

Kinetrol Spring to Centre Actuators

A patented part-turn rotary actuator that is driven to an end stop, in either direction, from an initial centre position and is spring returned to an accurate and positive mid point when the air supply is removed. The mid-position can be set mechanically anywhere in the actuator's travel range.

The spring to centre assemblies consist of one double acting actuator fitted with two or more opposing clock type springs contained within a single housing. Controlled with a dual coil, 5/3 solenoid valve (or two 3/2 single coil valves) which, when totally de-energised, allow the springs to precisely centre the actuator against physical stops. When either coil is energised the actuator will travel towards one of its end stops. As the vane moves towards an end stop the air stroke torque reduces as the spring torque increases and vice versa. When the coil is de-energised the vane will spring return to its original centre position. The usual 'centre' position will be in the middle of the actuator's 0 - 90 degree travel, but this can easily be adjusted to any mid-stroke location. A vernier scale on the adjustable plate (see attached picture) permits precise mid-position setting to within 1 degree.



(Actuator should be mounted to application to enable adjustable centre position and stationary end points)



ATEX Category 2

- Reliable low stress clock type springs.
- Sealed, non-breathing housing protects spring in corrosive environments.
- Available in models 05 to 18 (excluding 15).
- Stroke up to 100° (200° option available - contact Kinetrol)
- Mid position can be set mechanically anywhere in the actuator's travel range using 'vernier' type scale.
- Self contained spring assembly which can be easily removed without a keeper plate.
- Can be used in aggressive or hazardous environments without the need for complex or sensitive instruments.
- Can be fitted with high temperature seal option for up to 100°C

Specification

Casing: Pressure die cast aluminium alloy

Vane & Output Shaft: SG iron, zinc plated

Shaft bushes: PTFE coated bronze (lead free)

Seals: Moulded polyurethane

Seal expanders: Stainless spring steel

Clock Type Spring: Carbon spring steel

Finish: Epoxy thermoset powder

Operating Temperature
-40°C to +80°C (-40°F to +176°F)

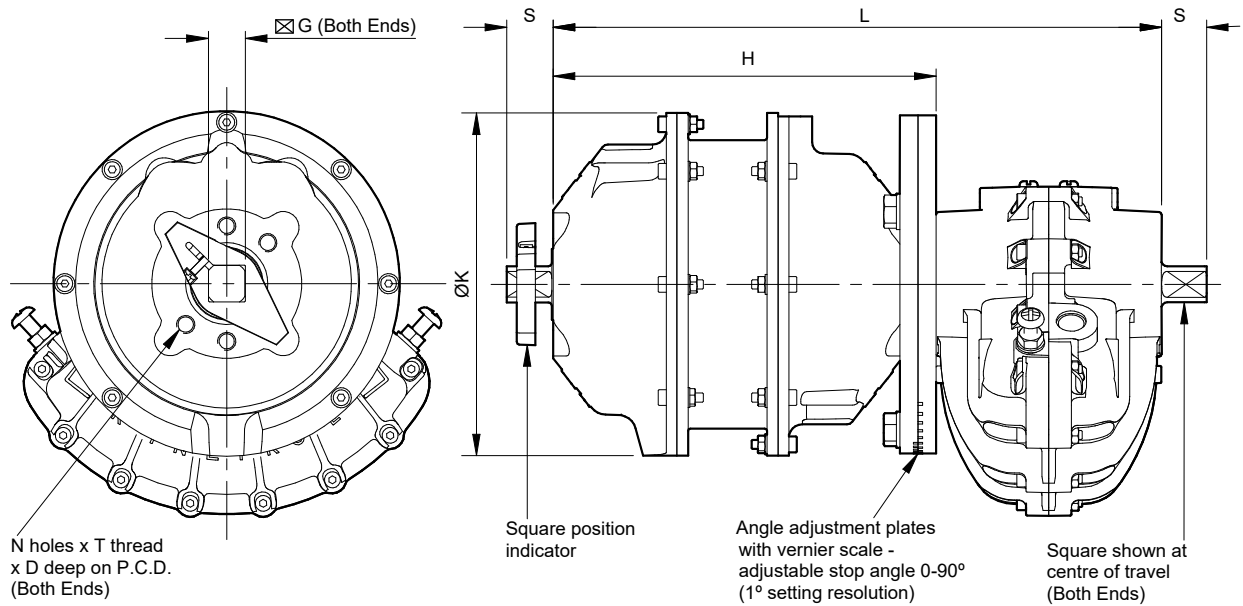
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Torques

Actuator Model	Torque - Nm Based on 5.5 bar			Torque - lbf ins Based on 80 psi		
	*Start	—	Finish	*Start	—	Finish
050-1205	19.2	—	17.5	170.0	—	169.9
070-1205	49.6	—	42.4	412.0	—	375.2
090-1205	99.0	—	93.8	876.0	—	830.1
120-1205	221.0	—	204.0	1956.0	—	1805.5
140-1205	533.0	—	478.0	4717.0	—	4230.6
160-1205	1009.0	—	933.0	8930.0	—	8257.7
180-1205	2686.0	—	2417.0	23771.0	—	21392.2

* Start torque when angle adjusted to mid position
Note: can be ordered without actuator eg. 050-0205

Dimensions



Actuator Model	L mm	H mm	K mm	⊠G mm	S mm	N No.	T ISO	D mm	PCD mm	Wgt* kg
050-1205	178	111	119	9.5	13	6	M5	10	34.9	3.5
070-1205	270	170	152	16.0	20	4	M8	16	50.9	10.2
090-1205	328	202	200	19.0	26	4	M10	20	65.0	23.6
120-1205	466	310	258	25.0	31	4	M12	22	77.8	36.0
140-1205	640	440	400	28.6	38	4	M16	28	98.8	124.0
160-1205	880	606	400	41.0	55	4	M24	38	152.7	200.0
180-1205	1163	803	532	57.0	78	4	M30	50	226.3	445.0

* Weight includes standard coupling