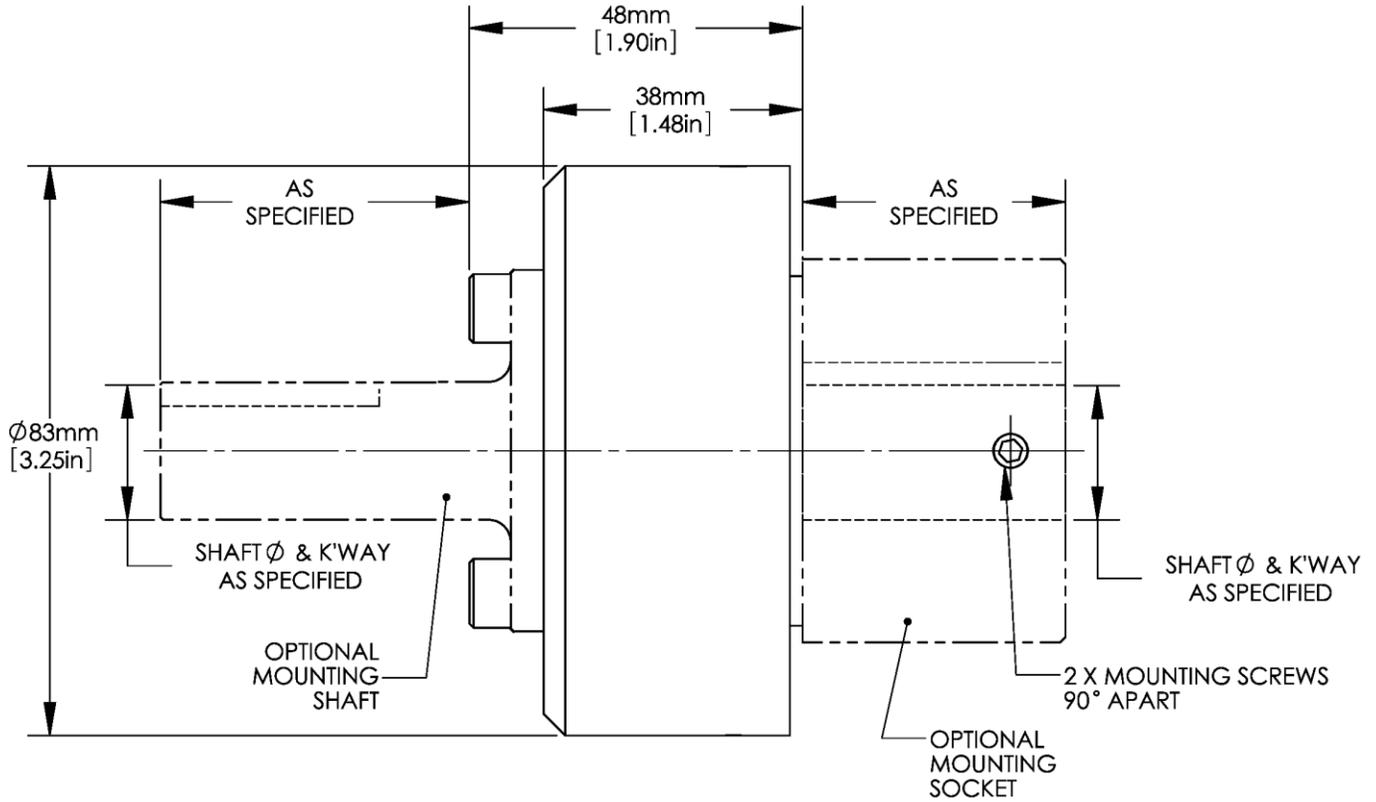
Larger diameters available with adapter.



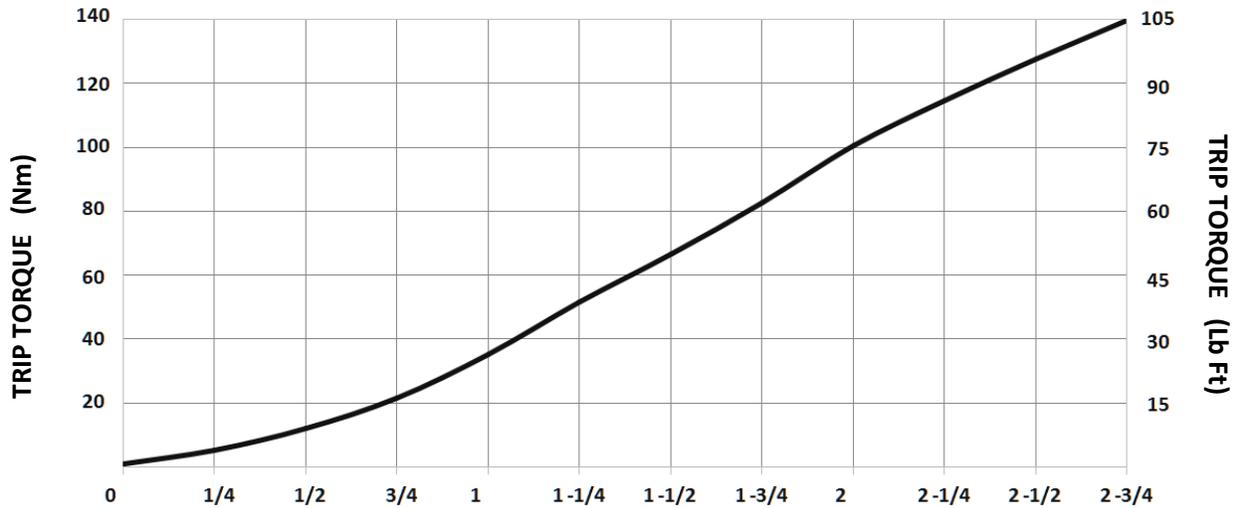
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Dimensions



Calibration Curve



CALIBRATION SCREW TURNS

The calibration information above is representative of all standard D81 models.
Contact factory if more precise calibration of individual units is desired.

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