KINETROL®

ROTARY ACTUATORS



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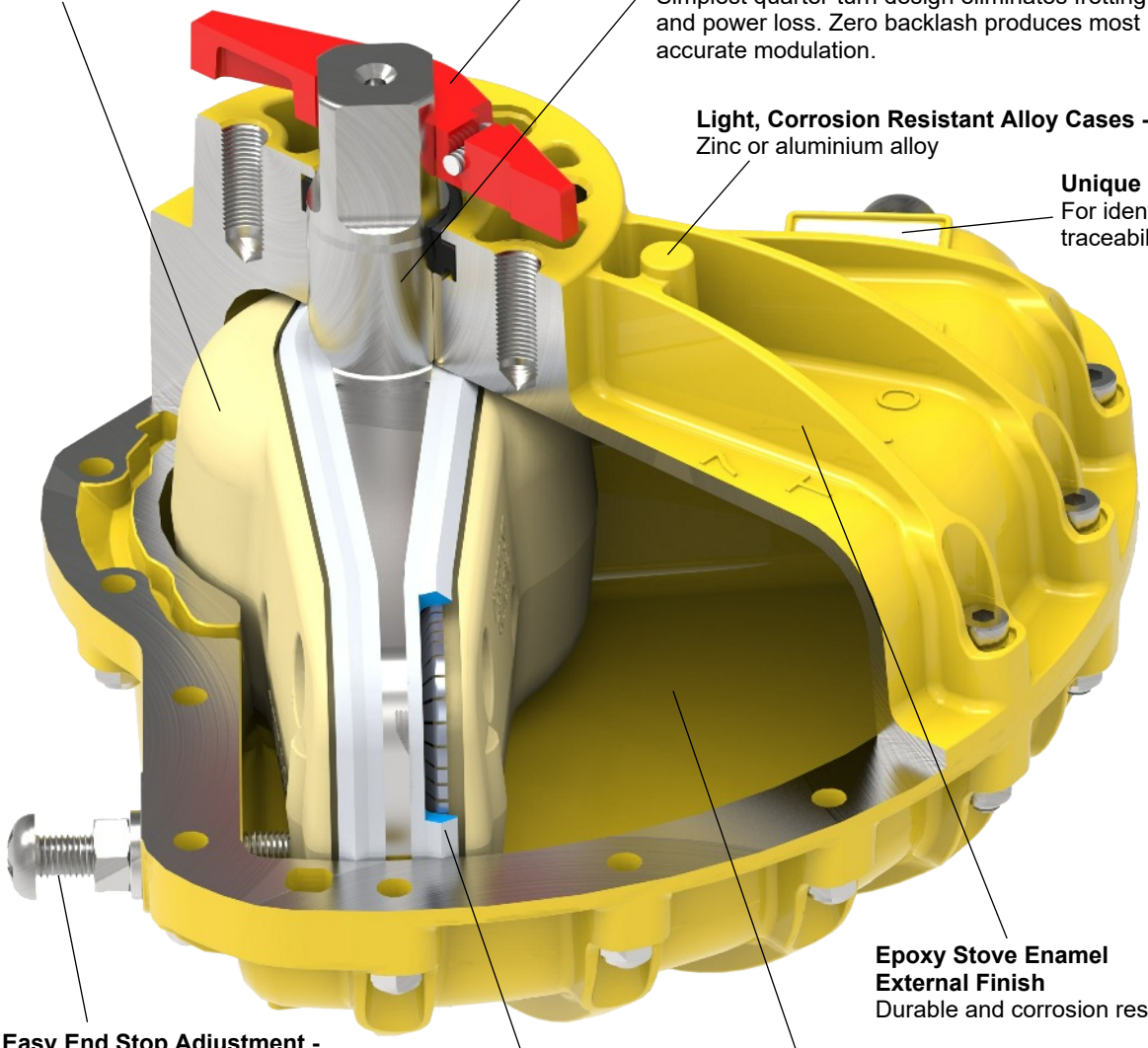
Kinetrol Vane Actuator Features

Applications

Operation or positioning of ball, butterfly, plug and control valves, ventilation dampers and automatic doors. Uses also include movement and positioning of components during manufacture - in fact anything that needs to be turned through 90° or less, automatically or by remote control.

LONG MAINTENANCE-FREE LIFE
Up to 4 million operations guaranteed

PROVEN IN SERVICE
Millions of units operating trouble-free worldwide



CHOICE OF MALE OR FEMALE OUTPUT DRIVE SQUARES
Easy and versatile interface to applications

CLOSE COUPLED CONTROL MODULES
Fail-safe spring returns, limit switch boxes, solenoid valves and positioners all close coupled to actuators

The policy of KINETROL is one of continuous improvement. We reserve the right to alter the product as described and illustrated without notice.

Modular Add-On Control Units

Kinetrol modular concept easily provides the control assembly needed

(Please see separate data sheets for individual items)

1. Visual Indicator
Gives visual indication of valve position as standard except models 0M0, 01, 16, 18, 21, 30 and 60.

2. Clear Cone Monitor
Gives 360° and overhead position indication. Available on actuator models 03, 05, 07, 08, 09, 10, 12, 14, 15, limit switch boxes, AP positioners, EL positioners, P3 positioners and EHD models.

3. I/P Controller
4-20mA electrical signal controls main air supply to pneumatic positioner as alternative to air signal control.

4. AP Positioner
3-15psi (0.2-1 bar) air signal controls main air supply to turn, stop or hold the actuator vane in proportional response to that air signal. Limit switch and angle retransmit options available.

5. EL Electropneumatic Positioner
A single unit gives smooth accurate control in response to a 4-20mA signal. Limit switch and angle retransmit options in same housing.

6. P3 On/Off Positioner
Modulation and/or two endstop positions and a mid-range setpoint anywhere within the 90° span. Easy setpoint adjustment and integral position feedback options.

7. Explosion Proof P3 On/Off Positioner
Provides the same basic options as the P3 Positioner but in a flame proof enclosure with ATEX approval.

8. VLS/ULS Limit Switch Box
Weathertight unit with up to 4 switches for remote position indication or control use. Optional switches for flame proof/explosion proof needs and high visibility Clear Cone monitor.

9. Explosion Proof Limit Switch Box
Provides the same basic options as the VLS/ULS Switch Box but in a flame proof enclosure with ATEX, FM and IEC approvals

10. Solenoid
Optional integral pneumatic solenoid valve for actuators. Various electrical, environmental and explosion proof requirements covered.

11. Actuator
17 sizes covering torque range 0.1 Nm (1 lbf in) to 40765 Nm (356,977 lbf in). Operating air pressure range 1.4 bar (20 psi) to 7 bar (100 psi). Adjustable stops as standard. Restricted travel stops and ISO/DIN versions available.

12. 180° Converter
Compact units give constant torque output through to 200° travel.

13. Fail-Safe Spring Return Units
Clock type spring return gives reliable fail-safe operation with high torque output throughout spring stroke, yet has easy adjustment to suit application.

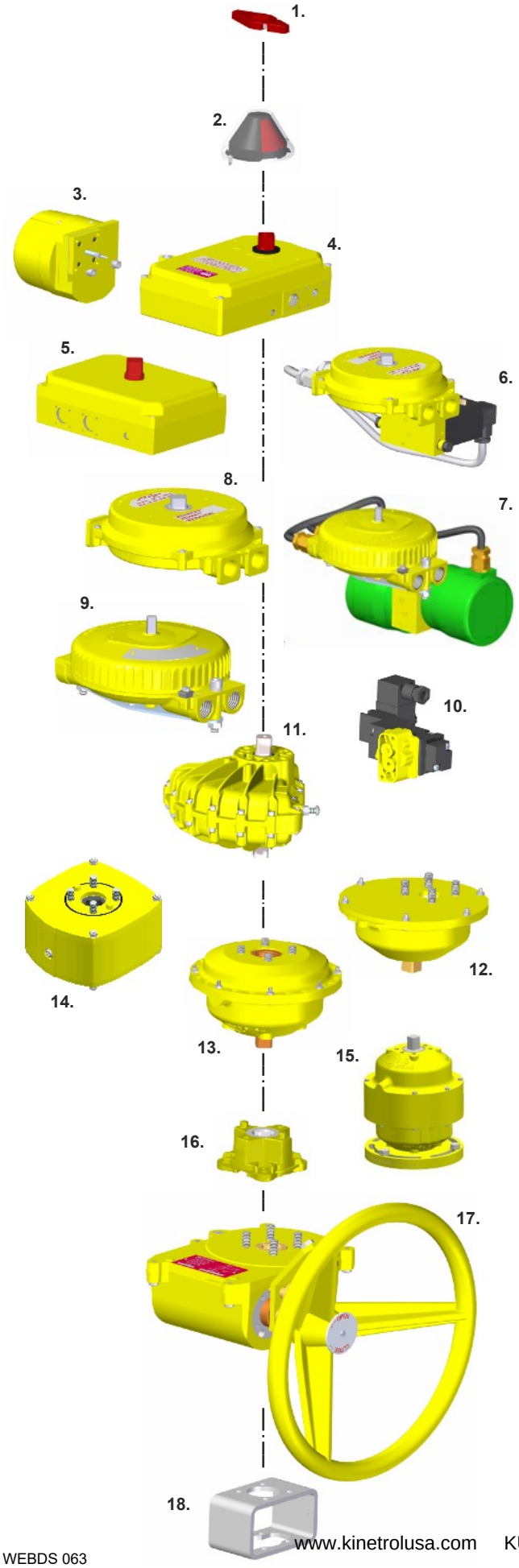
14. Reversible Fail-Safe Spring Return Unit
Clock type spring return unit with the ability for the direction of the spring to be reversed with only simple tools and completed in minutes - Model 07 only

15. Spring To Centre
Patented spring unit to provide accurate adjustable port travel position on loss of air/signal.

16. ISO Adaptor
The patented ISO adaptor provides easy conversion from a Kinetrol male drive to an ISO flange interface for ultimate mounting flexibility.

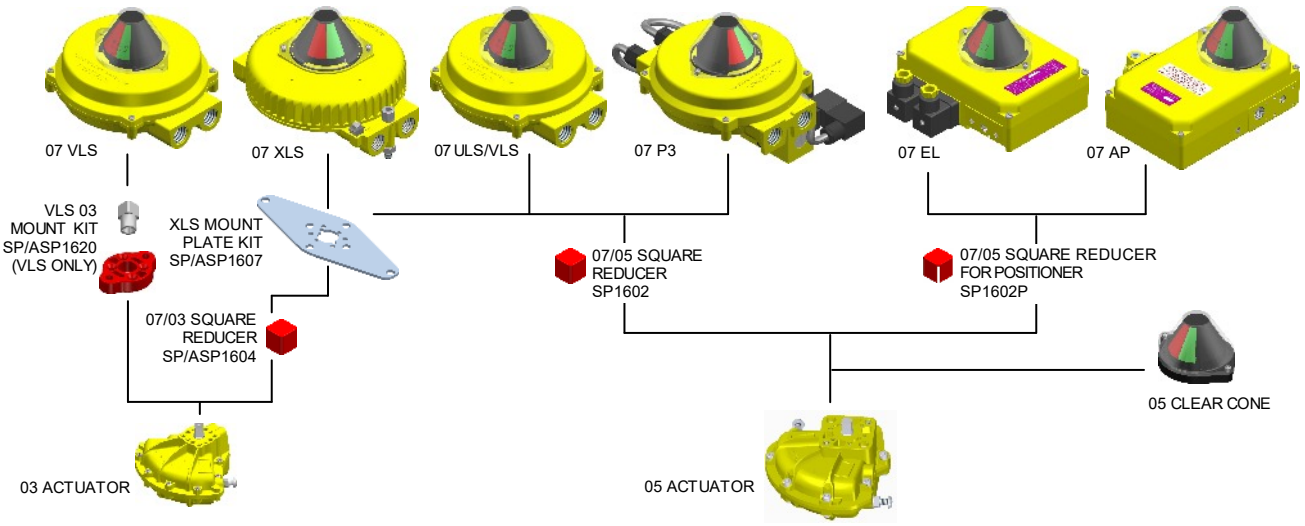
17. Gearbox
Geared manual override on all models from 05 to 21 excluding model 15.

18. Mounting Bracket
A comprehensive range of brackets provides for most ball, plug and butterfly valves

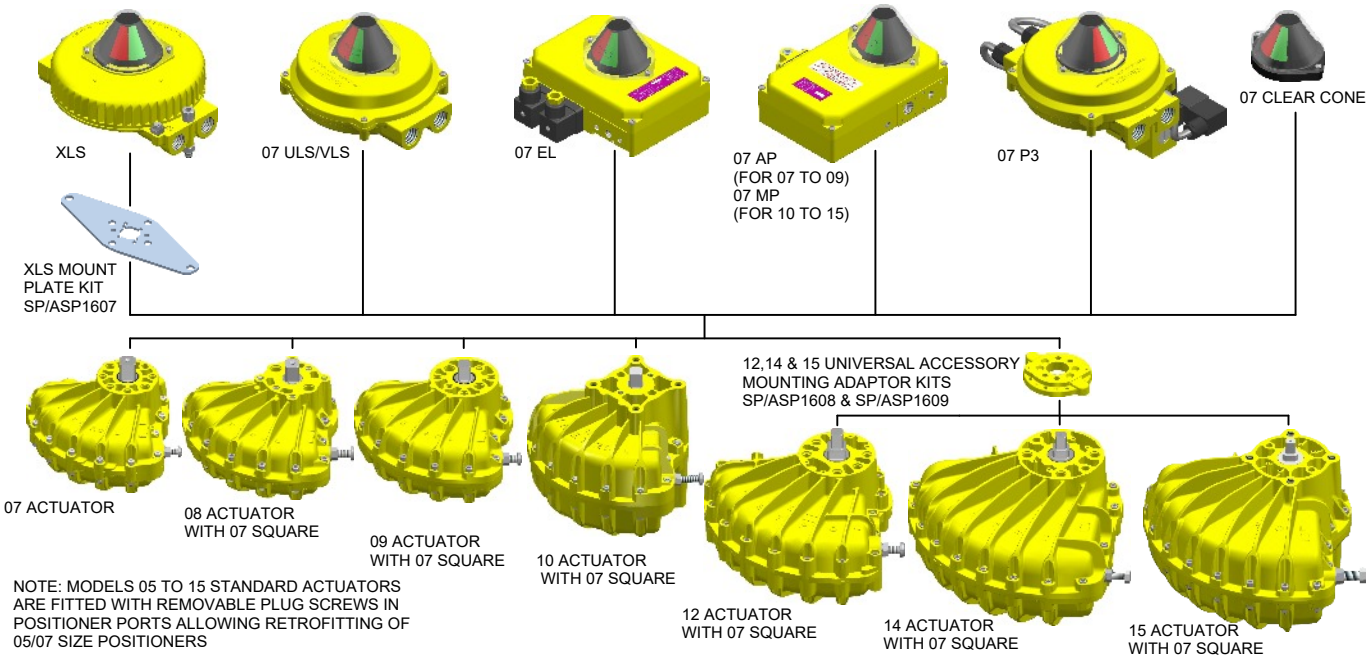


Kinetrol Control Units & Top-Mount Accessories

Models 03 & 05

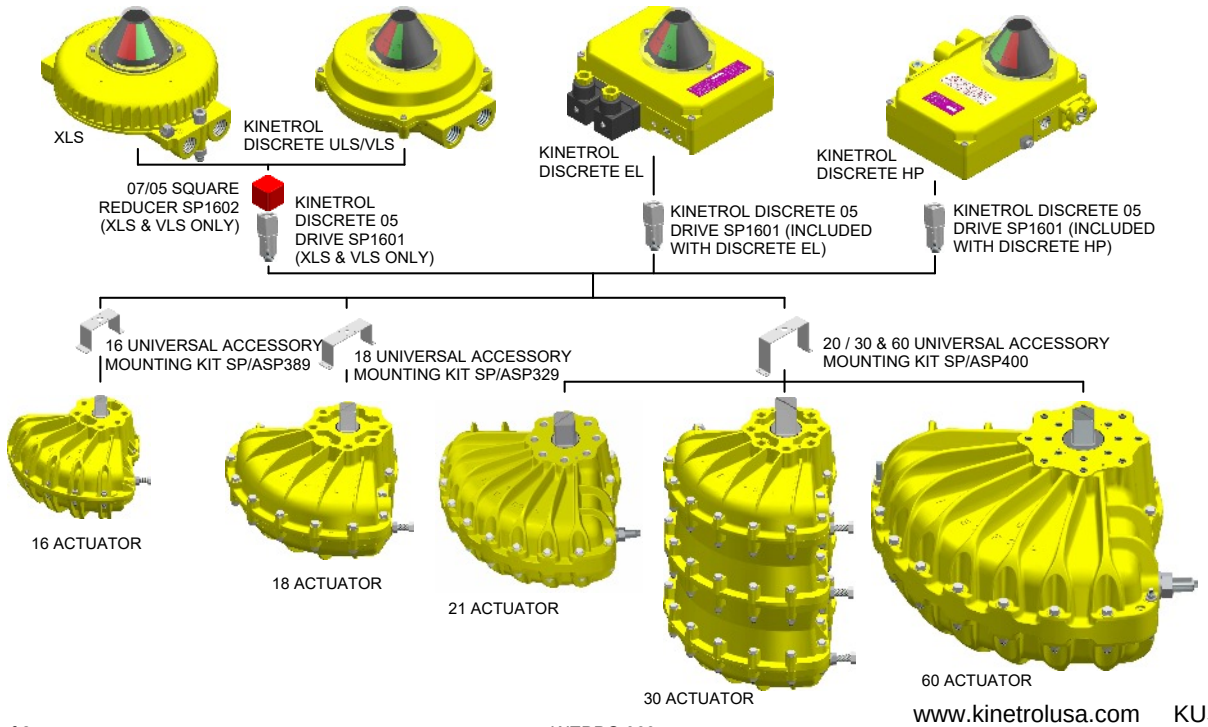


Models 07 to 15



NOTE: MODELS 05 TO 15 STANDARD ACTUATORS ARE FITTED WITH REMOVABLE PLUG SCREWS IN POSITIONER PORTS ALLOWING RETROFITTING OF 05/07 SIZE POSITIONERS

Models 16 to 60



Materials of Construction

Casing:
Models 0M0, 01, & 02 - Pressure die cast ZL16 zinc alloy.
Models 03, 05, 07, 08, 09, 10, 12, 14, 15, 16, 18, 21, 30 & 60 - Die cast or sand cast aluminium alloy.

Vane & Output Shaft:
Models 0M0, 01, 02, 03 and 05 - Stainless steel.
Models 07 to 60 - SG iron, zinc plated.

Shaft bushes: PTFE coated bronze (lead free).

Seals: Moulded polyurethane.
High and low temperature seals also available - contact Kinetrol.

Seal expanders: Stainless spring steel.

Couplings: Weldable mild steel, zinc plated.

Working Temperature Range

Standard: -40°C to +80°C (-40°F to +176°F).

High temperature option: -20°C to +100°C (-4°F to +212°F) using temperature seals for higher temperatures with special equipment - contact Kinetrol.

If consulted Kinetrol may, under certain circumstances/conditions, be prepared to extend its high temperature limits

Low temperature option: -54°C to +60°C (-65°F to +140°F) using temperature seals include option “W” at end of actuator coding.

Maximum Pressure

Maximum recommended working pressure: 7 bar / 100 psi

Maximum overload pressure: 10 bar / 150 psi

Certification

ISO 9001:2015 — Certificate No. FM22163

ATEX

IECEX

FACTORY MUTUAL USA & CANADA — APPROVED

SAFETY INTEGRITY LEVEL — Safety Integrity Level SIL

DNV-GL (UPON REQUEST)

Kinetrol Double Acting Torque Outputs

Double Acting Torque Outputs - Metric Units Nm

Actuator Model	Pressure (bar) 1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
0M0-100	0.1	0.2	0.25	0.35	0.4	0.5	0.55	0.6	0.7	0.75	0.85	0.9
01-100	1.1	1.6	2.1	2.6	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.7
02-100	1.8	2.7	3.6	4.6	5.5	6.4	7.3	8.2	9.2	10.2	11.1	12.1
03-100	3.9	5.8	7.6	9.6	11.5	13.4	15.4	17.4	19.3	21.3	23.2	25.3
05-100	9.0	12.5	16.5	20.0	24.0	27.5	31.5	35.0	39.0	43.0	46.5	50.5
07-100	22.0	30.5	39.5	48.5	57.5	66.5	76.0	85.5	95.0	105.0	114.0	124.0
08-100	38.7	53.2	67.7	82.3	96.8	111.4	125.9	140.5	155.0	169.0	184.1	198.7
09-100	46	64	83	102	121	140	159	179	199	220	241	261
10-100	80	111	141	172	202	232	263	294	325	355	385	416
12-100	103	147	190	232	275	319	360	403	446	490	532	575
14-100	265	360	460	560	660	760	870	975	1080	1180	1280	1375
15-100	435	605	769	937	1109	1287	1457	1632	1808	1982	2153	2337
16-100	640	860	1090	1310	1530	1750	1980	2200	2420	2650	2870	3100
18-100	1250	1750	2250	2750	3250	3750	4300	4850	5400	5950	6400	6900
21-100	2624	3623	4544	5568	6516	7553	8521	9523	10553	11561	12543	13589
30-100	3720	5160	6600	7695	9435	10845	12240	13635	15030	16440	17835	19140
60-100	8345	11106	14041	16680	19673	22806	25680	28870	31995	34909	37818	40765

Double Acting Torque Outputs - English Units lbf ins

Actuator Model	Pressure (psi) 20	30	40	50	60	70	80	90	100
0M0-100	1	2	3	3.5	4.5	5	6	7	8
01-100	9	15	21	26	32	39	45	51	58
02-100	14	25	36	48	59	70	82	93	105
03-100	29	53	77	101	124	148	173	196	220
05-100	70	116	160	205	250	300	346	393	440
07-100	175	280	390	500	610	730	850	960	1080
08-100	311	488	666	826	1012	1208	1367	1563	1740
09-100	360	590	820	1050	1280	1530	1780	2020	2280
10-100	640	1020	1390	1760	2130	2500	2880	3250	3625
12-100	830	1350	1870	2400	2900	3440	3970	4480	5000
14-100	2150	3350	4550	5800	7000	8300	9600	10800	12000
15-100	3558	5602	7593	9700	11753	13895	15991	18125	20337
16-100	5200	7900	10600	13400	16100	18800	21600	24300	27000
18-100	10000	16100	22200	28300	34500	41300	48000	54500	60000
21-100	22286	33234	44962	57078	68930	81223	93402	105784	118503
30-100	30000	48000	64500	81750	99000	117000	133500	150750	168000
60-100	67602	102031	135487	173262	208807	245953	283879	319645	356977

Kinetrol Spring Return Torques

Spring Return Torque Outputs - Metric Units Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
01-120	Start						1.5		1.7		1.9		2.3
	Finish						0.9		1.1		1.5		1.8
02-120	Start						3.0	3.4	3.6	3.8	4.2	4.4	4.7
	Finish						1.4	1.7	2.0	2.4	2.8	3.3	3.7
03-120-5600	Start	2.8	3.4	4.1	4.8	5.3	5.7						
	Finish	2.1	2.8	3.5	4.2	4.8	5.1	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*	*5.1*
03-120	Start						6.3	6.9	7.5	8.1	8.9	9.5	10.3
	Finish						4.1	4.7	5.5	6.4	7.2	7.8	8.7
05-120	Start						13.0	14.1	15.3	16.4	18.1	19.2	20.9
	Finish						8.5	9.6	11.3	13.0	14.7	15.8	17.5
07-120-4000	Start	9.0	11.9	15.3	18.6	22.0							
	Finish	5.1	8.5	11.9	15.3	18.0	*18.0*	*18.0*	*18.0*	*18.0*	*18.0*	*18.0*	*18.0*
07-120	Start						30.5	33.9	37.3	40.7	43.5	46.9	50.8
	Finish						19.8	23.7	27.1	30.5	34.4	38.4	42.4
08-120	Start						52.7	57.2	61.7	67.2	72.7	77.0	81.3
	Finish						36.8	41.3	45.8	51.4	56.9	61.2	65.5
09-120-4200	Start	26.0	31.6	37.3	44.1	50.8							
	Finish	14.7	21.5	28.2	35.0	41.8	*41.8*	*41.8*	*41.8*	*41.8*	*41.8*	*41.8*	*41.8*
09-120	Start						61.0	67.8	74.6	81.9	89.3	96.6	104.0
	Finish						50.3	56.5	63.8	71.2	79.1	86.4	93.8
10-120-5800	Start	56.0	65.0	77.0	89.0	97.0	108.0						
	Finish	41.8	52.0	64.0	77.2	86.9	100.0	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
10-120	Start						107.0	115.5	124.0	136.0	145.0	155.9	164.0
	Finish						78.0	90.0	102.0	114.6	124.0	134.9	143.0
12-120-4300	Start	54.0	68.9	83.6									
	Finish	42.9	57.6	72.3	*72.3*	*72.3*	*72.3*	*72.3*	*72.3*	*72.3*	*72.3*	*72.3*	*72.3*
12-120-4400	Start			89.3	103.0	117.0	132.0	147.0	161.0	176.0	191.0		
	Finish			66.1	80.2	94.9	110.0	124.0	139.0	154.0	168.0	168.0	168.0
12-120	Start						145.0	160.0	176.0	191.0	206.0	221.0	238.0
	Finish						111.0	127.0	142.0	158.0	174.0	189.0	204.0
14-120-4900	Start	192.0	220.0	249.0	288.0	322.0	356.0	390.0	424.0	469.0	497.0	529.0	529.0
	Finish	119.0	158.0	186.0	220.0	254.0	288.0	322.0	356.0	390.0	418.0	447.0	447.0
14-120	Start						374.0	408.0	442.0	479.0	517.0	554.0	588.0
	Finish						249.0	290.0	330.0	367.0	406.0	443.0	478.0
14-120-5000	Start	172.0	208.0	237.0									
	Finish	140.0	174.0	198.0	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*
15-120	Start						614.0	680.0	752.0	801.0	848.0	914.0	962.0
	Finish						392.0	392.0	522.0	590.0	656.0	723.0	790.0
16-120-6100	Start	359.0	428.0	497.0									
	Finish	245.0	333.0	421.0	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*
16-120-6000	Start			514.0	583.0	652.0	722.0						
	Finish			404.0	492.0	580.0	668.0	*668.0*	*668.0*	*668.0*	*668.0*	*668.0*	*668.0*
16-120	Start						864.0	939.0	1004.0	1097.0	1165.0	1256.0	1321.0
	Finish						576.0	660.0	742.0	832.0	906.0	1002.0	1081.0
18-120-7000	Start	807.0	970.0	1182.0	1260.0								
	Finish	484.0	736.0	967.0	1040.0	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*
18-120	Start				1457.0	1637.0	1875.0	2053.0	2206.0	2426.0	2585.0	2800.0	2954.0
	Finish				874.0	1036.0	1250.0	1441.0	1630.0	1840.0	2011.0	2234.0	2417.0
21-120-8000	Start	1621.0	1940.0	2325.0	2692.0								
	Finish	1025.0	1362.0	1763.0	2203.0	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*
21-120-7300	Start				2788.0	3072.0	3471.0	3739.0	4023.0				
	Finish				1958.0	2271.0	2632.0	2983.0	3291.0	*3291.0*	*3291.0*	*3291.0*	*3291.0*
21-120	Start								4121.0	4514.0	4798.0	5181.0	5456.0
	Finish								3046.0	3423.0	3732.0	4133.0	4464.0
30-120-7600	Start	2433.0	2878.0	3466.0	4038.0								
	Finish	1622.0	2127.0	2696.0	3304.0	*3304.0*	*3304.0*	*3304.0*	*3304.0*	*3304.0*	*3304.0*	*3304.0*	*3304.0*
30-120-8300	Start				4112.0	4554.0	5113.0						
	Finish				3118.0	3542.0	*4183.0*	*4183.0*	*4183.0*	*4183.0*	*4183.0*	*4183.0*	*4183.0*
30-120-7800	Start						5237.0	5676.0	6072.0	6648.0			
	Finish						3871.0	4304.0	4844.0	5440.0	*5440.0*	*5440.0*	*5440.0*
30-120	Start									6771.0	7179.0	7772.0	8184.0
	Finish									5134.0	5598.0	6200.0	6696.0
60-120-8400	Start				8343.0	9506.0	10669.0						
	Finish				6965.0	7936.0	*8907.0*	*8907.0*	*8907.0*	*8907.0*	*8907.0*	*8907.0*	*8907.0*
60-120-8500	Start						10669.0	11763.0	12858.0	13996.0			
	Finish						8907.0	9821.0	10734.0	11684.0	*11684.0*	*11684.0*	*11684.0*
60-120	Start									14001.0	15145.0	16313.0	17437.0
	Finish									11689.0	12644.0	13619.0	14558.0

Torque outputs identical for counter-clockwise models. *Italic* figures apply to spring end torque only - air end torque will be greater.

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar.

Factory assemblies can be preset for different air pressures below 5.5 bar on request.

Kinetrol Spring Return Torques

Spring Return Torque Outputs - English Units lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
01-120	Start						13		15		17		20
	Finish						8		10		13		16
02-120	Start						27	30	32	34	37	39	42
	Finish						12	15	18	21	25	29	33
03-120-5600	Start	25	30	36	42	47	50						
	Finish	19	25	31	37	42	45	*45*	*45*	*45*	*45*	*45*	*45*
03-120	Start						56	61	66	71	79	84	91
	Finish						37	41	49	56	64	69	77
05-120	Start						115	125	135	145	160	170	185
	Finish						75	85	100	115	130	140	155
07-120-4000	Start	80	105	135	165	195							
	Finish	45	75	105	135	160	*160*	*160*	*160*	*160*	*160*	*160*	*160*
07-120	Start						270	300	330	360	385	415	450
	Finish						175	210	240	270	305	340	375
08-120	Start						466	506	546	595	644	682	720
	Finish						326	366	406	455	504	542	580
09-120-4200	Start	230	280	330	390	450							
	Finish	130	190	250	310	370	*370*	*370*	*370*	*370*	*370*	*370*	*370*
09-120	Start						540	600	660	725	790	855	925
	Finish						445	500	565	630	700	765	830
10-120-5800	Start	500	587	683	760	886	953						
	Finish	366	472	568	645	780	847	*847*	*847*	*847*	*847*	*847*	*847*
10-120	Start						950	1025	1100	1190	1280	1365	1450
	Finish						690	795	900	1000	1100	1185	1270
12-120-4300	Start	480	610	740									
	Finish	380	510	640	*640*	*640*	*640*	*640*	*640*	*640*	*640*	*640*	*640*
12-120-4400	Start			790	910	1040	1170	1300	1430	1560	1690		
	Finish			585	710	840	970	1100	1230	1360	1490	1490	1490
12-120	Start						1280	1415	1555	1690	1825	1960	2110
	Finish						985	1125	1260	1400	1540	1670	1810
14-120-4900	Start	1700	1950	2200	2550	2850	3150	3450	3750	4150	4400	4680	4680
	Finish	1050	1400	1650	1950	2250	2550	2850	3150	3450	3700	3960	3960
14-120	Start						3310	3610	3915	4240	4580	4900	5200
	Finish						2205	2570	2920	3250	3595	3920	4230
14-120-5000	Start	1520	1840	2100									
	Finish	1240	1540	1750	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*
15-120	Start						5434	6018	6656	7089	7505	8090	8514
	Finish						3469	4098	4620	5222	5806	6399	6992
16-120-6100	Start	3178	3790	4401									
	Finish	2172	2950	3729	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*
16-120-6000	Start			4551	5163	5774	6386						
	Finish			3579	4357	5136	5914	*5914*	*5914*	*5914*	*5914*	*5914*	*5914*
16-120	Start						7646	8310	8885	9708	10310	11116	11691
	Finish						5098	5841	6567	7363	8018	8868	9567
18-120-7000	Start	7142	8585	10461	11151								
	Finish	4283	6514	8558	9204	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*
18-120	Start				12894	14487	16594	18169	19523	21470	22877	24780	26143
	Finish				7735	9169	11063	12753	14426	16284	17797	19771	21390
21-120-8000	Start	14346	17169	20576	23824								
	Finish	9071	12054	15603	19497	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*
21-120-7300	Start				24674	27187	30718	33090	35604				
	Finish				17328	20098	23293	26400	29125	*29125*	*29125*	*29125*	*29125*
21-120	Start								36471	39949	42462	45852	48286
	Finish								26957	30294	33028	36577	39506
30-120-7600	Start	16797	25470	30674	35736								
	Finish	9394	18824	23860	29240	*29240*	*29240*	*29240*	*29240*	*29240*	*29240*	*29240*	*29240*
30-120-8300	Start				36391	40303	45250						
	Finish				27594	31347	*37020*	*37020*	*37020*	*37020*	*37020*	*37020*	*37020*
30-120-7800	Start						46347	50233	53737	58835			
	Finish						34258	38090	42869	48144	*48144*	*48144*	*48144*
30-120	Start									59923	63693	68782	72428
	Finish									45436	49542	54870	59260
60-120-8400	Start				73841	84134	94428						
	Finish				61647	70240	*78834*	*78834*	*78834*	*78834*	*78834*	*78834*	*78834*
60-120-8500	Start						94428	104114	113800	123872			
	Finish						78834	86921	95007	103416	*103416*	*103416*	*103416*
60-120	Start									123872	134045	144379	154333
	Finish									103416	111909	120537	128847

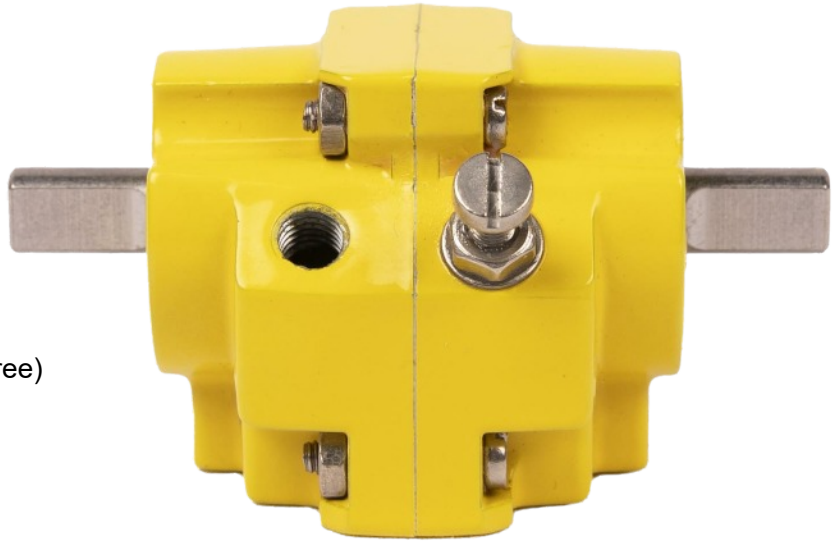
Torque outputs identical for counter-clockwise models. *Italic* figures apply to spring end torque only - air end torque will be greater.

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 80 psi.

Factory assemblies can be preset for different air pressures below 80 psi on request.

Kinetrol Model 0M0 Miniature Double Acting Actuator

Specification



Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
2.4 cm^3 / 0.15 in^3

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel

Finish
Epoxy stove enamel

Weight
0.12 kg / 0.26 lb

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

Double Acting Torques

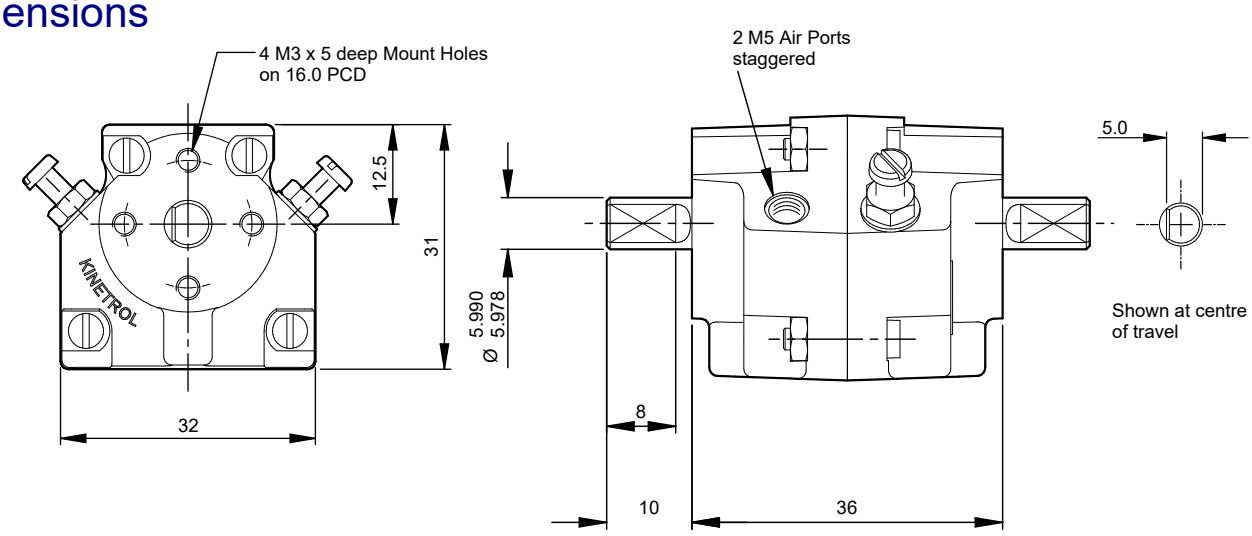
Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
0M0-100	0.1	0.2	0.25	0.35	0.4	0.5	0.55	0.6	0.7	0.75	0.85	0.9

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
0M0-100	1	2	3	3.5	4.5	5	6	7	8

Dimensions



Kinetrol Model 01 Double Acting Actuator

Specification

Angle of Travel (adjustable)
See drawings
(restricted travel versions available)

Displaced Volume
16.5 cm^3 / 1.0 in^3

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel

Finish
Epoxy stove enamel

Weight
See drawings

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



014-100



014P100

ATEX Up to Category 1

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
01-100	1.1	1.6	2.1	2.6	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.7

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
01-100	9	15	21	26	32	39	45	51	58

Options

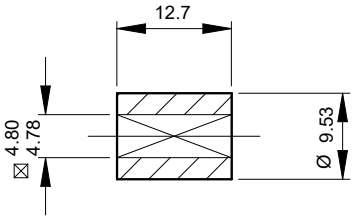
- ☐ Conversion kit between two types. SP870
- ☐ Fail safe spring return units - clockwise or counter clockwise (springs mounted above the actuator)

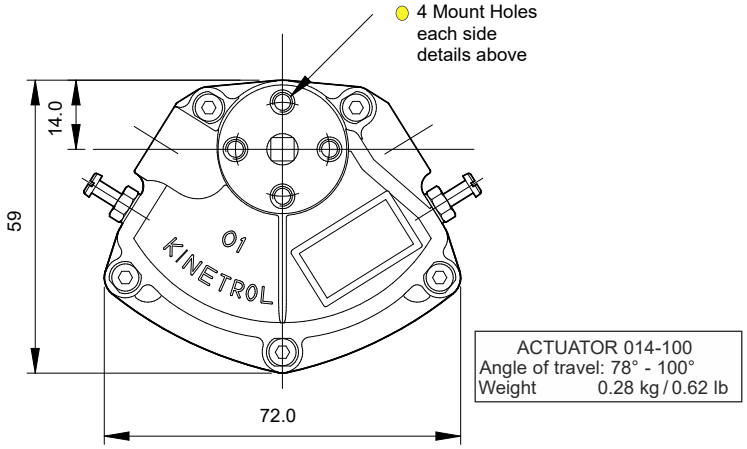
Kinetrol Model 01 Double Acting Actuator

Product Code	Air Ports	Mount Holes
014-100	G⅛	4 x M4 x 6 deep on 19.0 PCD
017-100	⅛ NPT	4 x 8-32 UNC x 0.24” deep on 0.75” PCD
014P100	G⅛	4 x Ø4.1 (M4 clearance)

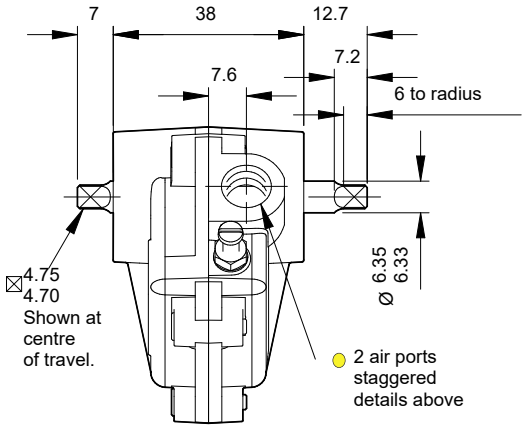
Dimensions

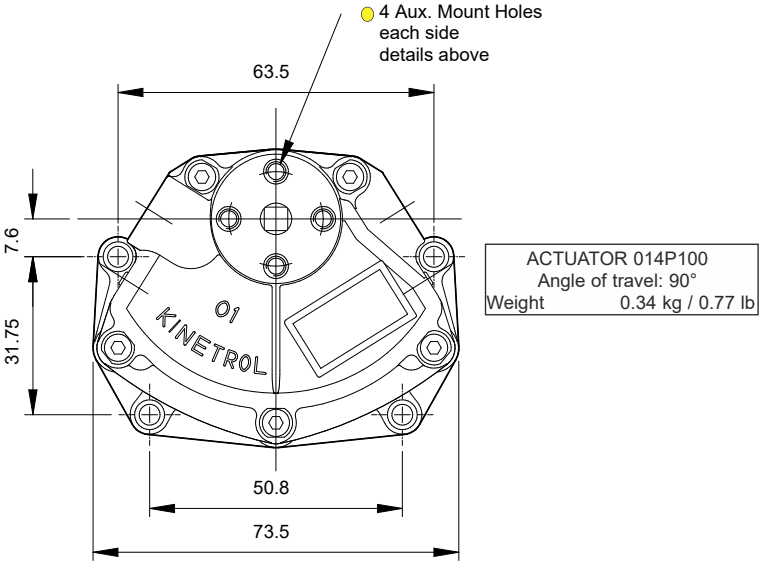
Standard Coupling
(supplied with both actuator types
weight 0.005 kg / 0.2 oz)



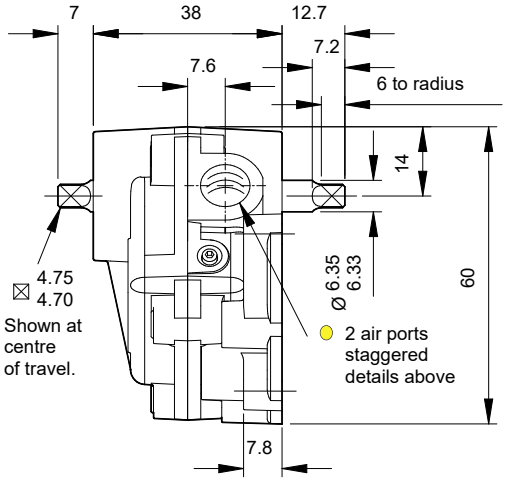


ACTUATOR 014-100
Angle of travel: 78° - 100°
Weight 0.28 kg / 0.62 lb





ACTUATOR 014P100
Angle of travel: 90°
Weight 0.34 kg / 0.77 lb



Kinetrol Model 02 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
31 cm^3 / 1.89 in^3

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel

Finish
Epoxy stove enamel

Weight
0.44 kg / 0.97 lb (excluding coupling)

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



ATEX Up to Category 1

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
02-100	1.8	2.7	3.6	4.6	5.5	6.4	7.3	8.2	9.2	10.2	11.1	12.1

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
02-100	14	25	36	48	59	70	82	93	105

Options

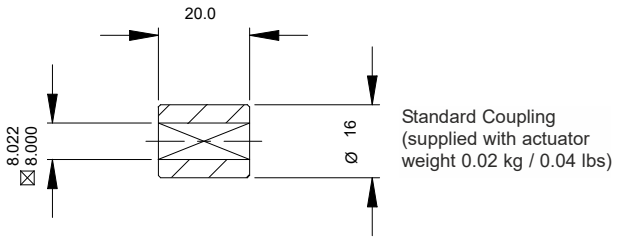
- Fail safe spring return units - clockwise or counter clockwise
- 180° and 120° model
- Female drive and mounting details to DIN 3337 and ISO 5211
- ISO adaptor

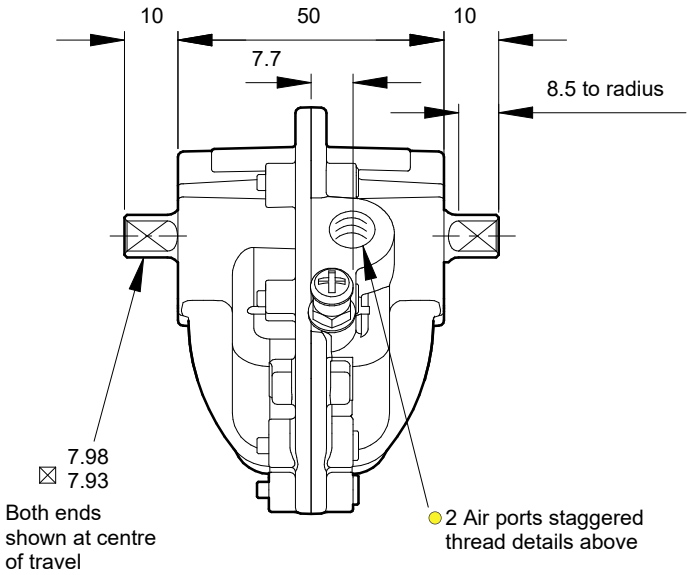
Kinetrol Model 02 Double Acting Actuator

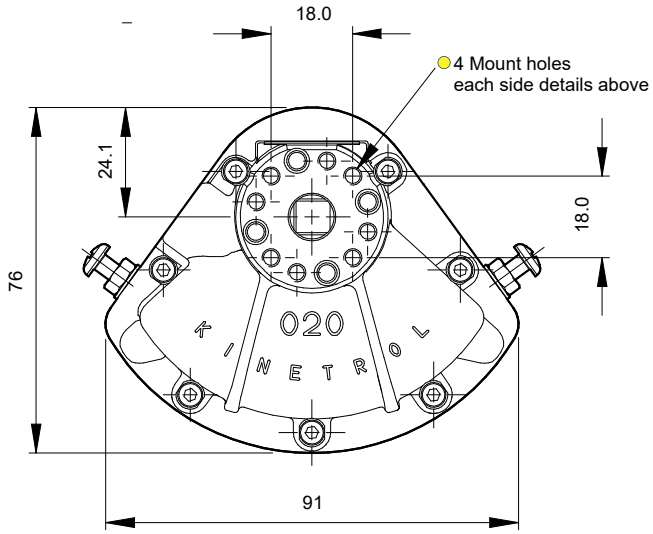
Product Code	Air Ports	Mount Holes
024-100	G⅛	4 x M4 x 8 deep on 25.5 PCD
027-100	⅛ NPT	4 x 8-32 UNC x 0.31” deep on 1.00” PCD

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 03 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
60 cm^3 / 3.66 in^3

Materials of Construction
Casing: Pressure die cast aluminium alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel

Finish
Epoxy stove enamel

Weight
0.43 kg / 0.95 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
03-100	3.9	5.8	7.6	9.6	11.5	13.4	15.4	17.4	19.3	21.3	23.2	25.3

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
03-100	29	53	77	101	124	148	173	196	220

Options

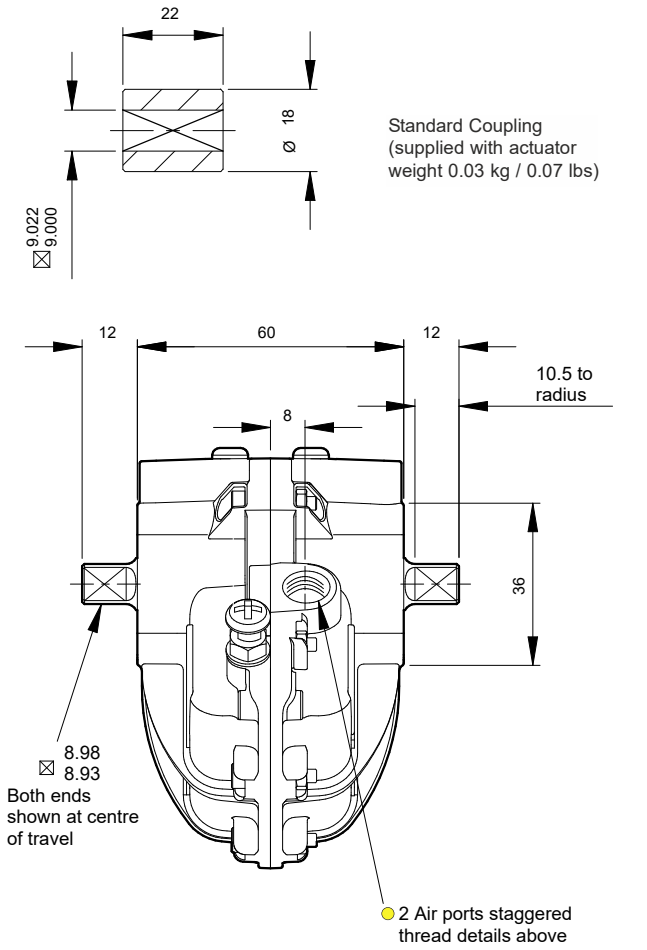
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ Clear Cone position monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ ISO adaptor
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

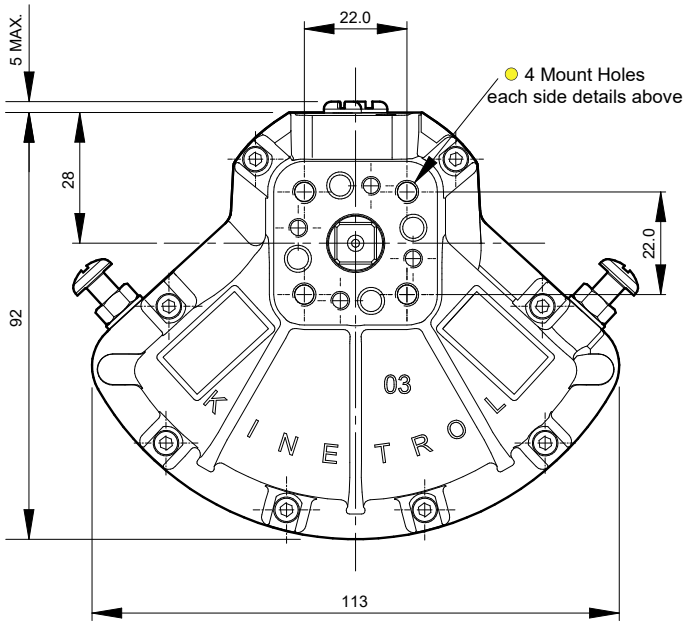
Kinetrol Model 03 Double Acting Actuator

Product Code	Air Ports	Mount Holes
034-100	G⅛	4 x M5 x 10 deep on 31.1 PCD
037-100	⅛ NPT	4 x 10-24 UNC x 0.39” deep on 1.225” PCD

Visual red indicator supplied as standard

Dimensions





Kinetrol Model 05 Double Acting Actuator

Specification

Angle of Travel (adjustable)
74° - 100°
(restricted travel versions available)

Displaced Volume
113 cm^3 / 6.9 in^3

Materials of Construction
Casing: Pressure die cast aluminium alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel

Finish
Epoxy stove enamel

Weight
0.78 kg / 1.72 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
05-100	9.0	12.5	16.5	20.0	24.0	27.5	31.5	35.0	39.0	43.0	46.5	50.5

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
05-100	70	116	160	205	250	300	346	393	440

Options

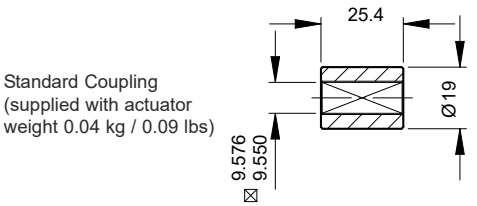
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ ISO adaptor
- ☐ G¼ or ¼ NPT air port option available - contact Kinetrol
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

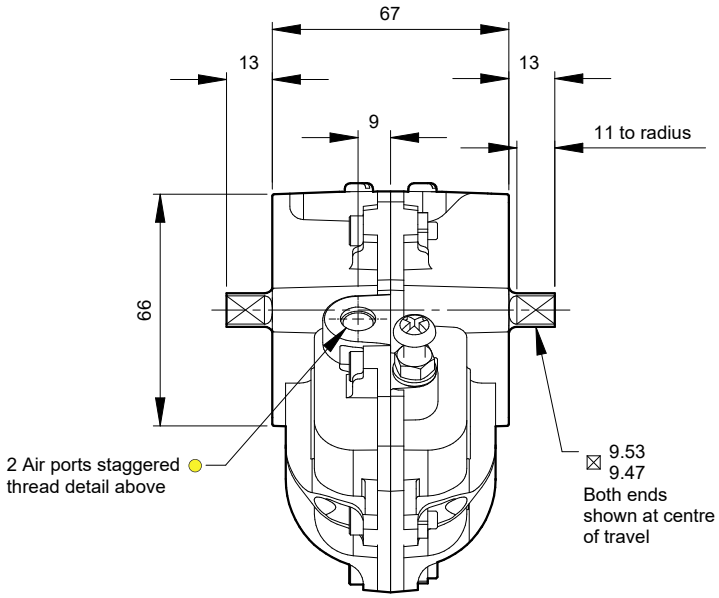
Kinetrol Model 05 Double Acting Actuator

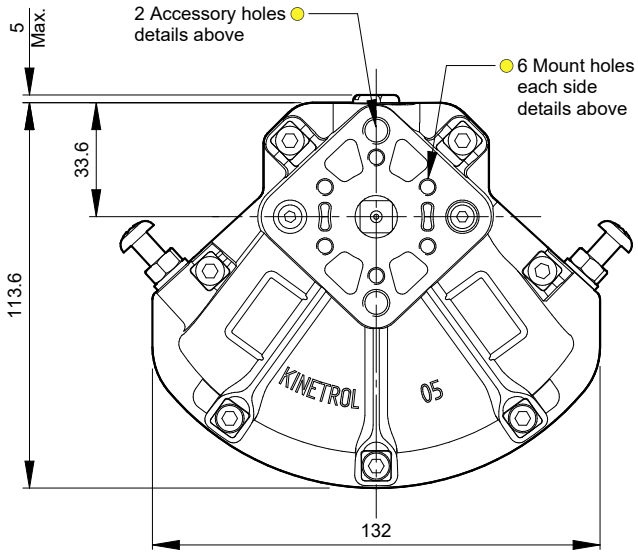
Product Code	Air Ports	Mount Holes
054-100	G⅛	6 x M5 x 10 deep on 34.9 PCD 2 x M8 x 9 deep on 50.8 CTRS
057-100	⅛ NPT	6 x 10-24 UNC x 0.39” deep on 1.375” PCD 2 x 5⁄16-18 UNC x 0.35” deep on 2” CTRS

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 07 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
300 cm^3 / 18.3 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
1.8 kg / 3.97 lb (excluding coupling)

Operating Temperature
-40°C to +80°C



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
07-100	22.0	30.5	39.5	48.5	57.5	66.5	76.0	85.5	95.0	105.0	114.0	124.0

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
07-100	175	280	390	500	610	730	850	960	1080

Options

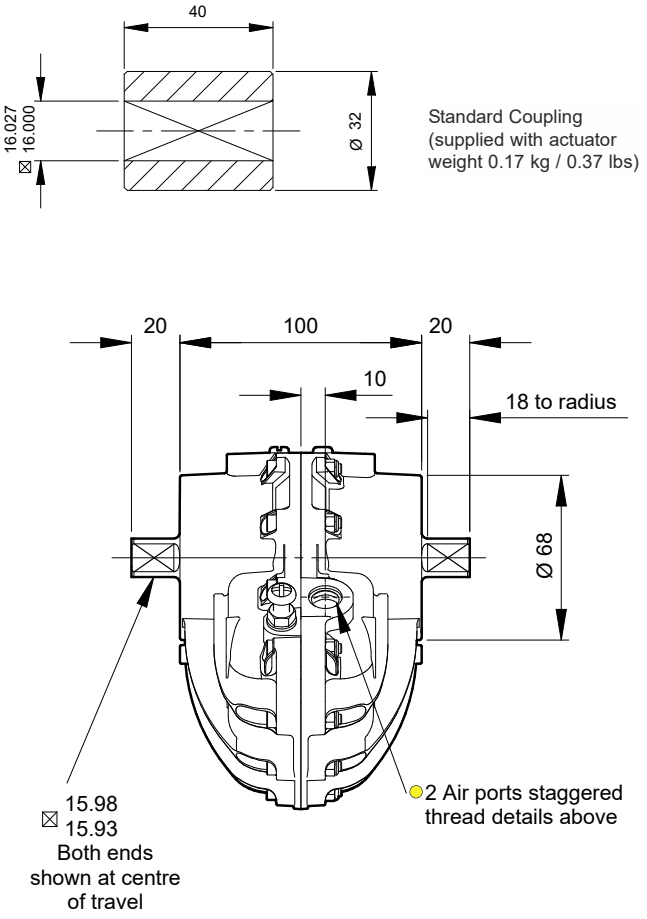
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ ISO adaptor
- ☐ G¾ or ⅜ NPT air port option available - contact Kinetrol
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

Kinetrol Model 07 Double Acting Actuator

Product Code	Air Ports	Mount Holes
074-100	G¼	4 x M8 x 16 deep on 50.9 PCD 2 x M8 x 16 deep on 50.8 PCD
077-100	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD 2 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

Visual red indicator supplied as standard

Dimensions



Kinetrol Model 08 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
485 cm^3 / 29.6 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
2.54 kg / 5.60 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
08-100	38.7	53.2	67.7	82.3	96.8	111.4	125.9	140.5	155.0	169.0	184.1	198.7

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
08-100	311	488	666	826	1012	1208	1367	1563	1740

Options

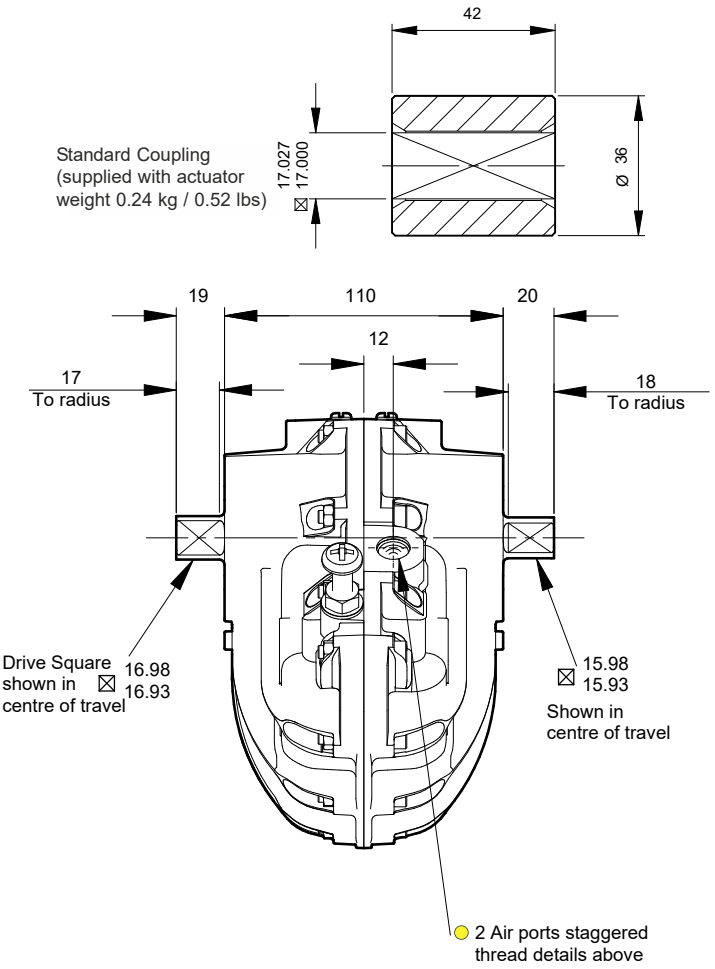
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ ISO adaptor
- ☐ G¾ or ⅜ NPT air port option available - contact Kinetrol
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

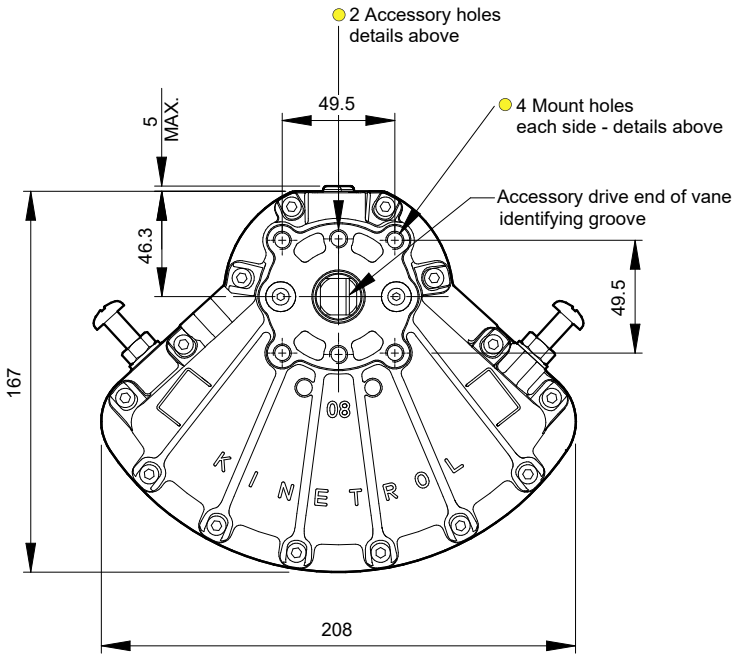
Kinetrol Model 08 Double Acting Actuator

Product Code	Air Ports	Mount Holes
084-100	G¼	4 x M8 x 16 deep on 70.0 PCD 2 x M8 x 16 deep on 50.8 PCD
087-100	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.76” PCD 2 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

Visual red indicator supplied as standard

Dimensions





Kinetrol Model 09 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
644 cm^3 / 39.3 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
3.86 kg / 8.52 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
09-100	46	64	83	102	121	140	159	179	199	220	241	261

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
09-100	360	590	820	1050	1280	1530	1780	2020	2280

Options

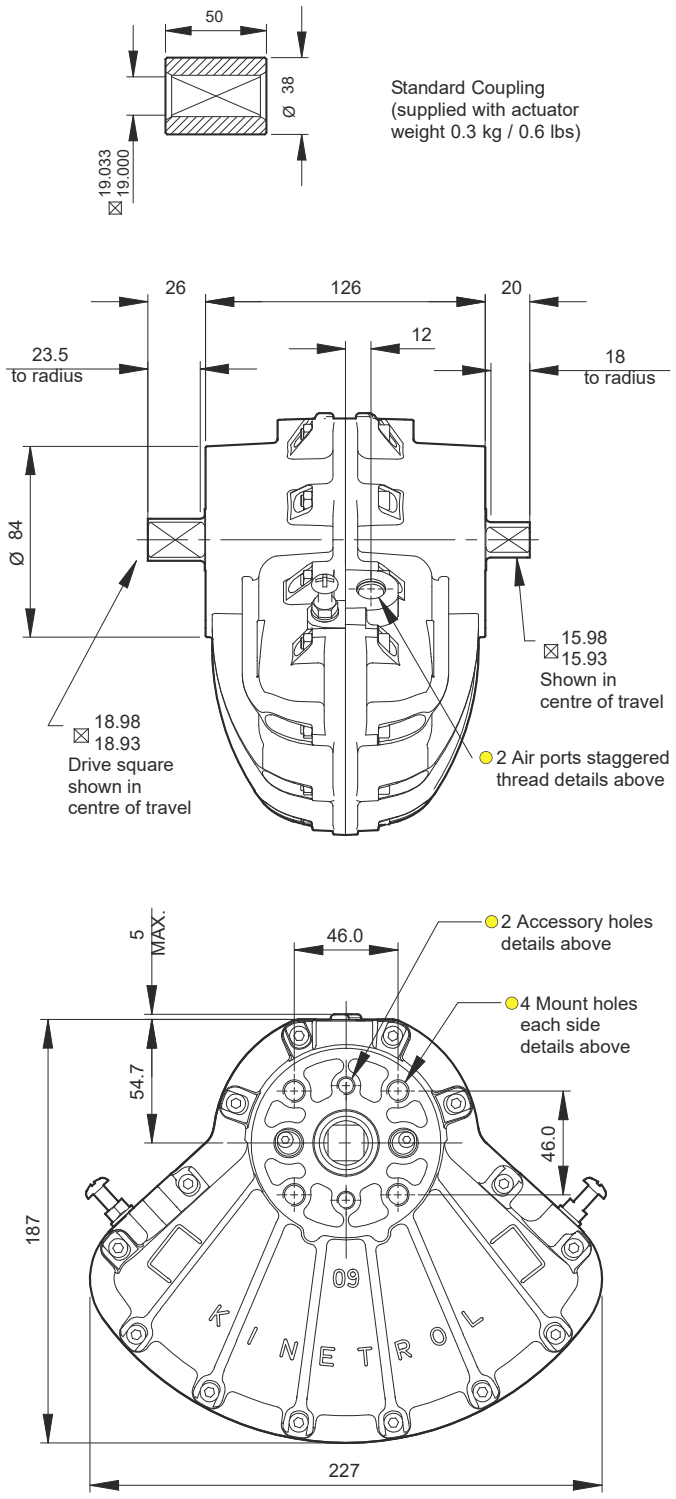
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ ISO adaptor
- ☐ G¾ or ⅜ NPT air port option available - contact Kinetrol
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

Kinetrol Model 09 Double Acting Actuator

Product Code	Air Ports	Mount Holes
094-100	G¼	4 x M10 x 20 deep on 65.0 PCD 2 x M8 x 16 deep on 50.8 PCD
097-100	¼ NPT	4 x ⅜-16 UNC x 0.79” deep on 2.56” PCD 2 x ⁵⁄₁₆-18 UNC x 0.63” deep on 2.00” PCD

Visual red indicator supplied as standard

Dimensions



Kinetrol Model 10 Double Acting Actuator

Specification

Angle of Travel (adjustable)
78° - 100°
(restricted travel versions available)

Displaced Volume
1025 cm^3 / 62.5 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
5.4 kg / 11.9 lb (no coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
10-100	80	111	141	172	202	232	263	294	325	355	385	416

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
10-100	640	1020	1390	1760	2130	2500	2880	3250	3625

Options

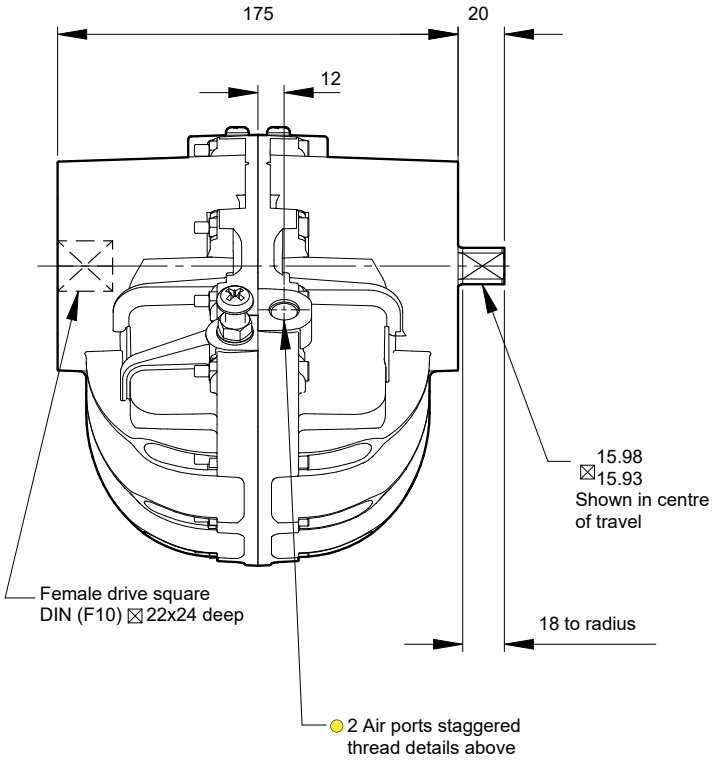
- ☐ Fail safe spring return units
  - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication
  - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

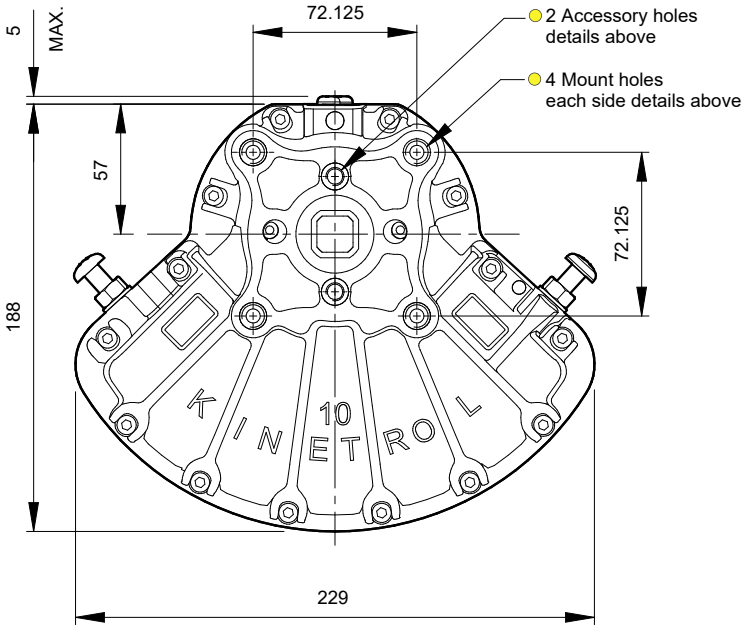
Kinetrol Model 10 Double Acting Actuator

Product Code	○ Air Ports	○ Mount Holes
103-100	G¼	4 x M10 x 16 deep on 102.0 PCD 2 x M8 x 16 deep on 50.8 PCD
107-100	¼ NPT	4 x ⅜-16 UNC x 0.63” deep on 4.02” PCD 2 x 5/16-16 UNC x 0.63” deep on 2.00” PCD

Visual red indicator supplied as standard

Dimensions





Kinetrol Model 12 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 102°
(restricted travel versions available)

Displaced Volume
1410 cm^3 / 86 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
6.7 kg / 14.8 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
12-100	103	147	190	232	275	319	360	403	446	490	532	575

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
12-100	830	1350	1870	2400	2900	3440	3970	4480	5000

Options

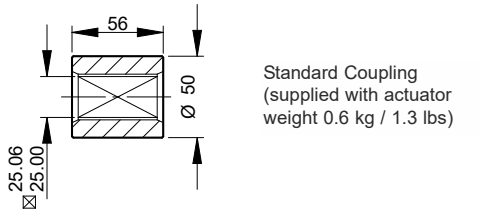
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ Accessory mount plate for positioners, switch boxes and clear cone monitor. See TD149.
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

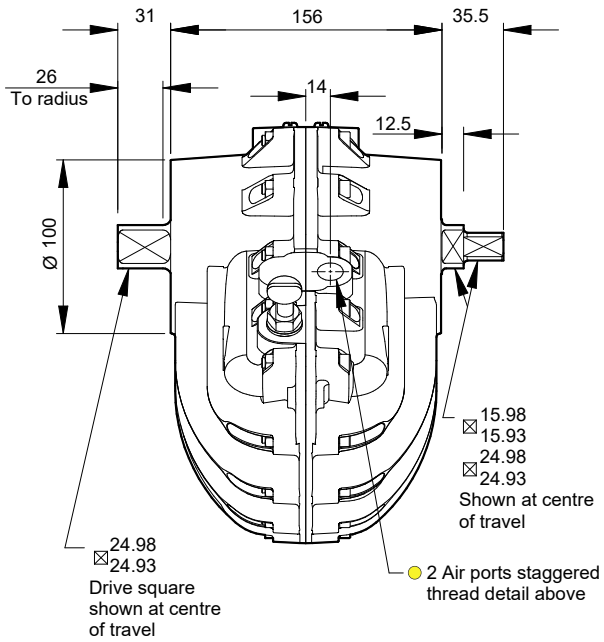
Kinetrol Model 12 Double Acting Actuator

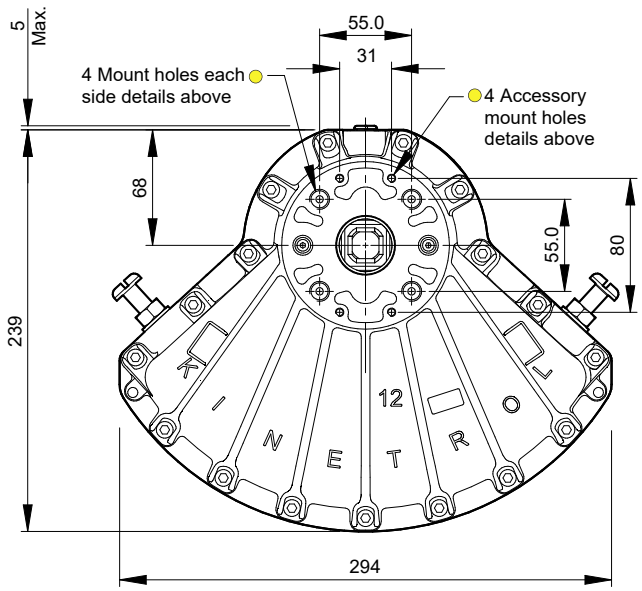
Product Code	Air Ports	Mount Holes
124-100	G⅜	4 x M12 x 24 deep on 77.8 PCD 4 x M5 x 10 deep
127-100	⅜ NPT	4 x ½-13 UNC x 0.94” deep on 3.06” PCD 4 x 10-24 UNC x ⅜” deep

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 14 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
3294 cm^3 / 201 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
13.4 kg / 29.5 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
14-100	265	360	460	560	660	760	870	975	1080	1180	1280	1375

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
14-100	2150	3350	4550	5800	7000	8300	9600	10800	12000

Options

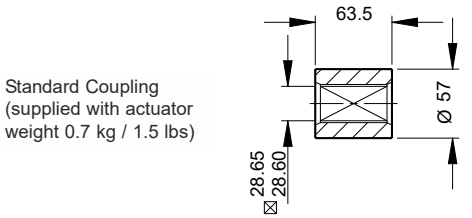
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ Accessory mount plate for positioners, switch boxes and clear cone monitor. See TD149.
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ Steadyline assembly

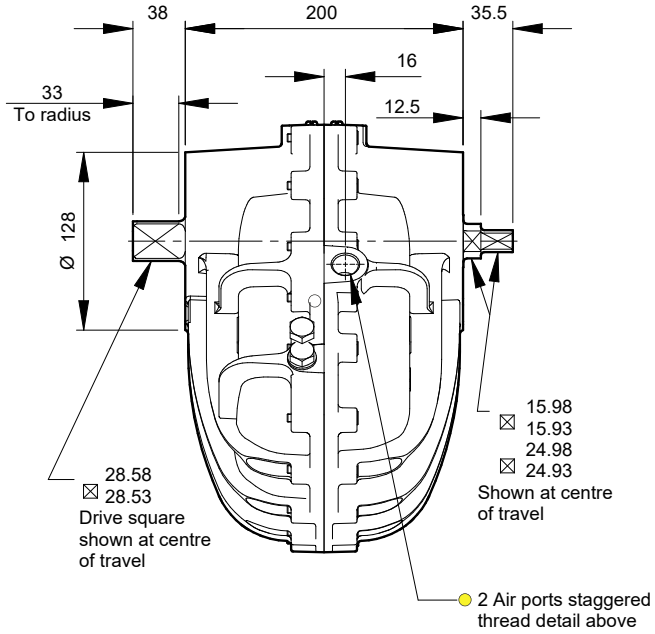
Kinetrol Model 14 Double Acting Actuator

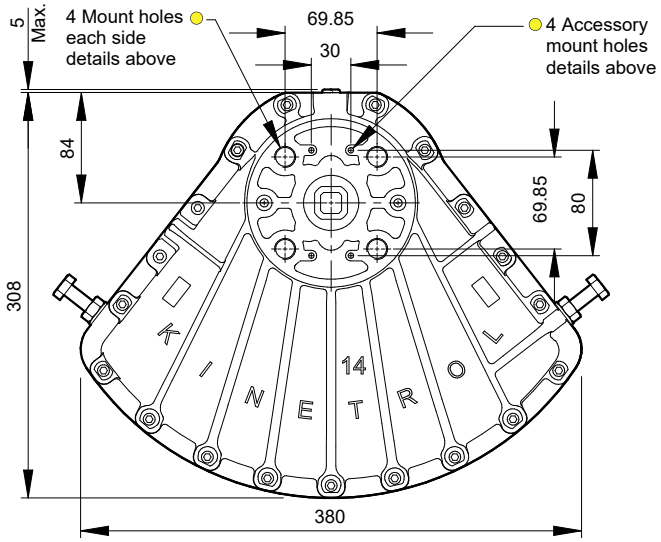
Product Code	Air Ports	Mount Holes
144-100	G½	4 x M16 x 28.5 deep on 98.8 PCD 4 x M5 x 10 deep
147-100	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD 4 x 10-24 UNC x ⅜” deep

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 15 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
5920 cm^3 / 361 in^3

Materials of Construction
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

Finish
Epoxy stove enamel

Weight
21.0 kg / 46.2 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
15-100	435	605	769	937	1109	1287	1457	1632	1808	1982	2153	2337

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
15-100	3558	5602	7593	9700	11753	13895	15991	18125	20337

Options

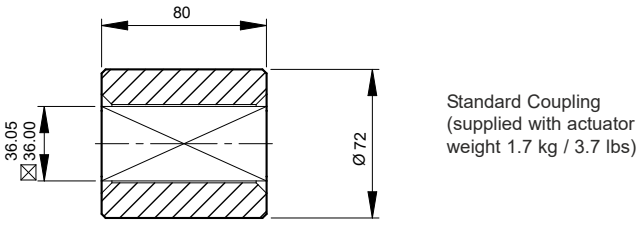
- ☐ Fail safe spring return units - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Accessory mount plate for positioners, switch boxes and clear cone monitor. See TD149.
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ Steadyline assembly

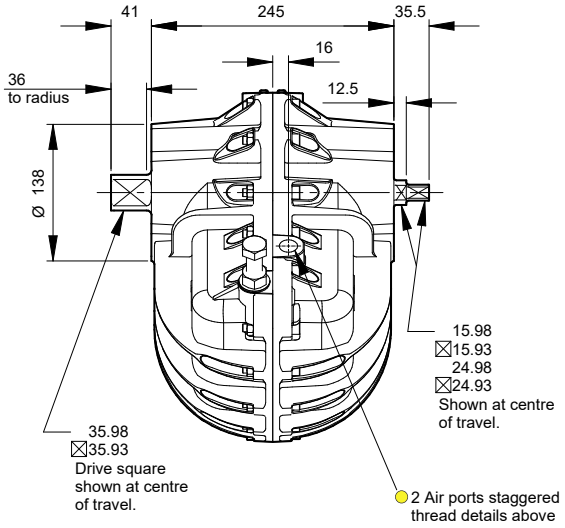
Kinetrol Model 15 Double Acting Actuator

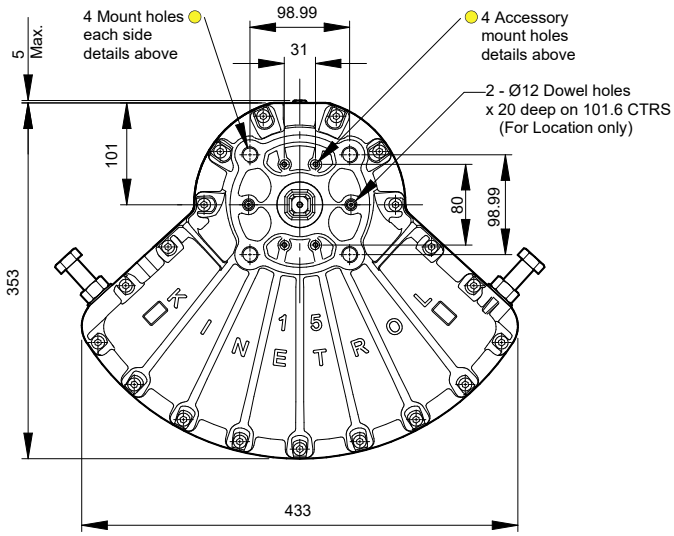
Product Code	Air Ports	Mount Holes
154-100	G½	4 x M16 x 28.5 deep on 140.0 PCD 4 x M5 x 10 deep
157-100	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 5.51” PCD 4 x 10-24 UNC x ⅜” deep

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 16 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
7630 cm^3 / 465 in^3

Materials of Construction
Casing: Sand 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

Finish
Epoxy stove enamel

Weight
37.4 kg / 82.5 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
16-100	640	860	1090	1310	1530	1750	1980	2200	2420	2650	2870	3100

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
16-100	5200	7900	10600	13400	16100	18800	21600	24300	27000

Options

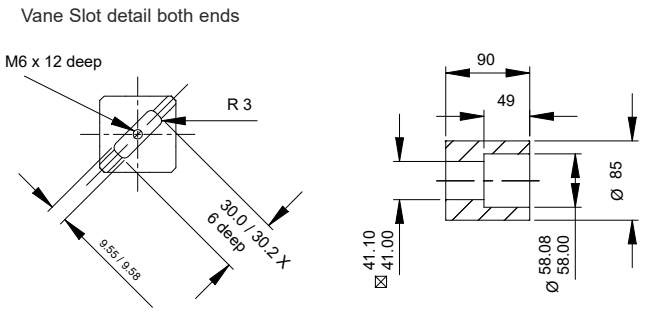
- ☐ Fail safe spring return units
  - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication
  - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ 180° and 120° model
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ High temperature / Low temperature options
- ☐ Available in Blueline paint finish
- ☐ Steadyline assembly

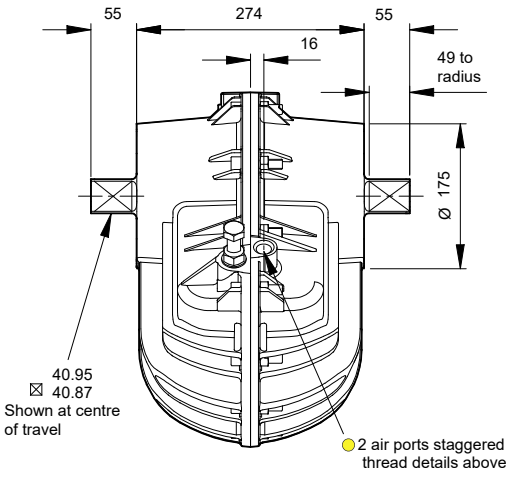
Kinetrol Model 16 Double Acting Actuator

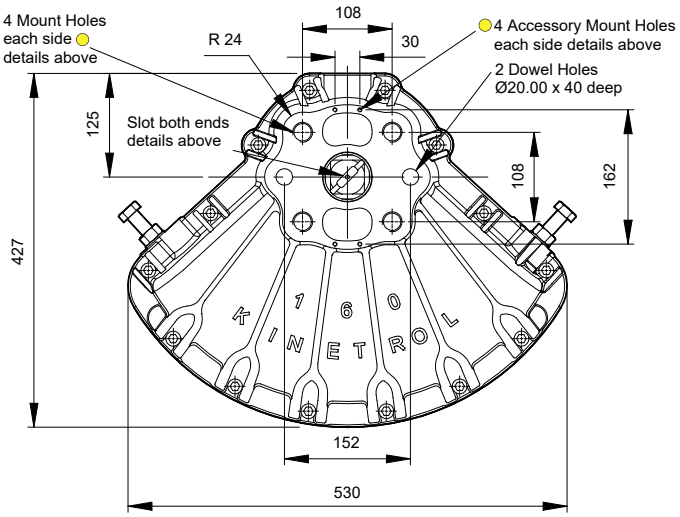
Product Code	Air Ports	Mount Holes
164-100	G½	4 x M24 x 38 deep on 152.7 PCD 4 x M5 x 8 deep
167-100	½ NPT	4 x ⅞-9 UNC x 1.50” deep on 6.012” PCD 4 x 10-24 UNC x 0.31” deep

Dimensions

Standard Coupling
(supplied with actuator
weight 2.4 kg / 5.3 lbs)







Kinetrol Model 18 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
17170 cm^3 / 1047 in^3

Materials of Construction
Casing: Sand 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

Finish
Epoxy stove enamel

Weight
88.0 kg / 194 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
18-100	1250	1750	2250	2750	3250	3750	4300	4850	5400	5950	6400	6900

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
18-100	10000	16100	22200	28300	34500	41300	48000	54500	60000

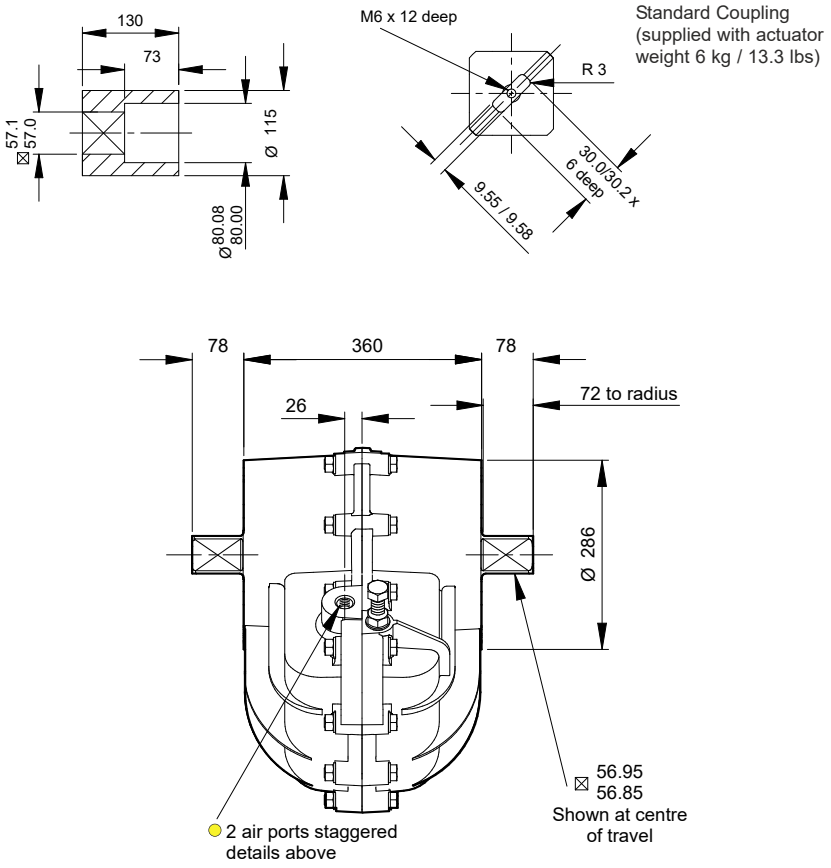
Options

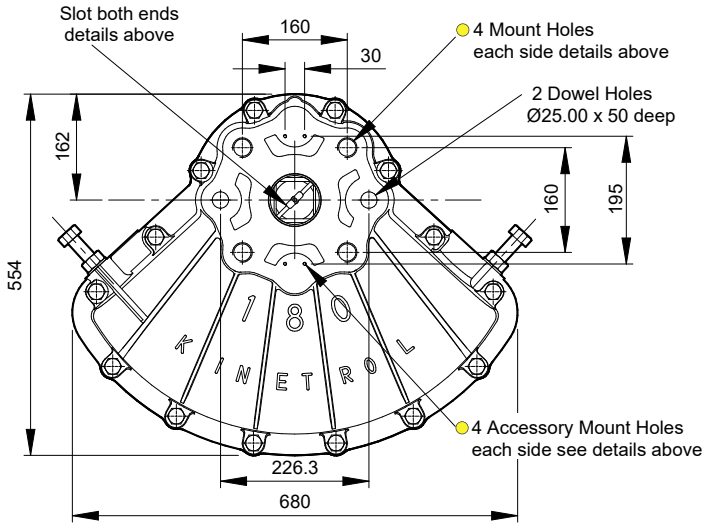
- ☐ Fail safe spring return units
  - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication
  - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ High temperature / Low temperature options
- ☐ Steadyline assembly

Kinetrol Model 18 Double Acting Actuator

Product Code	Air Ports	Mount Holes
184-100	G1	4 x M30 x 50 deep on 226.3 PCD 4 x M5 x 8 deep
187-100	1 NPT	4 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD 4 x 10-24 UNC x 0.31” deep

Dimensions





Kinetrol Model 21 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
31386 cm^3 / 1915 in^3

Materials of Construction
Casing: Sand 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

Finish
Epoxy stove enamel

Weight
177.0 kg / 390 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
21-100	2624	3623	4544	5568	6516	7553	8521	9523	10553	11561	12543	13589

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
21-100	22286	33234	44962	57078	68930	81223	93402	105784	118503

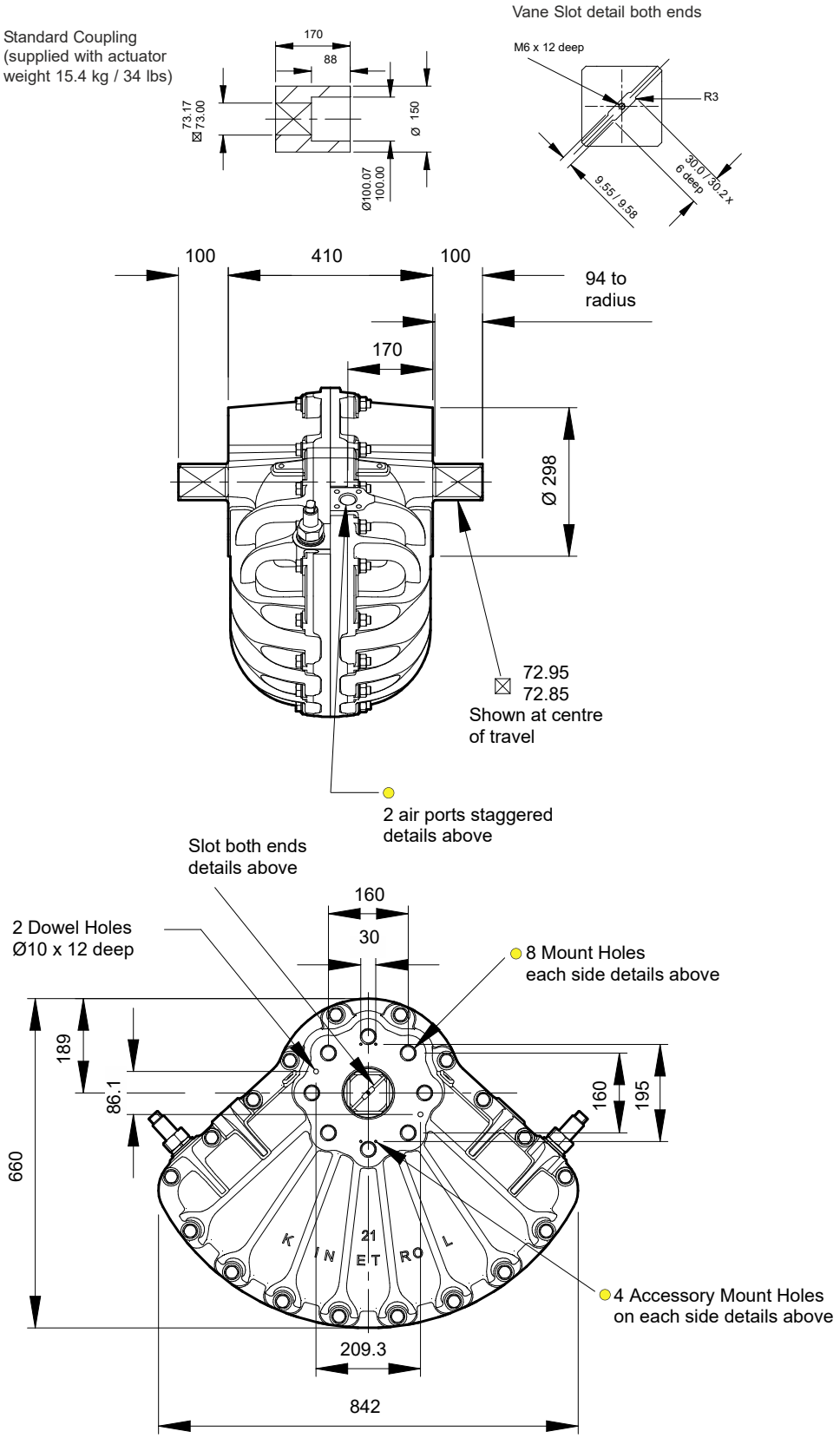
Options

- ☐ Fail safe spring return units
  - clockwise or counter clockwise
- ☐ Limit switch boxes for open/closed indication
  - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ Female drive and mounting details to DIN 3337 and ISO 5211
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ High temperature / Low temperature options

Kinetrol Model 21 Double Acting Actuator

Product Code	Air Ports	Mount Holes
214-100	G1	8 x M30 x 50 deep on 226.3 PCD 4 x M5 x 8 deep
217-100	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD 4 x 10-24 UNC x 0.31” deep

Dimensions



Kinetrol Model 30 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
50025 cm^3 / 3050 in^3

Materials of Construction
Casing: Sand 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

Finish
Epoxy stove enamel

Weight
273.0 kg / 601.91 lb (excluding coupling)

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



Ex ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
30-100	3720	5160	6600	7695	9435	10845	12240	13635	15030	16440	17835	19140

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
30-100	30000	48000	64500	81750	99000	117000	133500	150750	168000

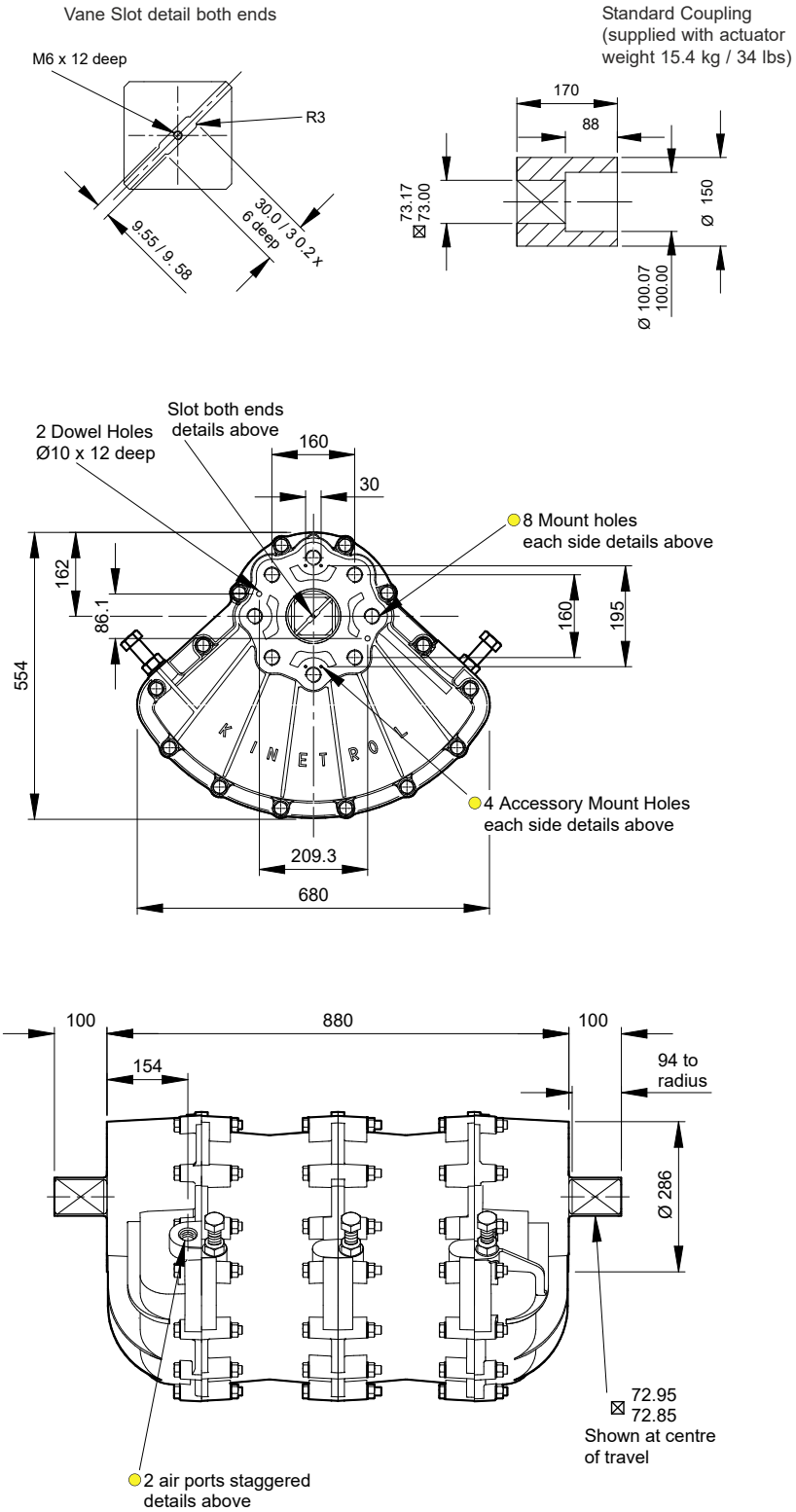
Options

- Fail safe spring return units
  - clockwise or counter clockwise
- Limit switch boxes for open/closed indication
  - various switches including hazardous area
- AP pneumatic positioner - full range of options
- EL electropneumatic positioner - full range of options
- High temperature / Low temperature options

Kinetrol Model 30 Double Acting Actuator

Product Code	Air Ports	Mount Holes
304-100	G1	8 x M30 x 50 deep on 226.3 PCD 4 x M5 x 8 deep
307-100	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD 4 x 10-24 UNC x 0.31” deep

Dimensions



Kinetrol Model 60 Double Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
94500 cm^3 / 5762 in^3

Materials of Construction
Casing: Sand 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

Finish
Epoxy stove enamel

Weight
475.0 kg / 1047.2 lb (excluding coupling)

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



ATEX Category 2

Double Acting Torques

Metric Units - Nm

	Pressure (bar)											
Actuator Model	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**
60-100	8345	11106	14041	16680	19673	22806	25680	28870	31995	34909	37818	40765

English Units - lbf ins

	Pressure (psi)								
Actuator Model	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
60-100	67602	102031	135487	173262	208807	245953	283879	319645	356977

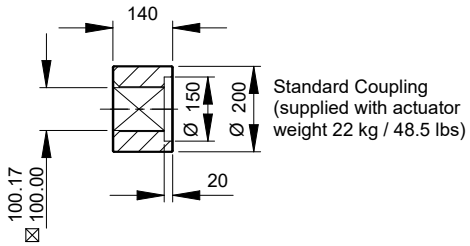
Options

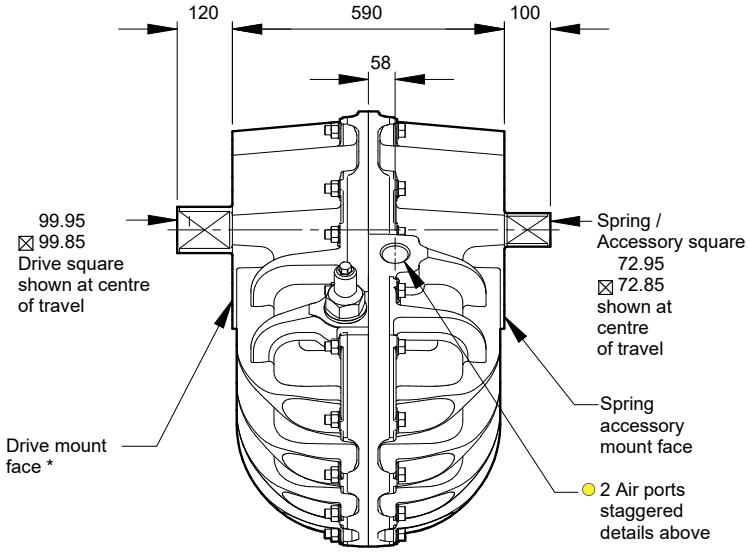
- Fail safe spring return units
  - clockwise or counter clockwise
- Limit switch boxes for open/closed indication
  - various switches including hazardous area
- AP pneumatic positioner - full range of options
- EL electropneumatic positioner - full range of options

Kinetrol Model 60 Double Acting Actuator

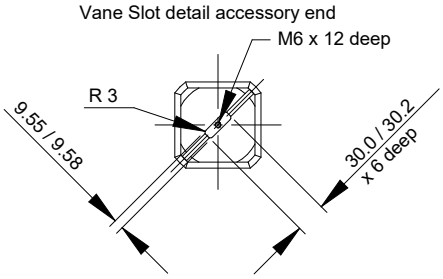
Product Code	Air Ports	Mount Holes
604-100	G2	8 x M30 x 80 deep on 356 PCD 4 x M5 x 8 deep
607-100	2 NPT	8 x 1⅛-7 UNC x 3.15” deep on 14.02” PCD 4 x 10-24 UNC x 0.31” deep

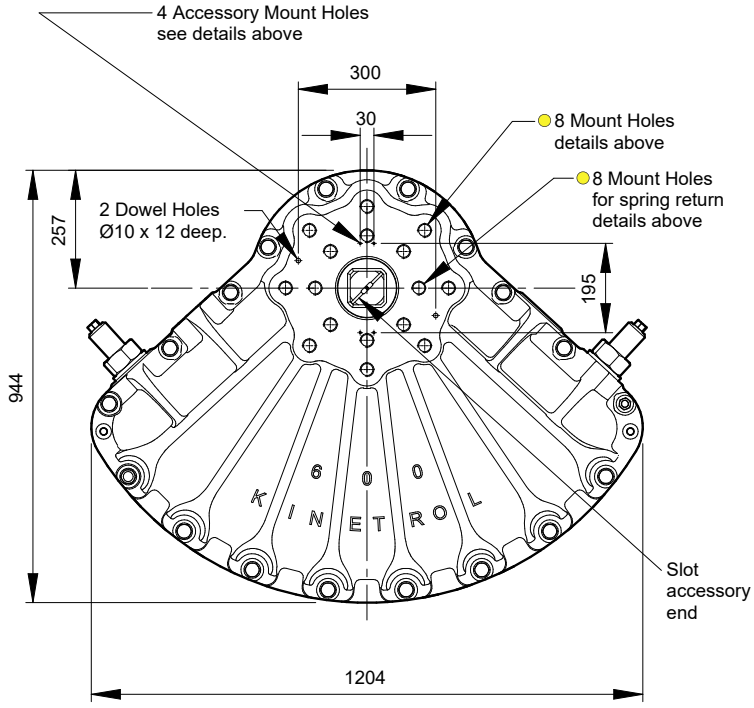
Dimensions





*For mounting to driven load





Kinetrol Model 01 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
014-120: 80° - 100°
014P120: 90°
(restricted travel versions available)

Displaced Volume
16.5 cm^3 / 1.0 in^3

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
014-120: 0.58 kg / 1.28 lb (excluding coupling)
014P120: 0.59 kg / 1.30 lb (excluding coupling)

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



ATEX Up to Category 1

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
01-120	Start						1.5		1.7		1.9		2.3
	Finish						0.9		1.1		1.5		1.8

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
01-120	Start						13		15		17		20
	Finish						8		10		13		16

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

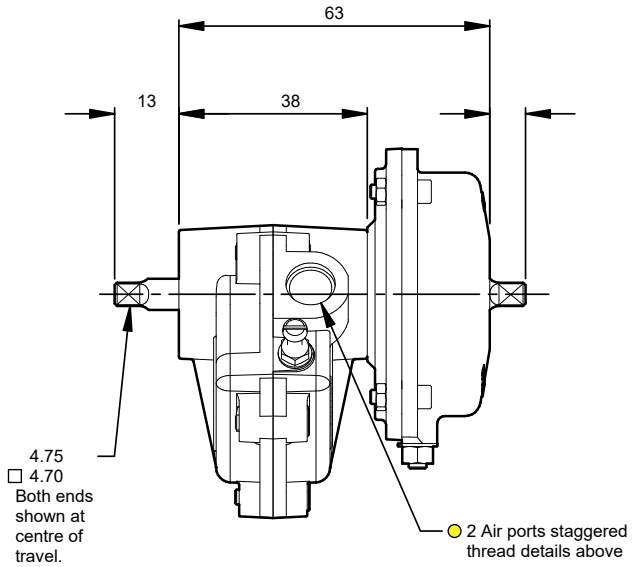
Kinetrol Model 01 Spring Return Single Acting Actuator

Product Code	Air Ports	Mount Holes
014-120 Metric Spring Return Clockwise	G⅛	4 x M4 x 6 deep on 19.0 PCD
014-130 Metric Spring Return Counter Clockwise	G⅛	4 x M4 x 6 deep on 19.0 PCD
017-120 English Spring Return Clockwise	⅛ NPT	4 x 8-32 UNC x 0.25” deep on 0.75” PCD
017-130 English Spring Return Counter Clockwise	⅛ NPT	4 x 8-32 UNC x 0.25” deep on 0.75” PCD
014P120 Metric Spring Return Clockwise	G⅛	4 x Ø4.1 (M4 clearance)
014P130 Metric Spring Return Counter Clockwise	G⅛	4 x Ø4.1 (M4 clearance)

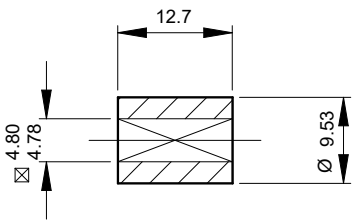
For female drive part codes contact Kinetrol

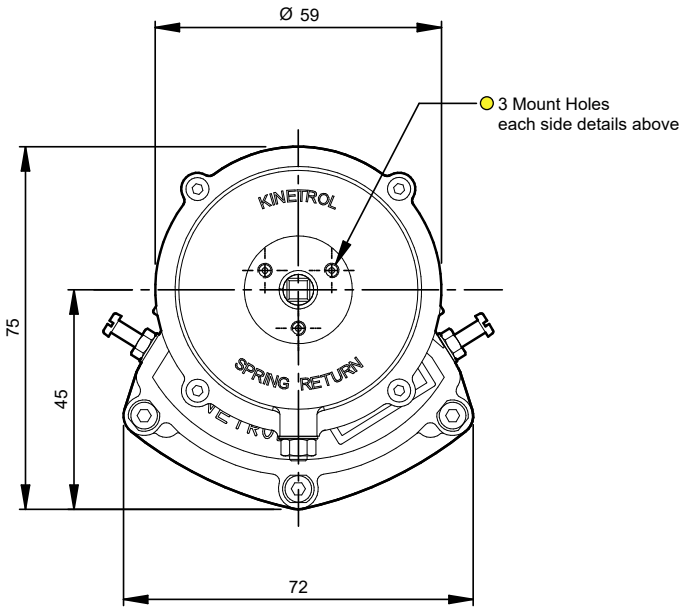
Dimensions

Drawing shows 014-120 / 014-130 version only.
For 014P120 / 014P130 please contact Kinetrol



Standard Coupling
(supplied with both actuator types
weight 0.005 kg / 0.2 oz)





Kinetrol Model 02 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
31 cm^3 / 1.89 in^3

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
0.91 kg / 2.00 lb (excluding coupling)

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



ATEX Up to Category 1

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
02-120	Start						3.0	3.4	3.6	3.8	4.2	4.4	4.7
	Finish						1.4	1.7	2.0	2.4	2.8	3.3	3.7

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
02-120	Start						27	30	32	34	37	39	42
	Finish						12	15	18	21	25	29	33

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ 180° and 120° model
- ☐ ISO adaptor
- ☐ Available in Blueline paint finish

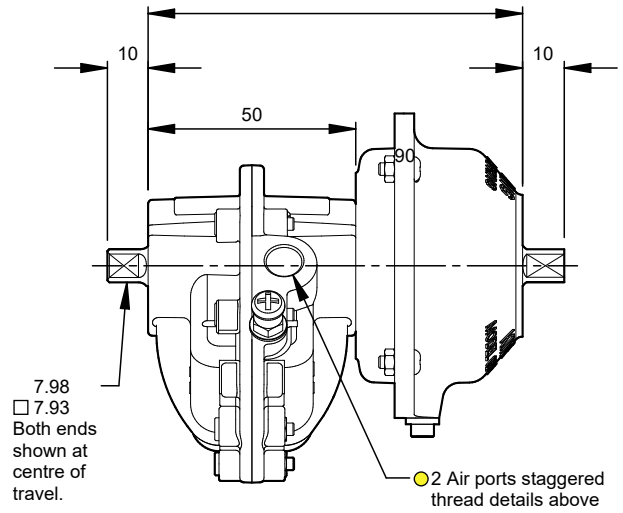
Kinetrol Model 02 Spring Return Single Acting Actuator

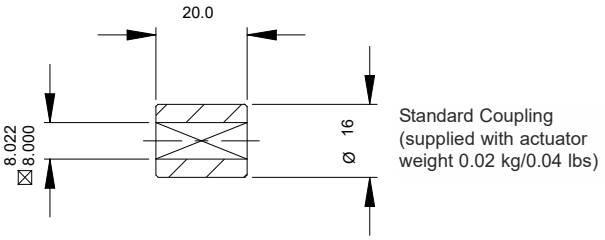
Product Code	Air Ports	Mount Holes
024-120 Metric Spring Return Clockwise	G⅛	4 x M4 x 8 deep on 25.5 PCD
024-130 Metric Spring Return Counter Clockwise	G⅛	4 x M4 x 8 deep on 25.5 PCD
027-120 English Spring Return Clockwise	⅛ NPT	4 x 8-32 UNC x 0.31” deep on 1.00” PCD
027-130 English Spring Return Counter Clockwise	⅛ NPT	4 x 8-32 UNC x 0.31” deep on 1.00” PCD

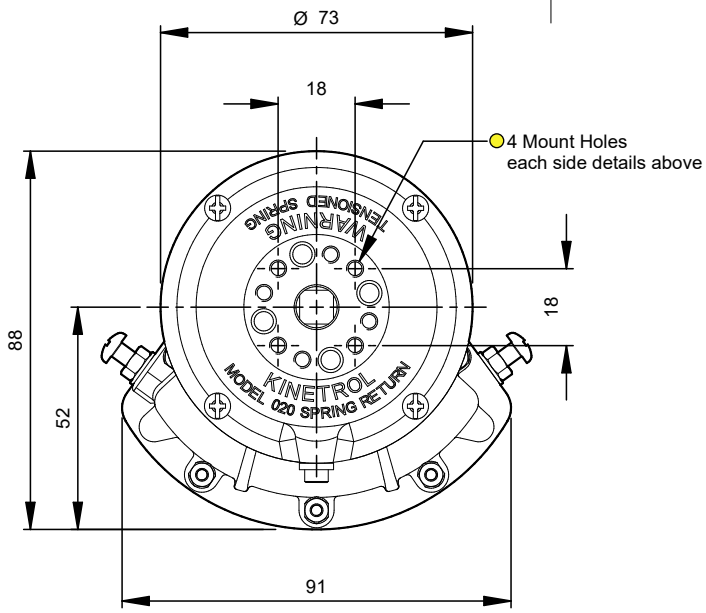
For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 03 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
60 cm^3 / 3.66 in^3

Materials of Construction
Actuator Casing: Pressure die cast aluminium alloy
Spring Casing: Pressure die cast ZL16 zinc alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
1.73 kg / 3.46 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
03-120	Start						6.3	6.9	7.5	8.1	8.9	9.5	10.3
	Finish						4.1	4.7	5.5	6.4	7.2	7.8	8.7

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
03-120	Start						56	61	66	71	79	84	91
	Finish						37	41	49	56	64	69	77

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ ISO adaptor
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

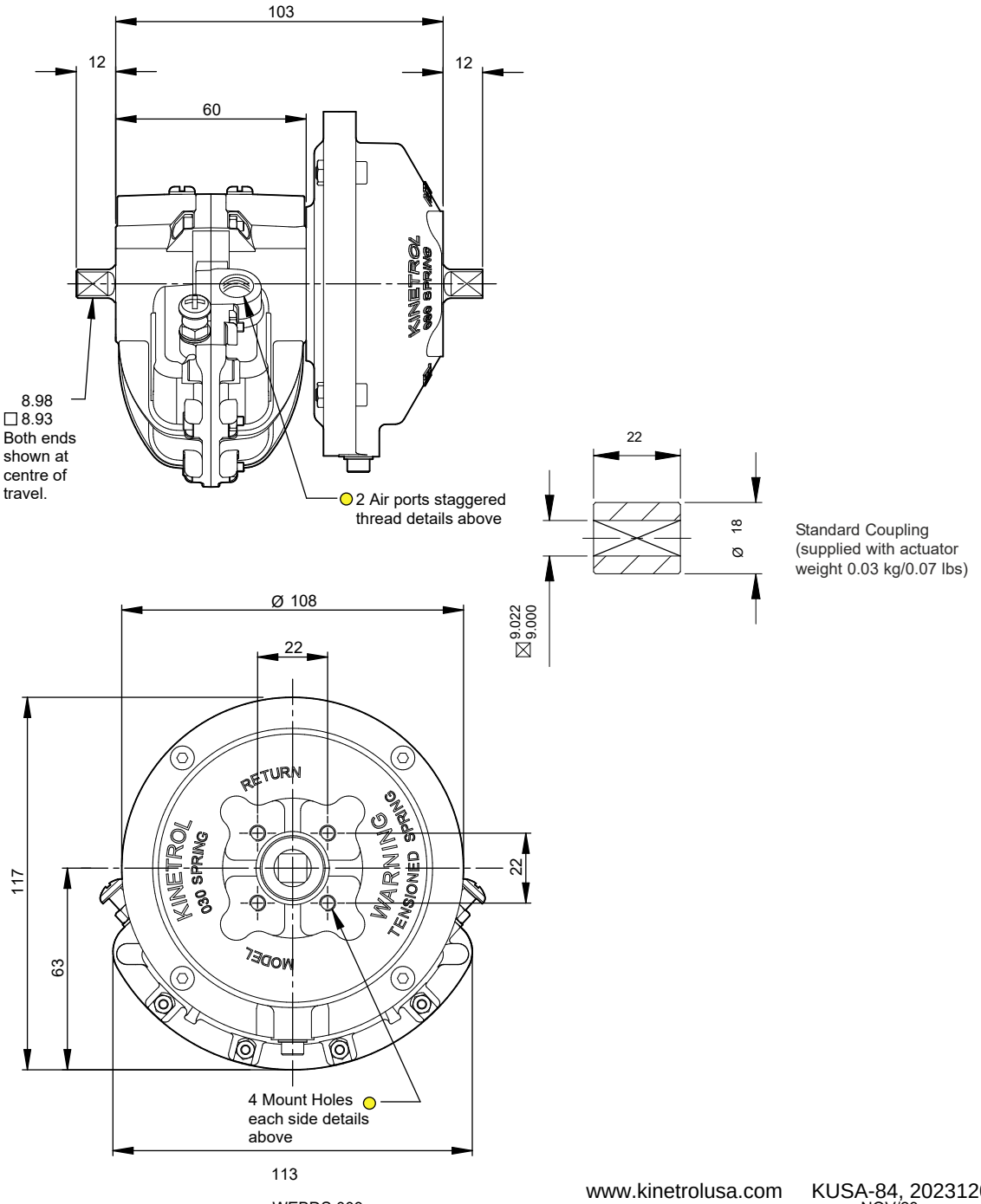
Kinetrol Model 03 Spring Return Single Acting Actuator

Product Code	Air Ports	Mount Holes
034-120 Metric Spring Return Clockwise	G⅛	4 x M5 x 10 deep on 31.1 PCD
034-130 Metric Spring Return Counter Clockwise	G⅛	4 x M5 x 10 deep on 31.1 PCD
037-120 English Spring Return Clockwise	⅛ NPT	4 x 10-24 UNC x 0.39” deep on 1.225” PCD
037-130 English Spring Return Counter Clockwise	⅛ NPT	4 x 10-24 UNC x 0.39” deep on 1.225” PCD

For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions



Kinetrol Model 05 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
74° - 100°
(restricted travel versions available)

Displaced Volume
113 cm^3 / 6.9 in^3

Materials of Construction
Casing: Pressure die cast aluminium alloy
Vane & Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Seals: Moulded polyurethane
Seal expanders: Stainless spring steel
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
1.92 kg / 4.23 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
05-120	Start						13.0	14.1	15.3	16.4	18.1	19.2	20.9
	Finish						8.5	9.6	11.3	13.0	14.7	15.8	17.5

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
05-120	Start						115	125	135	145	160	170	185
	Finish						75	85	100	115	130	140	155

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ ISO adaptor
- ☐ G¼ or ¼ NPT air port option available - contact Kinetrol
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

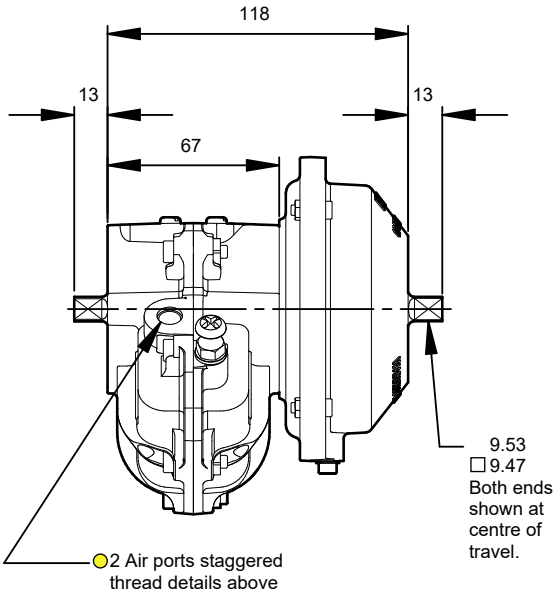
Kinetrol Model 05 Spring Return Single Acting Actuator

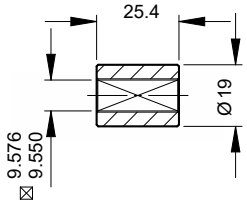
Product Code	Air Ports	Mount Holes
054-120 Metric Spring Return Clockwise	G⅛	6 x M5 x 10 deep on 34.9 PCD
054-130 Metric Spring Return Counter Clockwise	G⅛	6 x M5 x 10 deep on 34.9 PCD
057-120 English Spring Return Clockwise	⅛ NPT	6 x 10-24 UNC x 0.39” deep on 1.375” PCD
057-130 English Spring Return Counter Clockwise	⅛ NPT	6 x 10-24 UNC x 0.39” deep on 1.375” PCD

For female drive part codes contact Kinetrol

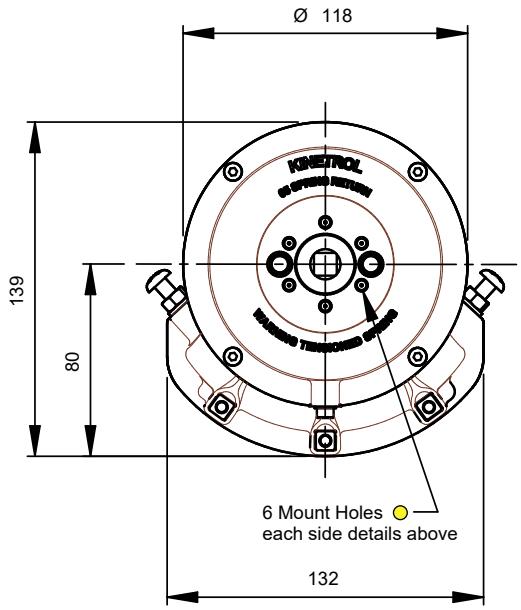
Visual red indicator supplied as standard

Dimensions





Standard Coupling
(supplied with actuator
weight 0.04 kg/0.09 lbs)



Kinetrol Model 07 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
300 cm^3 / 18.3 in^3

Materials of Construction
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 stove enamel

Weight
4.54 kg / 10.01 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
07-120	Start						30.5	33.9	37.3	40.7	43.5	46.9	50.8
	Finish						19.8	23.7	27.1	30.5	34.4	38.4	42.4

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
07-120	Start						270	300	330	360	385	415	450
	Finish						175	210	240	270	305	340	375

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ ISO adaptor
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

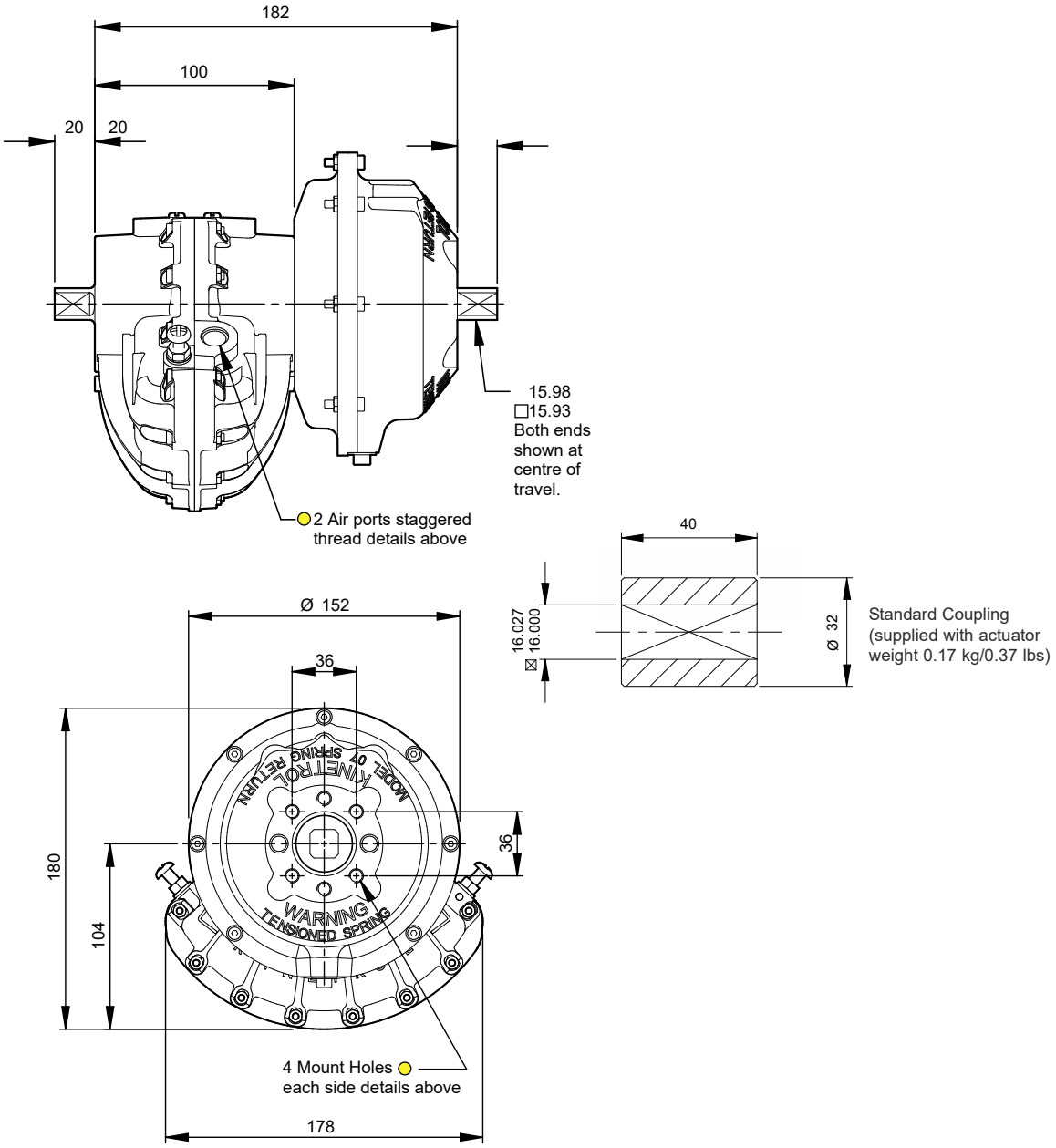
Kinetrol Model 07 Spring Return Single Acting Actuator

Product Code	Air Ports	Mount Holes
074-120 Metric Spring Return Clockwise	G¼	4 x M8 x 16 deep on 50.9 PCD
074-130 Metric Spring Return Counter Clockwise	G¼	4 x M8 x 16 deep on 50.9 PCD
077-120 English Spring Return Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD
077-130 English Spring Return Counter Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions



Kinetrol Model 08 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
485 cm^3 / 29.6 in^3

Materials of Construction
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 stove enamel

Weight
7.38 kg / 16.28 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
08-120	Start						52.7	57.2	61.7	67.2	72.7	77.0	81.3
	Finish						36.8	41.3	45.8	51.4	56.9	61.2	65.5

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
08-120	Start						466	506	546	595	644	682	720
	Finish						326	366	406	455	504	542	580

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ ISO adaptor
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

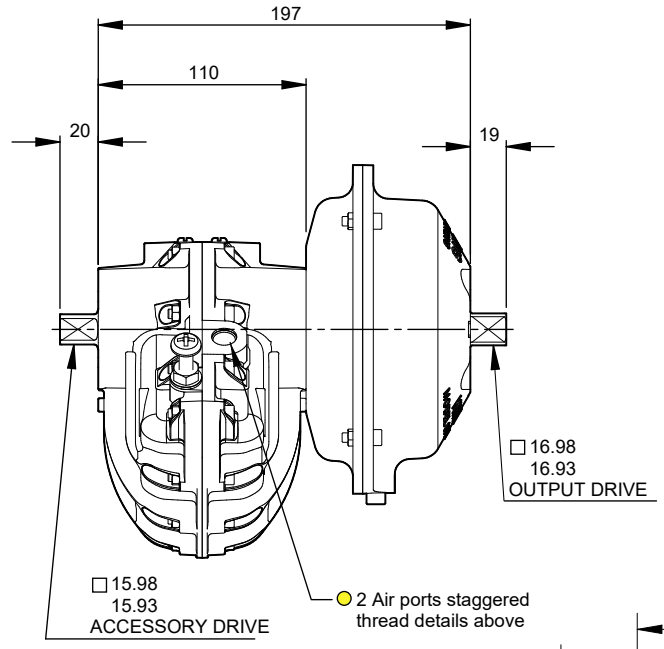
Kinetrol Model 08 Spring Return Single Acting Actuator

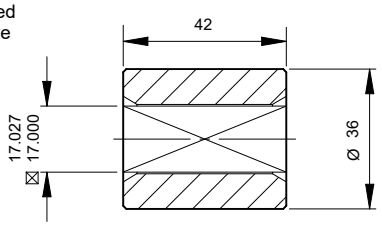
Product Code	Air Ports	Mount Holes
084-120 Metric Spring Return Clockwise	G¼	4 x M8 x 16 deep on 70.0 PCD
084-130 Metric Spring Return Counter Clockwise	G¼	4 x M8 x 16 deep on 70.0 PCD
087-120 English Spring Return Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.76” PCD
087-130 English Spring Return Counter Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.76” PCD

For female drive part codes contact Kinetrol

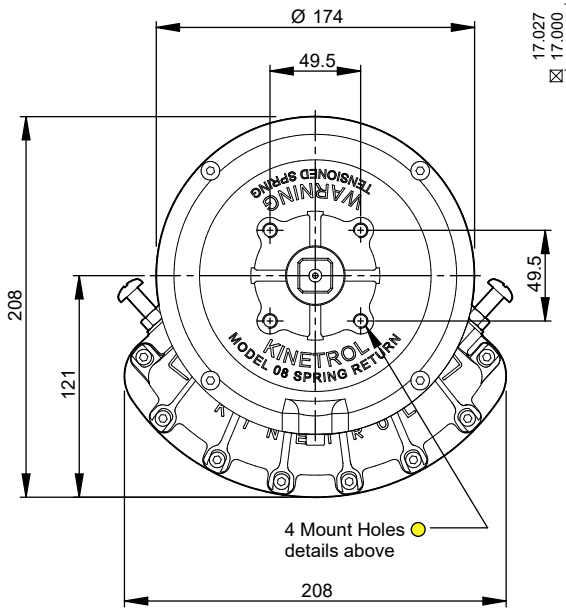
Visual red indicator supplied as standard

Dimensions





Standard Coupling
(supplied with actuator
weight 0.24 kg/0.52 lbs)



Kinetrol Model 09 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
644 cm^3 / 39.3 in^3

Materials of Construction
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 stove enamel

Weight
10.76 kg / 23.78 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
09-120	Start						61.0	67.8	74.6	81.9	89.3	96.6	104.0
	Finish						50.3	56.5	63.8	71.2	79.1	86.4	93.8

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
09-120	Start						540	600	660	725	790	855	925
	Finish						445	500	565	630	700	765	830

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ ISO adaptor
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

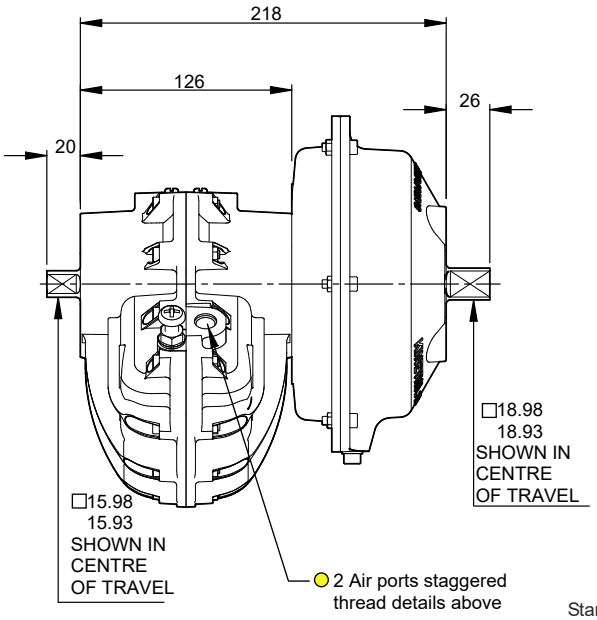
Kinetrol Model 09 Spring Return Single Acting Actuator

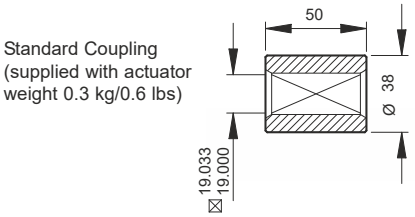
Product Code	Air Ports	Mount Holes
094-120 Metric Spring Return Clockwise	G¼	4 x M10 x 20 deep on 65.0 PCD
094-130 Metric Spring Return Counter Clockwise	G¼	4 x M10 x 20 deep on 65.0 PCD
097-120 English Spring Return Clockwise	¼ NPT	4 x ⅜-16 UNC x 0.79” deep on 2.56” PCD
097-130 English Spring Return Counter Clockwise	¼ NPT	4 x ⅜-18 UNC x 0.79” deep on 2.56” PCD

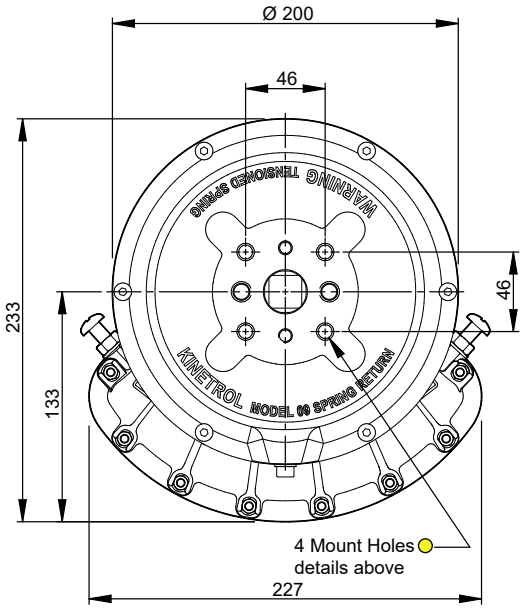
For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 10 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
78° - 100°
(restricted travel versions available)

Displaced Volume
1025 cm^3 / 62.5 in^3

Materials of Construction
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 stove enamel

Weight
14.80 kg / 32.63 lb (no coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
10F120	Start						107.0	115.5	124.0	136.0	145.0	155.9	164.0
	Finish						78.0	90.0	102.0	114.6	124.0	134.9	143.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
10F120	Start						950	1025	1100	1190	1280	1365	1450
	Finish						690	795	900	1000	1100	1185	1270

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ Male drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish

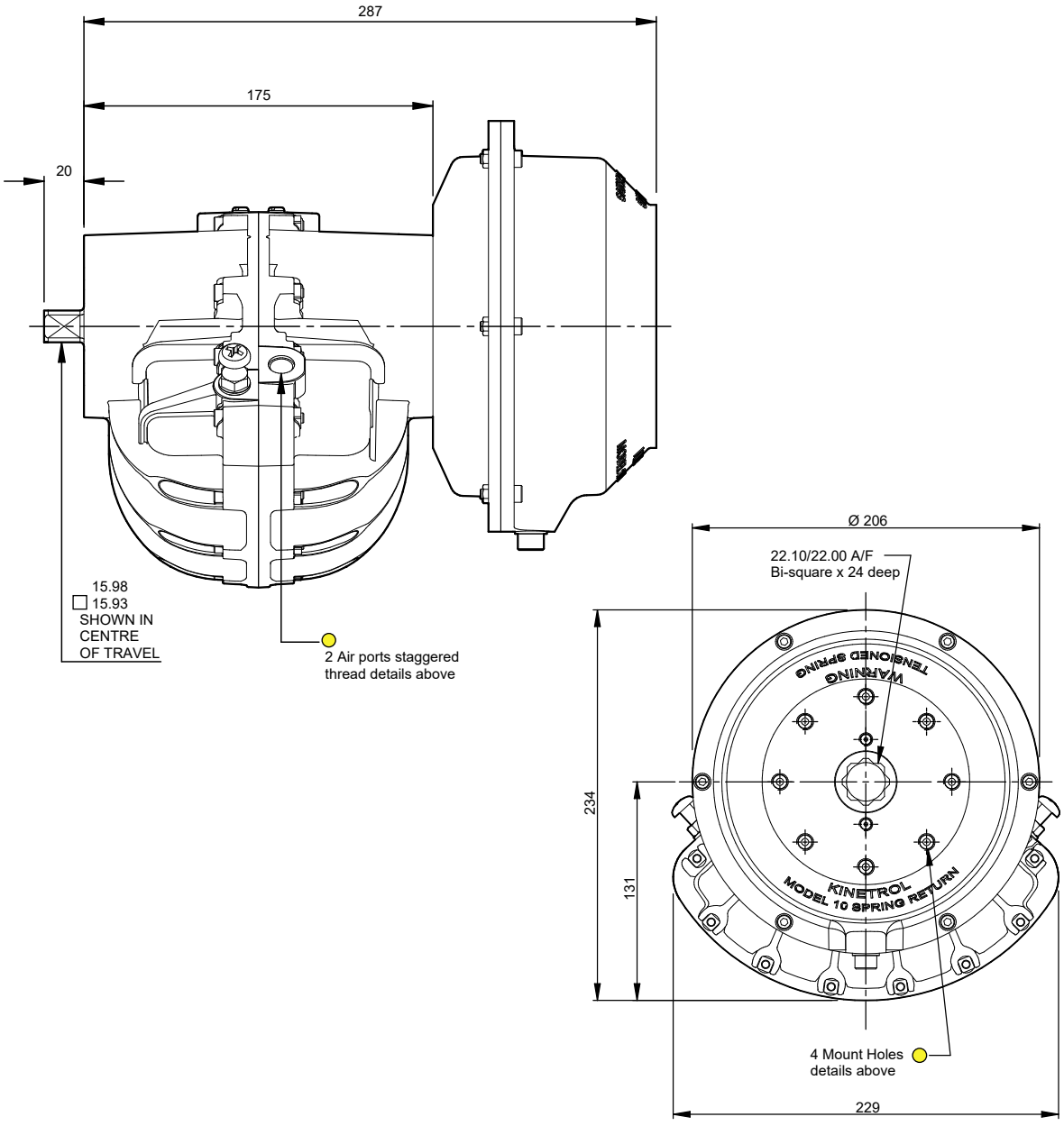
Kinetrol Model 10 Spring Return Single Acting Actuator

Product Code	Air Ports	Mount Holes
103F120 Metric Spring Return Clockwise	G¼	4 x M10 x 16 deep on 102.0 PCD
103F130 Metric Spring Return Counter Clockwise	G¼	4 x M10 x 16 deep on 102.0 PCD
107F120 English Spring Return Clockwise	¼ NPT	4 x ⅜-16 UNC x 0.63” deep on 4.02” PCD
107F130 English Spring Return Counter Clockwise	¼ NPT	4 x ⅜-16 UNC x 0.63” deep on 4.02” PCD

For male drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions



Kinetrol Model 12 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 102°
(restricted travel versions available)

Displaced Volume
1410 cm^3 / 86 in^3

Materials of Construction
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 stove enamel

Weight
22.90 kg / 50.51 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
12-120	Start						145.0	160.0	176.0	191.0	206.0	221.0	238.0
	Finish						111.0	127.0	142.0	158.0	174.0	189.0	204.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
12-120	Start						1280	1415	1555	1690	1825	1960	2110
	Finish						985	1125	1260	1400	1540	1670	1810

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ G3 Damper Drive

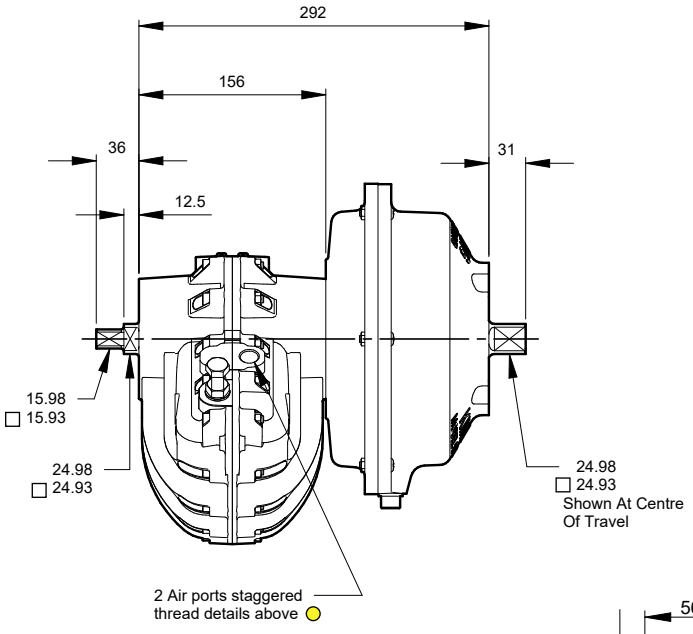
Kinetrol Model 12 Spring Return Single Acting Actuator

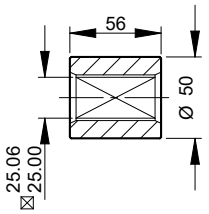
Product Code	Air Ports	Mount Holes
124-120 Metric Spring Return Clockwise	G⅜	4 x M12 x 24 deep on 77.8 PCD
124-130 Metric Spring Return Counter Clockwise	G⅜	4 x M12 x 24 deep on 77.8 PCD
127-120 English Spring Return Clockwise	⅜ NPT	4 x ½-13 UNC x 0.94” deep on 3.06” PCD
127-130 English Spring Return Counter Clockwise	⅜ NPT	4 x ½-13 UNC x 0.94” deep on 3.06” PCD

For female drive part codes contact Kinetrol

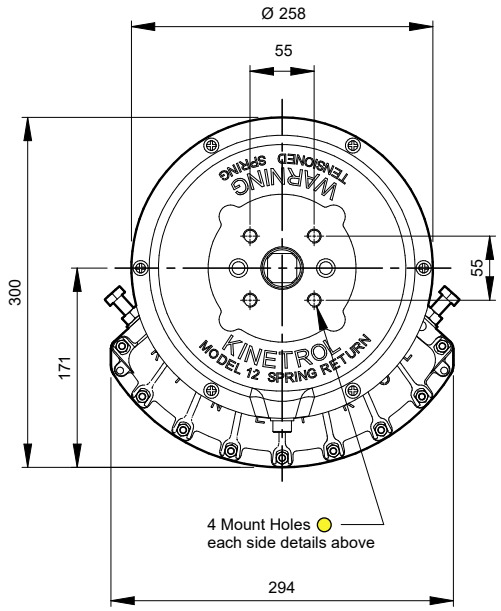
Visual red indicator supplied as standard

Dimensions





Standard Coupling
(supplied with actuator
weight 0.6 kg/1.3 lbs)



Kinetrol Model 14-4900 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
3294 cm^3 / 201 in^3

Materials of Construction
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 stove enamel

Weight
42.4 kg / 93.5 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
14-4900	Start	192.0	220.0	249.0	288.0	322.0	356.0	390.0	424.0	469.0	497.0	529.0	529.0
	Finish	119.0	158.0	186.0	220.0	254.0	288.0	322.0	356.0	390.0	418.0	447.0	447.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
14-4900	Start	1700	1950	2200	2550	2850	3150	3450	3750	4150	4400	4680	4680
	Finish	1050	1400	1650	1950	2250	2550	2850	3150	3450	3700	3960	3960

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ G3 Damper Drive

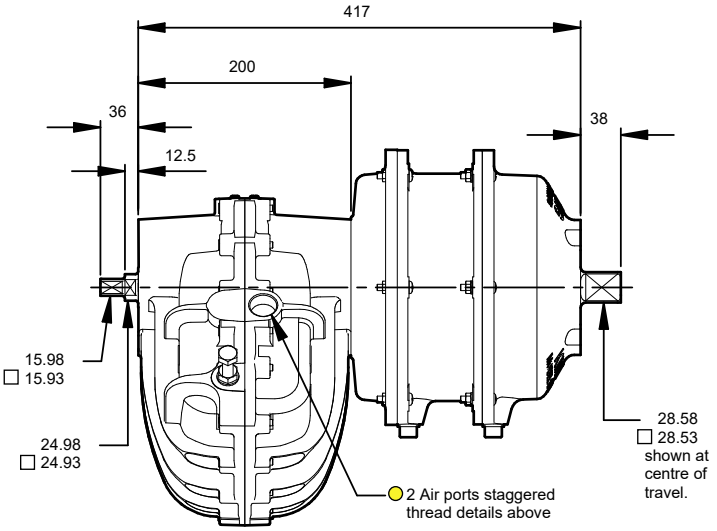
Kinetrol Model 14-4900 Spring Return Single Acting Actuator

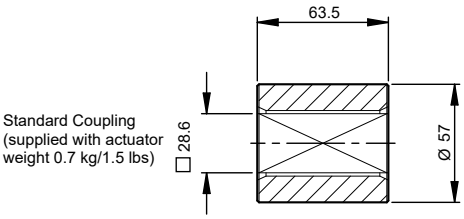
Product Code	Air Ports	Mount Holes
144-120-4900 Metric Spring Return Clockwise	G½	4 x M16 x 28.5 deep on 98.8 PCD
144-130-4900 Metric Spring Return Counter Clockwise	G½	4 x M16 x 28.5 deep on 98.8 PCD
147-120-4900 English Spring Return Clockwise	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD
147-130-4900 English Spring Return Counter Clockwise	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD

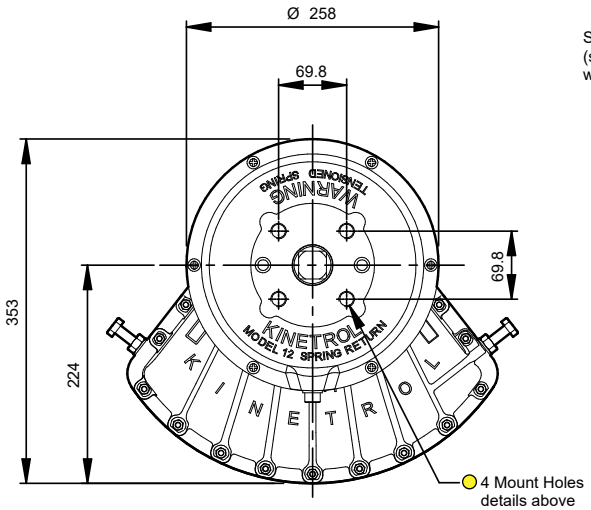
For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 14 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
3294 cm^3 / 201 in^3

Materials of Construction
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 stove enamel

Weight
63.4 kg / 139.82 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
14-120	Start						374.0	408.0	442.0	479.0	517.0	554.0	588.0
	Finish						249.0	290.0	330.0	367.0	406.0	443.0	478.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
14-120	Start						3310	3610	3915	4240	4580	4900	5200
	Finish						2205	2570	2920	3250	3595	3920	4230

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ G3 Damper Drive

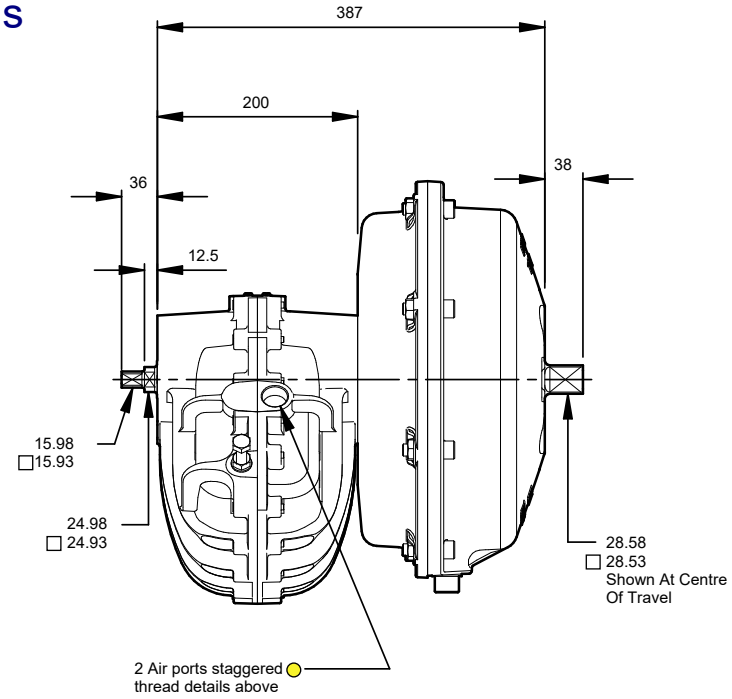
Kinetrol Model 14 Spring Return Single Acting Actuator

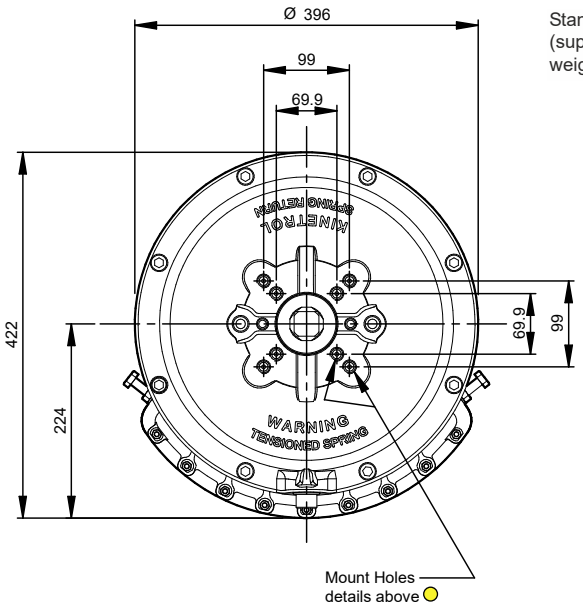
Product Code	Air Ports	Mount Holes
144-120 Metric Spring Return Clockwise	G½	4 x M16 x 28.5 deep on 98.8 PCD 4 x M16 x 28.5 deep on 140.0 PCD
144-130 Metric Spring Return Counter Clockwise	G½	4 x M16 x 28.5 deep on 98.8 PCD 4 x M16 x 28.5 deep on 140.0 PCD
147-120 English Spring Return Clockwise	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD 4 x ⅝-11 UNC x 1.12” deep on 5.51” PCD
147-130 English Spring Return Counter Clockwise	½ NPT	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD 4 x ⅝-11 UNC x 1.12” deep on 5.51” PCD

For female drive part codes contact Kinetrol

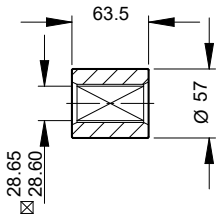
Visual red indicator supplied as standard

Dimensions





Standard Coupling
(supplied with actuator
weight 0.7 kg/1.5 lbs)



Kinetrol Model 15 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

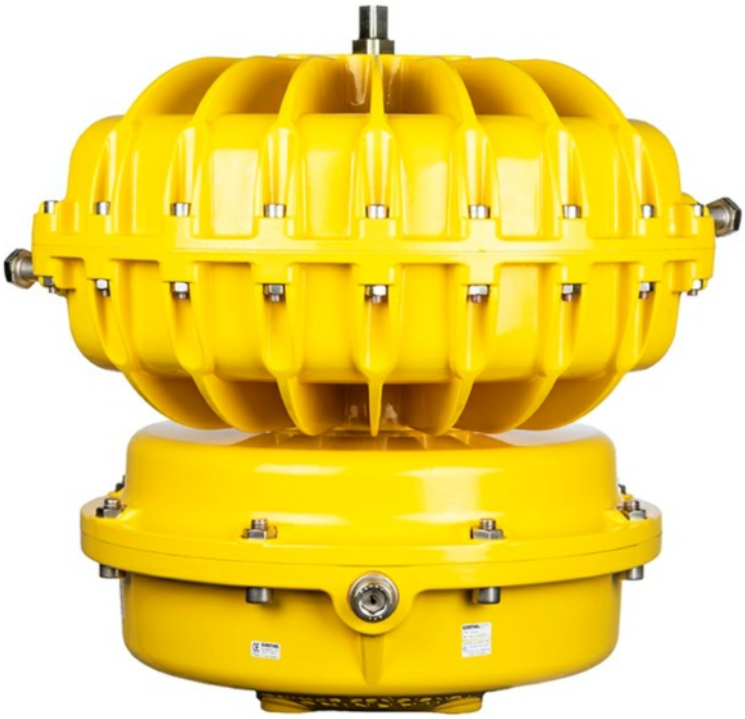
Displaced Volume
5920 cm^3 / 361 in^3

Materials of Construction
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 stove enamel

Weight
75.3 kg / 166.3 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
15-120	Start						614.0	680.0	752.0	801.0	848.0	914.0	962.0
	Finish						392.0	392.0	522.0	590.0	656.0	723.0	790.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
15-120	Start						5434	6018	6656	7089	7505	8090	8514
	Finish						3469	4098	4620	5222	5806	6399	6992

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ G3 Damper Drive

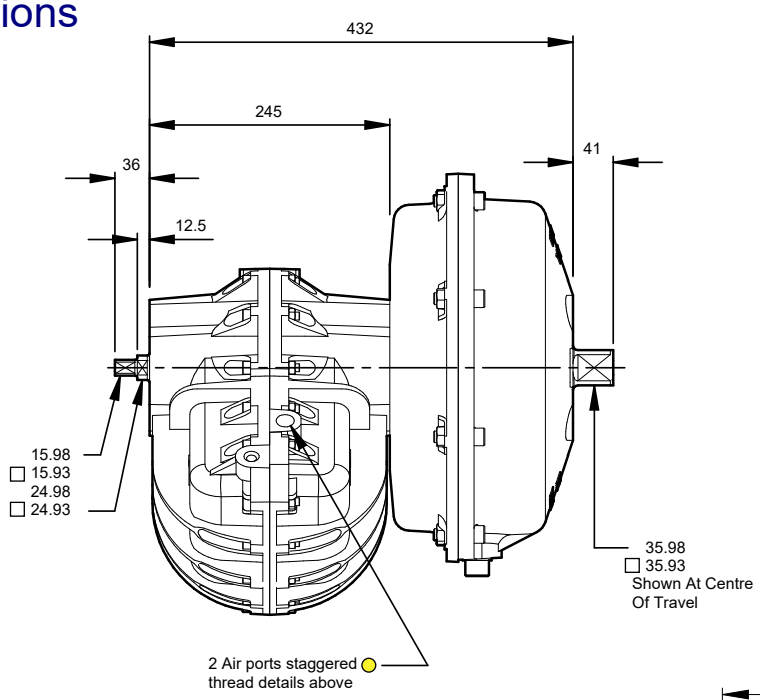
Kinetrol Model 15 Spring Return Single Acting Actuator

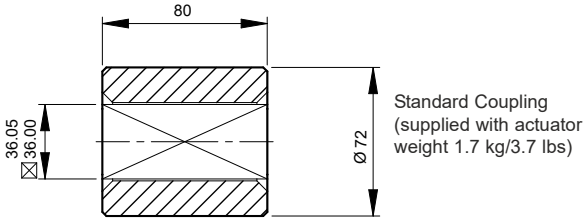
Product Code	Air Ports	Mount Holes
154-120 Metric Spring Return Clockwise	G½	4 x M16 x 28.5 deep on 140.0 PCD
154-130 Metric Spring Return Counter Clockwise	G½	4 x M16 x 28.5 deep on 140.0 PCD
157-120 English Spring Return Clockwise	½ NPT	4 x ⅝-11 UNC x 1.13” deep on 5.51” PCD
157-130 English Spring Return Counter Clockwise	½ NPT	4 x ⅝-11 UNC x 1.13” deep on 5.51” PCD

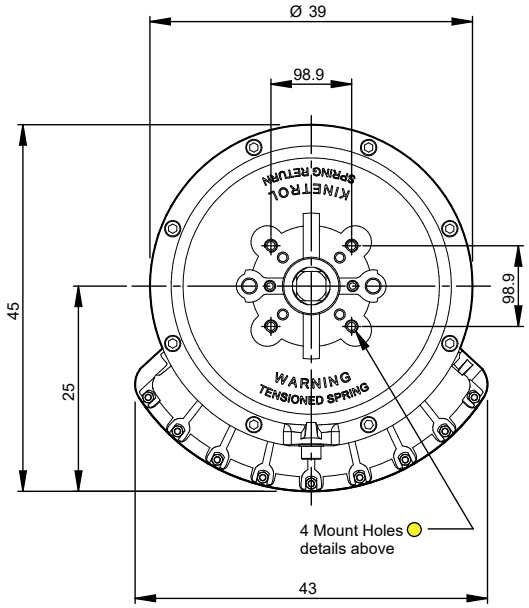
For female drive part codes contact Kinetrol

Visual red indicator supplied as standard

Dimensions







Kinetrol Model 16 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
7630 cm^3 / 465 in^3

Materials of Construction
Casing: Sand 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 stove enamel

Weight
137.6 kg / 302.7 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
16-120	Start						864.0	939.0	1004.0	1097.0	1165.0	1256.0	1321.0
	Finish						576.0	660.0	742.0	832.0	906.0	1002.0	1081.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
16-120	Start						7646	8310	8885	9708	10310	11116	11691
	Finish						5098	5841	6567	7363	8018	8868	9567

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ Integral solenoid valve
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Clear Cone monitor
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ High temperature / Low temperature options
- ☐ VDI/VDE 3845 Namur accessory mounting option available - contact Kinetrol
- ☐ Available in Blueline paint finish
- ☐ G3 Damper Drive

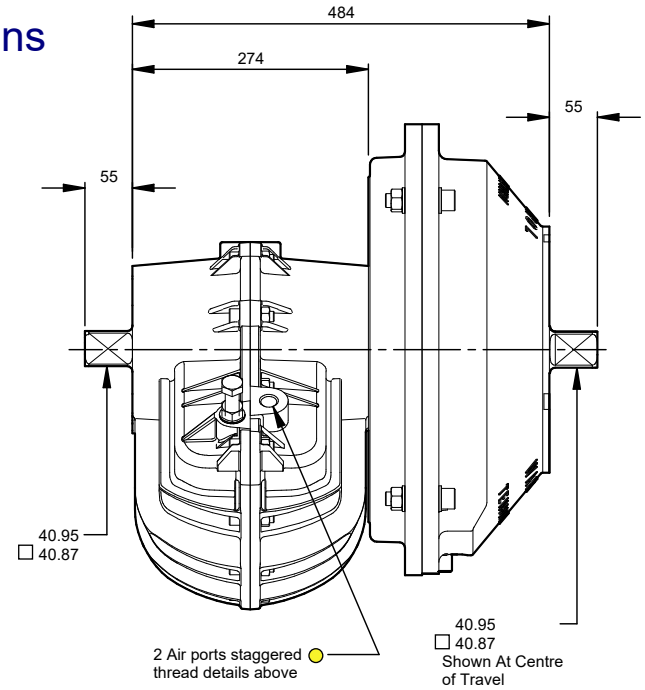
Kinetrol Model 16 Spring Return Single Acting Actuator

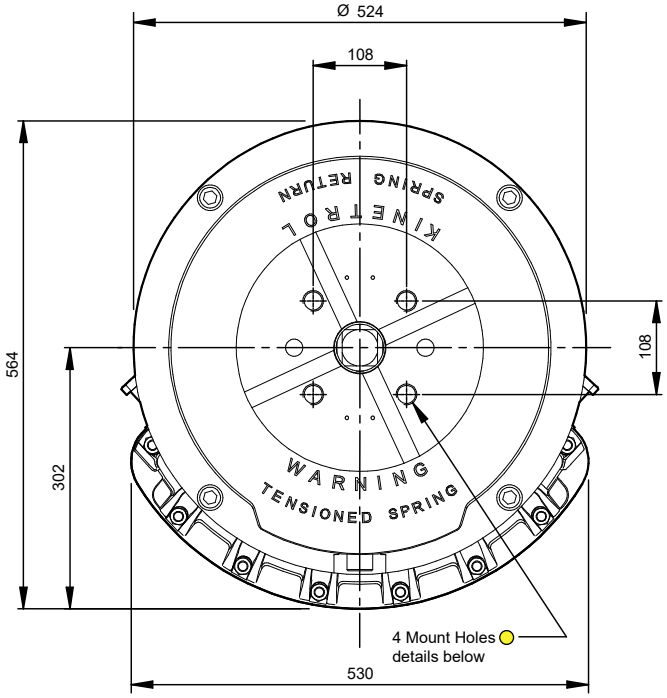
Product Code	Air Ports	Mount Holes
164-120 Metric Spring Return Clockwise	G½	4 x M24 x 38 deep on 152.7 PCD
164-130 Metric Spring Return Counter Clockwise	G½	4 x M24 x 38 deep on 152.7 PCD
167-120 English Spring Return Clockwise	½ NPT	4 x ⅞-9 UNC x 1.50” deep on 6.01” PCD
167-130 English Spring Return Counter Clockwise	½ NPT	4 x ⅞-9 UNC x 1.50” deep on 6.01” PCD

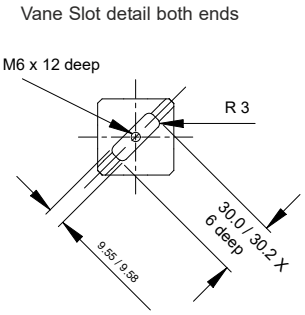
For female drive part codes contact Kinetrol

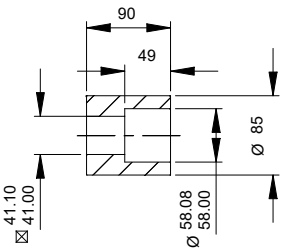
Visual red indicator supplied as standard

Dimensions









Standard Coupling
(supplied with actuator
weight 2.4 kg/5.3 lbs)

Kinetrol Model 18 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
17170 cm^3 / 1047 in^3

Materials of Construction
Casing: Sand 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 stove enamel

Weight
272.0 kg / 599.6 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke 1.7 2.0 2.4	Pressure (bar) 2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
18-120	Start	1457.0	1637.0	1875.0	2053.0	2206.0	2426.0	2585.0	2800.0	2954.0
	Finish	874.0	1036.0	1250.0	1441.0	1630.0	1840.0	2011.0	2234.0	2417.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke 25 30 35	Pressure (psi) 40	45	50	55	60	65	70	75	80
18-120	Start	12894	14487	16594	18169	19523	21470	22877	24780	26143
	Finish	7735	9169	11063	12753	14426	16284	17797	19771	21390

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

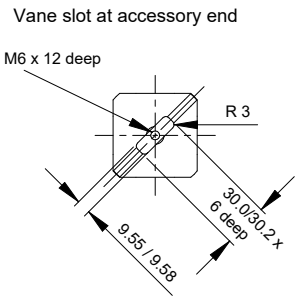
- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ 180° and 120° model
- ☐ Spring to centre
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ High temperature / Low temperature options

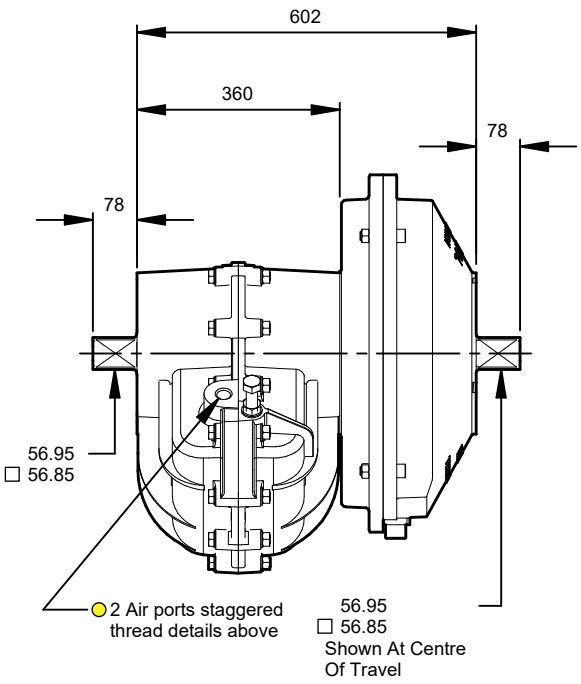
Kinetrol Model 18 Spring Return Single Acting Actuator

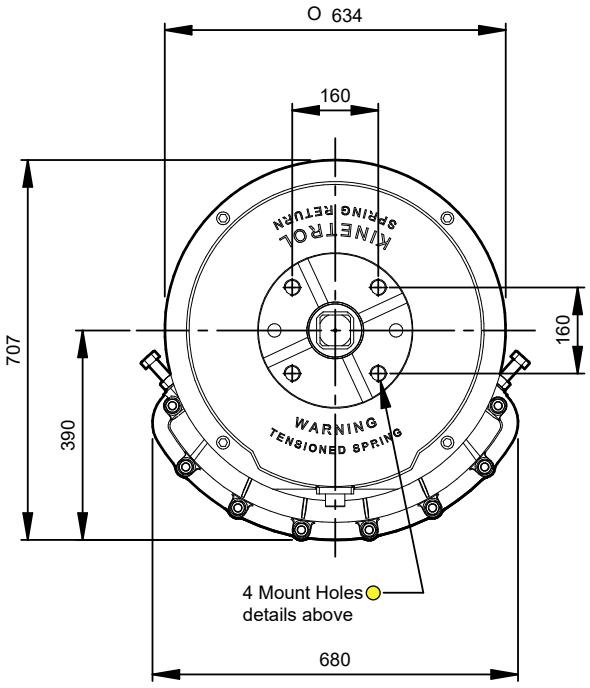
Product Code	Air Ports	Mount Holes
184-120 Metric Spring Return Clockwise	G1	4 x M30 x 50 deep on 226.3 PCD
184-130 Metric Spring Return Counter Clockwise	G1	4 x M30 x 50 deep on 226.3 PCD
187-120 English Spring Return Clockwise	1 NPT	4 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD
187-130 English Spring Return Counter Clockwise	1 NPT	4 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

For female drive part codes contact Kinetrol

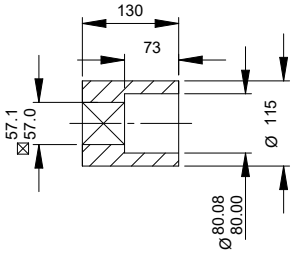
Dimensions







Standard Coupling
(supplied with actuator
weight 6 kg / 13.3 lbs)



Kinetrol Model 21 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
31386 cm^3 / 1915 in^3

Materials of Construction
Casing: Sand 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 stove enamel

Weight
500.6 kg / 1103.6 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	1.7	2.0	2.4	2.8	3.1	3.5	3.8	Pressure (bar) 4.1	4.5	4.8	5.2	5.5
21-120	Start								4121.0	4514.0	4798.0	5181.0	5456.0
	Finish								3046.0	3423.0	3732.0	4133.0	4464.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	25	30	35	40	45	50	55	Pressure (psi) 60	65	70	75	80
21-120	Start								36471	39949	42462	45852	48286
	Finish								26957	30294	33028	36577	39506

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

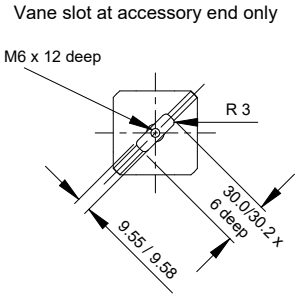
- ☐ ISO Flange / Female drive spring option
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ Geared manual override
- ☐ G3 Damper Drive
- ☐ High temperature / Low temperature options

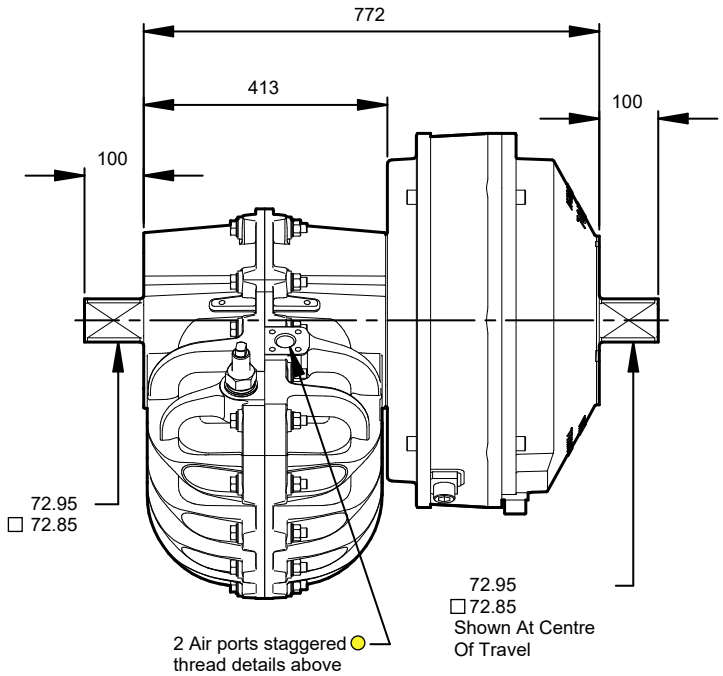
Kinetrol Model 21 Spring Return Single Acting Actuator

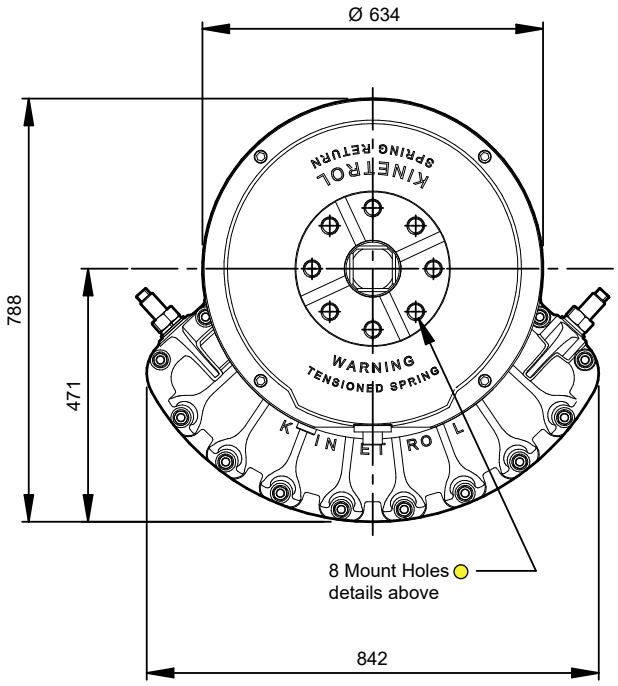
Product Code	Air Ports	Mount Holes
214-120 Metric Spring Return Clockwise	G1	8 x M30 x 50 deep on 226.3 PCD
214-130 Metric Spring Return Counter Clockwise	G1	8 x M30 x 50 deep on 226.3 PCD
217-120 English Spring Return Clockwise	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD
217-130 English Spring Return Counter Clockwise	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

For female drive part codes contact Kinetrol

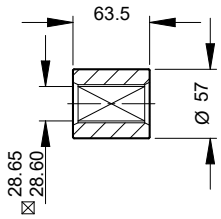
Dimensions







Standard Coupling
(supplied with actuator
weight 0.7 kg / 1.5 lbs)



Kinetrol Model 30 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
50025 cm^3 / 3050 in^3

Materials of Construction
Casing: Sand 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 stove enamel

Weight
753 kg / 1660 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
30-120	Start									6771.0	7179.0	7772.0	8184.0
	Finish									5134.0	5598.0	6200.0	6696.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
30-120	Start									59923	63693	68782	72428
	Finish									45436	49542	54870	59260

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

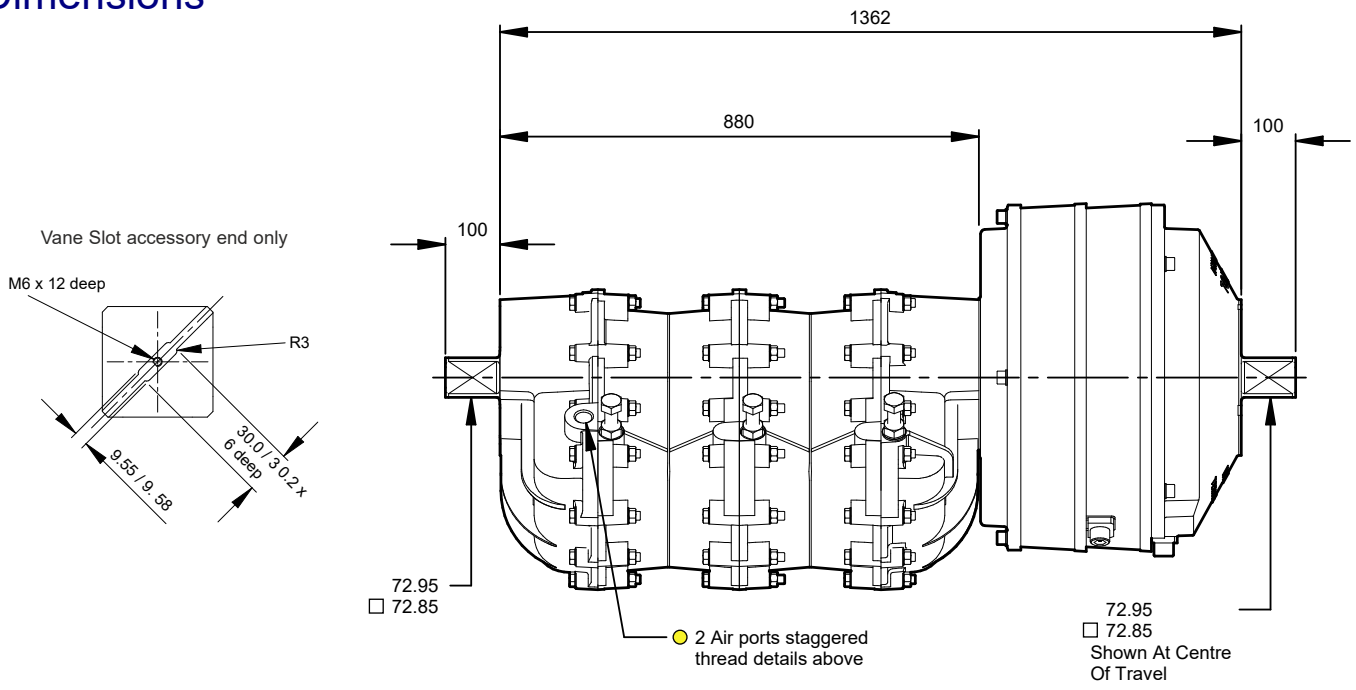
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area
- ☐ High temperature / Low temperature options

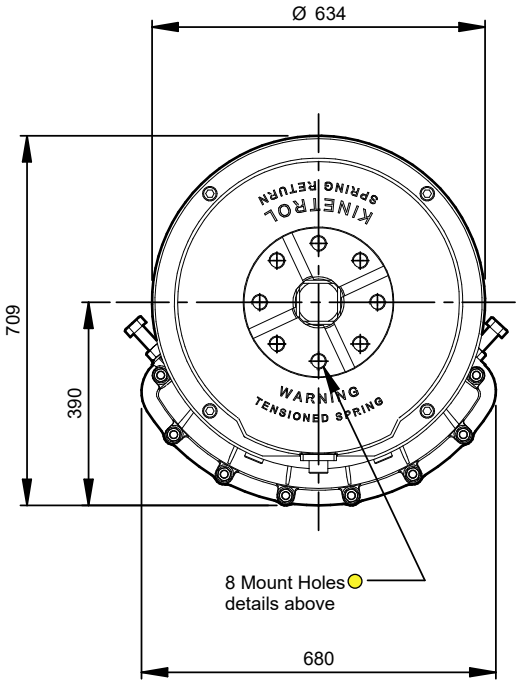
Kinetrol Model 30 Spring Return Single Acting Actuator

Product Code	Air Ports	Mount Holes
304-120 Metric Spring Return Clockwise	G1	8 x M30 x 50 deep on 226.3 PCD
304-130 Metric Spring Return Counter Clockwise	G1	8 x M30 x 50 deep on 226.3 PCD
307-120 English Spring Return Clockwise	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD
307-130 English Spring Return Counter Clockwise	1 NPT	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

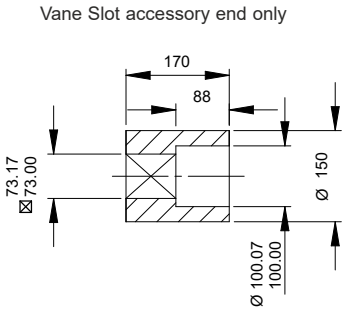
For female drive part codes contact Kinetrol

Dimensions





Standard Coupling
(supplied with actuator
weight 15.4 kg / 34 lbs)



Kinetrol Model 60 Spring Return Single Acting Actuator

Specification

Angle of Travel (adjustable)
80° - 100°
(restricted travel versions available)

Displaced Volume
94500 cm^3 / 5762 in^3

Materials of Construction
Casing: Sand 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 stove enamel

Weight
1398.0 kg / 3082.5 lb (excluding coupling)

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



ATEX Category 2

Spring Torques

Metric Units - Nm

Actuator Model	Position of air OR spring return stroke	1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	Pressure (bar) 4.5	4.8	5.2	5.5
60-120	Start									14001.0	15145.0	16313.0	17437.0
	Finish									11689.0	12644.0	13619.0	14558.0

English Units - lbf ins

Actuator Model	Position of air OR spring return stroke	25	30	35	40	45	50	55	60	Pressure (psi) 65	70	75	80
60-120	Start									123872	134045	144379	154333
	Finish									103416	111909	120537	128847

Factory assembled actuator/spring return assemblies have the spring pretension set for "balanced" torque output when the actuator is operated by air at 5.5 bar (80 psi). Factory assemblies can be preset for different air pressures below 5.5 bar (80 psi) on request.

Options

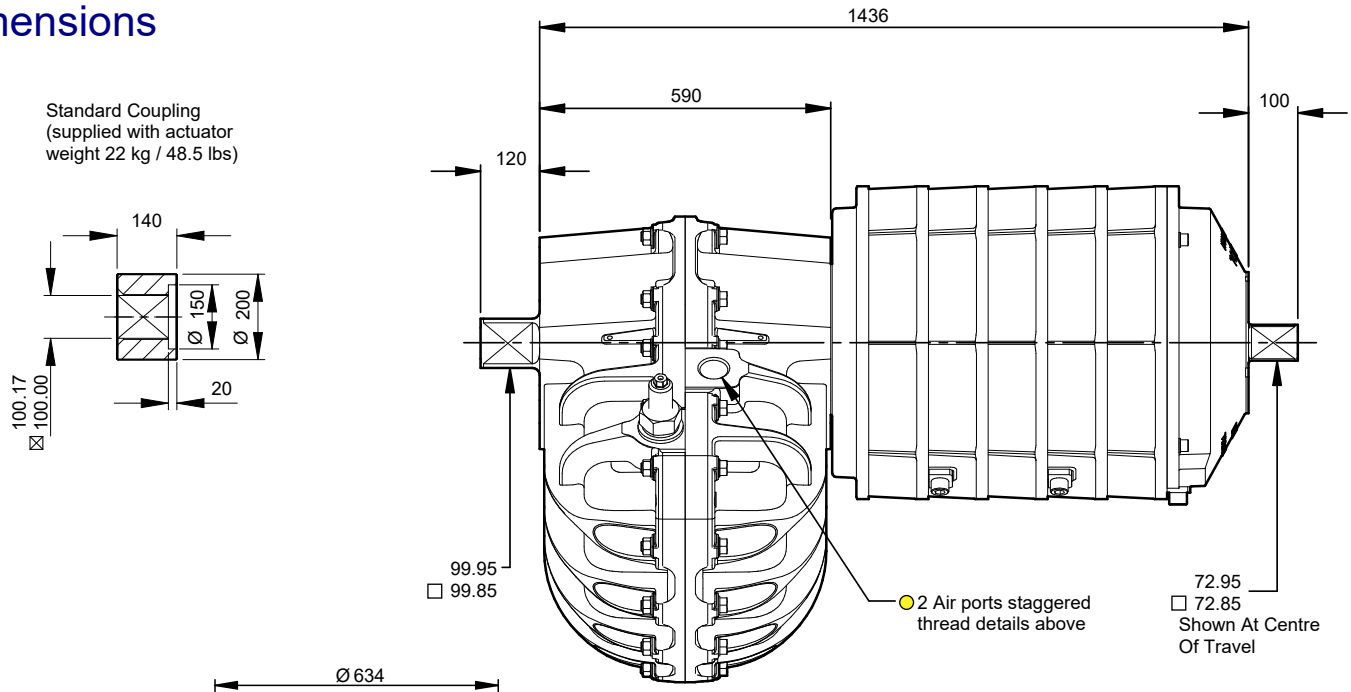
- ☐ Low pressure spring option
- ☐ Limit switch boxes for open/closed indication - various switches including hazardous area
- ☐ AP pneumatic positioner - full range of options
- ☐ EL electropneumatic positioner - full range of options
- ☐ P3 on/off positioner - full range of options including hazardous area

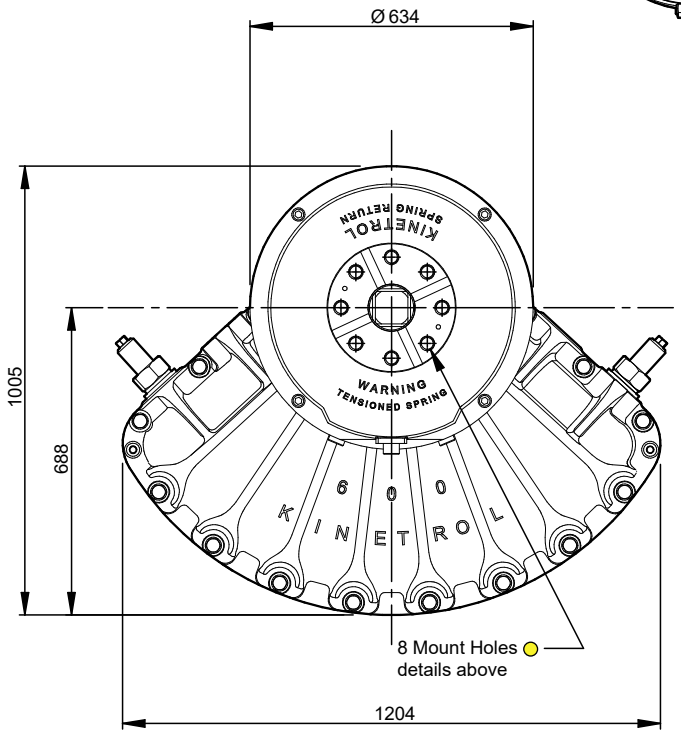
Kinetrol Model 60 Spring Return Single Acting Actuator

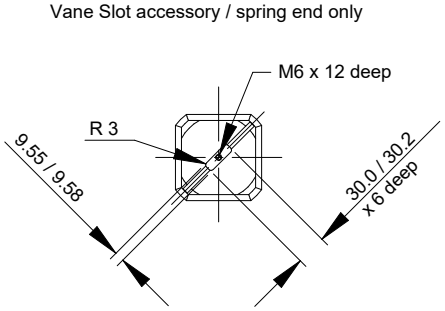
Product Code	Air Ports	Mount Holes
600-120 Metric Spring Return Clockwise	G2	8 x M30 x 80 deep on 356 PCD
600-130 Metric Spring Return Counter Clockwise	G2	8 x M30 x 80 deep on 356 PCD
609-120 English Spring Return Clockwise	2 NPT	8 x 1⅛-7 UNC x 3.15” deep on 14.02” PCD
609-130 English Spring Return Counter Clockwise	2 NPT	8 x 1⅛-7 UNC x 3.15” deep on 14.02” PCD

For female drive part codes contact Kinetrol

Dimensions







Kinetrol Model 01 Spring Unit

Specification

Spring Torque
Start 2.3 Nm / 20 lbf ins
Finish 1.8 Nm / 16 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
0.30 kg / 0.66 lb

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



ATEX Up to Category 1

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 01 Spring Unit

Product Code

014-020
Metric Spring Return Clockwise

014-030
Metric Spring Return Counter Clockwise

017-020
English Spring Return Clockwise

017-030
English Spring Return Counter Clockwise

Mount Holes

4 x M4 x 6 deep on 19.0 PCD

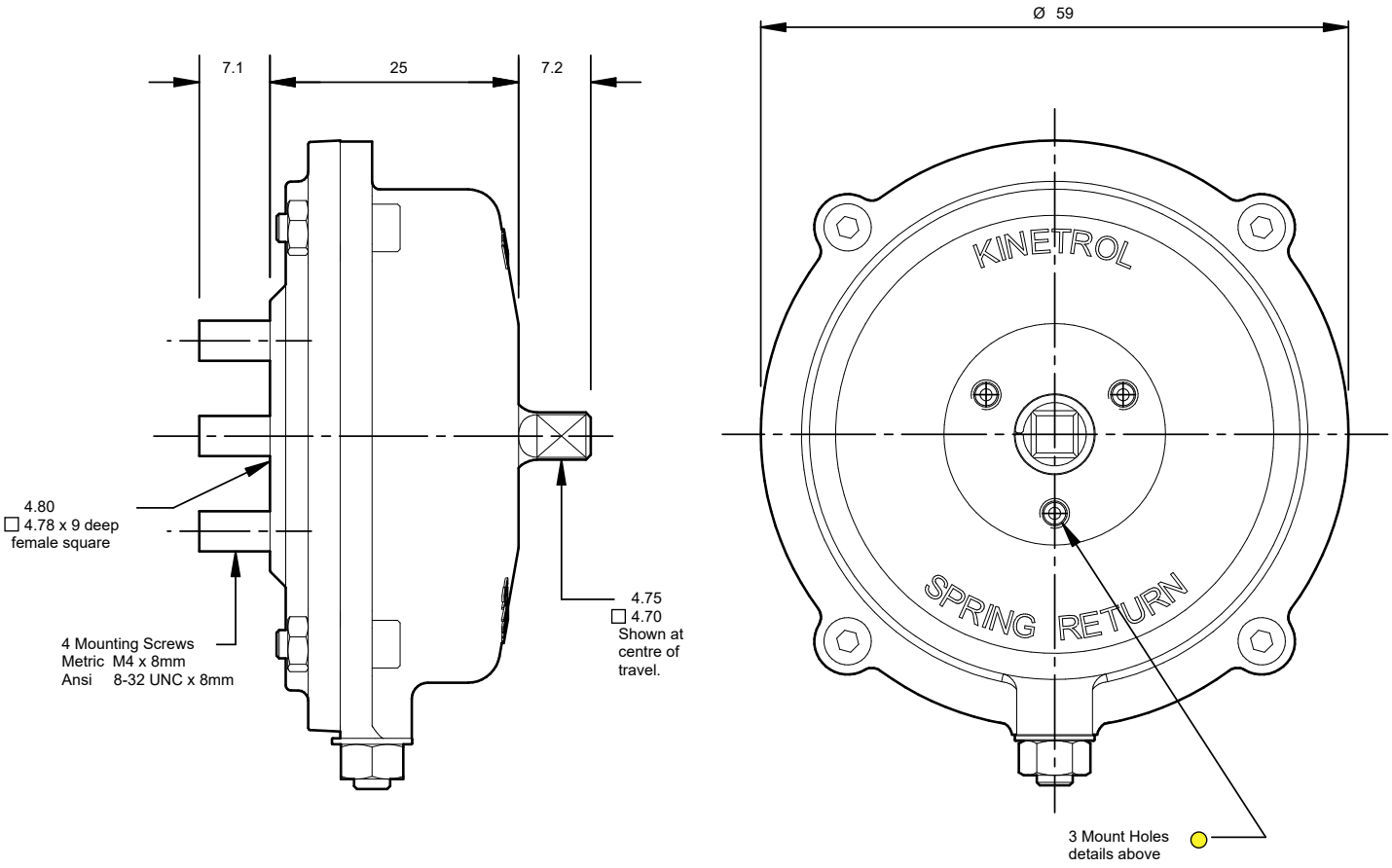
4 x M4 x 6 deep on 19.0 PCD

4 x 8-32 UNC x 0.25” deep on 0.75” PCD

4 x 8-32 UNC x 0.25” deep on 0.75” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 02 Spring Unit

Specification

Spring Torque
Start 4.7 Nm / 42 lbf ins
Finish 3.7 Nm / 33 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
0.47 kg / 1.04 lb

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



ATEX Up to Category 1

Options

- ISO adaptor
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 02 Spring Unit

Product Code

024-020
Metric Spring Return Clockwise

024-030
Metric Spring Return Counter Clockwise

027-020
English Spring Return Clockwise

027-030
English Spring Return Counter Clockwise

○ Mount Holes

4 x M4 x 8 deep on 25.5 PCD

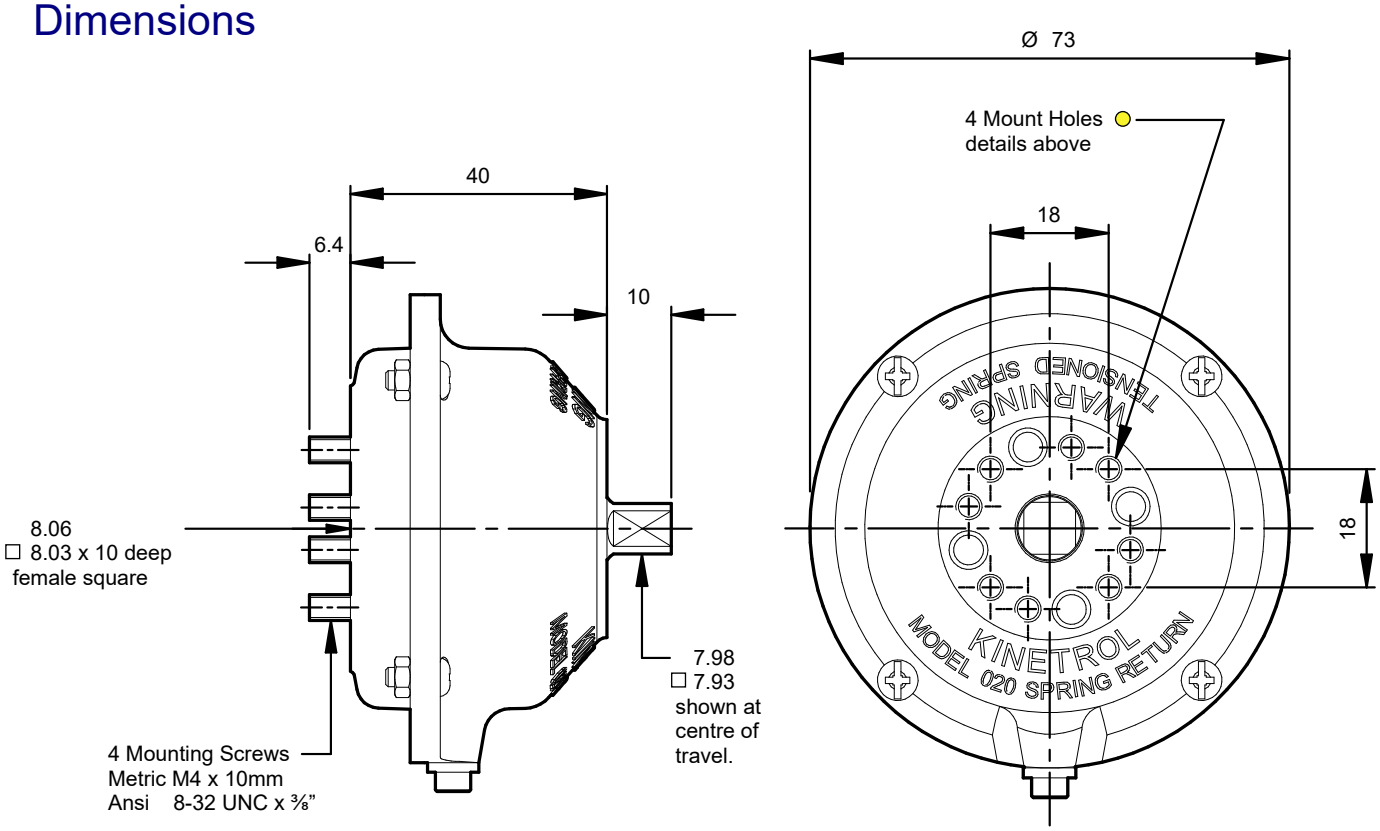
4 x M4 x 8 deep on 25.5 PCD

4 x 8-32 UNC x 0.31” deep on 1.00” PCD

4 x 8-32 UNC x 0.31” deep on 1.00” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 03 Spring Unit

Specification

Spring Torque
Start 10.3 Nm / 91 lbf ins
Finish 8.7 Nm / 77 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast ZL16 zinc alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
1.3 kg / 2.88 lb

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



ATEX Category 1

Options

- ISO Flange / Female drive spring option
- ISO adaptor
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 03 Spring Unit

Product Code

034-020
Metric Spring Return Clockwise

034-030
Metric Spring Return Counter Clockwise

037-020
English Spring Return Clockwise

037-030
English Spring Return Counter Clockwise

Mount Holes

4 x M5 x 10 deep on 31.1 PCD

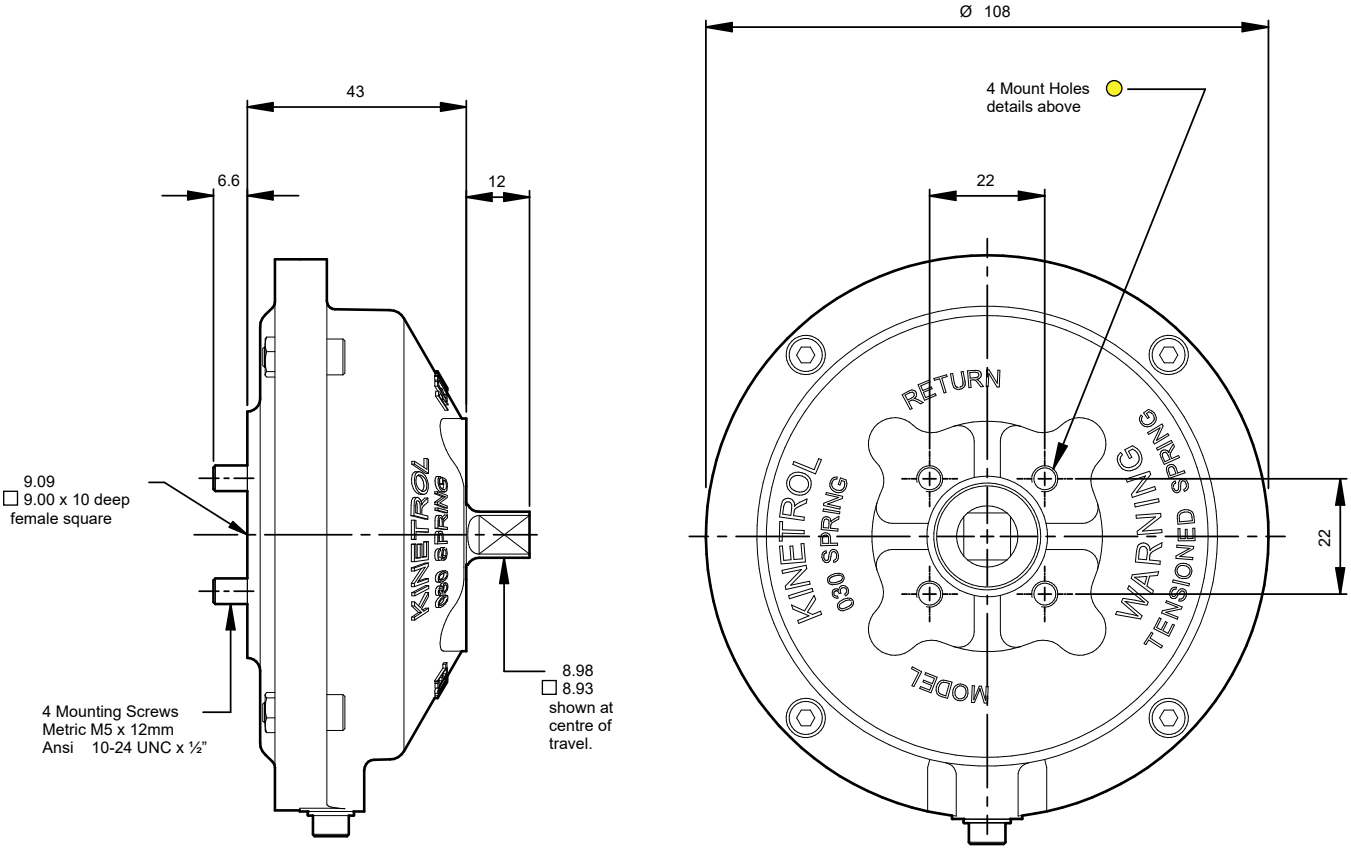
4 x M5 x 10 deep on 31.1 PCD

4 x 10-24 UNC x 0.39” deep on 1.225” PCD

4 x 10-24 UNC x 0.39” deep on 1.225” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 05 Spring Unit

Specification

Spring Torque
Start 20.9 Nm / 185 lbf ins
Finish 17.5 Nm / 155 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
1.14 kg / 2.51 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- ISO adaptor
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 05 Spring Unit

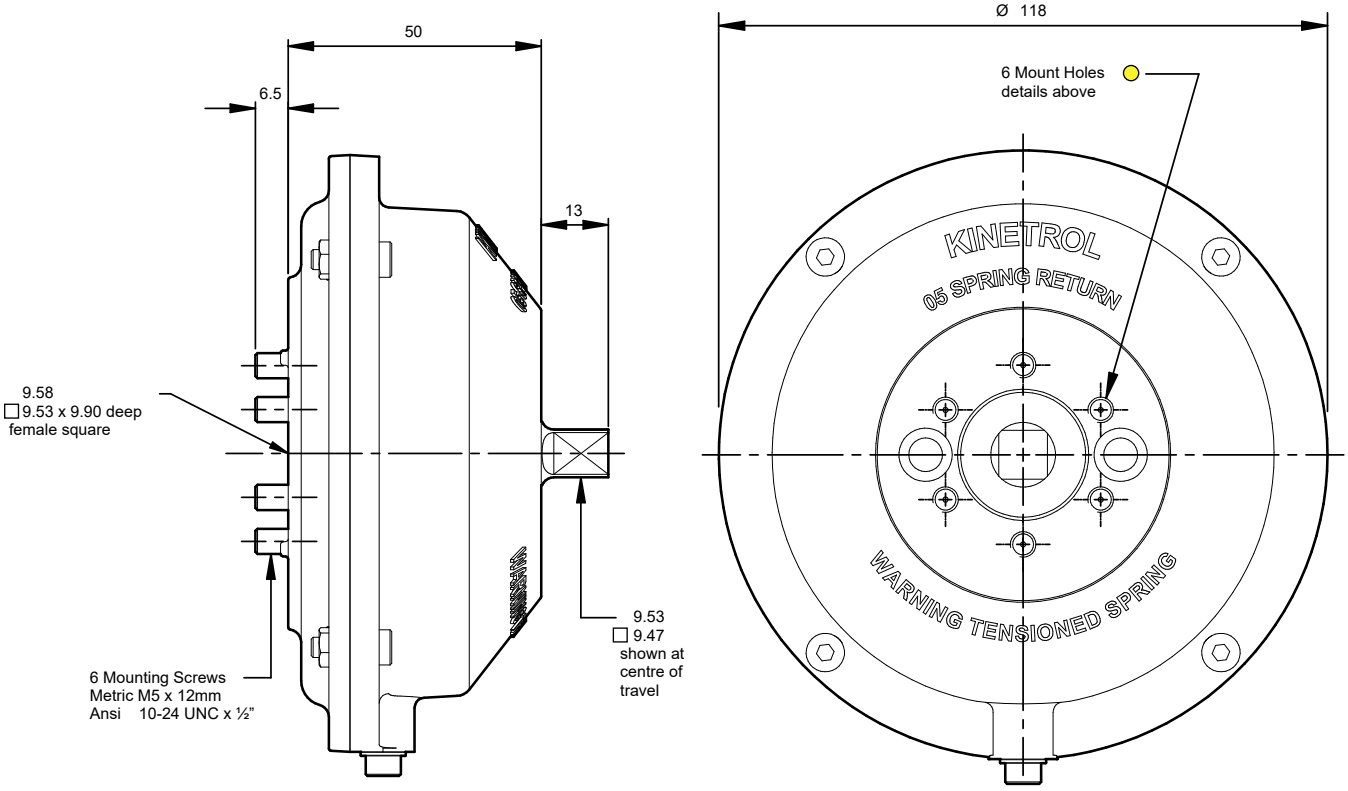
Product Code

054-020 Metric Spring Return Clockwise	6 x M5 x 10 deep on 34.9 PCD
054-030 Metric Spring Return Counter Clockwise	6 x M5 x 10 deep on 34.9 PCD
057-020 English Spring Return Clockwise	6 x 10-24 UNC x 0.39” deep on 1.375” PCD
057-030 English Spring Return Counter Clockwise	6 x 10-24 UNC x 0.39” deep on 1.375” PCD

Mount Holes

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 07 Spring Unit

Specification

Spring Torque
Start 50.8 Nm / 450 lbf ins
Finish 42.4 Nm / 375 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
2.74 kg / 6.04 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- ISO adaptor
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 07 Spring Unit

Product Code

074-020
Metric Spring Return Clockwise

074-030
Metric Spring Return Counter Clockwise

077-020
English Spring Return Clockwise

077-030
English Spring Return Counter Clockwise

Mount Holes

4 x M8 x 16 deep on 50.9 PCD

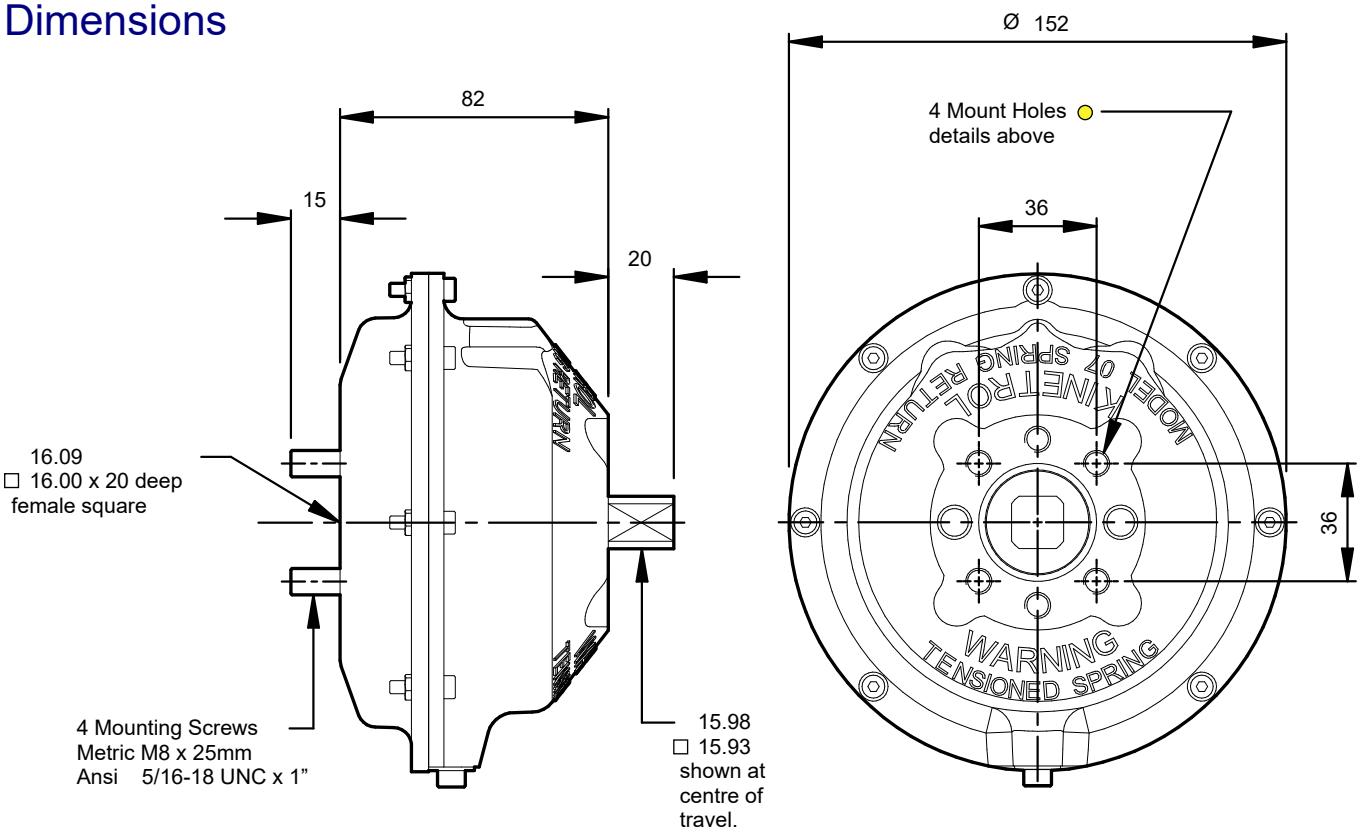
4 x M8 x 16 deep on 50.9 PCD

4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 08 Spring Unit

Specification

Spring Torque
Start 81.3 Nm / 720 lbf ins
Finish 65.5 Nm / 580 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
4.84 kg / 10.68 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- ISO adaptor
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 08 Spring Unit

Product Code

084-020
Metric Spring Return Clockwise

084-030
Metric Spring Return Counter Clockwise

087-020
English Spring Return Clockwise

087-030
English Spring Return Counter Clockwise

Mount Holes

4 x M8 x 16 deep on 70.0 PCD

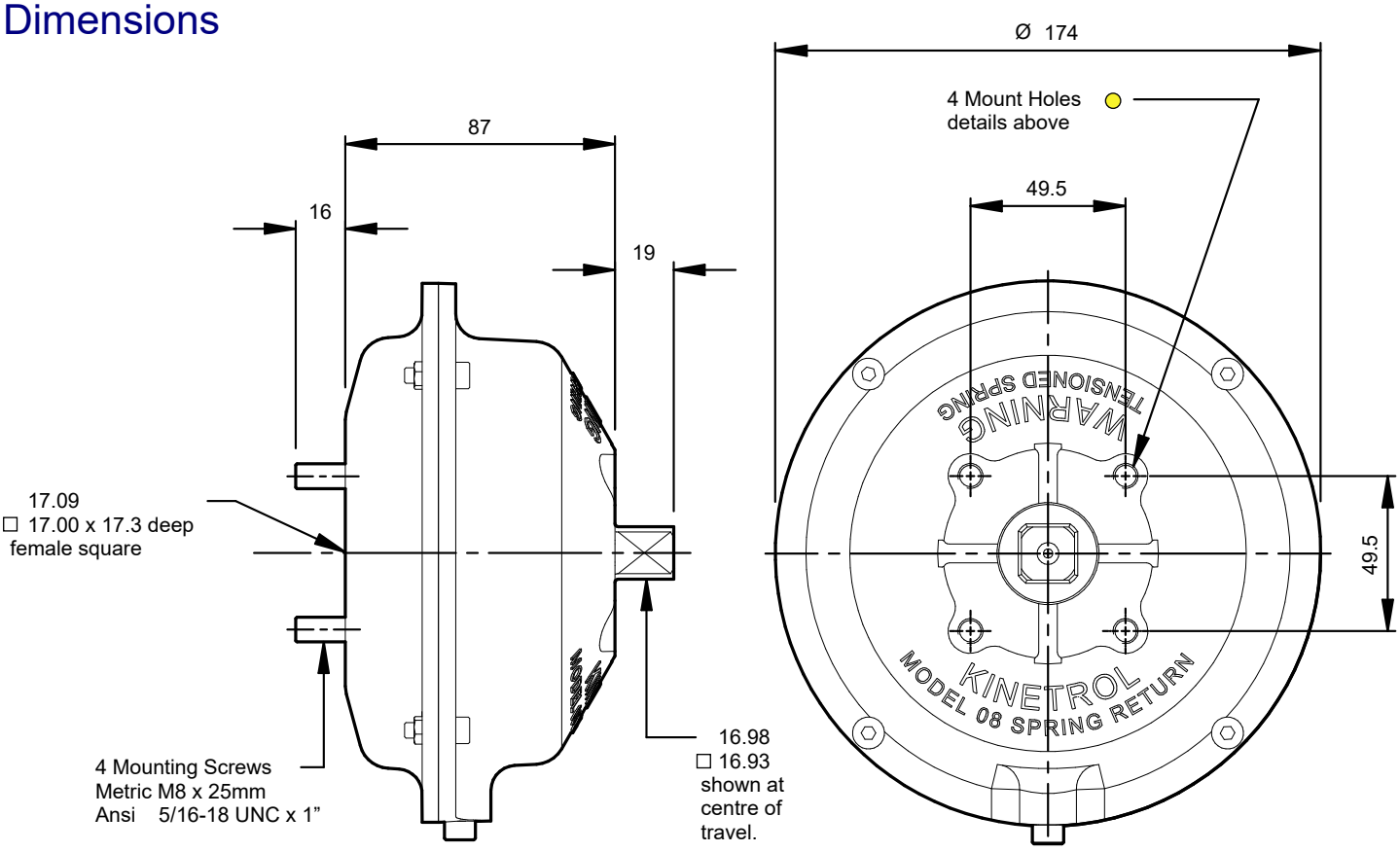
4 x M8 x 16 deep on 70.0 PCD

4 x 5/16-18 UNC x 0.63” deep on 2.76” PCD

4 x 5/16-18 UNC x 0.63” deep on 2.76” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 09 Spring Unit

Specification

Spring Torque
Start 104 Nm / 925 lbf ins
Finish 93.8 Nm / 830 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
6.9 kg / 15.26 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- ISO adaptor
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 09 Spring Unit

Product Code

094-020
Metric Spring Return Clockwise

094-030
Metric Spring Return Counter Clockwise

097-020
English Spring Return Clockwise

097-030
English Spring Return Counter Clockwise

Mount Holes

4 x M10 x 20 deep on 65.0 PCD

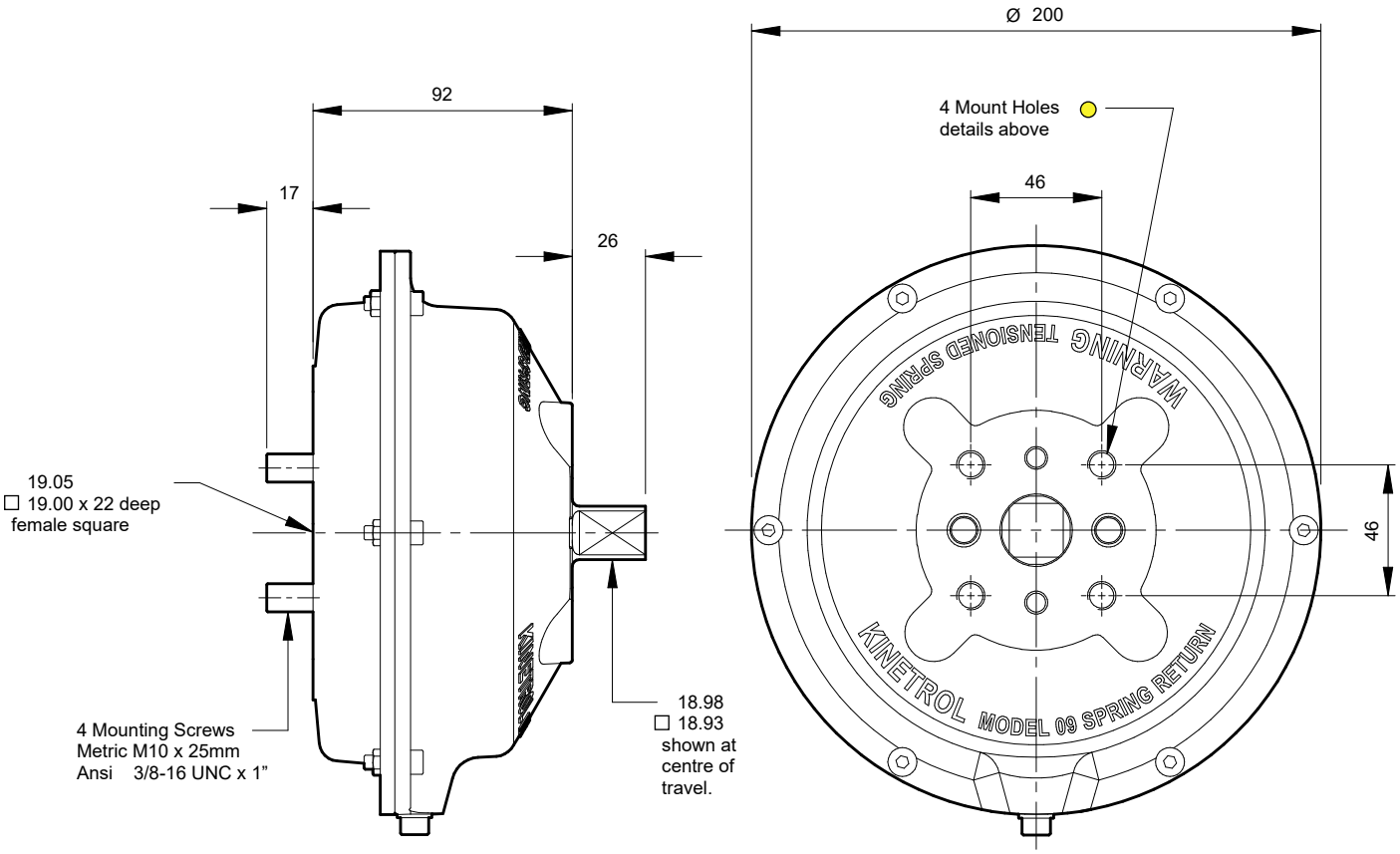
4 x M10 x 20 deep on 65.0 PCD

4 x ⅜-16 UNC x 0.79” deep on 2.56” PCD

4 x ⅜-18 UNC x 0.79” deep on 2.56” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 10 Spring Unit

Specification

Spring Torque
Start 164 Nm / 1450 lbf ins
Finish 143 Nm / 1270 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
9.4 kg / 20.73 lb

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



ATEX Category 2

Options

- ☐ Male drive spring option
- ☐ Low pressure spring option
- ☐ High temperature / Low temperature options
- ☐ Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 10 Spring Unit

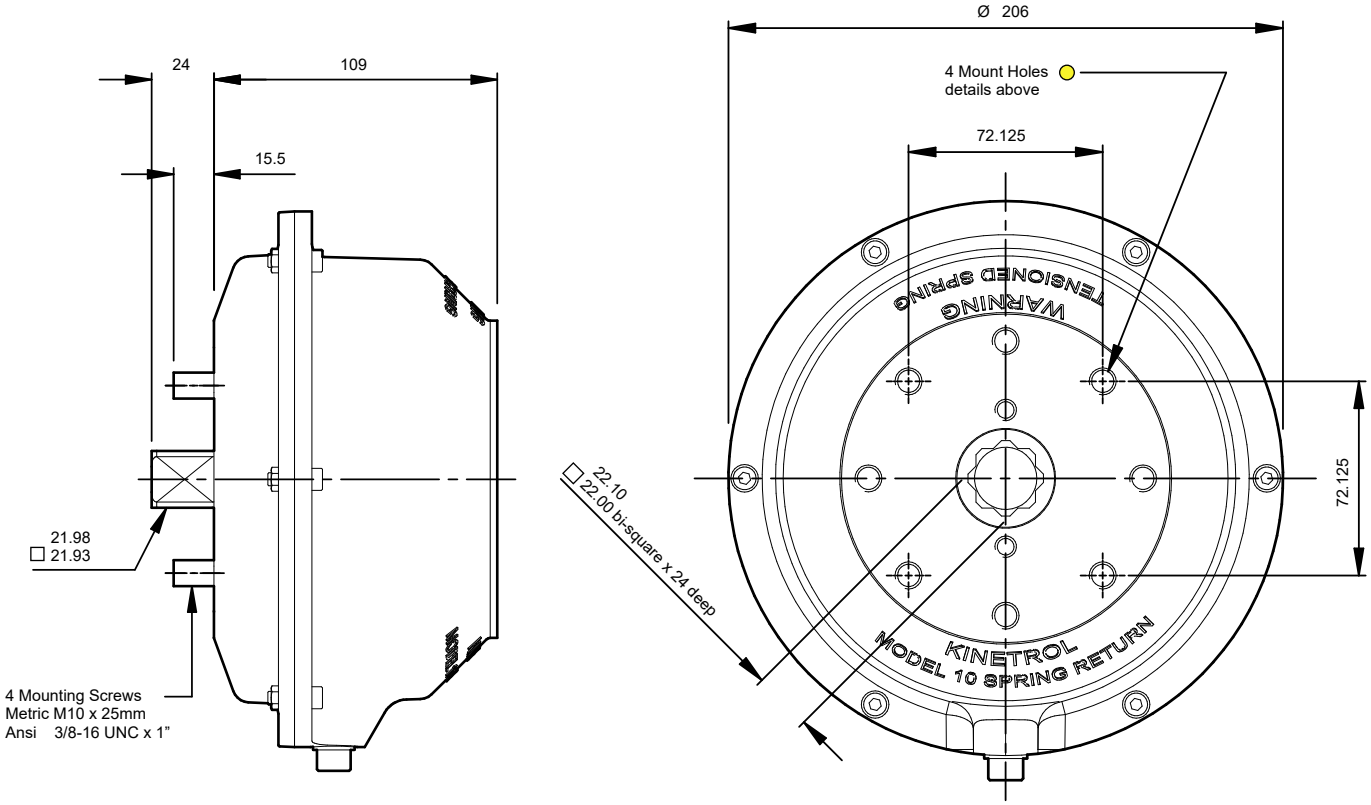
Product Code

Mount Holes

103F020 Metric Spring Return Clockwise	4 x M10 x 16 deep on 102.0 PCD
103F030 Metric Spring Return Counter Clockwise	4 x M10 x 16 deep on 102.0 PCD
107F020 English Spring Return Clockwise	4 x ⅜-16 UNC x 0.63” deep on 4.02” PCD
107F030 English Spring Return Counter Clockwise	4 x ⅜-16 UNC x 0.63” deep on 4.02” PCD

For male drive part codes contact Kinetrol

Dimensions



Kinetrol Model 12 Spring Unit

Specification

Spring Torque
Start 238 Nm / 2110 lbf ins
Finish 204 Nm / 1810 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
16.2 kg / 35.71 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 12 Spring Unit

Product Code

124-020
Metric Spring Return Clockwise

124-030
Metric Spring Return Counter Clockwise

127-020
English Spring Return Clockwise

127-030
English Spring Return Counter Clockwise

○ Mount Holes

4 x M12 x 24 deep on 77.8 PCD

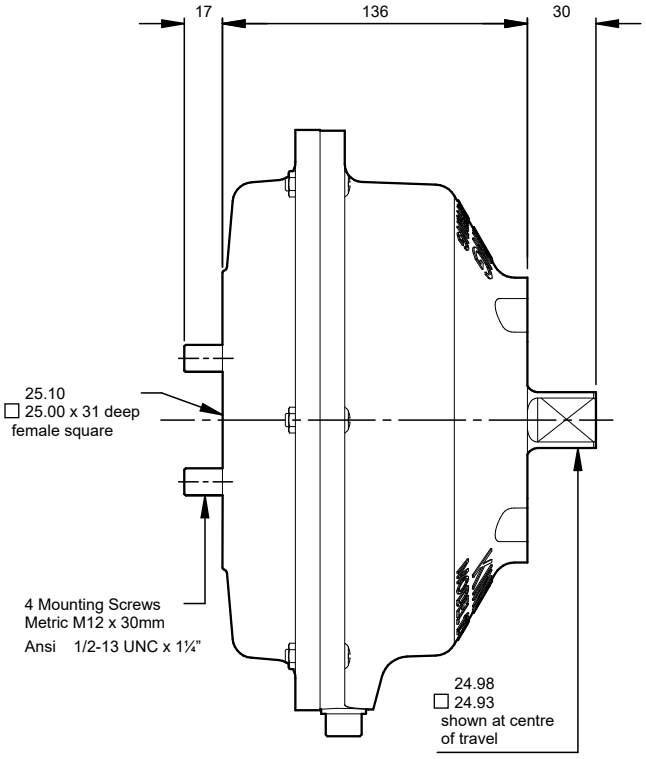
4 x M12 x 24 deep on 77.8 PCD

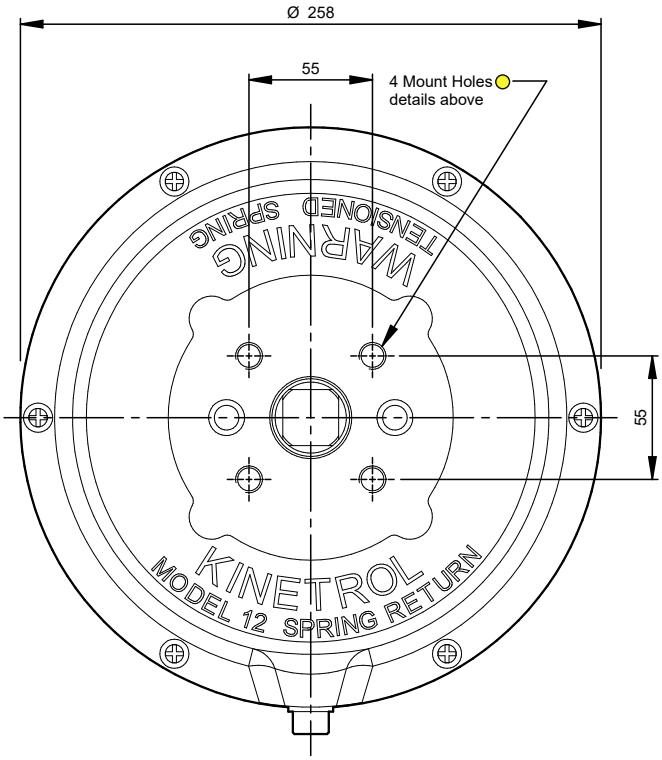
4 x ½-13 UNC x 0.94” deep on 3.06” PCD

4 x ½-13 UNC x 0.94” deep on 3.06” PCD

For female drive part codes contact Kinetrol

Dimensions





Kinetrol Model 14-4900 Spring Unit

Specification

Spring Torque
Start 529 Nm / 4680 lbf ins
Finish 447 Nm / 3960 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
29 kg / 64 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

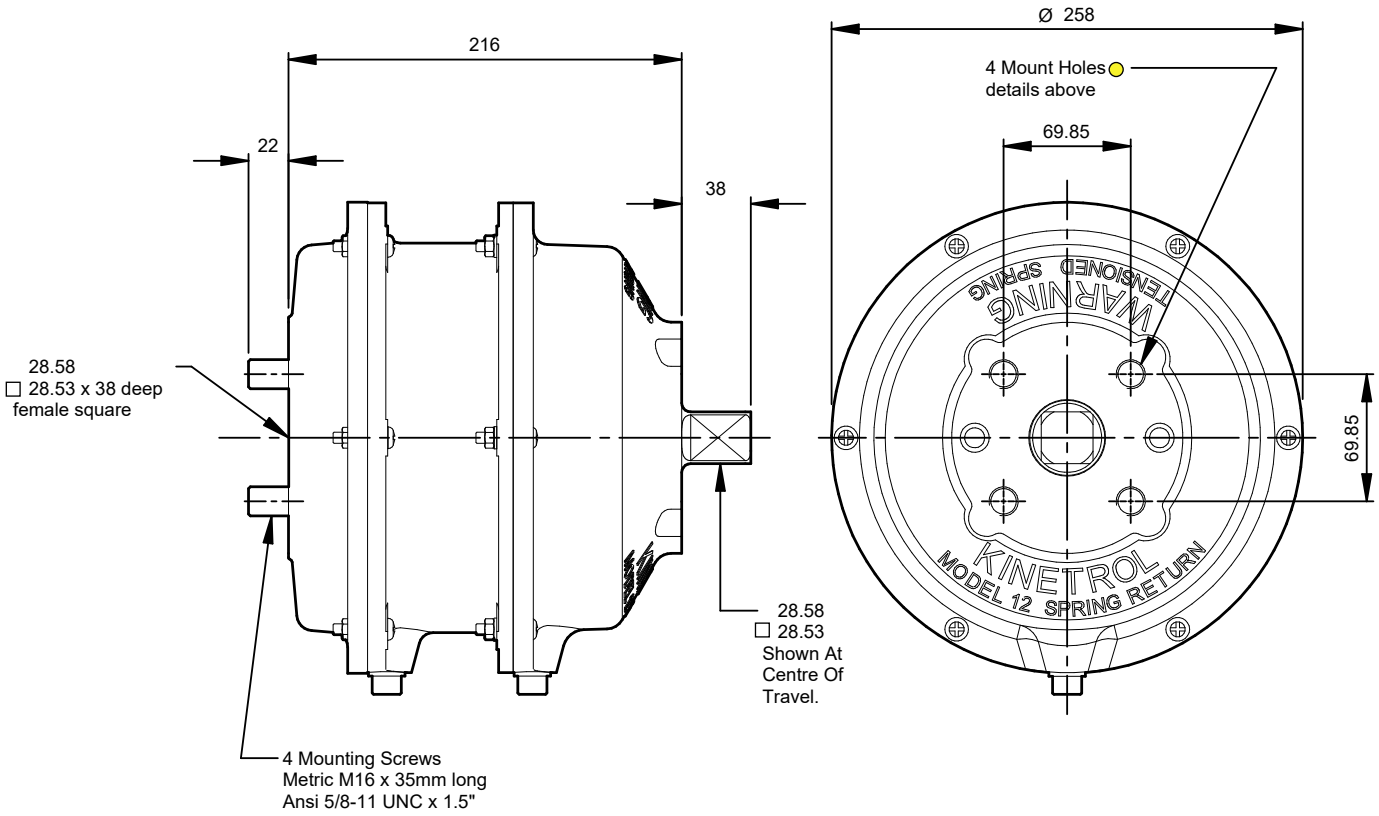
See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 14-4900 Spring Unit

Product Code	Mount Holes
144-020-4900 Metric Spring Return Clockwise	4 x M16 x 28.5 deep on 98.8 PCD
144-030-4900 Metric Spring Return Counter Clockwise	4 x M16 x 28.5 deep on 98.8 PCD
147-020-4900 English Spring Return Clockwise	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD
147-030-4900 English Spring Return Counter Clockwise	4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 14 Spring Unit

Specification

Spring Torque
Start 588 Nm / 5200 lbf ins
Finish 478 Nm / 4230 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
50 kg / 110.32 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 14 Spring Unit

Product Code

144-020
Metric Spring Return Clockwise

144-030
Metric Spring Return Counter Clockwise

147-020
English Spring Return Clockwise

147-030
English Spring Return Counter Clockwise

Mount Holes

4 x M16 x 28.5 deep on 98.8 PCD
4 x M16 x 28.5 deep on 140.0 PCD

4 x M16 x 28.5 deep on 98.8 PCD
4 x M16 x 28.5 deep on 140.0 PCD

4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD

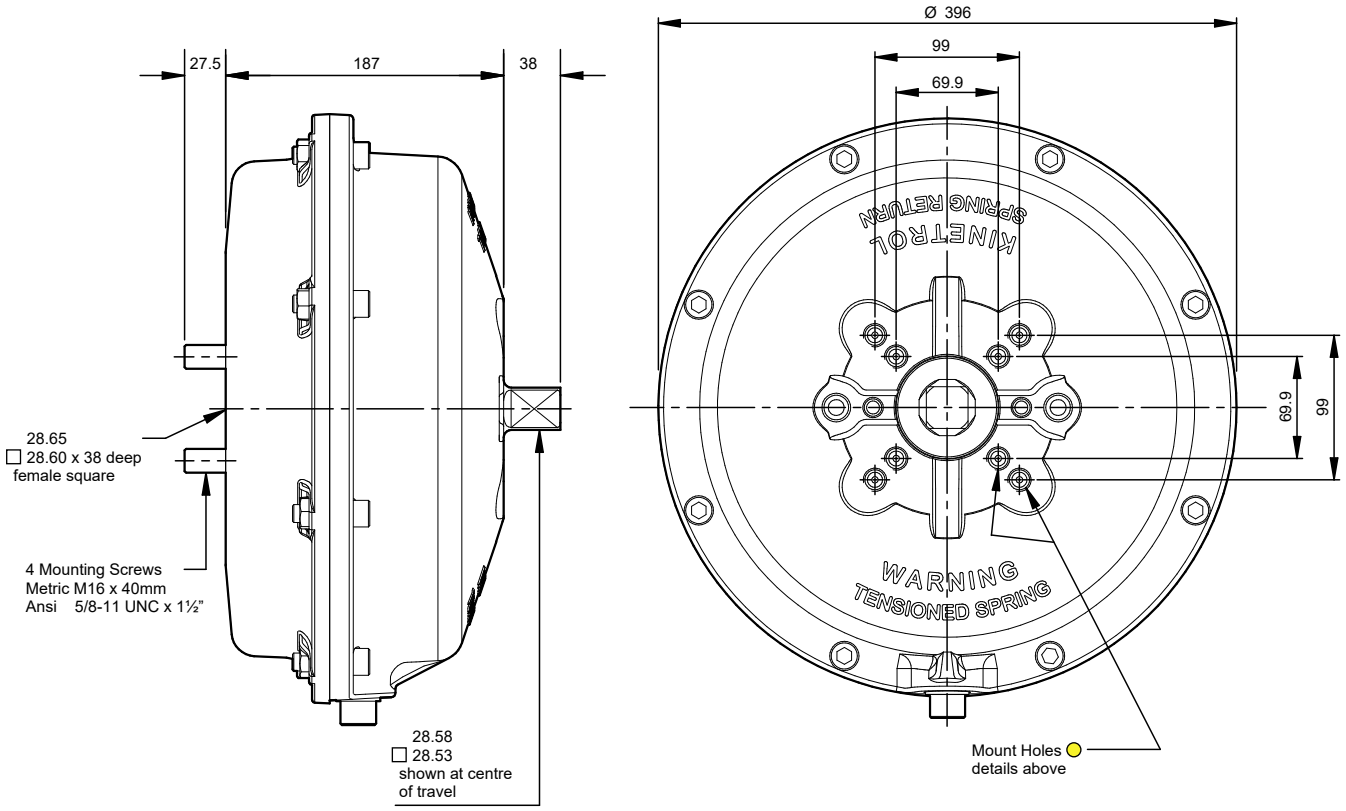
4 x ⅝-11 UNC x 1.12” deep on 5.51” PCD

4 x ⅝-11 UNC x 1.12” deep on 3.89” PCD

4 x ⅝-11 UNC x 1.12” deep on 5.51” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 15 Spring Unit

Specification

Spring Torque
Start 962 Nm / 8514 lbf ins
Finish 790 Nm / 6992 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
54.3 kg / 120.1 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 15 Spring Unit

Product Code

154-020
Metric Spring Return Clockwise

154-030
Metric Spring Return Counter Clockwise

157-020
English Spring Return Clockwise

157-030
English Spring Return Counter Clockwise

For female drive part codes contact Kinetrol

Mount Holes

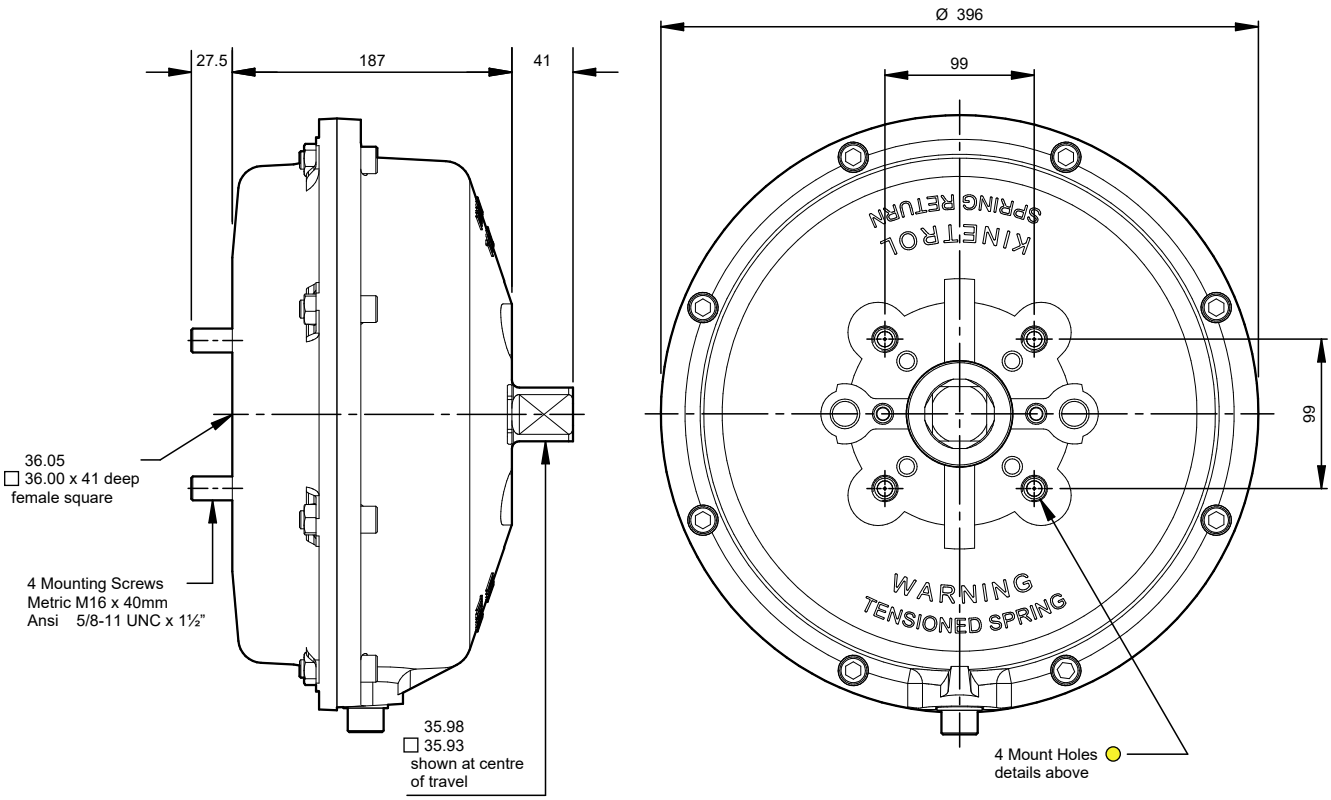
4 x M16 x 28.5 deep on 140.0 PCD

4 x M16 x 28.5 deep on 140.0 PCD

4 x ⅝-11 UNC x 1.13” deep on 5.51” PCD

4 x ⅝-11 UNC x 1.13” deep on 5.51” PCD

Dimensions



Kinetrol Model 16 Spring Unit

Specification

Spring Torque
Start 1321 Nm / 11691 lbf ins
Finish 1081 Nm / 9567 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Sand cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
100.2 kg / 220.2 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- Low pressure spring option
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 16 Spring Unit

Product Code

164-020
Metric Spring Return Clockwise

164-030
Metric Spring Return Counter Clockwise

167-020
English Spring Return Clockwise

167-030
English Spring Return Counter Clockwise

Mount Holes

4 x M24 x 38 deep on 152.7 PCD

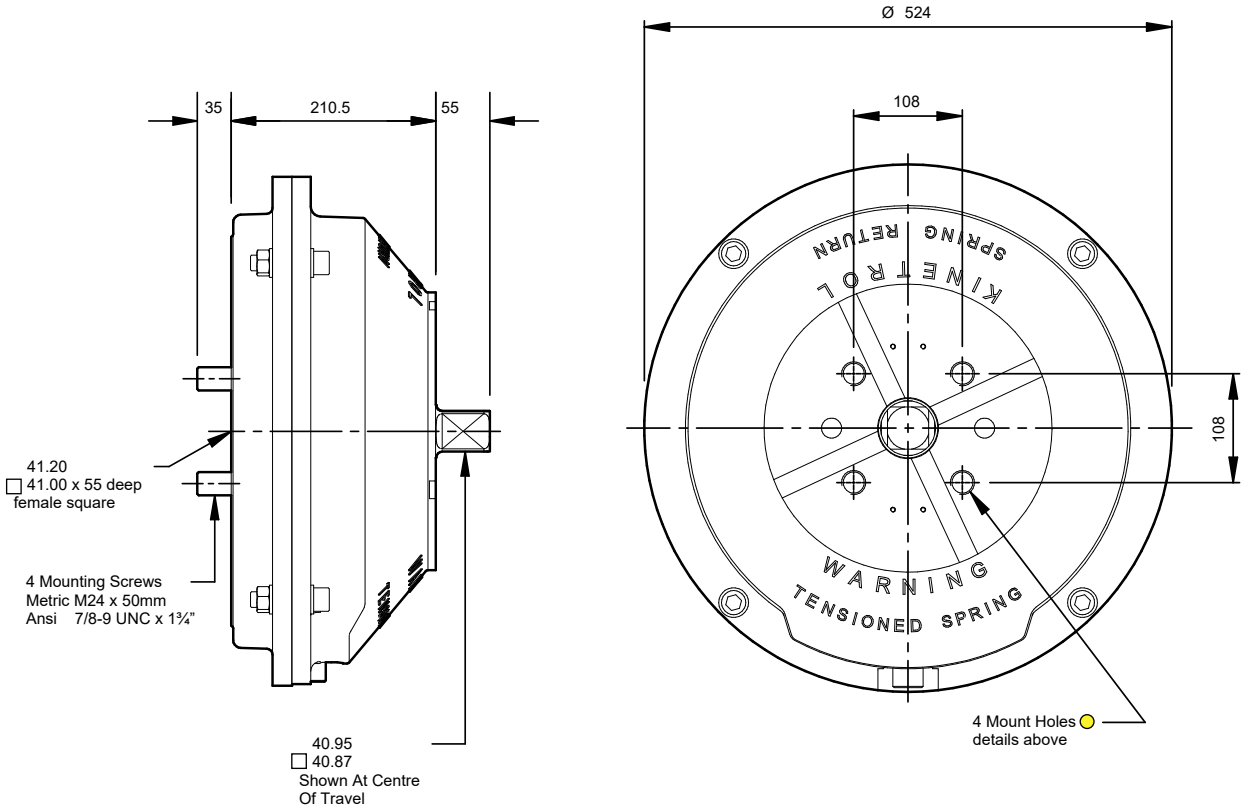
4 x M24 x 38 deep on 152.7 PCD

4 x ⅞-9 UNC x 1.50” deep on 6.01” PCD

4 x ⅞-9 UNC x 1.50” deep on 6.01” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 18 Spring Unit

Specification

Spring Torque
Start 2954 Nm / 26143 lbf ins
Finish 2417 Nm / 21390 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Sand cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
184.0 kg / 405.6 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- Low pressure spring option
- High temperature / Low temperature options

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 18 Spring Unit

Product Code

184-020
Metric Spring Return Clockwise

184-030
Metric Spring Return Counter Clockwise

187-020
English Spring Return Clockwise

187-030
English Spring Return Counter Clockwise

Mount Holes

4 x M30 x 50 deep on 226.3 PCD

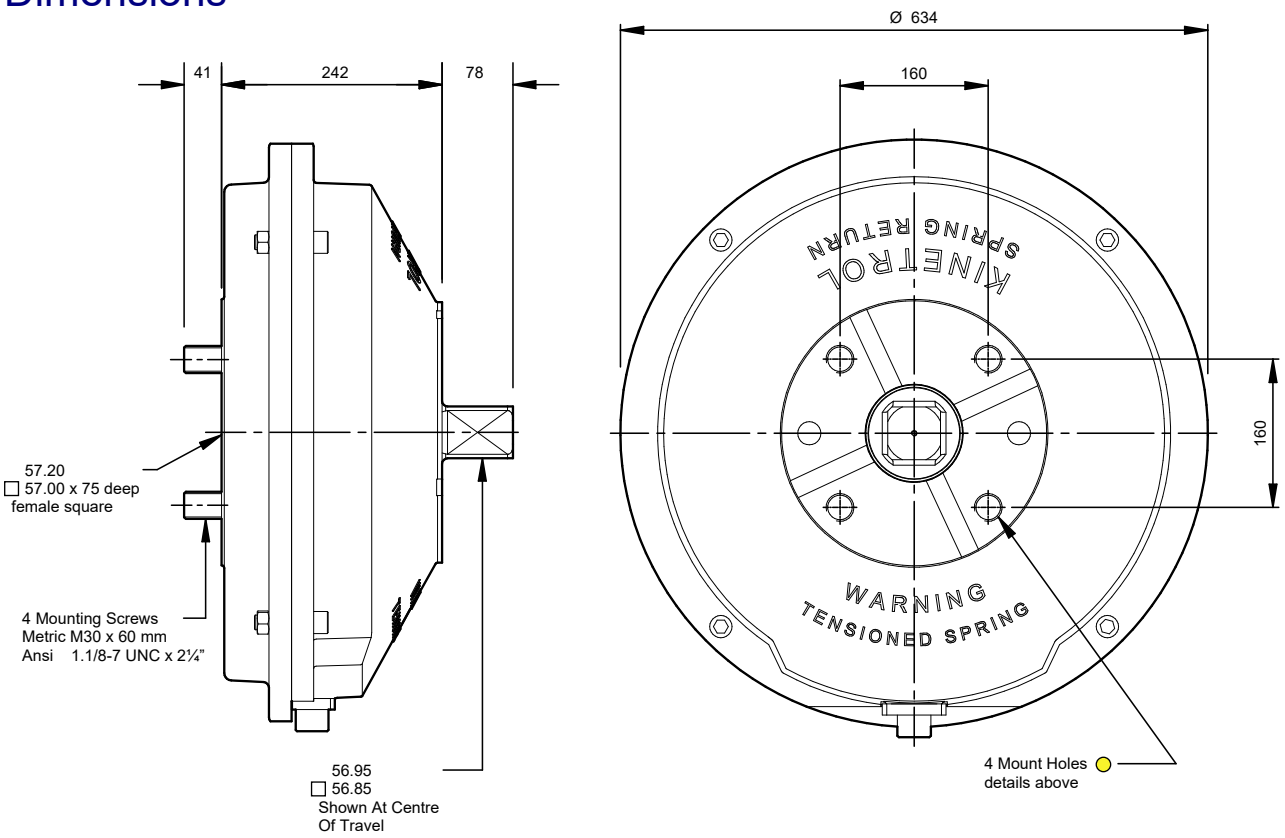
4 x M30 x 50 deep on 226.3 PCD

4 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

4 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 21 Spring Unit

Specification

Spring Torque
Start 5456 Nm / 48286 lbf ins
Finish 4464 Nm / 39506 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Sand cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
323.6 kg / 713.6 lb

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



ATEX Category 2

Options

- ISO Flange / Female drive spring option
- Low pressure spring option
- High temperature / Low temperature options

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

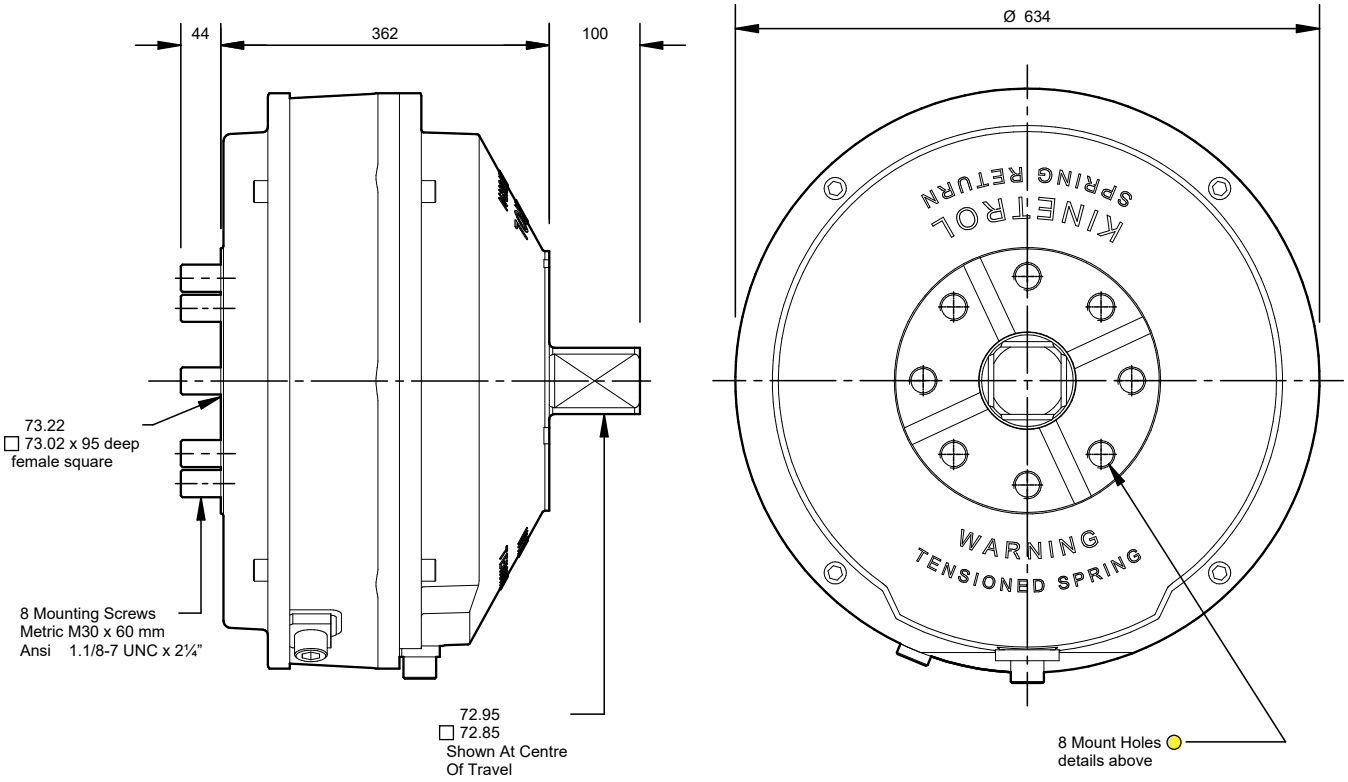
See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 21 Spring Unit

Product Code	Mount Holes
214-020 Metric Spring Return Clockwise	8 x M30 x 50 deep on 226.3 PCD
214-030 Metric Spring Return Counter Clockwise	8 x M30 x 50 deep on 226.3 PCD
217-020 English Spring Return Clockwise	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD
217-030 English Spring Return Counter Clockwise	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 30 Spring Unit

Specification

Spring Torque
Start 8184 Nm / 72428 lbf ins
Finish 6696 Nm / 59260 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Sand cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
480.0 kg / 1058.09 lb

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



ATEX Category 2

Options

- Low pressure spring option
- High temperature / Low temperature options

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

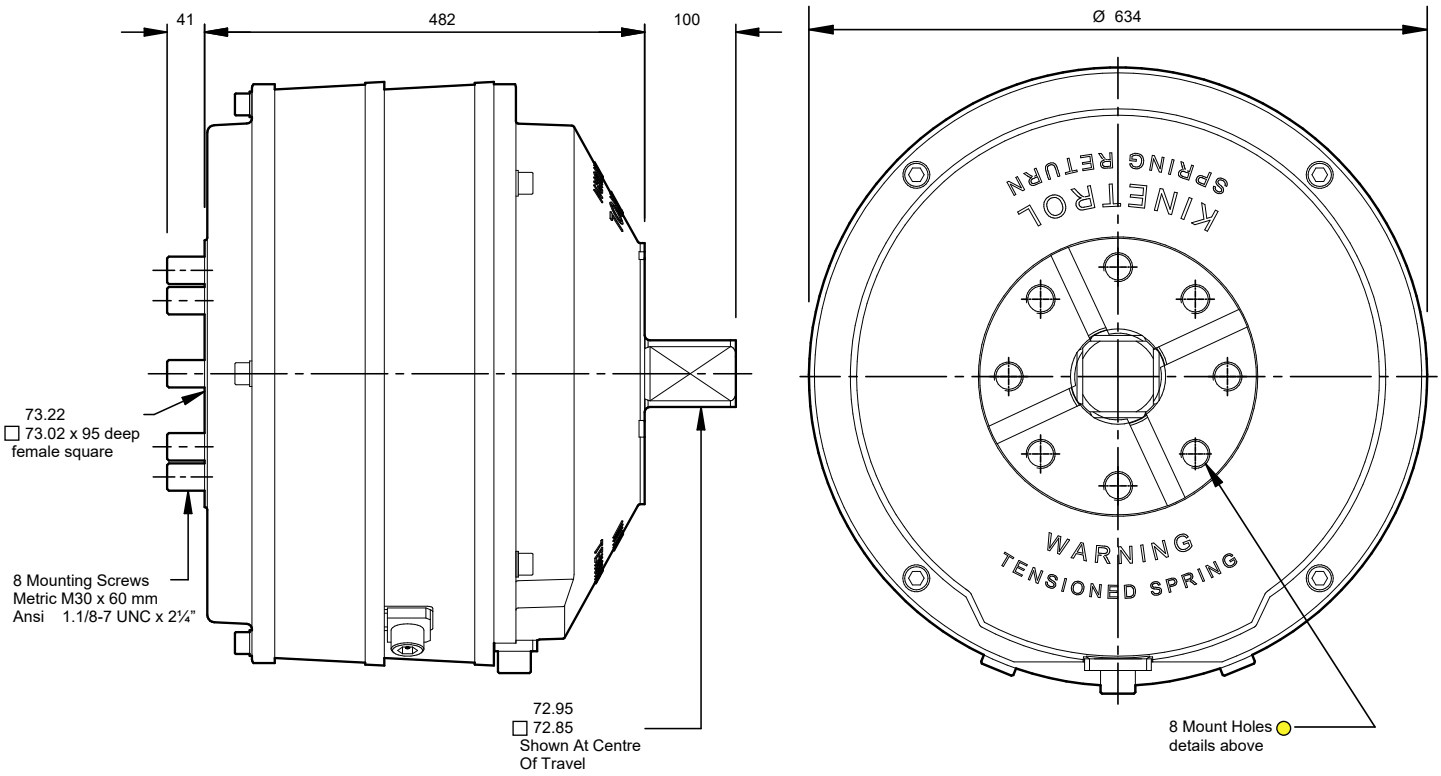
See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 30 Spring Unit

Product Code	Mount Holes
304-020 Metric Spring Return Clockwise	8 x M30 x 50 deep on 226.3 PCD
304-030 Metric Spring Return Counter Clockwise	8 x M30 x 50 deep on 226.3 PCD
307-020 English Spring Return Clockwise	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD
307-030 English Spring Return Counter Clockwise	8 x 1⅛-7 UNC x 2.00” deep on 8.91” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 60 Spring Unit

Specification

Spring Torque
Start 17437 Nm / 154333 lbf ins
Finish 14558 Nm / 128847 lbf ins

For actuated torques see single acting spring return actuator torque data sheets

For reduced spring torques contact Kinetrol

Angle of Travel
0° - 90°

Materials of Construction
Casing: Sand cast aluminium alloy
Output Shaft: Steel, zinc plated
Clock Type Spring: Carbon spring steel

Finish
Epoxy stove enamel

Weight
923.0 kg / 2035.3 lb

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



ATEX Category 2

Options

- ☐ Low pressure spring option

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

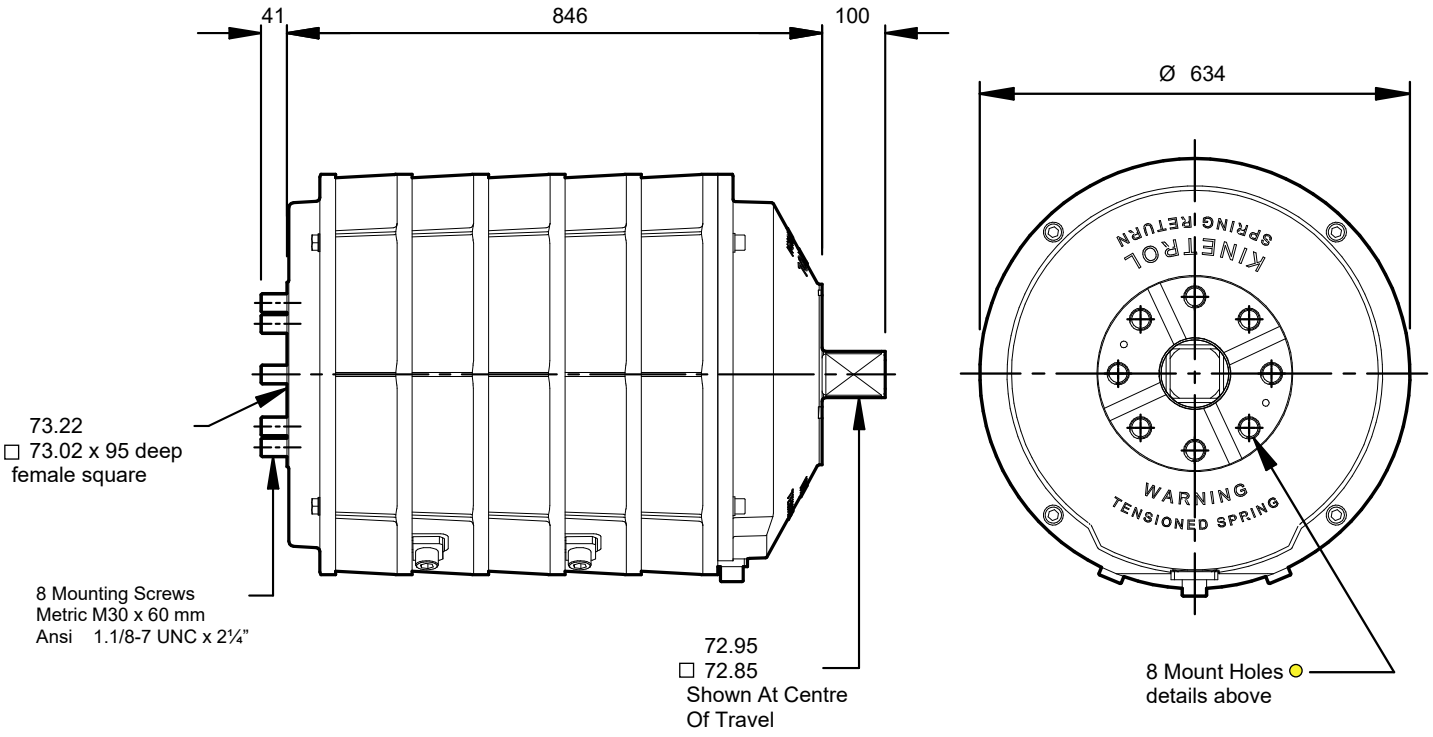
See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 60 Spring Unit

Product Code	Mount Holes
604-020 Metric Spring Return Clockwise	8 x M30 x 80 deep on 356 PCD
604-030 Metric Spring Return Counter Clockwise	8 x M30 x 80 deep on 356 PCD
609-020 English Spring Return Clockwise	8 x 1⅛-7 UNC x 3.15” deep on 14.02” PCD
609-030 English Spring Return Counter Clockwise	8 x 1⅛-7 UNC x 3.15” deep on 14.02” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol ISO/DIN Actuator Options

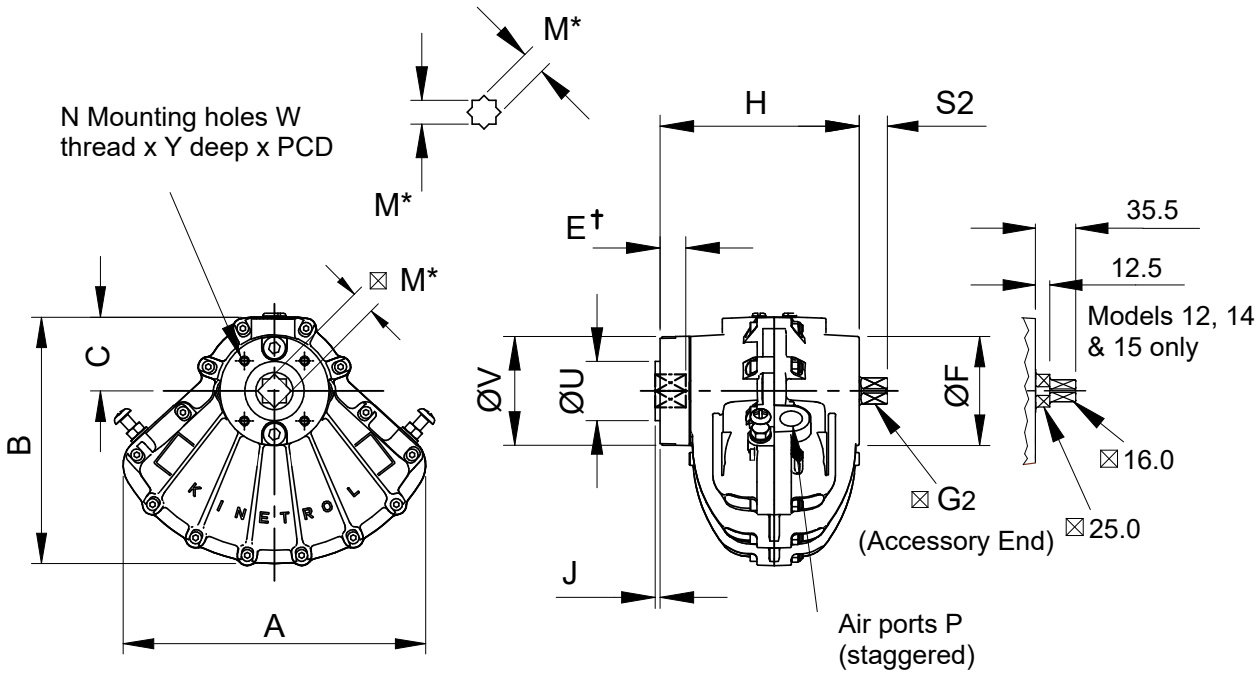
- Direct mounting flange and coupling for mounting to valves with ISO 5211 drive interfaces available for actuator models 02 to 21
- Female star drive for models 02, 03, 05, 07, 09, 12 and 14. All other models are female square drive.



Actuator Model	A mm	B mm	C mm	H mm	ØF mm	ISO/DIN flange no.	M* mm	V mm	ØU mm	PCD mm	N No.	W	Y(Min) mm	J mm	E † mm	P Port	G2 mm	S2 mm
023-100	91	76	24.1	66	29	F03	9	46	25	36	4	M5	8	2	10	G⅛	8.0	10.0
033-100	113	92	28.0	74	36	F03	9	46	25	36	4	M5	8	2	10	G⅛	9.0	12.0
053-100	132	114	33.6	81	66	F04	11	47	30	42	4	M5	8	2	12	G⅛	9.5	13.0
073-100	178	147	43.4	117	68	F05	14	64	35	50	4	M6	10	3	16	G¼	16.0	20.0
083-100	208	167	46.3	133	65	F07	17	70	55	70	4	M8	16	3	19	G¼	16.0	20.0
093-100	227	187	54.7	146	84	F07	17	85	55	70	4	M8	13	3	19	G¼	16.0	20.0
103-100	229	188	57.0	175	77	F10	22	-	-	102	4	M10	16	-	24	G¼	16.0	20.0
123-100	294	239	68.0	181	100	F10	22	125	70	102	4	M10	16	3	24	G⅜	16.0	35.5
143-100	380	308	84.0	227	128	F12	27	150	85	125	4	M12	20	3	29	G½	16.0	35.5
153-100	433	353	101.0	290	138	F14	36	133	100	140	4	M16	38	4	45	G½	16.0	35.5
163-100	530	427	125.0	380	175	F16	46	203	130	165	4	M20	32	4	48	G½	41.0	55.0
183-100	680	554	162.0	501	286	F25	55	300	200	254	8	M16	24	4	57	G1	57.0	78.0
213-100	842	660	189.0	594	410	F30	75	350	230	298	8	M20	30	4	77	G1	73.0	100.0

† Minimum

* Models 02, 03, 05, 07, 09, 12 and 14 are female star drive, all other models are female square drive



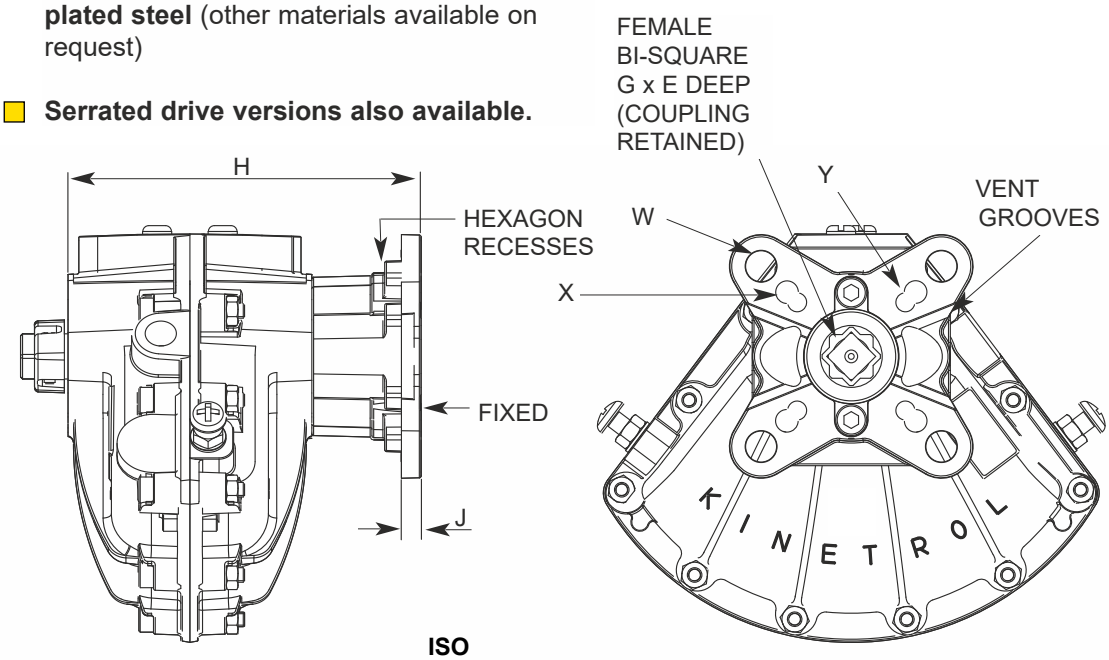
Kinetrol ISO Adaptor

Ultimate Mounting Flexibility

- **Low cost direct mount flange and coupling for mounting to valves with ISO 5211 drive interfaces, available for actuator models 02, 03, 05, 07, 08 and 09**
- **Mounting directly to standard Kinetrol double acting actuator thereby reducing stocking requirements**
- **Multiple mounting hole sets in one part**
- **International patents.** The novel design allows metric mounting screws to face in either direction. Valve flanges with tapped holes can easily be interfaced for the first time. Nut recesses in flange make for easy installation
- **Robust epoxy coated zinc alloy (02, 03 & 07) and aluminium alloy (05, 08 & 09) adaptor with no threads for maximum corrosion resistance**
- **Female drive bi-square (star) coupling is retained by adaptor and made from zinc plated steel** (other materials available on request)
- **Serrated drive versions also available.**



International Patents



Adaptor Kit*	Order Codes	ISO Flange Sizes	H mm	J mm	G mm	E † mm	W PCD mm	X PCD mm	Y PCD mm	Weight Kg
SP 1406 ♦	023F120 / 023F100	F03/F05	74	5.0	11	12	6.6 50	5.5 36	-	0.13
SP 1407 ♦	023F180 / (024-100Z fitted with SP1407)	F04	74	5.0	11	12	5.5 42	-	-	0.13
SP 1449	033F100**	F03/F05	84	5.0	11	12	6.6 50	5.5 36	-	0.13
SP 1454	034-100Z fitted with SP1454	F04	84	5.0	11	12	5.5 42	-	-	0.13
SP 1339 ♦	053F100	F04/F05/F07	97	5.4	14	17	9.0 70	6.6 50	5.5 42	0.18
SP 1451 ♦	073F100	F05/F07	140	8	17	19	9.0 70	6.6 50	-	0.53
SP 1445 ♦	083F100	F07/F10	160	10	22	24	11.0 102	9.0 70	-	1.04
SP 1452 ♦	093F100	F07/F10	176	10	22	24	11.0 102	9.0 70	-	1.04

* ANSI (e.g. ASP1449) colour versions (identical dimensions) also available.
** Default 03 version
† Minimum
♦ Also mounts directly to male drive spring units

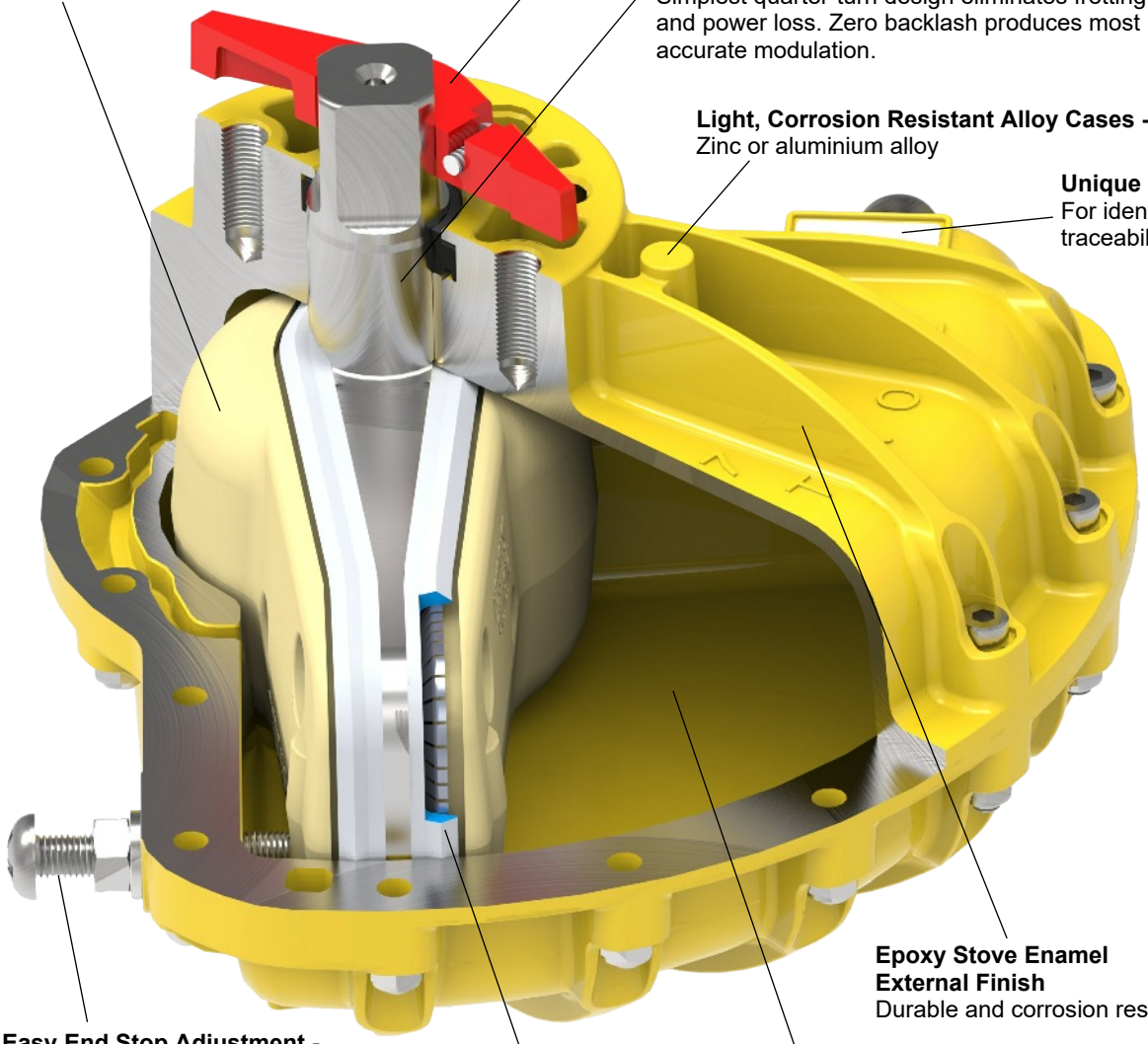
Kinetrol Spring Return Features

Applications

Operation or positioning of ball, butterfly, plug and control valves, ventilation dampers and automatic doors. Uses also include movement and positioning of components during manufacture - in fact anything that needs to be turned through 90° or less, automatically or by remote control.

LONG MAINTENANCE-FREE LIFE
Up to 4 million operations guaranteed

PROVEN IN SERVICE
Millions of units operating trouble-free worldwide



CHOICE OF MALE OR FEMALE OUTPUT DRIVE SQUARES
Easy and versatile interface to applications

CLOSE COUPLED CONTROL MODULES
Fail-safe spring returns, limit switch boxes, solenoid valves and positioners all close coupled to actuators

The policy of KINETROL is one of continuous improvement. We reserve the right to alter the product as described and illustrated without notice.

Kinetrol Spring Return Features



Spring housing cut away

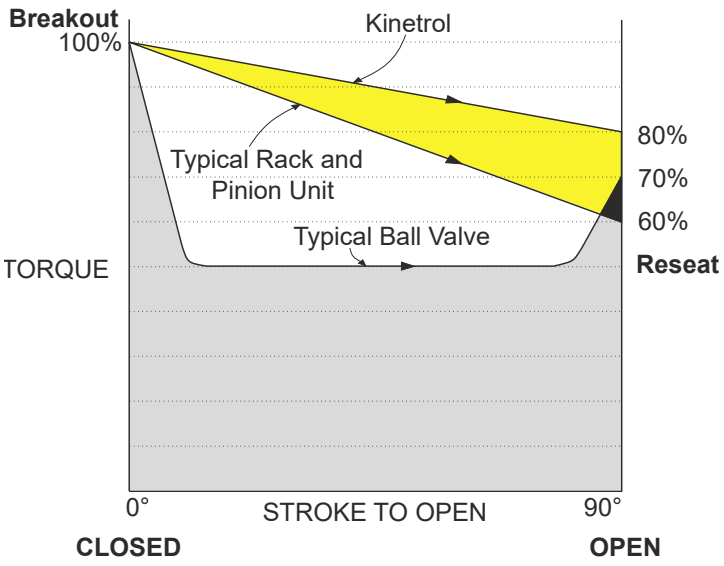
ATEX Up to Category 1

- **Lowest Torque Loss**
  Typically 20% through 90° yields extra torque through spring stroke - enables the selection of smaller actuators (see diagram)
- **Reliable low stress range clock type spring**
- **Separate housing for modular assembly, easily retrofitted**
- **Sealed, non-breathing housing**
  Protects spring in corrosive environments
- **Adjustable pretension for 'balanced' air and spring stroke torques**
  Various combinations available for balanced / optimised torques at various air pressures
- **Keeper plates available to ensure safe handling of pretensioned springs**
- **Available with ISO/DIN female drive and mounting for models 03-21**
- **Springs guaranteed against failure for lifetime of actuator**
- **ATEX Category 1 approved for many models**
  Category 2 for other models

The diagram shows the torque requirement of a typical ball valve under normal conditions. The typical torque output characteristics of Kinetrol and Rack and Pinion actuators, both sized to overcome the valve's breakout torque, are also illustrated. The diagram demonstrates that the Kinetrol actuator will exceed the torque requirement of the valve throughout the entire stroke whilst the rack and pinion unit will fail to reseat the valve.

The higher torque losses associated with the rack and pinion actuators (torque loss can be as high as 70%) dictate the selection of larger units to ensure complete reseating.

All spring units are guaranteed, in normal use, to operate correctly for as long as the original actuators to which they were fitted.

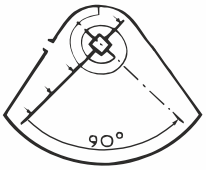


KINETROL SPRINGS
Lifetime Guarantee

Kinetrol Spring Return Features

Direction of Spring Action

Spring units are available for either clockwise or counter clockwise spring action.
Spring units are mounted as standard between the actuator and what it drives (except model 01 & 60).
With spring units alone, direction is determined by looking at the unit from the end which interfaces with the actuator.



Suffix - 020 = clockwise
Suffix - 030 = counter clockwise

The direction of actuator/spring assemblies are determined by looking at whole assembly from the non-output end.

Asymmetrical Torque Applications

If high torque is required in one direction and lower torque in the other direction this can be set up easily by changing spring pretension to be higher or lower as required. Air stroke torque will always be double-acting torque (at air pressures available) less spring pretension torque.

Low Air Pressure Applications

If air pressure available for actuator operation is less than 50psi (3.5 bar), 'balanced' torque output on air and spring strokes is still possible by using a spring return unit from a smaller actuator size. Listed below are factory assembled options of this kind.

Replace the '*' used in ordering codes below with a '2' (clockwise) or '3' (counter clockwise) depending on direction of spring action required.

See data sheets for full torque details and dimensions of all models.
Refer to TD121 for available male and female drive low pressure spring options.

Ordering Code	Description
03-1*0-5600	03 actuator with one 02 spring unit
07-1*0-4000	07 actuator with one 05 spring unit
09-1*0-4200	09 actuator with one 07 spring unit
10-1*0-5800	10 actuator with one 09 spring unit
12-1*0-4300	12 actuator with one 09 spring unit
12-1*0-4400	12 actuator with two 09 spring units
14-1*0-4900	14 actuator with two 12 spring units
14-1*0-5000	14 actuator with one 12 spring unit
16-1*0-6000	16 actuator with one 15 spring unit
16-1*0-6100	16 actuator with one 14 spring unit
18-1*0-7000	18 actuator with one 16 spring unit
21-1*0-8000	21 actuator with one 18 spring unit
21-1*0-7300	21 actuator with three 16 spring units
30-1*0-7600	30 actuator with three 16 spring units
30-1*0-8300	30 actuator with two 18 spring units
30-1*0-7800	30 actuator with five 16 spring units
60-1*0-8400	60 actuator with four 18 spring units
60-1*0-8500	60 actuator with five 18 spring units

Pretension Setting

Factory assembled actuator/spring return assemblies have the spring pretension set for 'balanced' torque output when the actuator is operated by air at 80psi (5.5bar).

Factory assemblies can be preset for different air pressures below 80psi (5.5 bar) on request.

Spring return units supplied separate from actuators are also pretensioned for 80psi (5.5 bar) air operation unless otherwise stated.

Keeper Plates

These are provided on all pretensioned spring return units supplied separate from actuators. They are also available as spare parts. Refer to TD129 for part numbers.

A keeper plate must always be used to restrain spring tension whenever a spring unit case is removed from the actuator.

Materials Specifications

Spring Casing	Models 02 & 03 pressure die-cast in ZL 16 zinc alloy. Models 05 to 60 in aluminium alloy.
Finish	Epoxy stove enamel.
Spring	Clock type spring steel.
Square	Steel, zinc plated.
Mount Holes (output end)	Same as matching actuator (except model 01 & 60), low pressure combinations & ISO drive versions. See data sheets & TD121.



Ex ATEX Up to Category 1

Kinetrol Spring Units - Overview



Spring housing cut away

ATEX Up to Category 1

Features

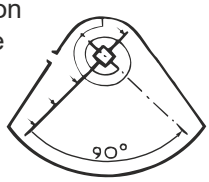
- **Lowest Torque Loss**
  Typically 20% through 90° yields extra torque through spring stroke - enables the selection of smaller actuators (see diagram)
- **Reliable low stress range clock type spring**
- **Separate housing for modular assembly, easily retrofitted**
- **Sealed, non-breathing housing**
  Protects spring in corrosive environments
- **Keeper plates available to ensure safe handling of pretensioned springs**
- **Available with ISO/DIN female drive and mounting for models 03-21**
- **ATEX Category 1 approved for many models**
  Category 2 for other models

Spring Pack Torques

Spring Unit Model	Spring Stroke	Nm	lbf ins	Spring Unit Model	Spring Stroke	Nm	lbf ins
01-020	Start	2.3	20	12-020	Start	238.0	2110
	Finish	1.8	16		Finish	204.0	1810
02-020	Start	4.7	42	14-020	Start	588.0	5200
	Finish	3.7	33		Finish	478.0	4230
03-020	Start	10.3	91	15-020	Start	962.0	8514
	Finish	8.7	77		Finish	790.0	6992
05-020	Start	20.9	185	16-020	Start	1321.0	11691
	Finish	17.5	155		Finish	1081.0	9567
07-020	Start	50.8	450	18-020	Start	2954.0	26143
	Finish	42.4	375		Finish	2417.0	21390
08-020	Start	81.3	720	21-020	Start	5456.0	48286
	Finish	65.5	580		Finish	4464.0	39506
09-020	Start	104.0	925	30-020	Start	8184.0	72428
	Finish	93.8	830		Finish	6696.0	59260
10-020	Start	164.0	1450	60-020	Start	17437.0	154333
	Finish	143.0	1270		Finish	14558.0	128847

Direction of Spring Action

Spring units are available for either clockwise or counter clockwise spring action.
Spring units are mounted as standard between the actuator and what it drives (except model 01 & 60).
With spring units alone, direction is determined by looking at the unit from the end which interfaces with the actuator.



Suffix - 020 = clockwise
Suffix - 030 = counter clockwise

The direction of actuator/spring assemblies are determined by looking at whole assembly from the non-output end.

Keeper Plates

These are provided on all pretensioned spring return units supplied separate from actuators. They are also available as spare parts. Refer to TD129 for part numbers.

A keeper plate must always be used to restrain spring tension whenever a spring unit case is removed from the actuator.



Kinetrol Spring Units - Overview

Material Specification

Spring Casing	Models 02 & 03 pressure die-cast in ZL 16 zinc alloy. Models 05 to 60 in aluminium alloy.
Finish	Epoxy stove enamel.
Spring	Clock type spring steel.
Square	Steel, zinc plated.
Mount Holes (output end)	Please see Single Acting Spring Return datasheet

Female Drive Spring Units



ATEX Up to Category 1

Features

- **Simple, elegant direct-mount interface**
- **Multiple ISO mounting flange hole drillings for each model**
- **Large ISO/DIN compatible ‘star’ drive for most models**
- **Valve leak tell-tale/relief slots in mounting face**
- **Female serrated insert drive options available for maximum direct mount flexibility on some models**
- **Keeper plates available to ensure safe handling**
- **Same reliable, long-life, fully sealed spring unit as on male-drive units**

Torques are identical to standard male-drive units.

Directions of spring action are as described above. Female drive spring units are always designed to be mounted between the actuator and the application. Consequently, a female spring designated ‘clockwise’ as a separate module will, when mounted below an actuator, result in a ‘clockwise’ assembly. Female drive springs are not designed to interface directly with modular switch boxes, positioners etc.

ISO/DIN ‘Star’ Drives

Female bi-square (star) drive spring fail-safe units are available for models 03 to 21.
Star drive units are specified by adding a ‘F’ to the DIN/ISO code: e.g. for a standard model 07 actuator with a female star drive, a regular 074-020 code becomes 073F020.

Serrated Drives

Female serrated drive spring fail-safe units are available for models 05, 07, 08, 09 & 10 to give maximum mounting flexibility.

Features include:

- Can accommodate large diameter valve stems
- Deep hole in shaft for long valve stems
- Precision stainless steel inserts
- Common internal drive shapes available
- Same spring can be used with different valve type/sizes
- 48 teeth allow many different orientations

Serrated drive units are (excluding couplings) specified by adding an ‘S’ to the ISO/DIN code: e.g. for a standard model 07 actuator with a serrated female drive, a regular 074-020 code becomes 073S020.

See TD141 for full dimensions of the serrated drive springs and associated couplings.

A range of blank and internally profiled serrated stainless steel couplings are available (see TD141 for codes).

Coding of Alternative Flange Drillings

Some female spring fail-safe star and serrated drive models are available with alternative ISO mounting hole patterns (see TD141). The digits ‘8’ and ‘9’ are used to designate clockwise and anti-clockwise versions respectively: e.g. clockwise code 053F080 specifies the F04 flange alternative of the 053F020 which specifies the clockwise F03/05/07 version.

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user’s shaft must also be sealed to prevent water ingress into the spring housing.

External stops will need to be used to prevent the spring angle of travel from exceeding 90°.

See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol ISO/DIN Spring



ATEX Up to Category 1

Features

- **Simple, elegant direct-mount interface for most valves**
- **Multiple ISO mounting flange hole drillings for each model**
- **Large ISO/DIN compatible ‘star’ drive for most models**
- **Valve leak tell-tale/relief slots in mounting face**
- **Female serrated insert drive options available for maximum direct mount flexibility on some models**
- **Keeper plates available to ensure safe handling**
- **Same reliable, long-life, fully sealed spring unit as on male-drive units**
- **Allows accessories to be direct mounted to top of actuator** (e.g positioner)

Torques are identical to standard and low pressure spring torques.
Directions of spring action are as for fail-safe spring return units. Female drive spring units are always designed to be mounted between the actuator and the application. Consequently, a female spring designated ‘clockwise’ as a separate module will, when mounted below an actuator, result in a ‘clockwise’ assembly. Female drive springs are not designed to interface directly with modular switch boxes, positioners etc.

ISO/DIN ‘Star’ Drives

Female bi-square (star) drive spring fail-safe units are available for models 03 to 21.

Star drive units are specified by adding a ‘F’ to the ISO/DIN code:

e.g. for a standard model 07 actuator with a female star drive, a regular 074-120 code becomes 073F120.

Serrated Drives

Female serrated drive spring fail-safe units are available for models 05, 07, 08, 09 & 10 to give maximum mounting flexibility.
Features include:

- Can accommodate large diameter valve stems
- Deep hole in shaft for long valve stems
- Precision stainless steel inserts
- Common internal drive shapes available
- Same spring can be used with different valve type/sizes
- 48 teeth allow many different orientations

Serrated drive units are (excluding couplings) specified by adding an ‘S’ to the ISO/DIN code:

e.g. for a standard model 07 actuator with a serrated female drive, a regular 074-120 code becomes 073S120.

See TD141 for full dimensions of the serrated drive springs and associated couplings.

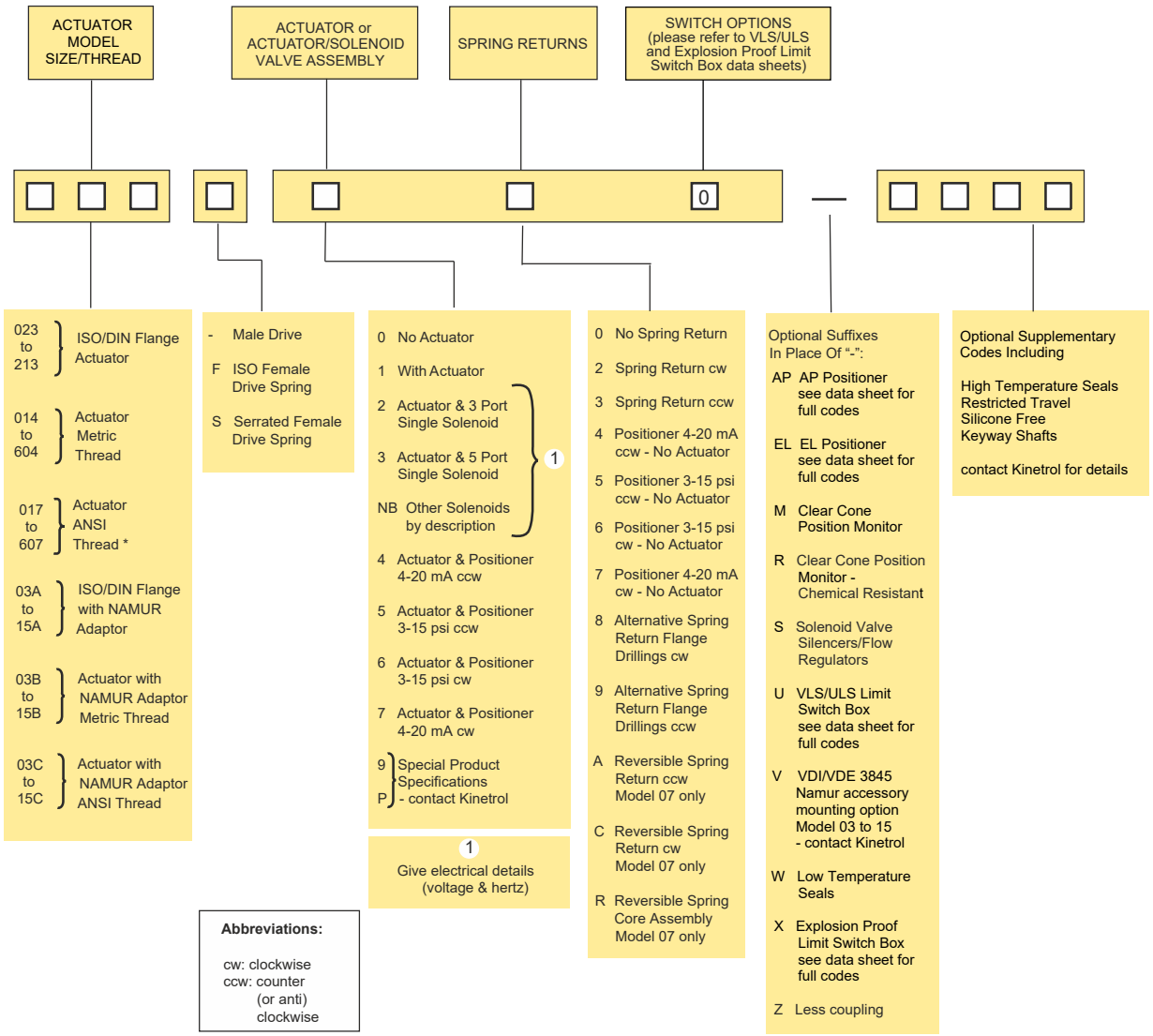
A range of blank and internally profiled serrated stainless steel couplings are available (see TD141 for codes).

Coding of Alternative Flange Drillings

Some female spring fail-safe star and serrated drive models are available with alternative ISO mounting hole patterns (see TD141).
The digits ‘8’ and ‘9’ are used to designate clockwise and anti-clockwise versions respectively:

e.g. clockwise code 053F180 specifies the F04 flange alternative of the 053F120 which specifies the clockwise F03/05/07 version.

Kinetrol Pneumatic Actuator Ordering Codes



* 107-100 Female F10 as standard - see Model 10 data sheet

EXAMPLES		
A:	054-100	Double acting actuator (Metric threads) no optional supplementary items
B.	054-120M	A + spring return (fail-safe cw) + Clear Cone monitor
C.	057-100	Double acting actuator (ANSI threads)
D.	144-130-4900	144 actuator (Metric threads) + spring return fail-safe ccw (2 x 124 springs)
E.	053F100	Double acting actuator with ISO adaptor

Kinetrol VLS/ULS Limit Switch Box



Offers a wide range of signalling options in a fully enclosed, corrosion resistant metal case. Available for direct mounting onto Kinetrol rotary actuators or discrete mounting via an industry standard VDI/VDE interface onto any make of rotary actuator. Easy to wire and set up with industrial standard robustness. Internally fitted options include AS Interface digital communication and a 4-20mA, 2-wire modulating angle retransmit circuit.

The range of switch and terminal arrangements includes 2 or 4 switches, extra connections allowing single point termination of wiring for limit switches and solenoid valves.
ATEX approved Ex d (Category 2) explosion proof and Ex ia intrinsically safe packages (Category 1). Integral sealed Clear Cone Monitor and red/green LED indicator options also give high visibility external visual indication of position.

Specification

Casing
Precision diecast aluminium alloy,
switch option 003 Ex d diecast zinc alloy

Finish
Epoxy stove enamel

Seals
Nitrile rubber ‘O’ ring seals

Cable entry options
2 or 4 entries

M20 x 1.5 Conduit thread
or
½ NPS Conduit thread

4 Way plug DIN 43650A
(fits either conduit thread)

4 Way M12 Connector
(M20 Conduit thread only)

ATEX Up to Category 1

Options

- Discrete VDI/VDE (NAMUR) interface option for use with any industry standard rotary actuators
- Units sealed to IP67/NEMA 6 (ATEX units IP66/NEMA 4X, IP67 option available)
- Robust corrosion resistant epoxy painted diecast box
- Easy and accurate setting of switch position
- Available for direct mounting to Kinetrol models 03 to 15 (for minimum height)
  Discrete Kinetrol 05 square drive insert for use with Kinetrol actuator models 16 to 60
- Quick access - No special tools required
- Two or four cable entries as standard to allow back wiring of solenoid valves
- Multiple switch options available for general and hazardous areas
- AS Interface bus circuit option inside box reads up to 4 switch inputs, drives up to 2 solenoids powered by bus only (see Kinetrol ASi Interface Bus Communication data sheet for more information)
- DeviceNet option inside box with various network speeds allows 2 on / off inputs and drives up to 2 solenoids (see Kinetrol DeviceNet Communications data sheet for more information)
- Optional Clear Cone monitor available
- Integral LED indicator lamps and angle retransmit circuit options are available

LOAD RATINGS FOR STANDARD MICROSWITCHES (type 004)

Voltage	Resistive Load
125 V AC	15A
250 V AC	15A
up to 12 V DC	15A
up to 24 V DC	10A
up to 48 V DC	3A
up to 250 V DC	0.25A

MULTIPLICATION FACTORS FOR NON-RESISTIVE LOADS

Steady state tungsten lamp load	- x 0.1
Steady state inductive load	- x 0.2
Peak inductive load	- x 1.0

Weight		
VLS	–	0.68 kg / 1.50 lb
ULS Switch Options		
003	–	1.40 kg / 3.09 lb

Temperature Range

Standard -20°C to +80°C (-4°F to +176°F)
High Temp Seals up to 100°C (212°F)
Also see switch temperatures

Switch Options

Switch Type 001
2 intrinsically safe 2 wire inductive proximity sensors for hazardous areas (ATEX CAT 1), normally closed.
Ambient temperature range -20°C to +80°C (-4°F to +176°F)
ATEX Monitor must be fitted

Switch Type 002
2 pneumatic switches with 4mm (5.32”) push in fittings (ATEX CAT 2), normally closed.
Ambient temperature range -15°C to +60°C (+5°F to +140°F)

Switch Type 003
Certificated unit to EEx ed II T6 for hazardous areas to Zone 1 (ATEX CAT 2) 2 x 3 wire switches for SPDT.
Ambient temperature range -20°C to +70°C (-4°F to +158°F)

Switch Type 004
2 x 3 wire microswitches for SPDT.
Ambient temperature range -40°C to +80°C (-40°F to +176°F)

Switch Type 005
2 x 2 wire proximity sensors 20-250 volts AC, 10-300 volts DC, normally open.
Ambient temperature range -25°C to +70°C (-13°F to +158°F)

Switch Type 006
2 x 2 wire proximity sensors 5-60 volts DC, normally open, with LED switch status indicators.
Ambient temperature range -20°C to +80°C (-4°F to +176°F)

Switch Type 007
4 x 3 wire microswitches for SPDT.
Ambient temperature range -40°C to +80°C (-40°F to +176°F)

Switch Type 008
2 x 2 wire inductive slotted proximity sensors, normally closed.
Ambient temperature range -20°C to +80°C (-4°F to +176°F)

Switch Type 009
2 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT (ATEX CAT 1).
Ambient temperature range -20°C to +80°C (-4°F to +176°F)
ATEX Monitor must be fitted

For ATEX ratings please refer to TD139

Switch Type 00A
4 intrinsically safe 2 wire inductive proximity sensors for hazardous areas (ATEX CAT 1), normally closed.
Ambient temperature range -20°C to +80°C (-4°F to +176°F)
ATEX Monitor must be fitted

Switch Type 00D
4 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT (ATEX CAT 1).
Ambient temperature range -20°C to +80°C (-4°F to +176°F)
ATEX Monitor must be fitted

Switch Type 00E
2 x 2 wire proximity sensors 20-140 volts AC / 10-140 volts DC.
Ambient temperature range -25°C to +80°C (-13°F to +176°F)

Switch Type 00M
4 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.
Ambient temperature range -25°C to +70°C (-13°F to +158°F)

Switch Type 00N
2 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.
Ambient temperature range -25°C to +80°C (-13°F to +176°F)

Electronics Option B - E *
AS interface options are available with both the two and four entry Kinetrol VLS Limit Switch Box. Options B to E allow for different extended addressing options.

Electronics Option P *
Two or four way VLS Limit Switch Box fitted with potentiometer (20K ohms conductive plastic type).

Electronics Option R *
Two or four entry VLS Limit Switch Box fitted with angle retransmit, loop powered two wire circuit passes 4-20mA current, proportional to 0-90° position of actuator.

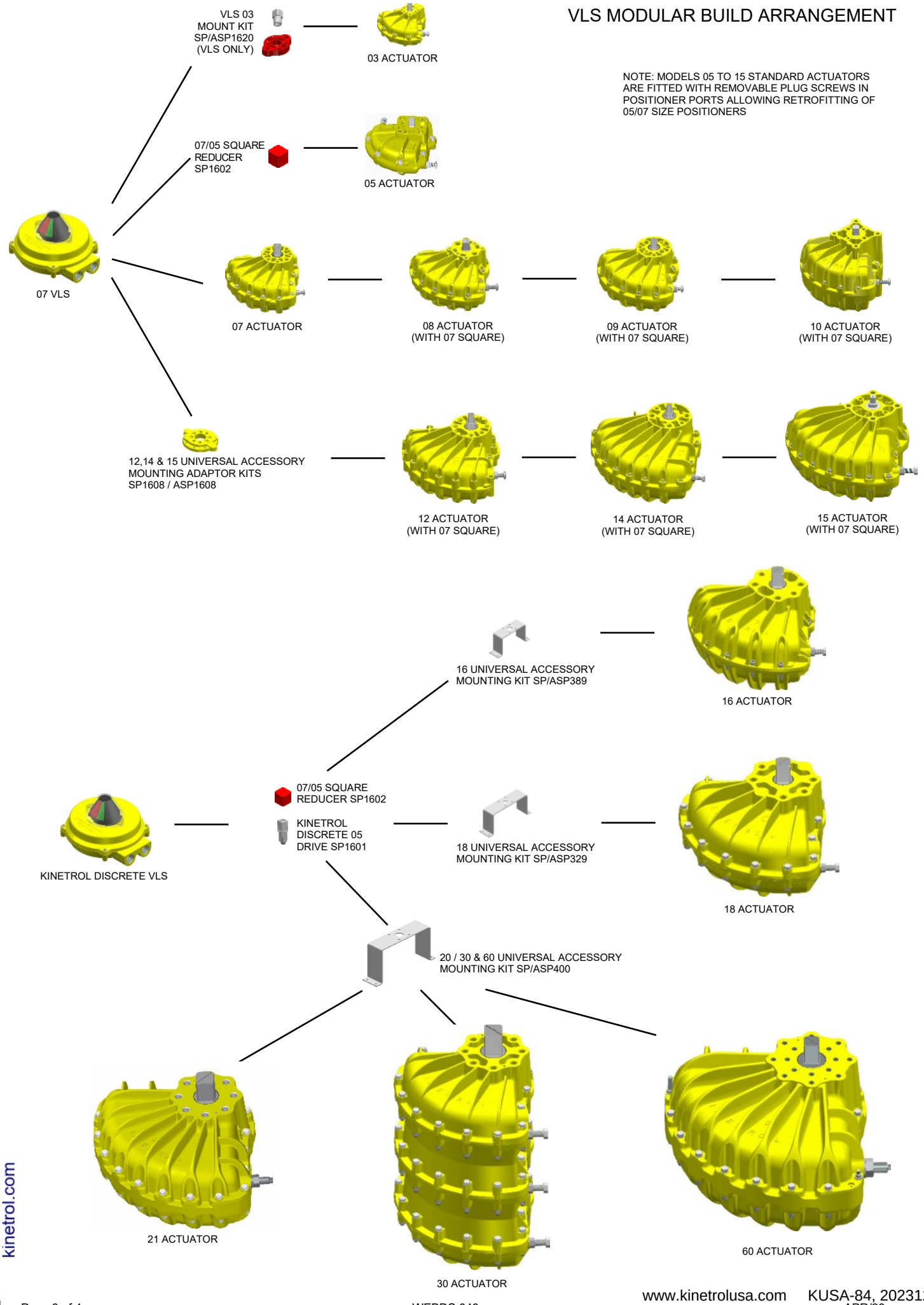
Electronics Option U (standard) *
Two or four entry VLS Limit Switch Box without AS interface card, angle retransmit or potentiometer.

* For more details on Electronics options see Kinetrol Asi Interface Bus Communication data sheet

Kinetrol VLS/ULS Limit Switch Box

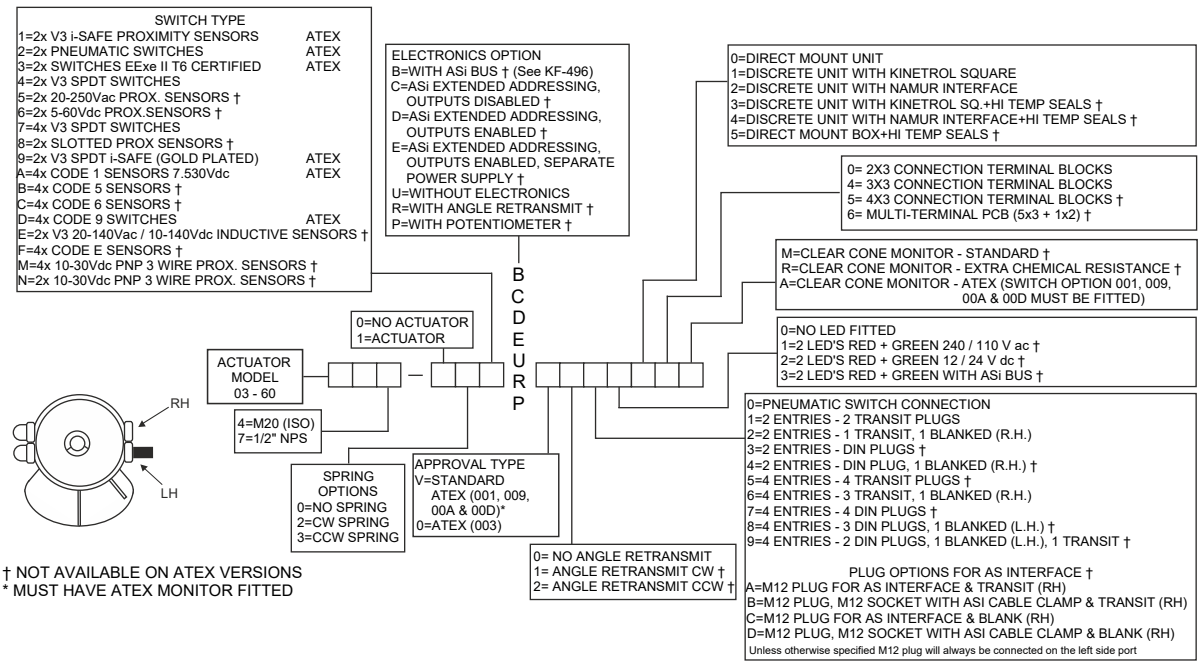
VLS MODULAR BUILD ARRANGEMENT

NOTE: MODELS 05 TO 15 STANDARD ACTUATORS ARE FITTED WITH REMOVABLE PLUG SCREWS IN POSITIONER PORTS ALLOWING RETROFITTING OF 05/07 SIZE POSITIONERS



Kinetrol VLS/ULS Limit Switch Box

Ordering Codes

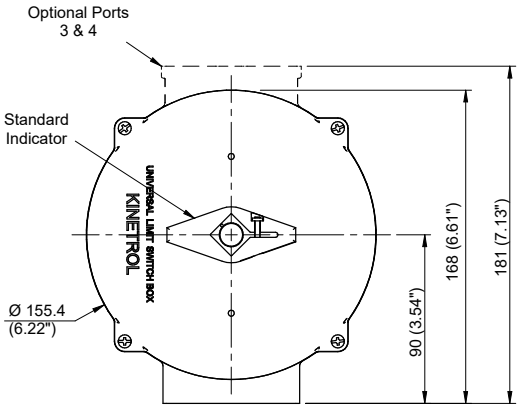


† NOT AVAILABLE ON ATEX VERSIONS
* MUST HAVE ATEX MONITOR FITTED

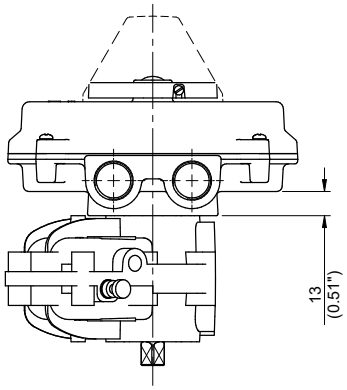
EXAMPLES:
074-001UV01000A = 07 VLS BOX WITH 2 X V3 ISAFE PROXIMITY SENSORS, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX CLEAR CONE MONITOR, ATEX APPROVED
074-004UV01000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS
074-004RV12000 = 07 VLS BOX WITH 2 X V3 SPDT SWITCHES, ANGLE RETRANSMIT CLOCKWISE,1 X TRANSIT & 1 BLANKING PLUG, 2 X 3 WAY TERMINALS
094-124BV02000 = 09 SPRING RETURN CLOCKWISE ACTUATOR & VLS BOX WITH 2 X V3 SPDT SWITCHES,STANDARD ASi, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS
094-109UV01000A = 09 DOUBLE ACTING ACTUATOR, VLS BOX WITH 2 X V3 ISAFE MECH. SWITCHES GOLD PLATED, 2 TRANSIT PLUGS, 2 X 3 WAY TERMINALS, ATEX CLEAR CONE MONITOR, ATEX APPROVED

Further switch options are available upon request -contact Kinetrol for details

Dimensions

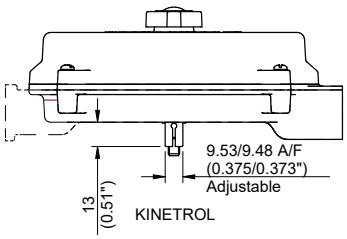


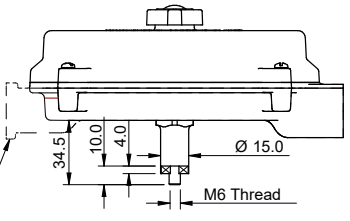
Standard Orientation Of Unit
Box Weight: 0.68 kg / 1.5 lb

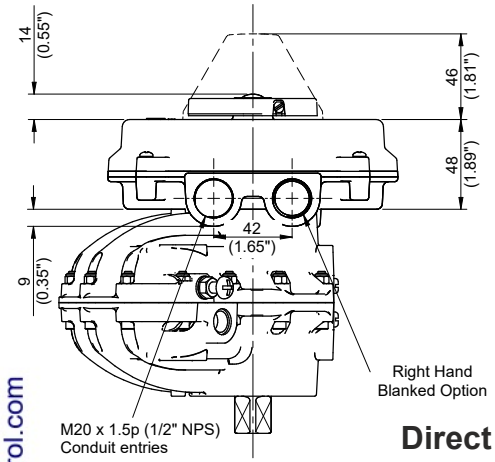


03 & 05
DIRECT MOUNT OPTION
ADDITIONAL ADAPTOR WEIGHT: 0.04 kg / 0.09 lb

For Atex ULS versions contact Kinetrol

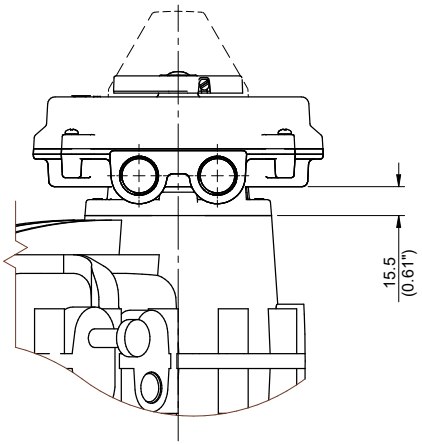




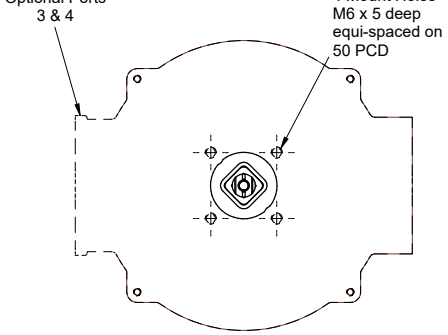


Direct Mount Option

07, 08, 09, 10
DIRECT MOUNT OPTION



12, 14 & 15
DIRECT MOUNT OPTION
ADDITION ADAPTOR WEIGHT: 0.56 kg



Kinetrol & Namur Discrete Mount Option

Kinetrol Explosion Proof Limit Switch Box

The Explosion Proof Limit Switch Box offers a wide range of signalling options in a compact corrosion resistant aluminium alloy housing.
Available for close - mounting onto Kinetrol actuators or discrete mounting via a Kinetrol 05 square or industry standard VDI/VDE interface onto any make of rotary actuator. Easy to wire and set up with true industrial robustness.

Internally fitted options include AS interface digital communication and a 4-20mA, 2-wire, modulating angle retransmit circuit. The range of switches and terminal arrangements includes 2 or 4 switches and extra connections - allowing single point termination of wiring for limit switches and solenoid valves. This product is available to mount on Kinetrol models 03 - 60.



ATEX Category 2

Specification

Casing	precision diecast LM24 alloy, anodised & epoxy stove enamel.
Coupling	zinc plated steel.
Seals	fluoropolymer dynamic seals and NBR static seals.
Weight	1.5 kg / 3.3 lb
Cable Entry Options	M20 x 1.5 or 1/2” 14 NPT conduit entry threads.

Options

- Discrete NAMUR drive for use with VDI/VDE 3845 rotary drive actuators
- Wide range of worldwide explosion proof approvals including IECEX, ATEX & FM (for USA & Canada) - all in one device
- All units protected to IP66 / NEMA 4X / TYPE 4X
- Attractive, functional and part-spherical profile. Robust corrosion resistant, anodised & epoxy painted diecast aluminium alloy housing
- Close - mount to Kinetrol actuator models 03 - 15 for low profile
- Discrete Kinetrol 05 square drive insert for use with Kinetrol actuator models 16 - 60
- 2 or 4 cable entries available to allow back wiring of solenoid valves
- Up to 4 switches available for SPDT, DPDT or multiple circuit operation
- Easy and accurate setting of switching position
- Optional antistatic Clear Cone Monitor available
- Integral angle retransmit circuit options are available
- Integral AS interface bus circuit option reads up to 4 switch inputs and drives up to 2 bus powered solenoids (see Kinetrol ASi Interface Bus Communication data sheet for more information)
- -40° C to +80° C (-40° F to +176° F) ambient operating temperatures (dependent on switch options)
- Positioner options available

Kinetrol Explosion Proof Limit Switch Box

Switch Options

Switch Type 001
2 intrinsically safe 2 wire inductive proximity sensors for 7.5-30V dc, normally closed.

Switch Type 004
2 x 3 wire microswitches for SPDT.

Switch Type 005
2 x 2 wire proximity sensors 20-250 volts AC, normally open.

Switch Type 006
2 x 2 wire proximity sensors 5-60 volts DC, normally open, with Led switch status indicators.

Switch Type 007
4 x 3 wire microswitches for SPDT.

Switch Type 009
2 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT.

Switch Type 00A
4 intrinsically safe 2 wire inductive proximity sensors for 7.5-30V dc, normally closed.

Switch Type 00B
4 x 2 wire proximity sensors 20-250 volts AC, normally open.

Switch Type 00C
4 x 2 wire proximity sensors 5-60 volts DC, normally open, with Led switch status indicators.

Switch Type 00D
4 x 3 wire gold plated contacts intrinsically safe microswitches for SPDT.

Switch Type 00E
2 x 2 wire inductive proximity sensors 20-140 volts AC / 10-40V dc.

Switch Type 00M
4 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.

Switch Type 00N
2 x 3 wire inductive proximity sensors 10-30 volts DC, normally open.

Switching Operation Conditions

Switch Option	AC	DC	Current	Ambient Temperature Range	
001/00A	–	8	6 mA	-20°C to +80°C	(-4°F to +176°F)
004/007	250	48	2.4A ac / 1.8 A dc	-40°C to +80°C	(-40°F to +176°F)
005/00B	250	300	100 mA	-25°C to +70°C	(-13°F to +158°F)
006/00C	–	60	100 mA	-20°C to +80°C	(-4°F to +176°F)
009/00D	–	30	100 mA	-40°C to +80°C	(-40°F to +176°F)
00E/00F	140	140	200 mA	-25°C to +80°C	(-13°F to +176°F)
00M/00N	–	30	100 mA	-25°C to +70°C	(-13°F to +158°F)

Approvals

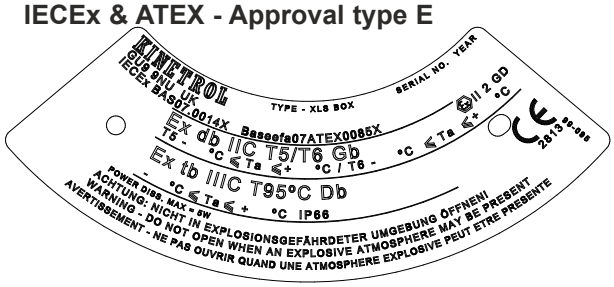
EUROPE/GLOBAL - ATEX / IECEx APPROVAL

Protection concept, Flame Proof 'd' Group II C/A21, Category 2, Gas & Dust, T5, IP66

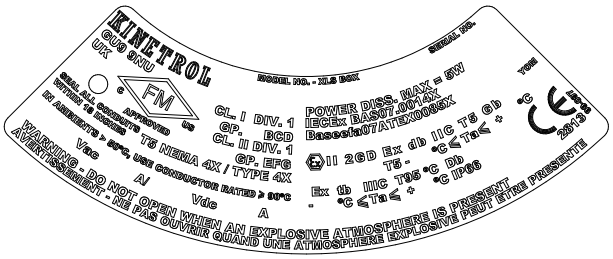
NORTH AMERICAN APPROVAL

Type of protection, Explosion Proof US: Class I, Division 1, Gas groups B,C,D. Class II, Division 1, Dust groups E,F,G. T5 NEMA 4X. For Gas group A use order code "P". CANADA: Class I, Division 1, Gas groups B,C,D. Class II, Division 1, Dust groups E,F,G. T5 TYPE 4X.

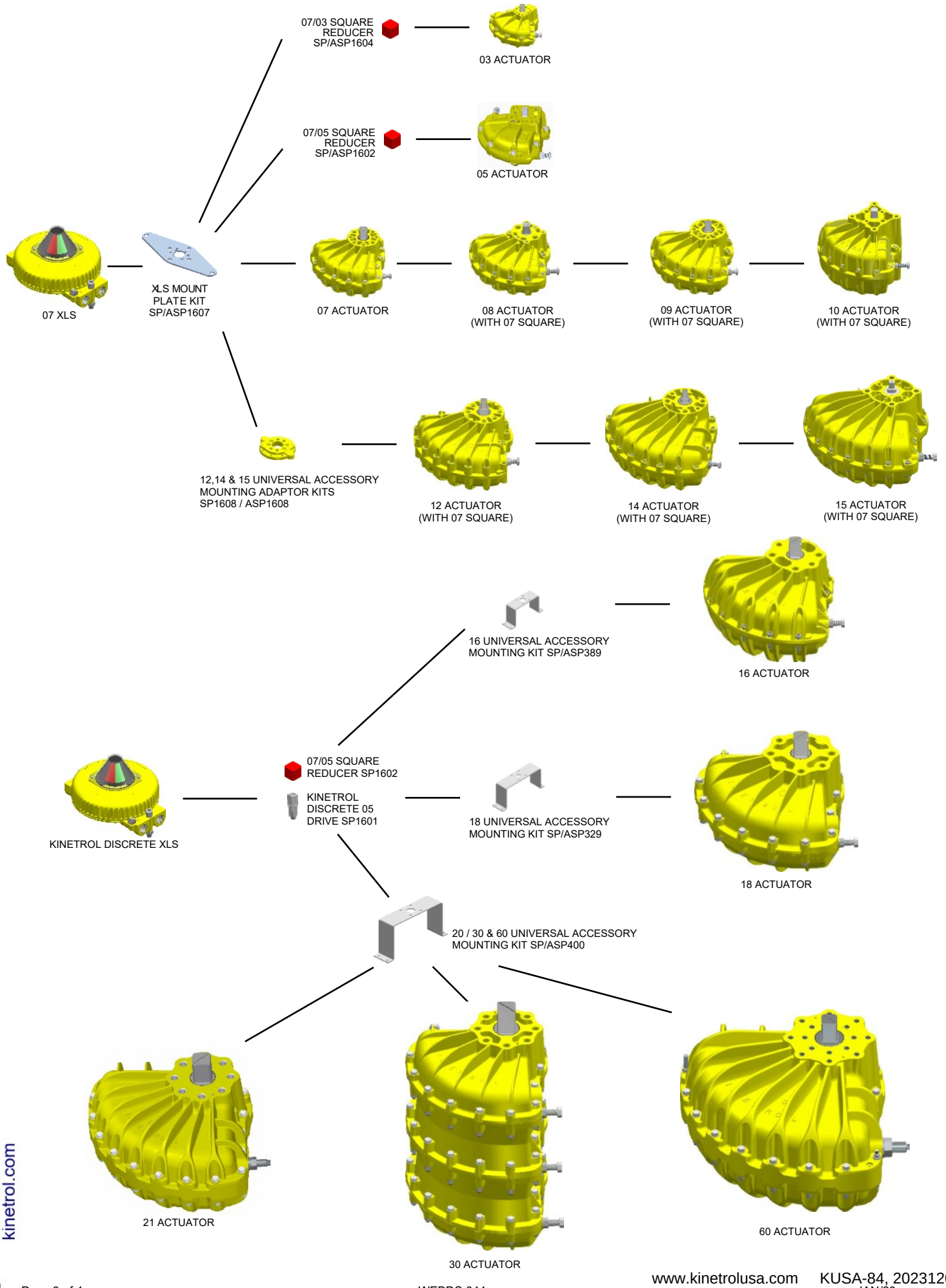
IECEx & ATEX - Approval type E



FMC/U, IECEx & ATEX - Approval type F & P

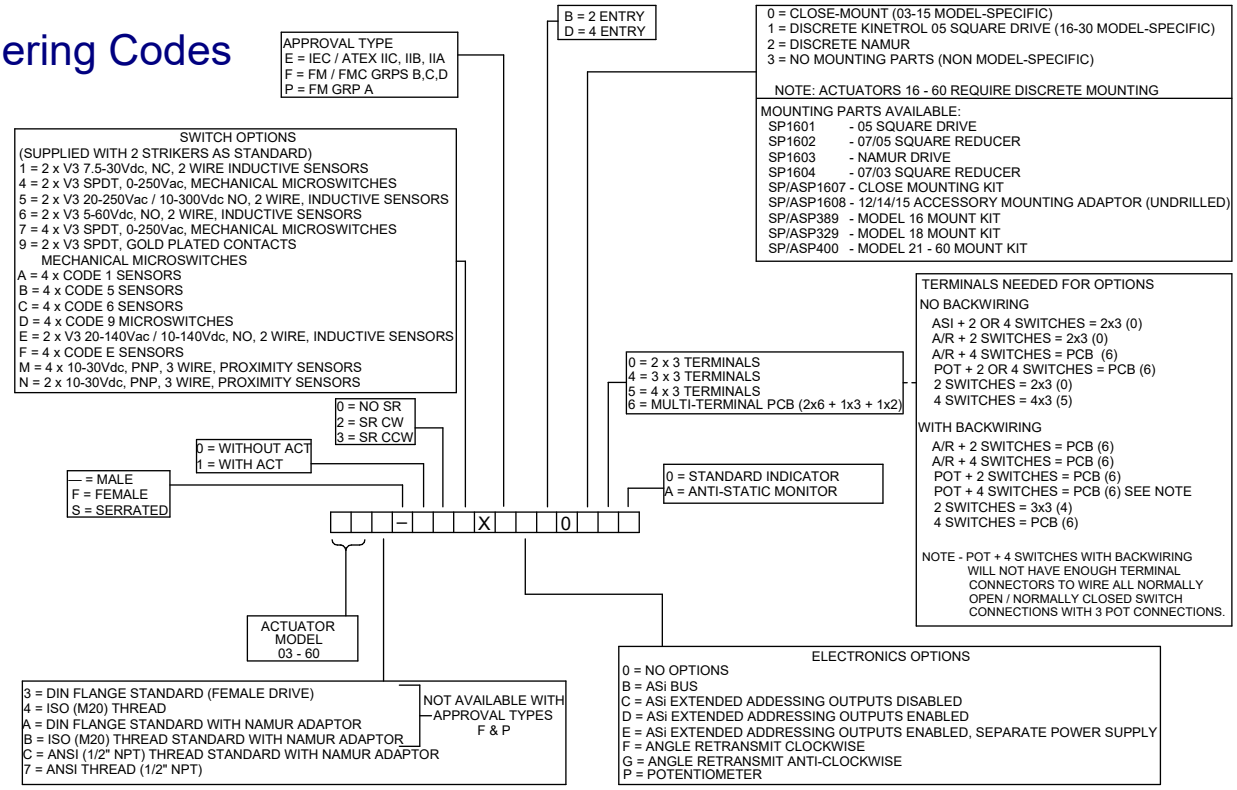


Modular Mounting Arrangement



Kinetrol Explosion Proof Limit Switch Box

Ordering Codes



Electronics Option B - E *

AS interface options are available with both the two and four entry Kinetrol Explosion Proof Switch Box. Options B to E allow for different extended addressing options.

Electronics Option F - G *

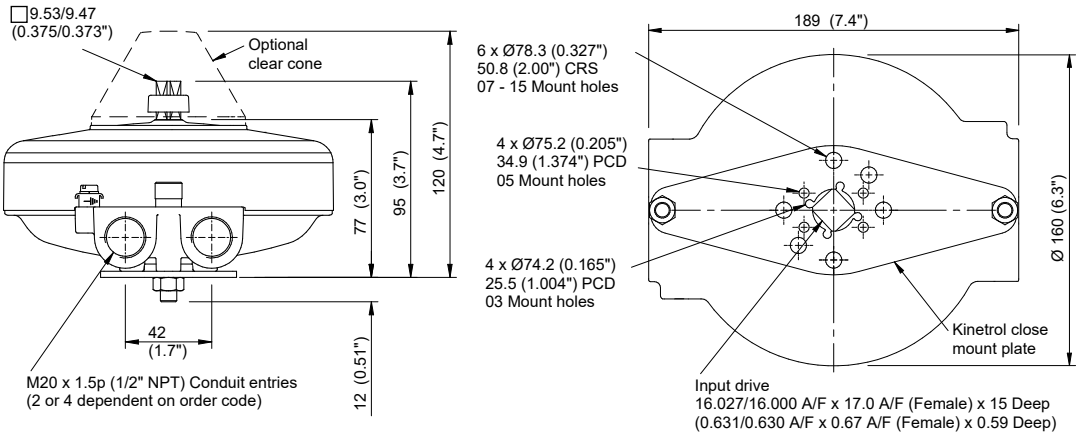
Two or four entry Switch Box fitted with angle retransmit circuit powered by 14-30v DC supply, the 2 wire loop powered circuit generates a 4-20mA current to feedback position.

Electronics Option P *

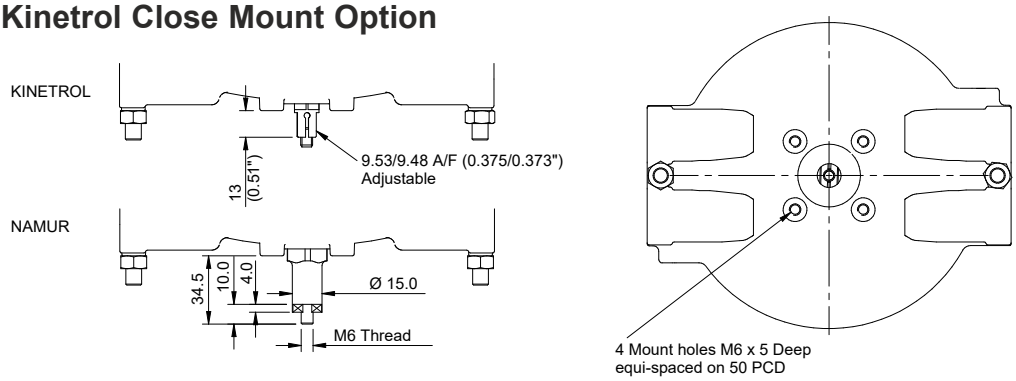
Two or four way Switch Box fitted with potentiometer (20K ohms conductive plastic type).

* For more details on the Kinetrol AS interface card see Kinetrol Asi Interface Bus Communication data sheet.

Dimensions



Kinetrol Close Mount Option



Discrete Mount Option



ATEX Up to Category 2

The Actuator Sensor Interface card allows easy digital serial communication for your sensors and actuators, allowing your actuators to be controlled and monitored when they are in the field, via a single 2 wire cable.

AS interface devices are used to make up control systems based on a two-wire communication cable known as a bus. These can be controlled or monitored by means of a digital signal sent via the bus to and from a "master" device (which can be a computer or a PLC).

The slave devices will always function in response to commands sent by the master device, either to actuate or to return a message reporting the value of a sensed variable, or both. The AS Interface specification allows 31 or fewer slave devices to be powered by a DC voltage fed into the same two wire cable used as the communication bus, with allowed power consumption adequate to drive the slave plus a standard pneumatic solenoid valve.

An AS Interface bus can be used as the final field link in a more complex hierarchy of devices making up a large plant-wide control system. Actuators and sensors must often be installed in unprotected environments where conditions can be demanding; the AS Interface bus can be used as the link between these field devices and the "indoor" equipment making up the upper part of the control system.

The AS Interface bus is designed for on/off control and monitoring. It is a good choice when a simple, economical, reliable and robust solution is required for controlling and monitoring a series of actuators and sensors in a process control or machine application.

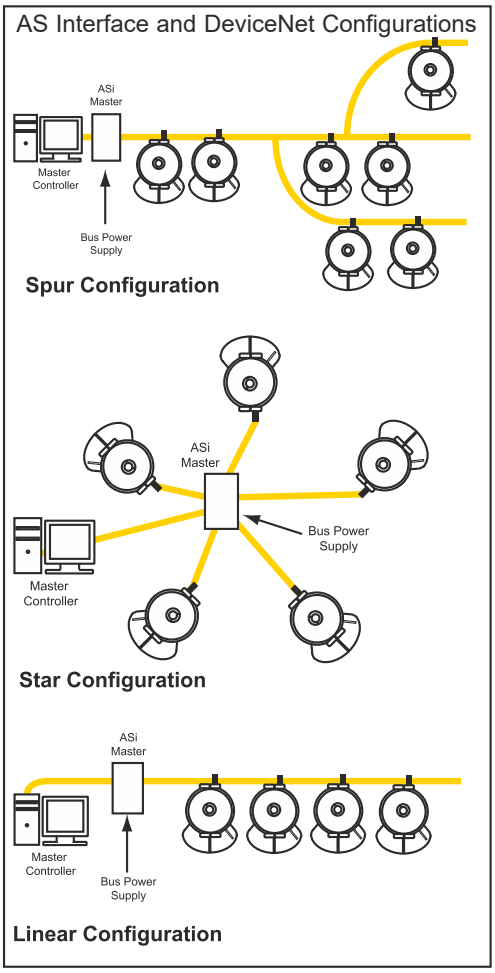
The Kinetrol AS Interface Card

The Kinetrol AS Interface card is fitted inside the Kinetrol VLS Limit Switch box, thus combining the industrial quality robustness of the box with the advantages of digital serial communication.

The AS interface bus cable can be routed in through the conduit entries and connected to the internal terminal blocks. Alternatively, an M12 connector plug facing outwards from the conduit entry can be supplied to allow quick connection from M12 sockets or with clip on adaptations for ribbon type yellow AS interface cables.

Features

- **AS interface 2.1 compatibility**
- **Up to 31 units with solenoid valve on-off control, powered and controlled via a single, two core cable**
- **Up to 62 units** (using extended addressing)
- **All metal robust industrial-quality limit switch box, direct mounted on a Kinetrol actuator**
- **2 on/off outputs per unit**
- **4 on/off inputs per unit**
- **Reads mechanical switches or inductive sensors**
- **Retrofittable to standard Kinetrol VLS Limit Switch Box**
- **Can also be supplied in an explosion proof housing and with European, North American and Worldwide approvals**
- **LED external indicator option**
- **Up to 31 24V 2.5W solenoid valves can be connected to bus with no separate power supply**
- **M12 connector plug option available for instant bus connection**
- **Cable clamping connector block for yellow ribbon-type AS interface cable available with M12 socket to fit onto plug option**
- **Output short circuit protection built in**
- **Operating temperature range**
  -20°C to +80°C (-4°F to +176°F)
  (-40°C / -40°F option available - contact Kinetrol)



AS Interface 2.1 Specification

- **Master - Slave protocol**
- **Up to 62 Slaves per Master** (using extended addressing)
- **Each Slave has its own unique address** (set by user)
- **All Slaves can be scanned every 5 milliseconds**
- **Baud Rate -** 197 Kbits/second
- **Slaves may be added anywhere in the bus**
- **Slaves may be parallel connected on the bus, using star or spur configurations**
- **Up to 124 inputs per bus**
- **Up to 124 outputs per bus, 62 using the Kinetrol device**
- **26.5 to 31.5 Vdc, 8 A max power supply**
- **100 m (325ft) maximum cable length** (repeaters may extend network distance)
- **Untwisted, unshielded, 2-wire (1.5mm^2) cable can be used**

AS Interface Extended Addressing

Kinetrol's AS Interface circuit is a slave device to allow 32 devices (usually 31 slaves plus an AS Interface master device) to be powered and controlled via a 2-wire bus cable, with full capability to energise one solenoid on every unit all at the same time. This is the standard (Option code B).

The AS Interface 2.1 specification also allows for an extended address option, whereby 62 addresses can be connected and powered via one bus cable. The specified limits on device capacitance however, mean that if the full extended-address compliment of slaves all had standard solenoid valves connected, the bus limit would be exceeded.

Kinetrol offer these options to allow use of extended addressing:

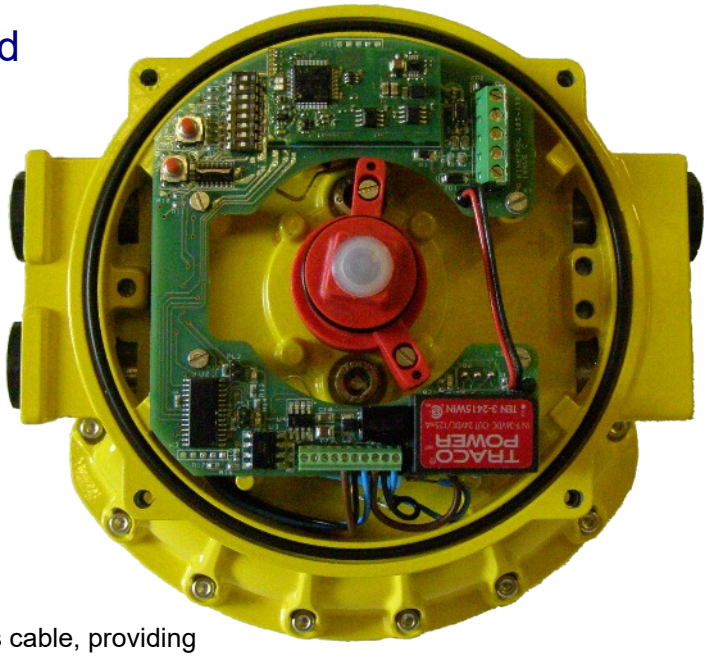
1. (Option Code C)
AS Interface circuit with extended addressing enabled and outputs disabled, to read limit switch sensors only. If a solenoid is connected it will not function.

2. (Option Code D)
AS Interface circuit with extended addressing and outputs enabled (one solenoid per interface card), plus added isolating relay option fitted to outputs, to allow up to 31 solenoids to be energised simultaneously even from the bus, though up to 62 slave units may be connected to the bus. This requires the user's control system to include a pre-programmed limit on the maximum number of solenoids to be energised. If the system instructs too many units to switch on solenoids, they will obey, and the bus capacitance limit will be exceeded – thus this option must be at the user's risk with regard to this issue.

3. (Option Code E)
AS Interface circuit with extended addressing and outputs enabled (one solenoid per interface card), plus added relay options fitted to outputs to allow solenoid valves to be powered by a supply separate from the AS Interface bus. This option requires a separate 24V DC power supply to each actuator, and allows up to 62 slave units to energise their solenoids simultaneously.

To order the Kinetrol AS Interface card refer to codes for VLS/ULS Limit Switch Box or Explosion Proof Limit Switch Box.

DeviceNet On/Off Communication Card



Kinetrol's DeviceNet communication option is available within the Kinetrol VLS limit switch box and offers the same advantages plus the highly specified DeviceNet circuit to give genuine industrial quality and integration capabilities into existing DeviceNet networks.

DeviceNet Protocol

DeviceNet allows the user to build an intelligent communication network with various control devices, all feeding back to a central control unit. Using the Master-Slave model, up to 63 devices can be monitored and controlled in a single network.

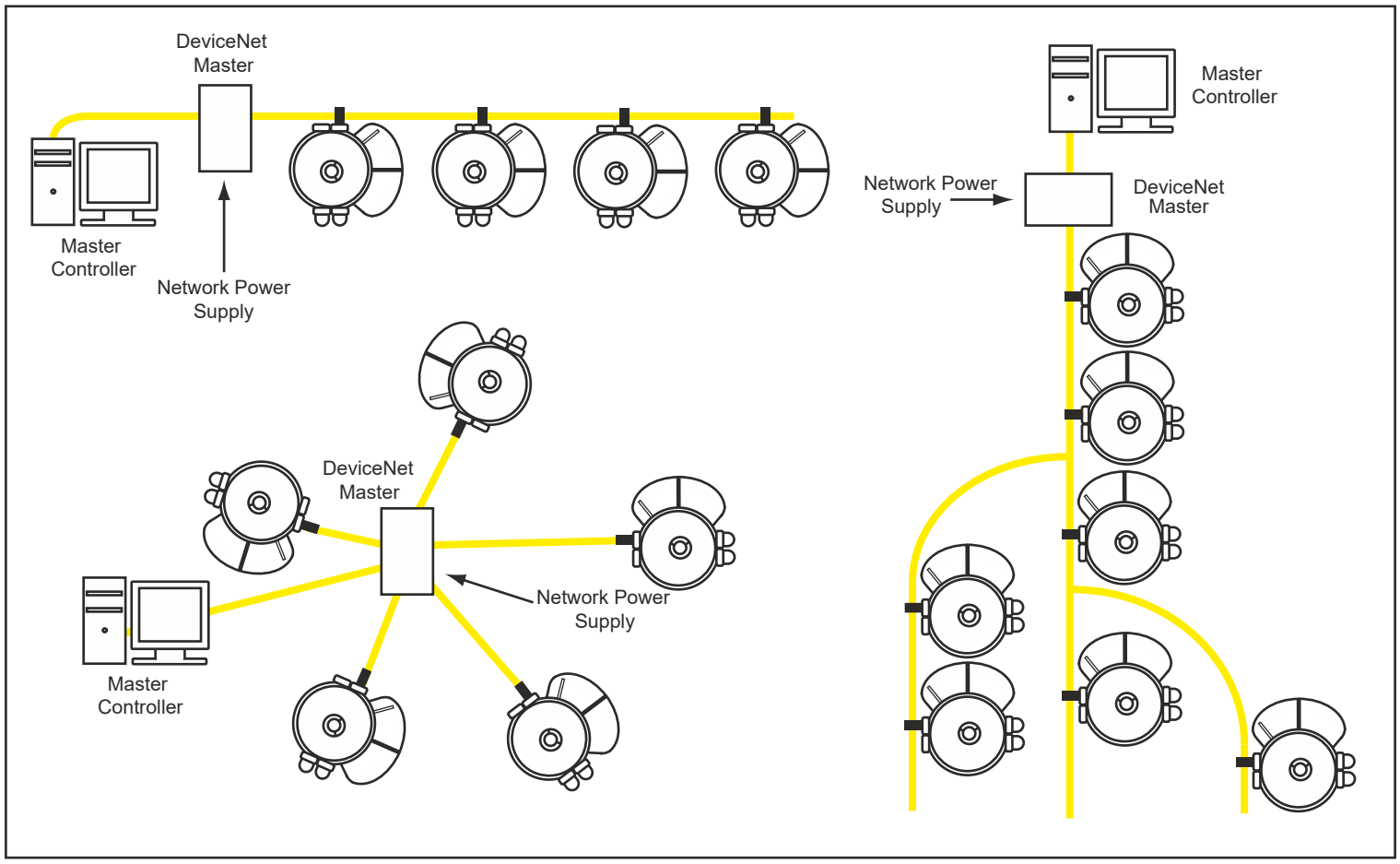
The control network is formed using the DeviceNet 5-core bus cable, providing both communication transport and power to each node within the system. The power provided through the bus is enough to drive the DeviceNet card with additional power available to drive one solenoid valve at each node. The bus cable can be routed to the terminal blocks via the switch box conduit entries or alternately,M12 connector plugs can be installed for quicker and easier connection.

The DeviceNet card can be installed remotely or locally, using either the Master controller or the provided DIP switches to set up each node in the system.

Features

- **Up to 63 units with on-off control, powered and controlled using DeviceNet's 5-core cable**
- **Single 5-way terminal provided with each card**
- **Field selectable network speeds** (125, 250 and 500 Kbits/s)
- **Available in the Kinetrol VLS limit switch box and is retrofittable**
- **2 on/off outputs and inputs per unit**
- **Reads mechanical switches or inductive sensors**
- **LED external indicator option**
- **Up to 63 24V 1W solenoid valves can be connected to the bus with no separate power supply**
- **11.0 to 26.4V dc, 3W max power supply**
- **Unique Node ID for each unit in the network (1 to 63)**
- **M12 connector plug option available for faster installation**
- **Operating temperature range 0°C to +60°C (32°F to +140°F)**
- **Output short circuit protection built in**

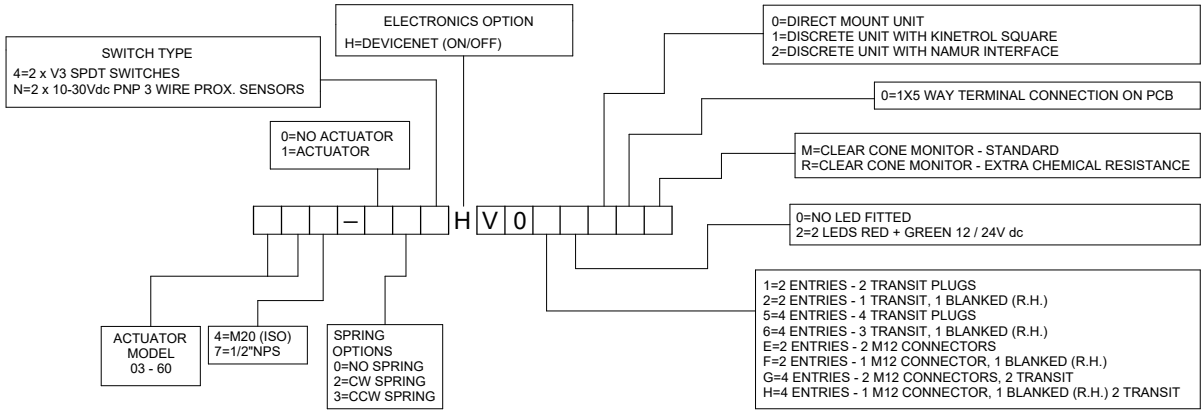
Kinetrol DeviceNet Communications



DeviceNet Specification

- **Master - slave protocol**
- **All slaves can be scanned at variable intervals depending on the network technology**
- **Variable Baud Rate - 125, 250 or 500 Kbits/second**
- **11.0 to 26.4V dc, 3W maximum power**
- **500m (1640ft) maximum cable length (requires 125 Kbit Baud Rate and "thick" DeviceNet cabling**

Ordering Codes



Also available Kinetrol AS Interface Bus Communication - see data sheet

Kinetrol Clear Cone Monitors





The optional Clear Cone provides all round high visibility position monitoring on all limit switch boxes and positioner models. A red/green colour coded monitor is sealed inside a robust, clear polycarbonate cover. Positioner models are marked with black printed legible angle scales.

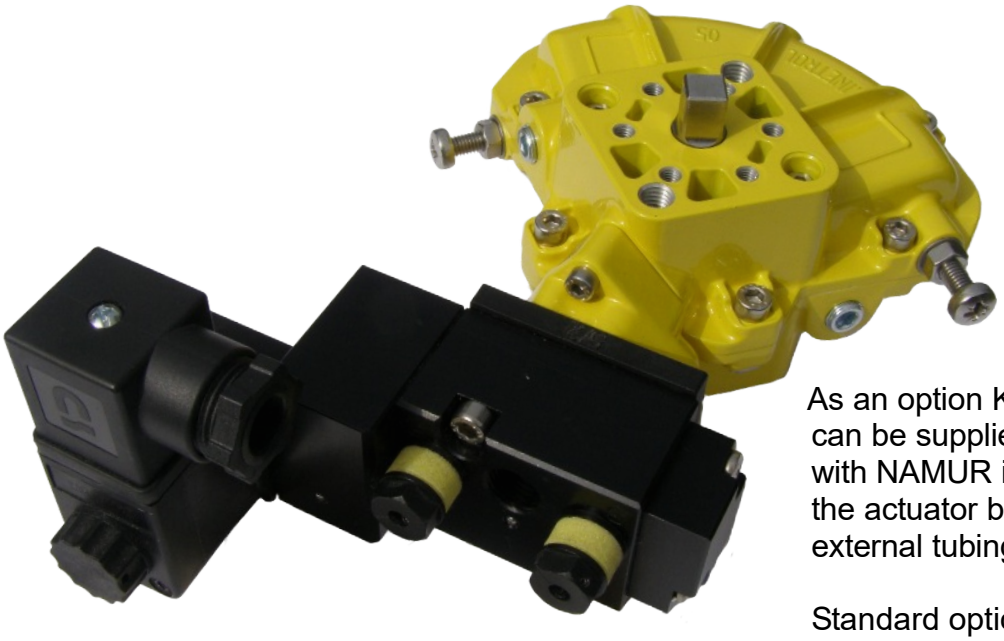
The monitor is also available directly mounted onto actuator models 03, 05, 07, 08, 09 and 10, all EHD units and 12, 14 & 15 using an adaptor plate.

For highly corrosive environments special cover materials are available - contact Kinetrol for details.

Conductive ATEX approved versions (to Category 1) are available for switch boxes and positioners - contact Kinetrol for details.

Please see VLS/ULS data sheet
Please see Explosion Proof Limit Switch Box data sheet
Please see AP Positioner data sheet
Please see EL Positioner data sheet
Please see P3 On/Off Positioner data sheet

Please contact Kinetrol for more information



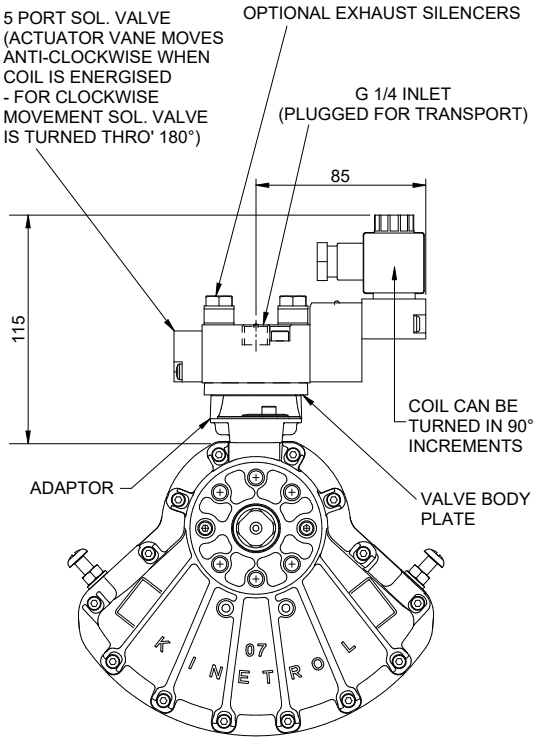
As an option Kinetrol actuator sizes 03 to 15 can be supplied with integral solenoid valves with NAMUR interface. Air is ported through the actuator body via an adaptor so no external tubing is necessary.

Standard optional solenoid valves can be converted to 5 or 3 port versions by changing the valve body plate supplied with the valve.

Specification

Coil Voltages	AC: 50/60Hz 110V ac, 240V ac and 24V dc For other voltages contact Kinetrol
Electrical Connection	DIN 43650 plug with Pg9 cable gland (6-8mm dia) as standard
Manual Override	extra to order
Exhaust Silencers / Flow Regulators	extra to order
Hazardous Areas	certified solenoids are available as extras to order
Environmental Protection	to IP65 as standard
Minimum Air Supply	2 bar

Single solenoid, 3 or 5 port, interchangeable for double acting or spring return, NAMUR interface. Most brands of NAMUR interface solenoid valve can be supplied to special order.



Kinetrol EL Electropneumatic Positioner



ATEX Up to Category 1

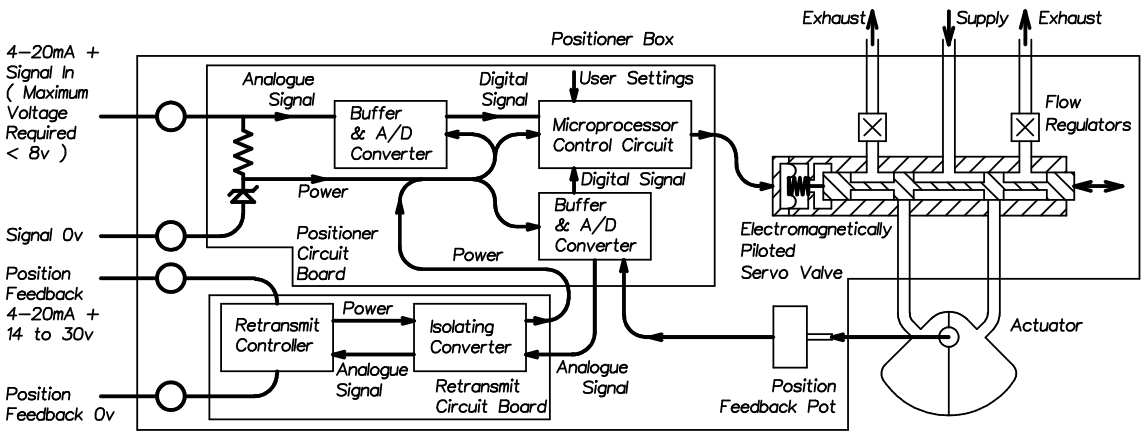
Operation

The EL positioner uses a unique low power proportional servo valve to control the position of a quarter-turn actuator.

The microprocessor in the loop-powered 4-20mA position circuit reads the signal via one channel of a 12-bit A-D converter, reads the position voltage from the feedback potentiometer via the second channel of the A-D converter, and compares the two. If it detects a position which is different from that required by the signal, it changes the output to the servo valve, in order to drive the actuator in the direction required to reach the correct position. As the actuator moves, the feedback potentiometer voltage changes and the microprocessor continually calculates the adjustments required for the servo valve in order to guide the actuator accurately into position. The microprocessor is programmed with a sophisticated but compact algorithm which allows this critical dynamic valve adjustment to be made correctly. This in turn gives optimal results with any actuator/load combination - slow or fast, low or high friction, low or high inertia. All can be optimised by tuning the PGAIN and DAMP parameters via the positioner circuit push buttons.

The EL positioner controls airflow to an actuator and moves it to a position determined by a 4-20mA signal. Its features are:

- **Fast, smooth and precise control from a digital circuit and proportional servo valve**
- **Simple time saving field set up**
  Quick calibration via push buttons and LED feedback and easy reversal of rotation sense (clockwise/counter clockwise) without special tools or parts change.
- **Universal application**
  The unit can be mounted in any orientation on to any quarter turn or linear application by connection via a NAMUR or Kinetrol square interface.
- **Loop powered**
  No separate power needed, just a 4-20mA signal plus air supply.
- **Integral options - easily retrofitted modules include:**
  - two wire 4-20mA isolated angle retransmit
  - mechanical or inductive position indicator switches (general or hazardous areas)
  - Clear Cone high visibility indicator
  - Threaded conduit entries or DIN plugs for external connection.
- **Intrinsically safe approved options**
- **Weatherproof, compact and robust metal housing**
- **Zero backlash coupling with easily adjustable switch strikers**
- **Vibration and shock resistant to 4G**
- **Built in gauge ports/external connections**



Simplified Functional Diagram of EL Positioner

Kinetrol EL Electropneumatic Positioner

Application

The EL positioner can be directly mounted on standard Kinetrol actuator models 05 to 15, both double acting and spring return, giving an assembly with no external piping, wiring or mechanical connections and the best backlash free control. Mount kits are available for models 16,18, 21, 30 and 60 actuators.

Alternatively, discrete versions mount on any actuator via VDI/VDE 3845 NAMUR drive, or Kinetrol male square, with mounting bracket. Special adaptations for linear cylinders are also available - consult Kinetrol for details.

The EL Positioner ATEX approval includes the fitting of a special version of the popular Clear Cone high visibility monitor.

Travel Times

Maximum velocity (no load) at 5.5 Bar / 80 psi
Direct mount from EL positioner to actuator

Model	05	07	08	09	10	12	14	15
Deg/Sec	129	65	38	33	22	15	6	4.3

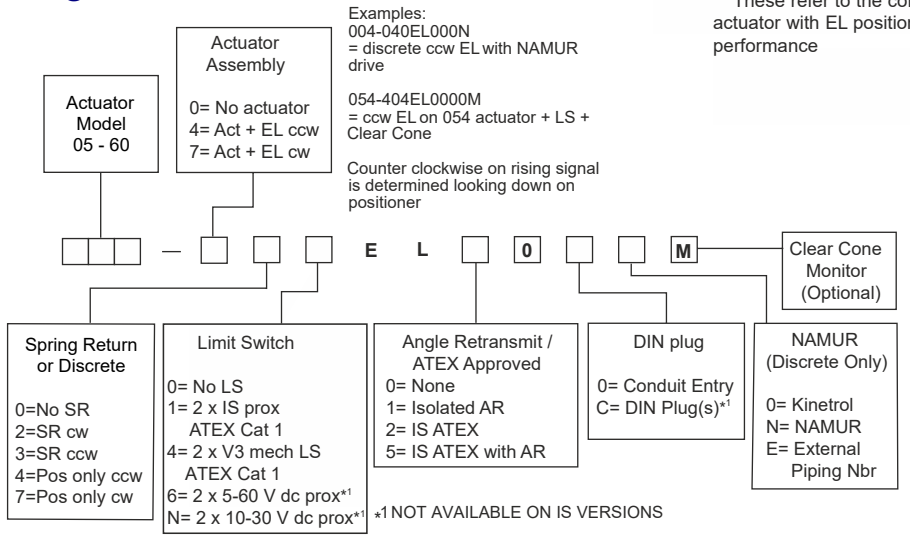
*Externally piped from EL positioner to actuator

Model	7*	8*	9*	10*	12*	14*
Deg/Sec	76	46	38	28	18	8.6
Model	**15***	**16***	**18***	**21***	**30***	**60***
Deg/Sec	4.3	4.1	2	1	0.7	0.3

Specification

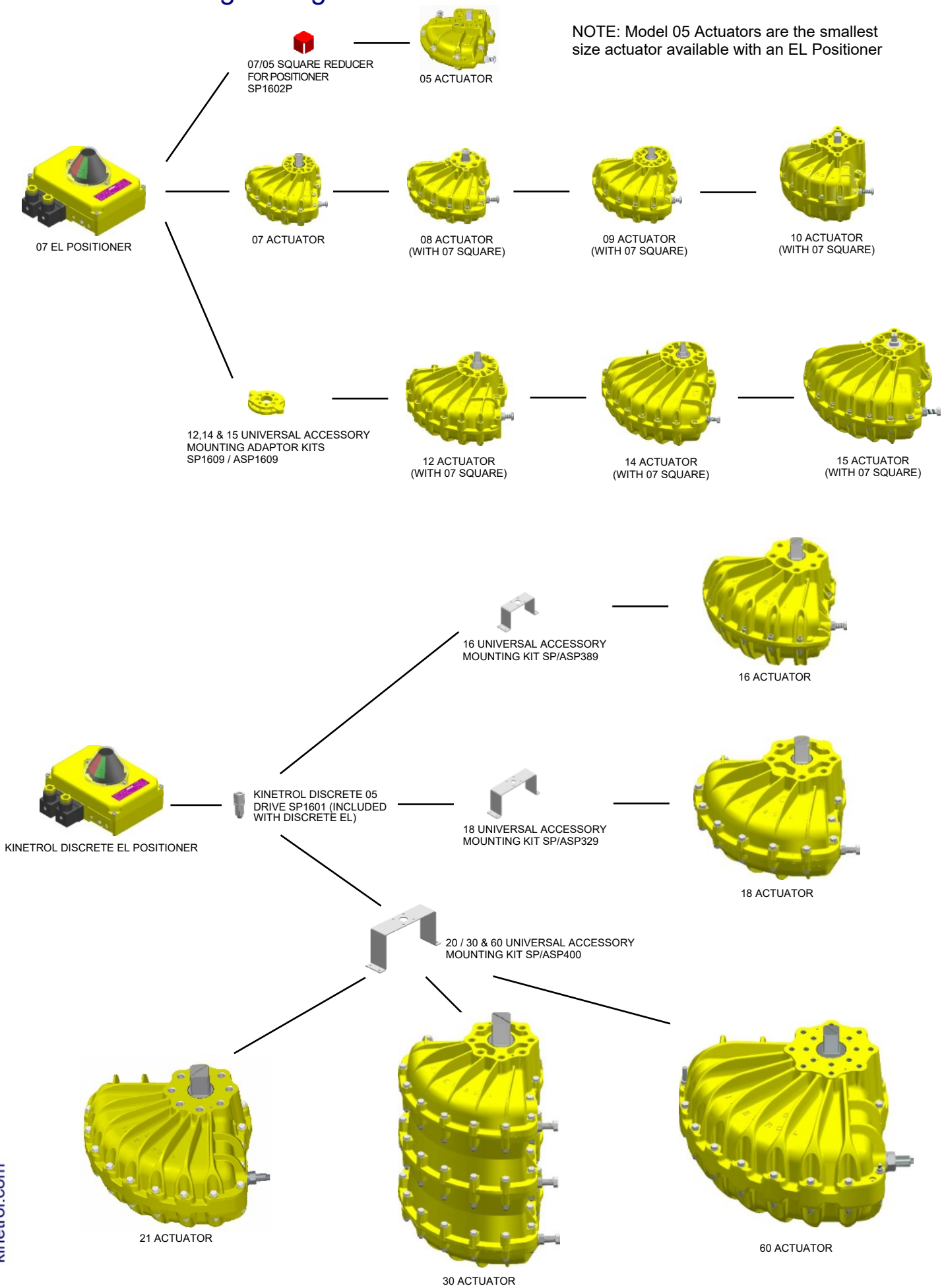
Air Supply	instrument quality (dry, clean, oil free Class 6.4.4 ISO 8573-1:2010), 3.5 to 7 bar (50 psi to 100 psi). Consult Kinetrol for 5µm inlet air filter option
Signal	4-20mA, requiring max 8V to drive through positioner circuit
Control Response	0-90° positioning with one linear and 10 non-linear preselected characteristics as standard. Consult Kinetrol for the following versions: i) linearisation of butterfly valve characteristics ii) Pre-selected travel time extension option (with active feedback control of travel speed) iii) customised responses
Sensitivity	better than 0.1mA**
Hysteresis	better than 0.7% of span**
Repeatability	better than 0.7% of span**
Deviation from Linearity	less than 0.7% of span**
Flowrate	3.3 scfm/93 l/m @ 5.5 bar
Operating Temperature	-20°C to +70°C (-4°F to +158°F)
Adjustments	low & high points (define range), proportional gain, velocity proportional setpoint advance (damping)
Weight	2.95 kg / 6.5 lb
Materials	case and cover - zinc alloy spool and liner - stainless steel
Finish	epoxy stove enamel
Enclosure Rating	IP65/NEMA 4X

Ordering Codes



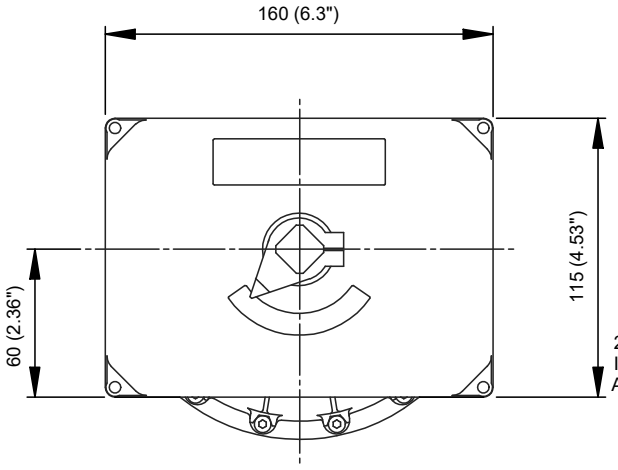
** These refer to the combination of Kinetrol actuator with EL positioner - not just the positioner performance

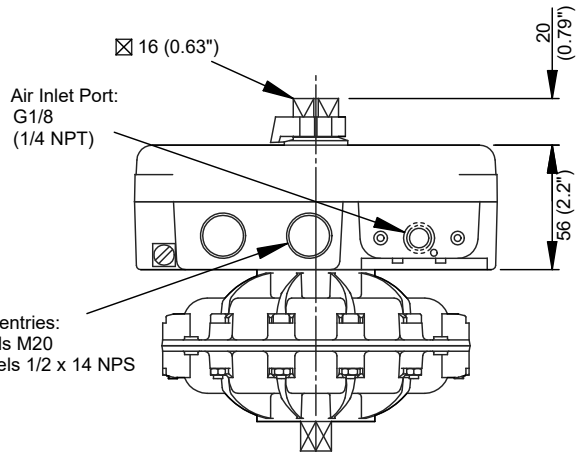
Modular Mounting Arrangement



Kinetrol EL Electropneumatic Positioner

EL Positioner Dimensions

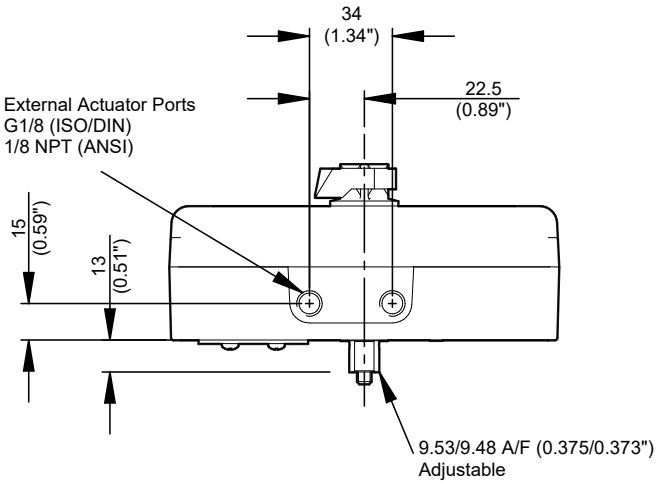


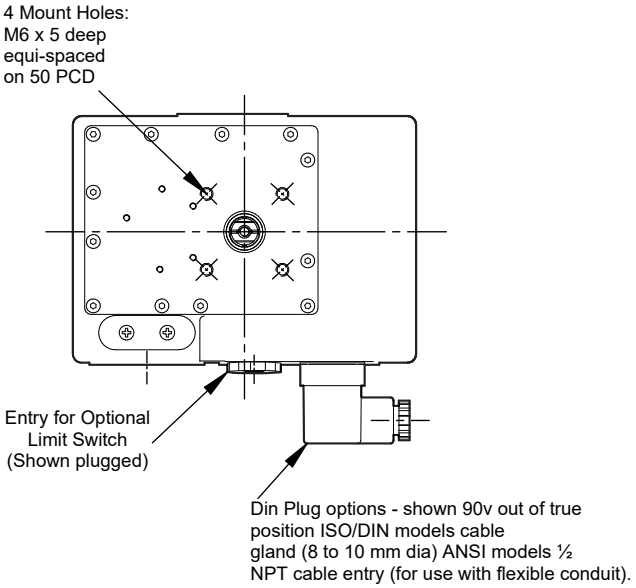


Actuator Model	*Additional Adaptor Dim.	Additional Adaptor Weight
12, 14 & 15	15.5 (0.61")	0.56 kg / 1.21 lbs

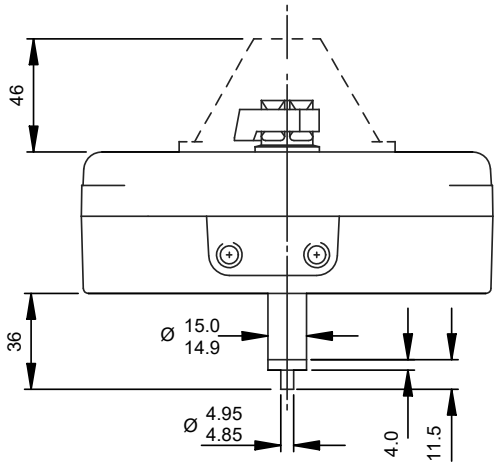
EL Positioner shown direct mounted on a Kinetrol 05 actuator

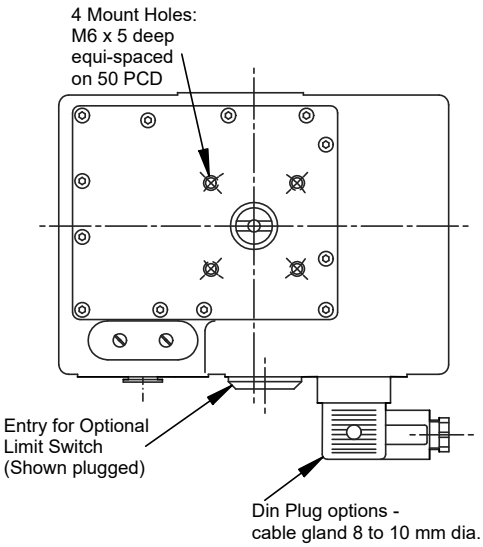
Kinetrol Discrete Version





Namur Discrete Version





Where drawing information is not given - it is the same for both versions

Kinetrol AP Positioner



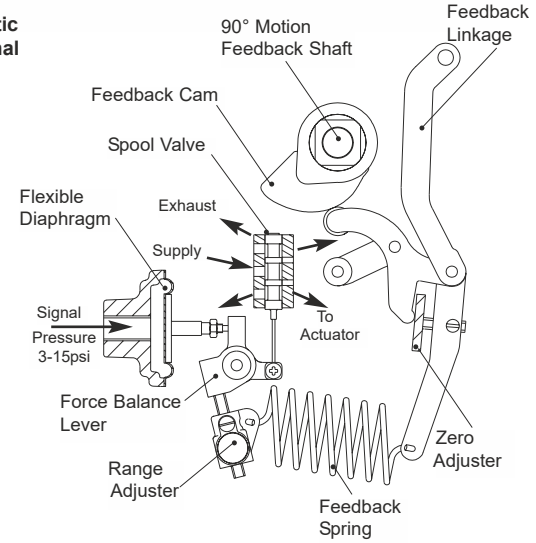
ATEX Up to Category 1

Operation

The AP Positioner is designed to drive a rotary or linear actuator to a position set by a 3-15 psi (0.2 to 1.0 bar) signal and hold it there until the signal changes. When a signal pressure is applied to the diaphragm it moves the force balance lever clockwise against the tension of the feedback spring. This moves the spool valve, supplying air pressure to one side of the actuator while exhausting trapped air from the other side. The feedback shaft follows the movement of the actuator and turns the cam counter clockwise, pushing the cam follower and increasing the tension on the feedback spring until it balances the forces on the diaphragm and moves the spool valve to its hold position.

The input signal and desired position is determined by the cam profile. A cam giving 0-90° output movement linearly proportional to a 3-15 psi (0.2-1.0 bar) signal is standard, and almost any desired characteristic can be supplied to order; if it cannot be found in the list of existing options contact Kinetrol.

Schematic Functional Diagram



The AP positioner moves an actuator to a position set by a 3-15psi control signal and holds it there. Its features are:

- **Fast, smooth, accurate response**
- **Simple, all-mechanical function for unbeatable reliability**
- **Three flow options to optimise control on all actuator sizes**
- **Universal application**
  The unit can be mounted in any orientation on to any quarter-turn or linear application
- **Easy set up**
  Quick calibration and reversal of rotational sense (clockwise and counter clockwise) without special tools or parts change
- **ATEX CAT 1 / IECEX approved versions available**
- **Easily retrofitted integral module options include:**

  Two wire 4-20mA angle retransmit (inside the same case)

  Mechanical or inductive limit switches (general or hazardous areas)

  4-20mA I/P convertors (general or hazardous areas)

  Clear Cone visual position indicator (general or hazardous areas)

  DIN plug option for retransmit connection

  Low (-40°C / -40°F) and high (100°C / 212°F) temperature versions available

  Fail hold options available

  Choice of mount options - see opposite
- **Weatherproof, compact and robust metal housing**
- **Vibration and shock resistant to 4G**
- **Built in ports for signal air supply and gauge connections**
- **ATEX CAT 2 Exd switch option available**

Kinetrol AP Positioner

The AP positioner can be directly mounted on standard Kinetrol models 05, 07, 08, 09, 10, 12, 14 and 15 actuators, both double acting and spring return, giving an assembly with no external plumbing, wiring or mechanical connections and the best in direct backlash free control. Mount kits are available for models 16, 18, 21, 30 and 60.
Alternatively, discrete versions mount on any actuator using VDI/VDE 3845 NAMUR drive, or Kinetrol male square with mounting brackets. Neat adaptations for linear cylinders are also available - consult Kinetrol for details.

Specification

Air Supply	instrument quality (dry, clean, oil free) 3.5 to 7 bar, (50 psi to 100 psi) standard. Consult Kinetrol for low pressure application
Signal	3-15psi (0.2-1.0 bar) standard. Consult Kinetrol for split range, 6-30 psi etc.
Control Response	0-90° linear output standard. Consult Kinetrol for other characteristic cam options
Sensitivity	better than 0.7% of span*
Hysteresis	better than 0.7% of span*
Deviation from linearity	less than 1% of span*
Flowrates @ 5.5 bar	AP: 3.3 scfm (93nl/min) MP: 10.0 scfm (283nl/min) HP: 27.0 scfm (764nl/min)
Operating Temperature Range	-20°C to +80°C (-4°F to +176°F) Standard -20°C to +100°C (-4°F to +212°F) High Temp -40°C to +80°C (-40°F to +176°F) Low Temp
Weight	2.8 kg / 6.2 lb
Materials	• case and cover - zinc alloy • spool and liner - stainless steel • diaphragm: - reinforced polyurethane (standard) - fluorocarbon rubber (high temp) - silicone rubber (low temp) • feedback spring - steel
Finish	epoxy stove enamel
Enclosure Rating	IP54
Output Torque	same as double acting or spring return actuator. When controlling fast movement of inertia loads consult Kinetrol

* These refer to the combination of Kinetrol actuator with AP positioner - not just the positioner performance

Maximum Vibration Tolerance 4G, 100Hz

I/P Converter Options - please see I/P data sheet

Travel Times

Maximum velocity (no load) at 5.5 bar / 80 psi

Model	05	07	08	09	10	12	14	15
Deg/Sec	180	90	53	45	33	25	10.6	6.0

*Externally piped from AP positioner to actuator

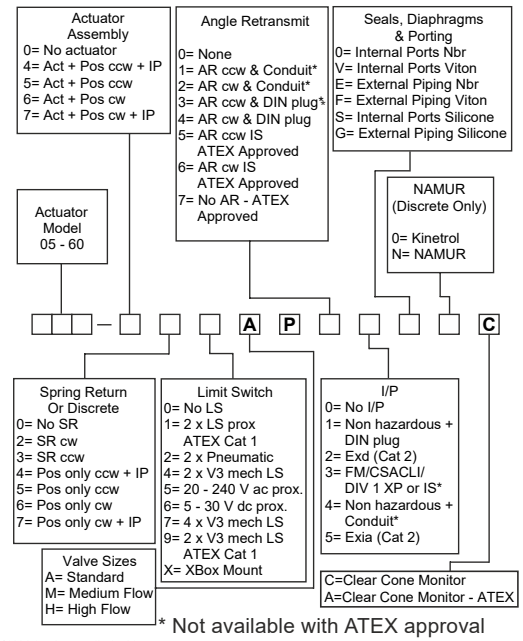
Model	12*	14*	15*	16*	18*	21*	30*	60*
Deg/Sec	32	13.8	7.5	22.5	11.3	5.9	3.8	1.9

Cam Options

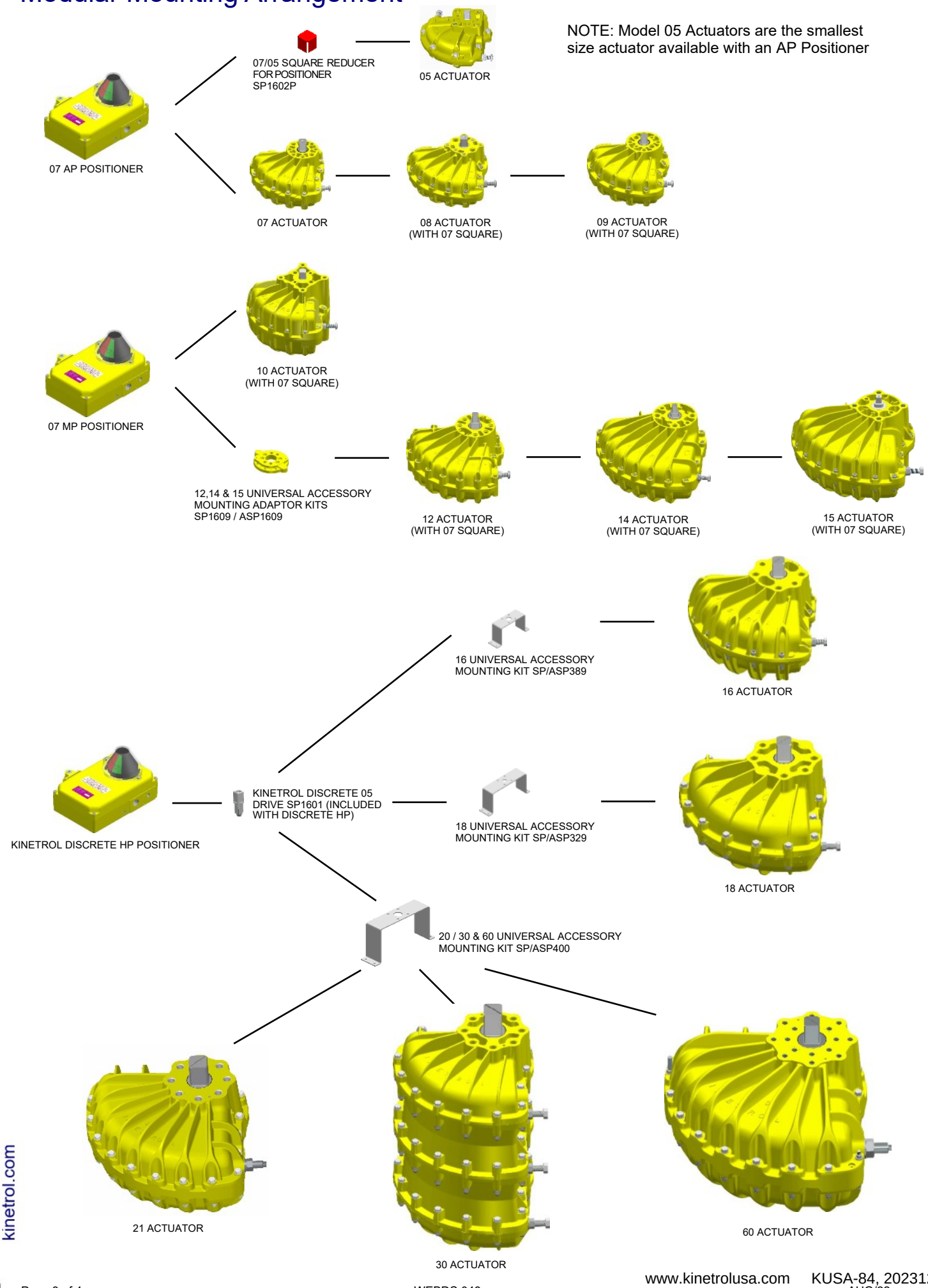
Giving typical control characteristics. Contact Kinetrol for details of other options or see TD112.

Input Control: Air Signal	Electrical Signal	Output Movement	Characteristic	Cam No.
3-15 psi 0.2-1.0 bar	4-20mA	0-90°	Linear	5-1A
3-9psi 0.2-0.6 bar	4-12mA	0-90°	Linear	5-2A
6-12 psi 0.4-0.8 bar	8-16mA	0-90°	Linear	5-3A
9-15psi 0.6-1.0 bar	12-20mA	0-90°	Linear	5-4A
3-15 psi 0.2-1.0 bar	4-20mA	0-60°	Linear	5-5A
3-15 psi 0.2-1.0 bar	4-20mA	0-45°	Linear	5-6A
3-15 psi 0.2-1.0 bar	4-20mA	0-90°	Proportional Flow	5-7A
3-9 psi 0.2-0.6 bar	4-12mA	0-90°	Proportional Flow	5-8A
9-15 psi 0.6-1.0 bar	12-20mA	0-90°	Proportional Flow	5-22A
3-12 psi 0.2-0.8 bar	4-16mA	0-90°	Linear	5-13A
9-15 psi 0.6-1.0 bar	12-20mA	0-60°	Linear	5-14A

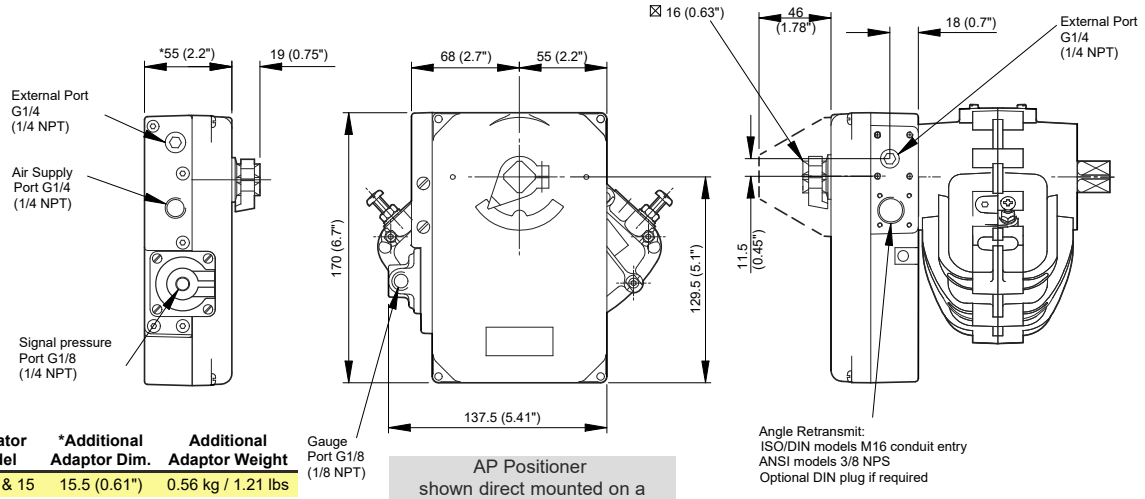
Ordering Codes



Modular Mounting Arrangement



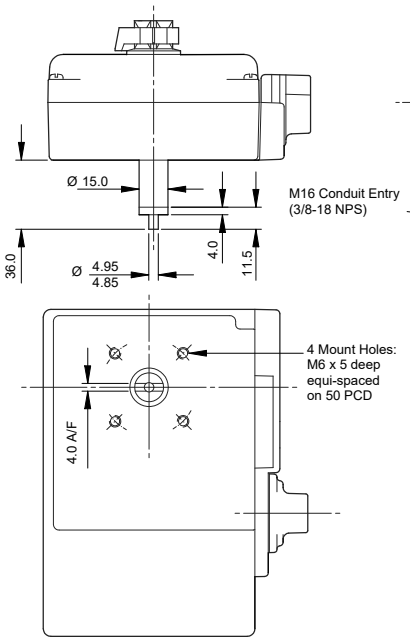
AP Positioner Dimensions



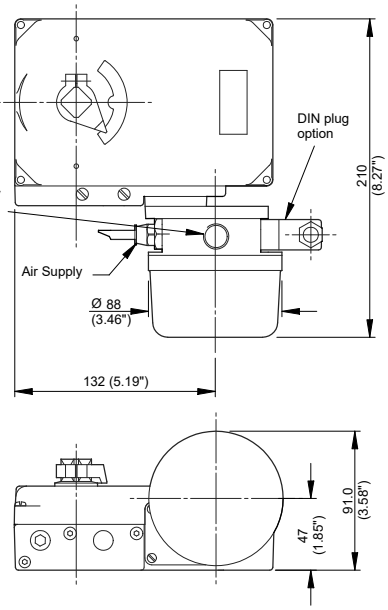
Actuator Model	*Additional Adaptor Dim.	Additional Adaptor Weight
12, 14 & 15	15.5 (0.61")	0.56 kg / 1.21 lbs

AP Positioner shown direct mounted on a Kinetrol 07 Actuator

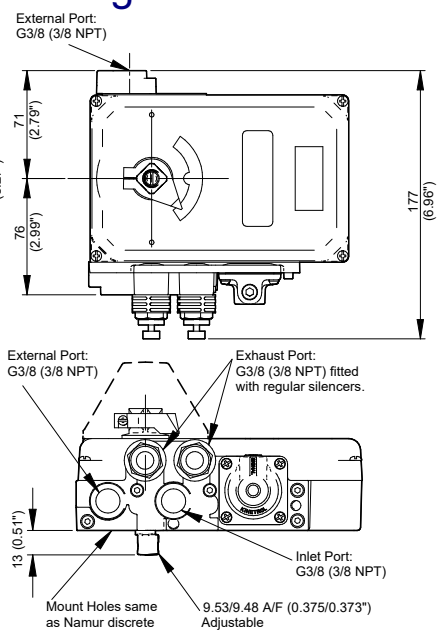
Namur Discrete Version



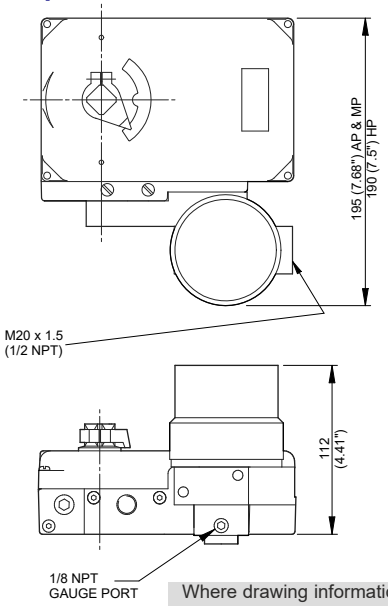
Non-Hazardous I/P Version



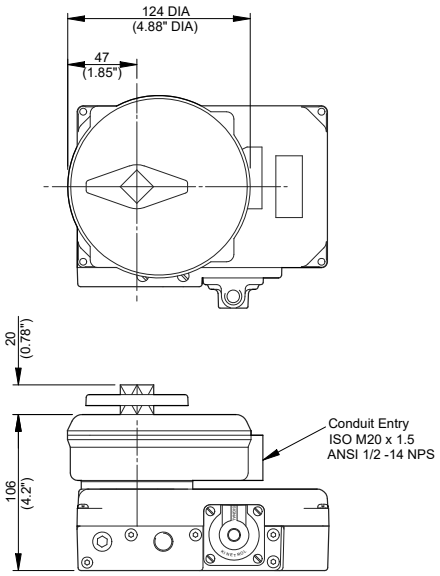
Kinetrol Discrete/ High Flow Version



Explosion Proof I/P Version



Switch Box Version



Where drawing information is not given - it is the same as the direct mount version

Kinetrol P3 On/Off Positioner



The P3 On/Off positioner consists of an electronic positioning circuit mounted in a robust all-metal enclosure, which controls a ¼-turn rotary pneumatic actuator via standard on-off solenoid valves which are direct-mounted on the actuator's own interface.

The P3 circuit is designed so that its assembly can be mounted inside a standard Kinetrol limit switch box (either ULS-type, or explosion proof XLS-type), using only two screws. The P3 assembly includes a feedback potentiometer and anti-backlash gear drive, which engages with gear teeth on the limit switch coupling, to read the actuator's position. The limit switch coupling, complete with gear teeth, needs to replace the standard coupling if a standard box is being retrofitted with a P3.

The positioner circuit is powered by the mid-point input voltage. It functions by comparing the actual mid-point position (read by the feedback potentiometer) with the set position (set via an on-board preset or a remote preset or a remote 4-20mA signal). The positioner circuit uses its solid-state switched outputs to power solenoid valves which drive the actuator towards the position where the set position corresponds with the actual position. When it gets there, the solenoids are switched to hold that position.

The positioner circuit incorporates a unique power supply allowing it to be powered by any of 24V dc, 110V ac or 230V ac, 50/60 Hz, without the need for any change. The supply maintains full isolation of the low voltage control circuit from the power input line (up to 5KV). Switching of the solenoid valve outputs is achieved through opto-isolated solid state switches which operate at all the above voltages – only the solenoid coils themselves need to be adapted specifically to the supply voltage. The use of solid state switching avoids any limitations on relay contact life.

Double acting models are available as fail-free (standard), fail-down (moves clockwise or counter clockwise on loss of electrical power if air supply is still present) and fail-hold (holds position on loss of electrical and / or air supply) variants. Spring return models move in the direction of the spring on loss of electrical or air supply.

An optional angle retransmit (AR) circuit can be retrofitted by plugging it into the top of the positioner circuit and fixing with three screws. The AR circuit is a 2-wire loop-powered 4-20mA device, which reads the position of the positioner's feedback pot. It is fully functional whether or not the positioner circuit is powered. The feedback signal is electronically isolated (ie. floating) relative to the low voltage positioner circuit (which in turn is electrically isolated from the power supply and solenoid connections).

Extra solid-state switches have been incorporated on the positioner board to allow supply to both solenoid valves via a single cable for movement to the upscale position when the positioner is in spring-return or fail-down mode, while still allowing the positioner to control the two valves independently for the mid position. If the mid-position input is energised, then these extra switches isolate the solenoids from the upscale/downscale inputs.

The three power input lines (for up, mid, down positions) are independently fused using plug-in miniature fuses on the positioner circuit board.

External connections are made via a multi-option connector board, which allows simultaneous connection of up to four changeover limit switches, three control supply inputs plus neutral/negative, and a single low-voltage signal. This connector board, like the positioner circuit assembly, mounts in either the standard ULS or XLS box using two screws.

If an angle retransmit circuit is fitted using the low voltage signal terminal, optional 4-20mA inputs or external setpoint pot wires can be connected, either directly to the terminal block on the positioner circuit or, if only three or less limit switches are in use, relayed through an unused limit switch terminal on the connector board.

The limit switch box is fitted with a ground terminal which must be connected to a suitable external ground.

Industrial solenoid valves which permit the use of standard quality air supplies (instrument quality air is not necessary), are direct-mounted on adaptor blocks on the side of the actuator, and electrically connected via steel-armoured flying leads with DIN sockets on the solenoid end. At the positioner end, they connect to two 2-way terminal blocks on the circuit board. A range of solenoid valve options are available, determined by the function required, the supply voltage, and whether or not the unit requires hazardous area certification. Customer selection is via the order code.

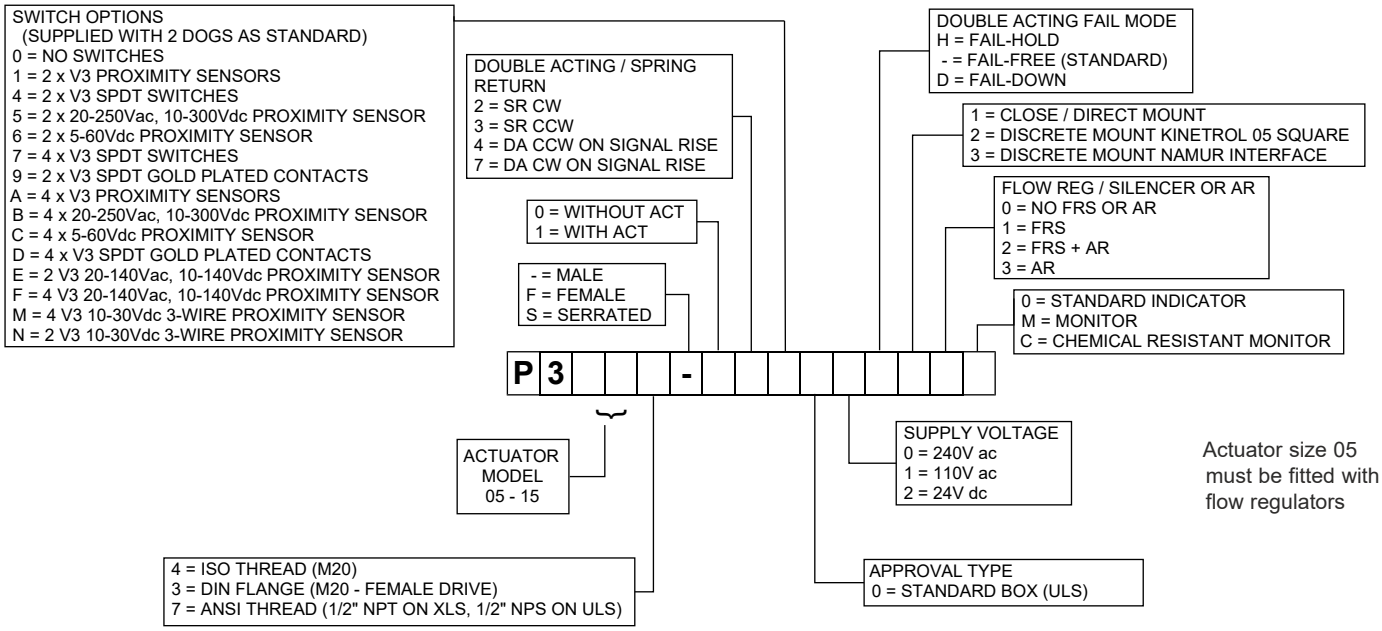
Kinetrol P3 On/Off Positioner

- Robust modulating actuator control - tolerant of standard quality air supplies (instrument quality air is not necessary) via industrial solenoid valves.
- Three position rotary control using only three electrical inputs plus air supply, for filling applications etc.
- Two endstop positions + adjustable mid position anywhere in angular range of actuator (90 or 180°).
- Control circuit mounts inside standard all metal industrial quality Kinetrol ULS or XLS limit switch boxes – available fully assembled, or (on non-explosion proof models only) for user retrofit to existing boxes.
- Direct mounting onto model 05 to 15 actuators. Namur mounting options available.
- Uses direct-mounting standard solenoid valves outside box to position actuator.
- Easy adjustment of mid position set point by switch–selectable choice of methods: on-board pot, remote pot or 4-20mA input signal.
- Explosion proof options available (approved to IECEX, ATEX) by use of XLS housing plus standard explosion proof solenoid valves – please see Explosion Proof P3 On/Off Positioner data sheet.
- All new positioner circuit – runs on 24V dc, 110V ac or 230V ac power without any adjustment.
  - Solid-state universal-voltage solenoid switching -no mechanical contacts.
  - Three separate on-board mains fuses for three inputs.
  - Switchable selection of mid-point setting method (on-board preset, remote preset, remote 4-20mA signal).
  - Switchable selection of double acting or spring return operating mode.
  - Power input isolated from signal inputs and outputs for all voltage options.
  - Moulded reinforced plastic internal circuit cover for insulated safety.
  - Positioner has user-adjustable zero, span, deadband and damping parameters via preset pots for easy optimisation of positioning performance.
  - Damping parameter gives velocity-proportional setpoint advance to allow better stabilisation of fast-moving or high-inertia loads while maintaining resolution and repeatability.
- Retrofittable isolated loop-powered 4-20mA angle-retransmit circuit available – just plugs in inside same enclosure – with its own user-adjustable zero and span presets.

Specification

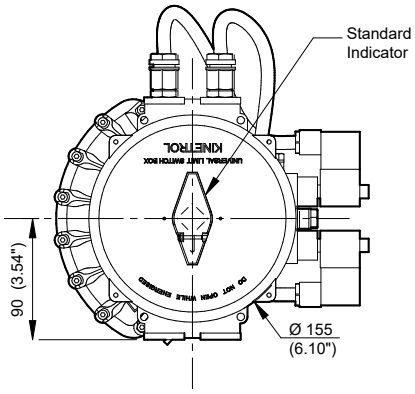
Compatible Actuator Sizes	models 05 to 15
Supply Voltages	230V ac ± 10%,50 or 60 Hz 110V ac ± 10%, 50 or 60 Hz 24V dc ± 10%
Power Consumption	positioner 1.5W max. solenoids 5 VA max. per solenoid.
Operating Temperature Range	-5°C to +50°C (-23°F to +122°F) (limited by solenoid valve specification) explosion proof option
Operating Pressure	2.0 to 7.0 Bar 30 to 100 psi
Selectable External Inputs	4-20mA - impedance 250 ohm. Potentiometer - minimum resistance 10K ohm.
Positioner Performance	linearity - better than 1% of range deadband - 0.1 to 3% of range repeatability - better than 1% of range
Optional 2-wire Angle Transducer	supply voltage - 14.7 to 27V dc. output - 4-20mA. linearly proportionate to angular position, electrically isolated from all other inputs and outputs functions with or without positioner circuit energisation

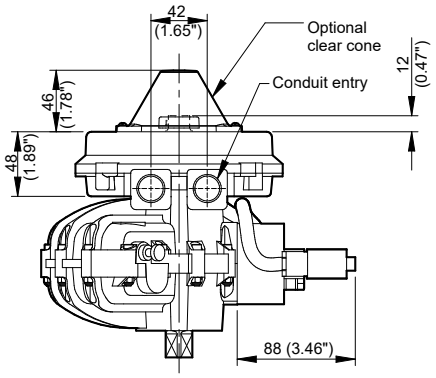
Ordering Codes



Dimensions

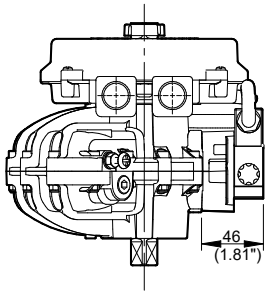
Fail free / Fail down / Spring return units





G 1/8 (1/8" NPT) PORT POSITION ON BLOCK
DEPENDS ON ORDER SPECIFICATION

Fail hold unit



G 1/4" (1/4" NPT) PORT
ON SOLENOID

Kinetrol Explosion Proof P3 On/Off Positioner



ATEX Category 2

The explosion proof P3 on/off positioner offers a robust three position rotary control device with a fast, smooth, accurate response in a compact corrosion resistant, aluminium housing.

The unit is available ATEX approved to Category 2 and offers four voltages, many switch options and angle position feedback. Available for close mounting on Kinetrol actuator models 05 to 15 or discrete mounting via a Kinetrol 05 square or NAMUR drive.

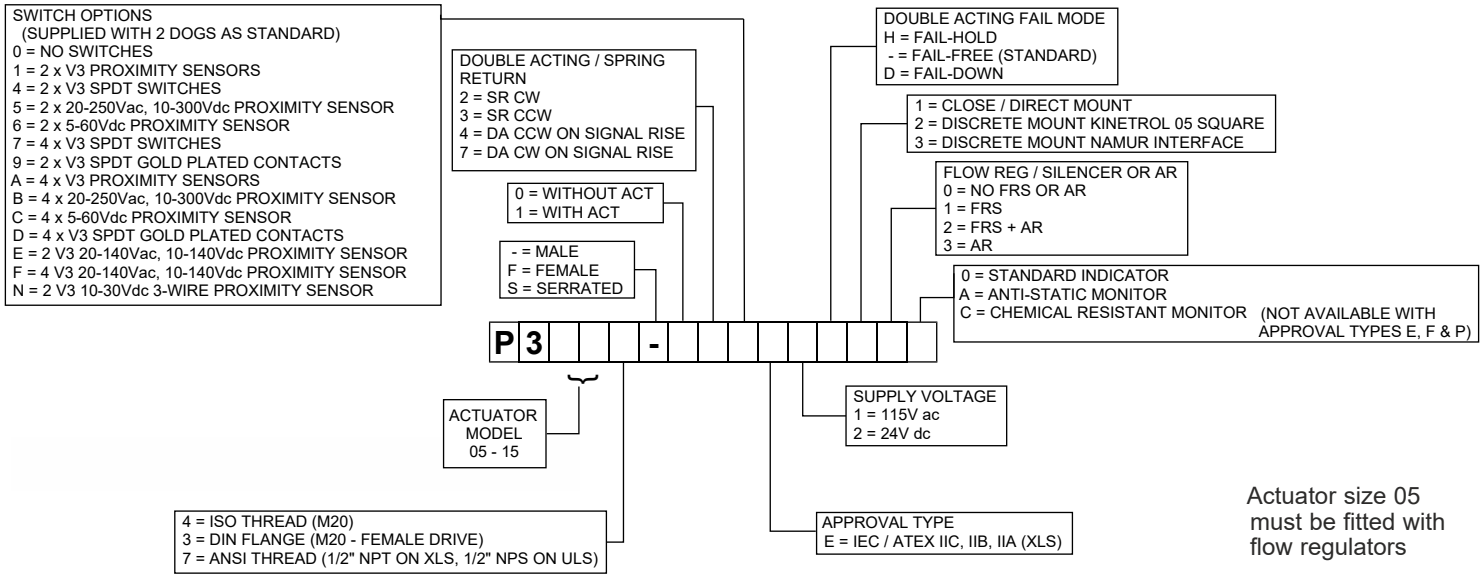
Please refer to P3 On / Off Positioner data sheet for product details.

Specification

European / Global Protection ATEX / IECEX Approval	Exd Group IIC Category 2 Gas & Dust T5, IP66
Voltages	115V ac 24V dc
Working Temperature Range	-20°C to +60°C (-4°F to +140°F)
Power Consumption	positioner 1.5 W max. solenoids 5 VA max. per solenoid.
Selected External Inputs	4-20mA - impedance 250 ohm. potentiometer - minimum resistance 10K ohm.
Casing	precision diecast LM24 alloy, anodised & epoxy stove enamel.
Coupling	zinc plated steel or stainless steel option.
Positioner Performance	linearity - better than 1% of range deadband - 0.1 to 3% of range (subject to optimisation of speed, deadband and damping).
Optional 2-wire Angle Transducer	supply voltage - 8.5 to 27V dc output - 4-20mA, linearly proportionate to angular position, electrically isolated from all other inputs and outputs functions with or without positioner circuit energisation

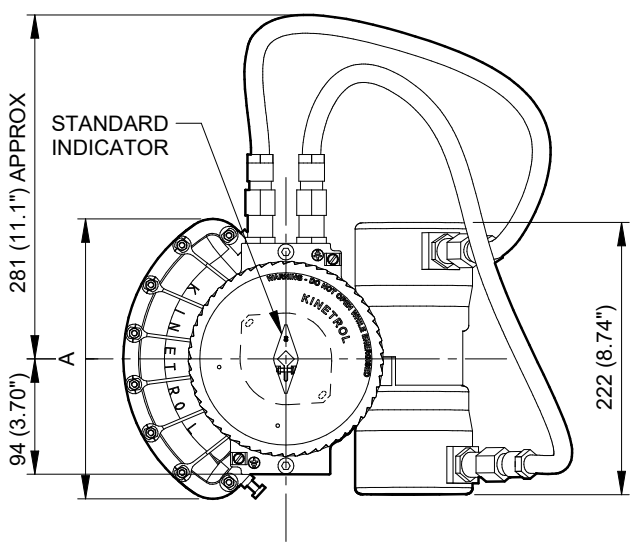
Kinetrol Explosion Proof P3 On/Off Positioner

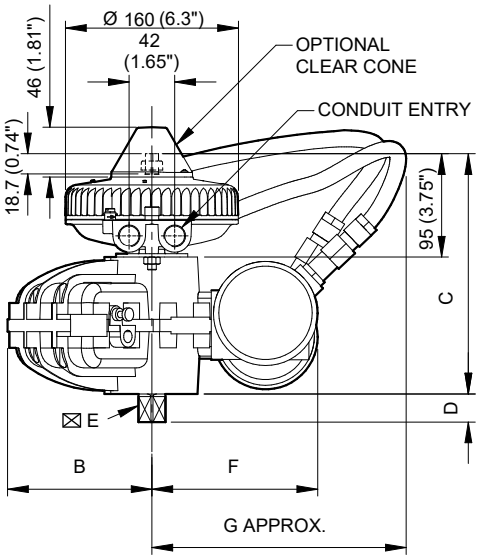
Ordering Codes



Actuator size 05 must be fitted with flow regulators

Dimensions





Model	A	B	C	D	⊠E	F	G
05	132.0 (5.20”)	80.0 (3.15”)	162 (6.4”)	13.0 (0.51”)	9.5 (0.375”)	133 (5.2”)	214 (8.4”)
07	178.0 (7.01”)	102.6 (4.04”)	195 (7.7”)	20.0 (0.79”)	16.0 (0.630”)	142 (5.6”)	223 (8.8”)
08	208.0 (8.19”)	120.7 (4.75”)	205 (8.1”)	19.0 (0.75”)	17.0 (0.669”)	145 (5.7”)	226 (8.9”)
09	227.0 (8.94”)	133.0 (5.24”)	221 (8.7”)	26.0 (1.02”)	19.0 (0.748”)	153 (6.0”)	234 (9.2”)
10	229.0 (9.00”)	130.5 (5.14”)	273 (10.75”)	24.0 (0.94”)	22.0* (0.870”)	155 (6.2”)	236 (9.3”)
12	294.0 (11.57”)	171.0 (6.73”)	266 (10.5”)	31.0 (1.22”)	25.0 (0.984”)	167 (6.6”)	218 (8.6”)
14	380.0 (14.96”)	222.0 (8.74”)	314 (12.4”)	38.0 (1.50”)	28.6 (1.125”)	183 (7.2”)	264 (10.4”)
15	433.0 (17.05”)	252.0 (9.92”)	355 (14.0”)	41.0 (1.61”)	36.0 (1.417”)	200 (7.9”)	281 (11.1”)

* Model 10 DIN (F10) Female Drive

Kinetrol I/P Controller

The optional Kinetrol I/P Controller is mounted in place of the standard diaphragm housing on the side of the AP positioner case. The AP positioner can still be mounted in any orientation and gives an angular output position which is proportional to the input current control signal between 4-20mA.

The 4-20mA signal is converted to an air pressure by a coil and magnet and flapper valve arrangement. This air pressure controls the positioner in the normal way.

Zero and range adjustment is done within the positioner in the same way as with a standard pneumatic positioner. No adjustment is necessary within the I/P Controller. The cover is removed only to connect the two wires - this is not necessary with the DIN plug option.



ATEX Up to Category 1

Specification - Safe Area

Electrical Control Signal	4-20mA
Coil Impedance	20 ohms typical
Cable Entry	16mm conduit or gland (mini DIN plug, IP 65 with Pg9 cable gland, 6-8mm dia optional)
Air Supply	5.5 bar / 80 psi nominal
Air Entry	$G^1/_8$ (fitted with 6mm pipe dia. push in connector
Weight	1.2 kg / 2.65 lb
Linearity	1.5%*
Hysteresis	less than 1%*
Sensitivity/Deadband	less than 1%*
Supply Pressure Influence	0.2% per psi between 80 and 60 psi
Quiescent Air Consumption	3.5 l/min free air max
Working Temperature Range	-20°C to +80°C (-4°F to +176°F)

Instrument quality dry, clean air obligatory (Class 6.4.4 ISO 8573-1:2010)

* These refer to the combination of Kinetrol actuator with I/P controller - not just the positioner performance

I/P Controller - Hazardous Area

Kinetrol offers various optional I/P converters which are explosion proof or intrinsically safe certified for use in ATEX Zones 1 & 2 or NEC and CSA CLASS I DIVISION 1. They are mounted directly onto Kinetrol AP positioners with integral air supply.

Specification - Hazardous Area

Electrical Control Signal	4-20mA
Input Resistance	260 ohms at 24°C
Cable Entry	Exd - M20 x 1.5 conduit entry FM/CSA - $^1/_2$ NPT conduit entry
Air Supply	50-100 psi/3.5 to 7 bar
Air Entry	Exd (AP & MP) $G^1/_4$ ($^1/_4$ NPT) (HP) $G^3/_8$ ($^3/_8$ NPT)
Working Temperature	-40°C to 75°C (-40°F to +167°F) for Exd -55°C to 85°C (-67°F to +121°F) for Exia

Instrument quality dry, clean air obligatory (Class 3.4.4 ISO 8573.1)

ATEX certificated as follows:

Explosion proof

Ex II 2G Ex d IIB+H2 T6 Ta= -40°C to +75°C
Ex II 2D Ex tD A21 IP65 T85°C Ta= -40°C to +75°C

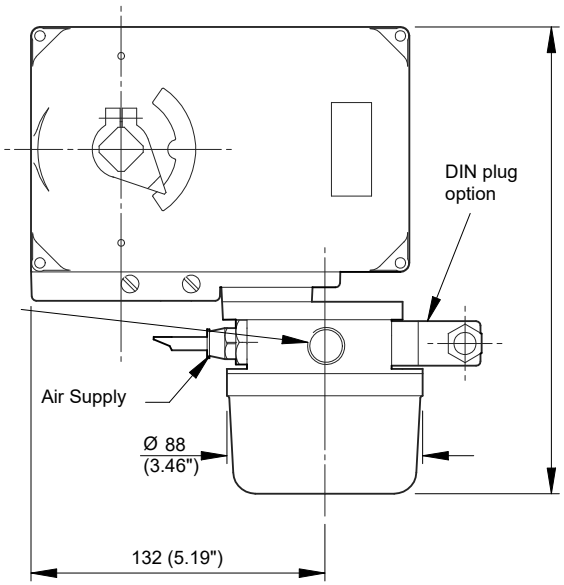
Intrinsically safe

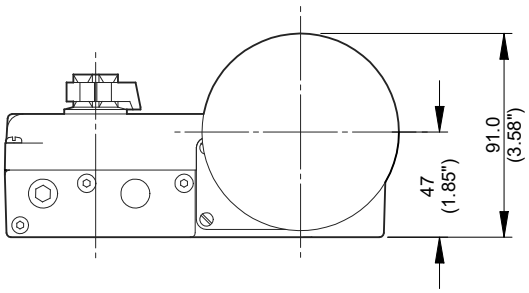
Ex II 1G Ex ia IIC T4 Ta= -55°C to +85°C

For FM Approved version - contact Kinetrol

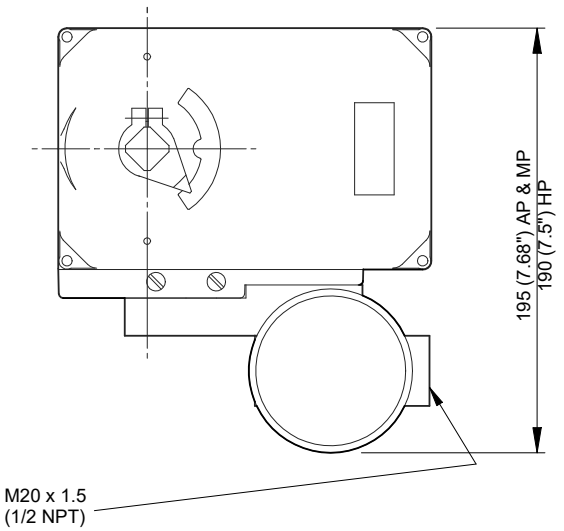
Dimensions

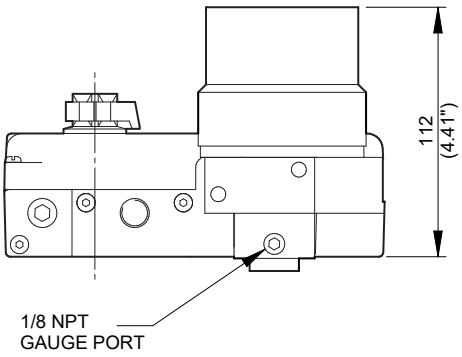
Non-Hazardous I/P Version





Explosion Proof I/P Version





Kinetrol Manual Fail-Safe Spring Units

If you want to operate a valve manually, but maintain the advantage of the fail-safe spring's certainty of position when unattended, use this device.



- **Manual unit, cannot be left in the wrong position**
- **Reliable torque delivery for valve reseat**

ATEX Up to Category 2

- **ISO5211 female drive & ATEX Category 2 approved options available for models 02, 03, 05 and 07**
- **Clockwise or counter clockwise 90° spring action**
- **Spring housing sealed to IP65 to protect from internal corrosion**
- **Bi-square (star) and serrated female drive options available**

Application

Manual fail-safe spring units are available in Kinetrol sizes 02, 03, 05 and 07 with factory adjusted torques from 1.4Nm to 45.5Nm.

Direction of Spring Action

Manual fail safe spring units are available for either clockwise or counter clockwise spring action and the direction of the unit is determined by looking from above with the mounting interface on the bottom.

Suffix - 020 = clockwise
Suffix - 030 = counter clockwise

Specification

Spring Case	
02, 03, 05 & 07 ATEX	Die cast zinc alloy, epoxy paint finish
07 non-ATEX	Die cast aluminium alloy, epoxy paint finish
Shaft	Stainless steel or carbon steel zinc plated
Manual lever	03, 05 & 07 - Stainless Steel 02 - Aluminium
Working Temperature range	-40°C to +80°C (-40°F to +176°F)

Ordering Codes

To order a manual fail-safe spring unit, quote model number, direction of spring followed by product type code:

Type Codes:	-1006	Manual spring unit (e.g. 054-020-1006)
	-1016	ATEX manual spring unit

For reduced torque versions contact Kinetrol.

ISO/Female Drive Versions

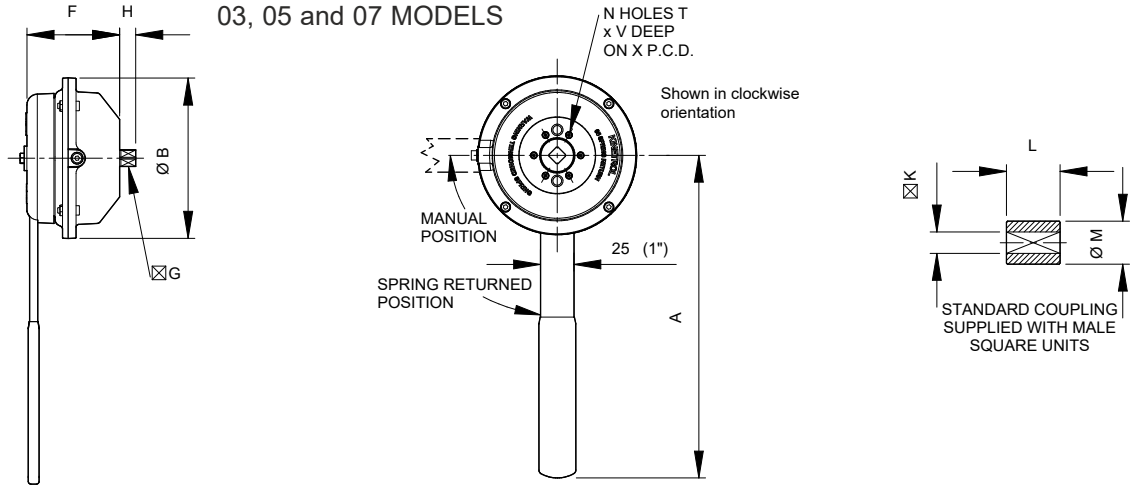
The 03, 05 and 07 models are available with female drives for direct mount. The model 03 has F03/F05 or F04 mounting flanges, the model 05 has F03/F05/F07 or F04 flanges and the model 07 has a F05/F07 flange.

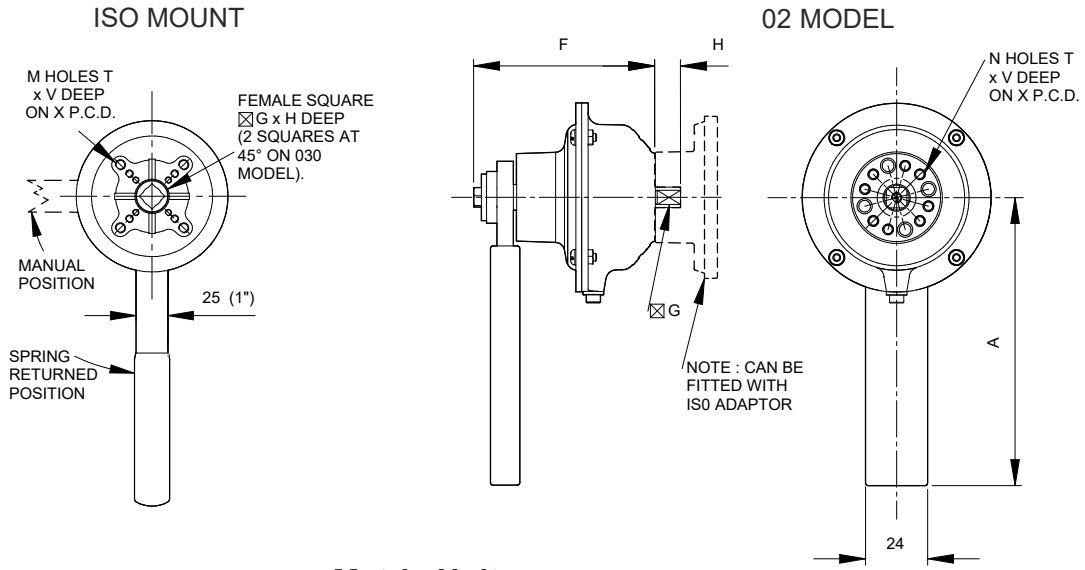
To order female drive versions, replace the '0-' in the product code with '3F'. For example a model 05 ISO female drive manual fail-safe cw handle with F03/F05/F07 flanges is coded: 053F020-1006. The F04 flange version is coded 053F020-1006/F4.

Female drive versions with the same flange dimensions are available with ANSI threads eg 057F020-1006/F4. Serrated female drive options can also be supplied for models 05 and 07. To order these replace the 'F' in the product code with an 'S'. Female 02 versions are available by use of an ISO adaptor, see ISO Adaptor data sheet.

Kinetrol Manual Fail-Safe Spring Units

Dimensions/Torques





Metric Units

	A mm	B mm	C mm	D mm	F mm	G mm	H † mm	K mm	L mm	M mm	N	T	V mm	X mm	Maximum Torque Nm	Torque Reduction Thro' Stroke Nm
024-020-1006	110	73	-	-	70	7.98 7.93	10.0	8.022 8.000	22.0	16.0	4	M4	8.0	25.5	5.1	1.0
034-020-1006	238	108	-	-	62	8.98 8.93	12.0	9.022 9.000	22.0	18.0	4	M5	10.0	31.1	14.0	3.0
054-020-1006	238	118	-	-	68.5	9.525 9.470	13.0	9.58 9.55	25.4	19.0	6	M5	8.0	34.9	24.0	3.5
074-020-1006	360	152	-	-	103	15.98 15.93	20.0	16.027 16.000	40.0	32.0	4	M8	15.0	50.8	45.5	5.8
033F020-1006	238	108	-	-	66	11.0	12.0	-	-	-	4	M5/M6	10/12	36/50	14.0	3.0
033F020-1006/F4	238	108	-	-	66	11.0	12.0	-	-	-	4	M5	10.0	42.0	14.0	3.0
053F020-1006	238	118	-	-	68.5	14.0	16.0	-	-	-	4	M5/M6/M8	10/12/13	36/50/70	24.0	3.5
053S020-1006	238	118	-	-	68.5	*	*	-	-	-	4	M5/M6/M8	10/12/13	36/50/70	24.0	3.5
053F020-1006/F4	238	118	-	-	68.5	14.0	16.0	-	-	-	4	M5	10.0	42.0	24.0	3.5
073F020-1006	360	152	-	-	103	17.0	22.0	-	-	-	4	M6/M8	14	50/70	45.5	5.8
073S020-1006	360	152	-	-	103	*	*	-	-	-	4	M6/M8	14	50/70	45.5	5.8

Weights – Metric

02 Models	–	0.50 kg
03 Models	–	1.87 kg
05 Models	–	1.87 kg
07 Models		
(Non-ATEX)	–	4.21 kg
(ATEX)	–	5.17 kg

English Units

	A inch	B inch	C inch	D inch	F inch	G inch	H † inch	K inch	L inch	M inch	N	T	V inch	X inch	Maximum Torque lbf.ins	Torque Reduction Thro' Stroke lbf.ins
027-020-1006	4.33	2.87	-	-	2.76	0.314 0.312	0.39	0.316 0.315	0.86	0.63	4	8-32	0.310	1.00	45	8.00
037-020-1006	9.37	4.25	-	-	2.44	0.354 0.352	0.47	0.355 0.354	0.86	0.70	4	10-24	0.390	1.22	124	26.55
057-020-1006	9.37	4.64	-	-	2.70	0.375 0.373	0.51	0.377 0.376	1.00	0.75	6	10-24	0.310	1.37	212	31.00
077-020-1006	14.17	5.98	-	-	4.06	0.629 0.627	0.79	0.631 0.630	1.57	1.26	4	5/16-18	0.625	2.00	400	51.00
037F020-1006	9.37	4.25	-	-	2.60	0.43	0.47	-	-	-	4	10-24 / ¼	0.31/0.39	1.42/1.97	124	26.55
037F020-1006/F4	9.37	4.25	-	-	2.60	0.43	0.47	-	-	-	4	10-24	0.390	1.65	124	26.55
057F020-1006	9.37	4.64	-	-	2.70	0.55	0.63	-	-	-	4	10-24 / ¼ / 5/16	0.39/0.47/0.51	1.42/1.97/2.76	212	30.98
057S020-1006	9.37	4.64	-	-	2.70	*	*	-	-	-	4	10-24 / ¼ / 5/16	0.39/0.47/0.51	1.42/1.97/2.76	212	30.98
057F020-1006/F4	9.37	4.64	-	-	2.70	0.55	0.63	-	-	-	4	10-24	0.390	1.65	212	30.98
077F020-1006	14.17	5.98	-	-	4.06	0.669	0.75	-	-	-	4	¼ / 5/16	0.39/0.51	1.97/2.76	400	51.00
077S020-1006	14.17	5.98	-	-	4.06	*	*	-	-	-	4	¼ / 5/16	0.39/0.51	1.97/2.76	400	51.00

Weights – English

02 Models	–	1.102 lb
03 Models	–	4.123 lb
05 Models	–	4.123 lb
07 Models		
(Non-ATEX)	–	9.281 lb
(ATEX)	–	11.374 lb

* Refer to TD141 for details on serrations and inserts

† Minimum

KINETROL
kinetrol.com

Kinetrol Fire Fail-Safe Spring Units

To open or close a valve or damper automatically in case of a fire this device allows the valve to operate using a fusible link mechanism designed to yield at a set temperature.



ATEX Up to Category 2

- **Reliable torque delivery for valve reseat**
- **Available for Models 05, 07, 09 and 12**
- **Two Yield Temperature Options**
- **Clockwise or counter clockwise 90° spring action**
- **ISO5211 female drive options available**
- **Spring housing sealed to IP65 to protect from internal corrosion**
- **ATEX Category 2 approved options available**

Specification

Spring Case 05, 07, 09 & 12	Die cast aluminium alloy, epoxy paint finish
Output Shaft	Stainless steel or carbon steel zinc plated
Clock Type Spring	Stainless spring steel
Lever	Stainless Steel

Yield Temperatures

Fire fail-safe fusible links
Solder type (UL approved)

Yield temperature options	74°C	100°C
Max. normal ambient temperature	38°C	66°C

Direction of Spring Action

Manual fail safe spring units are available for either clockwise or counter clockwise spring action and the direction of the unit is determined by looking from above with the mounting interface on the bottom.

Suffix - 020 = clockwise
Suffix - 030 = counter clockwise

Ordering Codes

To order a fire fail-safe spring unit, quote model number, direction of spring followed by product type code:

-0074 Fire fail-safe spring unit 74°C
-0100 Fire fail-safe spring unit 100°C
-1074 ATEX fire fail-safe spring unit 74°C
-1100 ATEX fire fail-safe spring unit 100°C
(example: 054-020-0074)

For reduced torque versions contact Kinetrol

ISO/Female Drive Versions

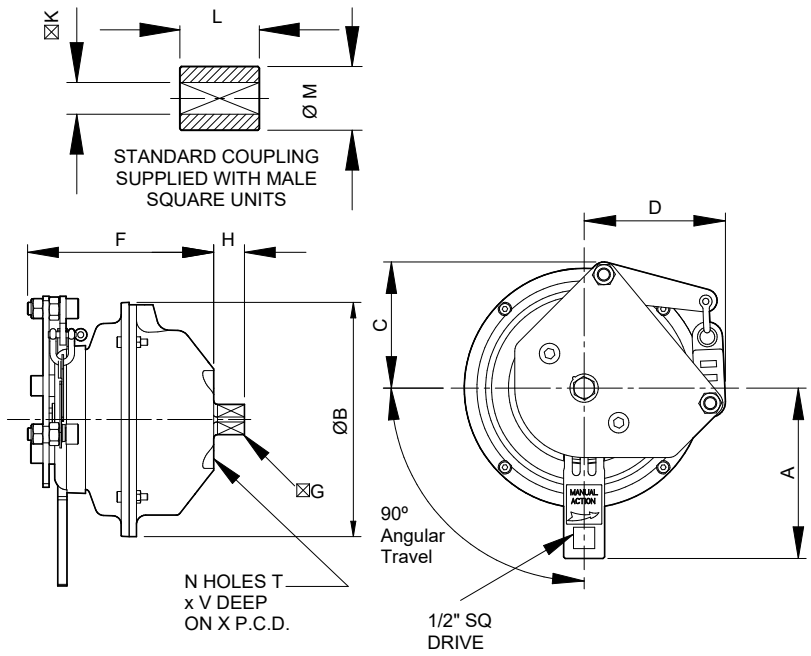
The 05, 07, 09 and 12 models are available with female drives for direct mount. The model 05 has F03/F05/F07 or F04 mounting flanges. The model 07 has F05/F07 flanges, the model 09 has F07/F10 flanges and the model 12 has F10 flanges.

To order female drive versions, replace the '0-' in the product code with '3F'. For example a model 05 ISO female drive fire fail-safe unit with F03/F05/F07 flanges is coded: 053F020-0074. The F04 flange version is coded 053F020-0074/F4.

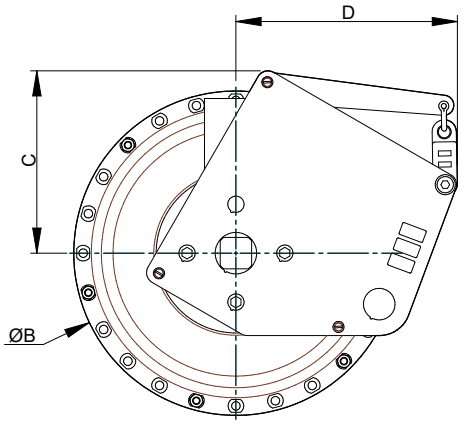
The same version but with ANSI threads is coded: 057F020-0074/F4.

Dimensions

Model 05 & 07



Model 09 & 12



Shown in energised position

Metric Units

	A mm	B mm	C mm	D mm	F mm	G mm	H † mm	K mm	L mm	M mm	N	T	V mm	X mm	Maximum Torque Nm
054-020-0074	108	118	80	90	88	9.525 9.470	13.0	9.58 9.55	25.4	19.0	6	M5	13.0	34.9	24.0
074-020-0074	108	152	80	90	121	15.98 15.93	20.0	16.027 16.000	40.0	32.0	4	M8	15.0	50.8	45.5
094-020-0074	-	200	108	130	144	18.98 18.93	26.0	19.033 19.000	50.0	38.0	4	M10	20.0	65	95.0
124-020-0074	-	258	145	176	209	25.00 24.90	31.0	25.06 25.00	56.0	50.0	4	M12	24.0	77.8	205.0

Weights – Metric

05 Models – 2.70 kg
07 Models – 4.30 kg
09 Models – 9.20 kg
12 Models – 22.50 kg

English Units

	A inch	B inch	C inch	D inch	F inch	G inch	H † inch	K inch	L inch	M inch	N	T	V inch	X inch	Maximum Torque lbf.ins
057-020-0074	4.25	4.64	3.15	3.54	3.47	0.375 0.373	0.51	0.377 0.376	1.00	0.75	6	10-24	0.510	1.37	212
077-020-0074	4.25	5.98	3.15	3.54	4.76	0.629 0.627	0.79	0.631 0.630	1.57	1.26	4	5/16-18	0.625	2.00	400
097-020-0074	-	7.87	4.25	5.12	5.67	0.747 0.745	1.02	0.749 0.748	1.97	1.50	4	3/8	0.787	2.56	841
127-020-0074	-	10.16	5.71	6.93	8.23	0.984 0.980	1.22	0.986 0.984	2.20	1.97	4	½	0.944	3.06	1814

Weights – English

05 Models – 5.95 lb
07 Models – 9.48 lb
09 Models – 20.28 lb
12 Models – 49.60 lb

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 stove enamel

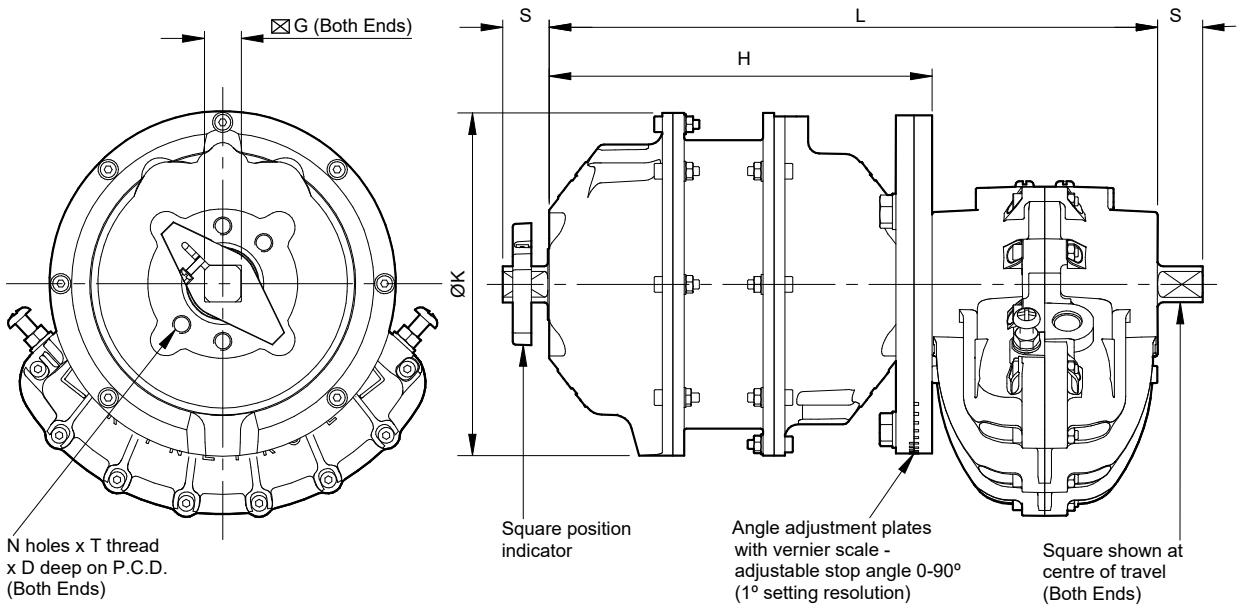
Operating Temperature
-40°C to +80°C (-40°F to +176°F)

Torques

Actuator Model	Torque - Nm Based on 5.5 bar *Start	—	Finish	Torque - lbf ins Based on 80 psi *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

Kinetrol 180 Degree Pneumatic Actuators



ATEX Category 2

Features

- **Simple compact unit**
  No external moving parts
- **Unique linkage design**
  converts to 180° travel
  120° option available
- **Constant gear-up ratio through travel range**
  Hence constant output torque
- **Rolling contact linkage mechanism**
  Ensures low wear, long life, low friction
- **Linkage sealed for life**
  Protected from the environment, long maintenance free life
- **Compatible with all Kinetrol modules**
  Direct mounted spring returns, limit switch boxes, positioners etc.
- **Adjustable endstops**
  Giving up to 200° of travel

Operation

Kinetrol's 180° actuator is produced by adding a 2:1 step-up linkage onto the output shaft of well proven 90° vane actuators.

Factory fitted, direct mount linkage units are available to suit model 02, 03, 05, 07, 09, 12, 14 and 16 actuators, giving a neat single unit with no mount kits or brackets. The linkage's unique geometry gives constant 2:1 step-up so that the output torque remains constant throughout the actuator's travel.

The all-steel mechanism of the linkage employs rolling contacts to minimise frictional losses and wear, and to maximise life. The linkage is lubricated for life, and encased in a robust, fully sealed, die cast alloy casing. Exterior surfaces are protected by a corrosion resistant epoxy stove enamel finish. Standard adjustable endstops on the 90 degree actuator can be used to set the angle of travel. The other end of the 90 degree actuator allows the full range of Kinetrol modular accessories to be fitted directly.

120 degree actuators are also available with adjustable end stops to give up to 133° of travel for the above model range - contact Kinetrol for details.

Ordering Codes

To order a 180° actuator, add a '1' to the end of the code for the 90° actuator on which it is based and a '2' for a 120° actuator.

Examples:
To order an 074 cw spring return actuator plus 180° linkage, use code: 074-1201.
To order an 074 cw spring return actuator plus 120° linkage, use code: 074-1202.

Torques

Double Acting Torques/Metric Units Nm

Actuator Model	1.4	2.0	2.8	3.5	4.1	4.8	5.5	6.2	6.9
	Pressure (bar)								
02-1001	0.6	1.1	1.6	2.2	2.7	3.2	3.7	4.2	4.8
03-1001	1.3	2.4	3.5	4.6	5.6	6.7	7.8	8.8	10.0
05-1001	3.2	5.2	7.2	9.3	11.3	13.6	15.6	17.8	19.9
07-1001	7.9	12.6	17.6	22.6	27.6	33.0	38.4	43.2	48.8
09-1001	16.3	20.0	37.1	47.6	58.0	69.2	80.4	91.2	103.0
12-1001	37.5	60.8	84.4	108.0	131.0	156.0	181.0	202.0	226.0
14-1001	97.2	151.0	206.0	262.0	316.0	375.0	434.0	488.0	542.0
16-1001	235.0	357.0	479.1	605.7	727.7	849.8	976.3	1098.4	1220.4

Double Acting Torques/English Units lbf ins

Actuator Model	20	30	40	50	60	70	80	90	100
	Pressure (psi)								
02-1001	5.6	10	14	19	24	28	33	37	42
03-1001	12	21	31	40	50	59	69	78	88
05-1001	28	46	64	82	100	120	138	157	176
07-1001	70	112	156	200	244	292	340	384	432
09-1001	144	236	328	420	512	612	712	808	912
12-1001	332	540	748	960	1160	1376	1588	1792	2000
14-1001	860	1340	1820	2320	2800	3320	3840	4320	4800
16-1001	2080	3160	4240	5360	6440	7520	8640	9720	10800

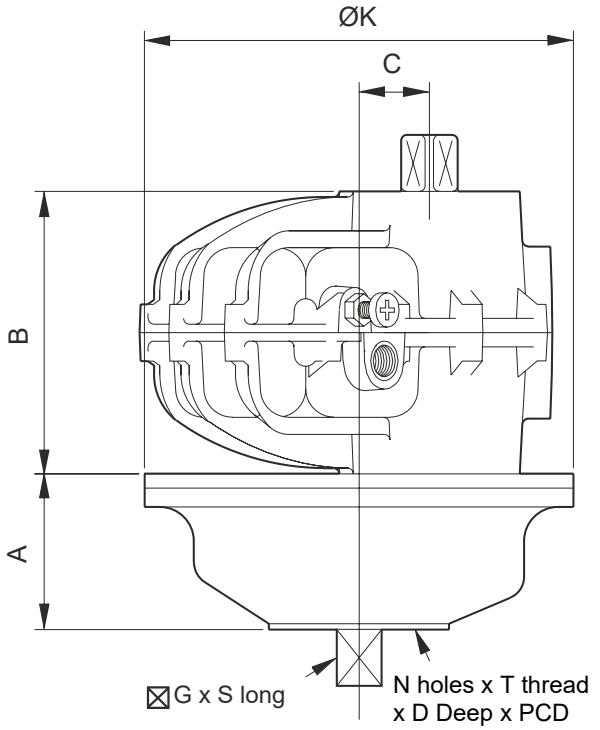
Spring Return Torques/Metric Units Nm

Actuator Model	Position of air OR spring stroke	3.5	4	4.5	5	5.5
		Pressure Setting (bar)				
02-1201	Start	1.1	1.3	1.4	1.6	1.8
	Finish	0.5	0.7	0.9	1.2	1.4
03-1201	Start	3.3	3.7	4.0	4.3	4.9
	Finish	1.0	1.5	1.9	2.2	2.8
05-1201	Start	4.9	5.5	6.2	7.0	7.9
	Finish	3.2	4.0	4.9	5.8	6.7
07-1201	Start	11.6	13.5	15.5	17.4	19.3
	Finish	7.5	9.5	11.6	13.8	16.1
09-1201	Start	23.2	27.4	31.1	35.3	39.5
	Finish	19.1	23.2	27.0	31.4	35.6
12-1201	Start	55.1	64.8	75.6	81.1	90.4
	Finish	42.2	52.0	60.0	68.9	77.5
14-1201-4900	Start	135.0	156.0	178.0	195.0	201.0
	Finish	109.0	131.0	148.0	164.0	170.0
16-1201	Start	346.8	391.0	426.0	465.0	504.3
	Finish	181.4	237.0	282.0	332.0	381.9

Spring Return Torques/English Units lbf ins

Actuator Model	Position of air OR spring stroke	50	60	70	80
		Pressure Setting (psi)			
02-1201	Start	10.3	12.2	14.1	16.0
	Finish	4.6	6.8	9.5	12.5
03-1201	Start	29.6	33.4	37.2	43.7
	Finish	8.7	13.7	19.0	24.7
05-1201	Start	44	51	61	70
	Finish	28	38	49	59
07-1201	Start	103	126	146	171
	Finish	67	92	116	143
09-1201	Start	205	251	300	351
	Finish	169	215	266	315
12-1201	Start	486	595	693	802
	Finish	374	479	585	688
14-1201-4900	Start	1200	1420	1670	1780
	Finish	969	1200	1400	1500
16-1201	Start	3069	3534	3998	4463
	Finish	1605	2197	2788	3380

Dimensions



Metric Units

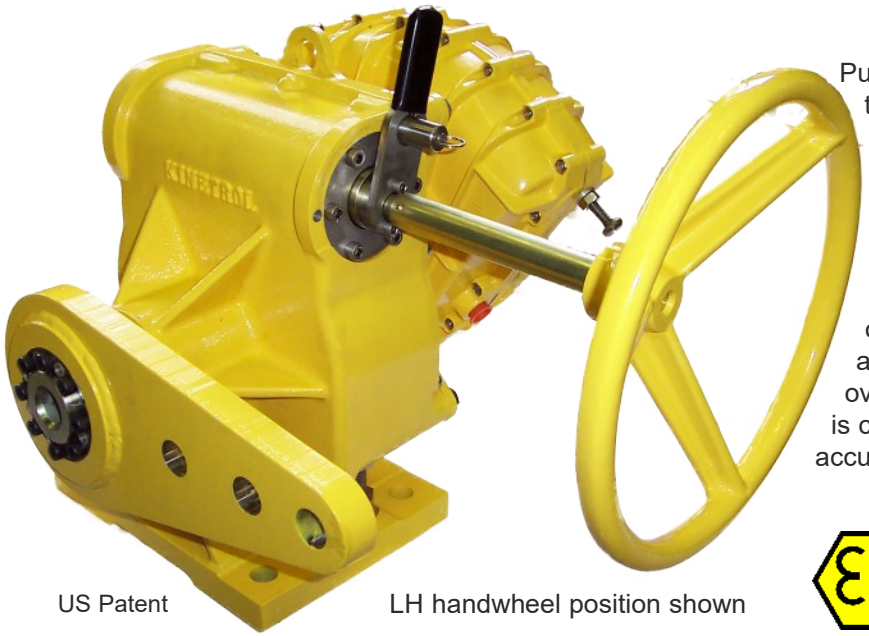
Actuator Model	A mm	B mm	C mm	K mm	G mm	S mm	N	T ISO	D mm	PCD mm	W kg
02 - 1001	32	50	12.5	73	8.0	10.0	4	M4	8.0	25.5	1.1
03 - 1001	36	60	20	108	9.0	12.0	4	M5	10.0	31.1	1.73
05 - 1001	42	67	20	119	9.5	13.0	6	M5	8.0	34.9	1.7
07 - 1001	59	100	25	152	16.0	20.0	4	M8	16.0	50.9	4.57
09 - 1001	70	126	35	200	19.0	26.0	4	M10	20.0	65.0	13.2
12 - 1001	99	156	45	258	25.0	31.0	4	M12	22.0	77.8	20.45
14 - 1001	125	200	70	396	28.6	38.0	4	M16	28.5	98.8	35.25
16 - 1001	176	274	100	520	41.0	55.0	4	M24	38.0	152.7	125

English Units

Actuator Model	A inch	B inch	C inch	K inch	G inch	S inch	N	T UNC	D inch	PCD inch	W lb
02 - 1001	1.24	1.97	0.49	2.87	0.315	0.39	4	8-32	0.31	1.000	2.43
03 - 1001	1.40	2.36	0.79	4.25	0.354	0.47	4	10-24	0.39	1.225	3.46
05 - 1001	1.65	2.64	0.79	4.69	0.375	0.51	6	10-24	0.31	1.375	3.75
07 - 1001	2.32	3.94	0.98	6.00	0.630	0.79	4	5/16-18	0.63	2.000	11.68
09 - 1001	2.76	4.96	1.38	7.90	0.748	1.02	4	3/8-16	0.79	2.560	29.10
12 - 1001	3.90	6.14	1.77	10.16	0.984	1.22	4	1/2-13	0.87	3.060	44.99
14 - 1001	4.92	7.87	2.76	15.59	1.125	1.50	4	5/8-11	1.13	3.890	77.55
16 - 1001	6.93	10.79	3.94	20.47	1.614	2.17	4	7/8-9	1.50	6.012	275.00

N.B. Weights are inclusive of actuator and 180 degree assembly, coupling and indicator (except models 14 & 16).

Kinetrol G3 Damper Drives



US Patent

LH handwheel position shown

Purpose designed, factory built and tested drives for air/gas flow control dampers on burner, heater, boiler and turbine systems in power plants, refineries and a wide range of industrial applications.

Combining the proven performance of Kinetrol's vane type actuator with an equally rugged integral manual override/mounting frame, the G3 drive is compact with unbeatable control, accuracy and cycle life.

ATEX Category 2

Features

- **Integral manual override**
- **Suitable for new installations or replacement of existing electric or pneumatic drives**
- **Available with same mounting foot print to replace existing floor mount drives**
- **Can result in lower energy costs resulting from accurate flow control**
- **Reduced operating costs due to long maintenance-free life (2 million operation warranty)**
- **Compact space saving design**
- **Quick and easy installation and set up**
- **Robust construction with durable epoxy finish**
- **Manual override usable with actuator removed**

Options

- Double acting and spring fail-safe (open or closed)
- Modulating (3-15 psi and 4-20mA signal)
- Fail to low signal
- Lock in last position
- Limit switch remote position indication
- 4-20mA angle retransmission
- High visibility position indication
- Different sided/diameter handwheels and extensions
- Infinitely adjustable output levers to suit existing or new requirements
- High temperature option available



Torques

Double Acting Torque Outputs - Metric Units Nm

Actuator Model	Pressure (bar) 1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
12-100	103	147	190	232	275	319	360	403	446	490	532	575
14-100	265	360	460	560	660	760	870	975	1080	1180	1280	1375
15-100	435	605	769	937	1109	1287	1457	1632	1808	1982	2153	2337
16-100	640	860	1090	1310	1530	1750	1980	2200	2420	2650	2870	3100
18-100	1250	1750	2250	2750	3250	3750	4300	4850	5400	5950	6400	6900
21-100	2624	3623	4544	5568	6516	7553	8521	9523	10553	11561	12543	13589

Double Acting Torque Outputs - English Units lbf ins

Actuator Model	Pressure (psi) 20	30	40	50	60	70	80	90	100
12-100	830	1350	1870	2400	2900	3440	3970	4480	5000
14-100	2150	3350	4550	5800	7000	8300	9600	10800	12000
15-100	3558	5602	7593	9700	11753	13895	15991	18125	20337
16-100	5200	7900	10600	13400	16100	18800	21600	24300	27000
18-100	10000	16100	22200	28300	34500	41300	48000	54500	60000
21-100	22286	33234	44962	57078	68930	81223	93402	105784	118503

Spring Return Torque Outputs - Metric Units Nm

Actuator Model	Position of air OR spring return stroke	Pressure (bar) 1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2	5.5
12-120	Start						145.0	160.0	176.0	191.0	206.0	221.0	238.0
	Finish						111.0	127.0	142.0	158.0	174.0	189.0	204.0
14-120-4900	Start	192.0	220.0	249.0	288.0	322.0	356.0	390.0	424.0	469.0	497.0	529.0	529.0
	Finish	119.0	158.0	186.0	220.0	254.0	288.0	322.0	356.0	390.0	418.0	447.0	447.0
14-120	Start						374.0	408.0	442.0	479.0	517.0	554.0	588.0
	Finish						249.0	290.0	330.0	367.0	406.0	443.0	478.0
14-120-5000	Start	172.0	208.0	237.0									
	Finish	140.0	174.0	198.0	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*	*198.0*
15-120	Start						614.0	680.0	752.0	801.0	848.0	914.0	962.0
	Finish						392.0	392.0	522.0	590.0	656.0	723.0	790.0
16-120-6100	Start	359.0	428.0	497.0									
	Finish	245.0	333.0	421.0	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*	*421.0*
16-120-6000	Start			514.0	583.0	652.0	722.0						
	Finish			404.0	492.0	580.0	668.0	*668.0*	*668.0*	*668.0*	*668.0*	*668.0*	*668.0*
16-120	Start						864.0	939.0	1004.0	1097.0	1165.0	1256.0	1321.0
	Finish						576.0	660.0	742.0	832.0	906.0	1002.0	1081.0
18-120-7000	Start	807.0	970.0	1182.0	1260.0								
	Finish	484.0	736.0	967.0	1040.0	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*	*1040.0*
18-120	Start				1457.0	1637.0	1875.0	2053.0	2206.0	2426.0	2585.0	2800.0	2954.0
	Finish				874.0	1036.0	1250.0	1441.0	1630.0	1840.0	2011.0	2234.0	2417.0
21-120-8000	Start	1621.0	1940.0	2325.0	2692.0								
	Finish	1025.0	1362.0	1763.0	2203.0	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*	*2203.0*
21-120-7300	Start				2788.0	3072.0	3471.0	3739.0	4023.0				
	Finish				1958.0	2271.0	2632.0	2983.0	3291.0	*3291.0*	*3291.0*	*3291.0*	*3291.0*
21-120	Start								4121.0	4514.0	4798.0	5181.0	5456.0
	Finish								3046.0	3423.0	3732.0	4133.0	4464.0

Spring Return Torque Outputs - English Units lbf ins

Actuator Model	Position of air OR spring return stroke	Pressure (psi) 25	30	35	40	45	50	55	60	65	70	75	80
12-120	Start						1280	1415	1555	1690	1825	1960	2110
	Finish						985	1125	1260	1400	1540	1670	1810
14-120-4900	Start	1700	1950	2200	2550	2850	3150	3450	3750	4150	4400	4680	4680
	Finish	1050	1400	1650	1950	2250	2550	2850	3150	3450	3700	3960	3960
14-120	Start						3310	3610	3915	4240	4580	4900	5200
	Finish						2205	2570	2920	3250	3595	3920	4230
14-120-5000	Start	1520	1840	2100									
	Finish	1240	1540	1750	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*	*1750*
15-120	Start						5434	6018	6656	7089	7505	8090	8514
	Finish						3469	4098	4620	5222	5806	6399	6992
16-120-6100	Start	3178	3790	4401									
	Finish	2172	2950	3729	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*	*3729*
16-120-6000	Start			4551	5163	5774	6386						
	Finish			3579	4357	5136	5914	*5914*	*5914*	*5914*	*5914*	*5914*	*5914*
16-120	Start						7646	8310	8885	9708	10310	11116	11691
	Finish						5098	5841	6567	7363	8018	8868	9567
18-120-7000	Start	7142	8585	10461	11151								
	Finish	4283	6514	8558	9204	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*	*9204*
18-120	Start				12894	14487	16594	18169	19523	21470	22877	24780	26143
	Finish				7735	9169	11063	12753	14426	16284	17797	19771	21390
21-120-8000	Start	14346	17169	20576	23824								
	Finish	9071	12054	15603	19497	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*	*19497*
21-120-7300	Start				24674	27187	30718	33090	35604				
	Finish				17328	20098	23293	26400	29125	*29125*	*29125*	*29125*	*29125*
21-120	Start								36471	39949	42462	45852	48286
	Finish								26957	30294	33028	36577	39506

Kinetrol G3 Damper Drives

Ordering Codes

HANDWHEEL SIDE (SEE SKETCH)
L=LEFT
R=RIGHT

WHERE APPLICABLE:
S = STANDARD
Y = NO COST OPTION
E = EXTRA COST OPTION
= NOT AVAILABLE

HANDWHEEL DIAMETER (F)

	AVAILABLE ON MODELS: 12	14	16	18	21
3=300mm 12"	S	S	E		
4=400mm 16"	E	E	S		
5=600mm 24"			E	E	S
6=762mm 30"				S	

OUTPUT LEVER THICKNESS (t)
1=3/8"
2=1/2"
3=5/8"
4=3/4"
5=7/8"
6=1"
7=1 1/8"
8=1 1/4"
9=1 1/2"

OPTIONAL LIMIT SWITCH BOX (TO INDICATE IF HANDWHEEL IS ENGAGED OR DISENGAGED)
OPTIONS:
0 = NO LIMIT SWITCH
1 = 2 x i/S PROX. SENSORS
2 = 2 x PNEUMATIC LS
4 = 2 x V3 MECH LS
5 = 2 x 20-260V ac PROX.*
6 = 2 x 5-60V dc PROX.*
7 = 4 x V3 MECH LS

INCLUDING D/A ACTUATOR:
124, 144, 164, 184, 214 = ISO D/A ACT (FOR USE WITH OR WITHOUT POSITIONER)
127, 147, 167, 187, 217 = ANSI D/A ACT (FOR USE WITH OR WITHOUT POSITIONER)

V = HIGH TEMP
= STD

POSITION MONITOR ON LS BOX:
C=YES
0=NO

HOLE DIAMETER (d)
2=12.7mm 1/2"
3=15.9mm 5/8"
A=11/16"
4=19.1mm 3/4"
5=22.2mm 7/8"
6=25.4mm 1"
7=28.6mm 1 1/8"
8=31.8mm 1 1/4"
9=38.1mm 1 1/2"

HANDWHEEL OFFSET (E)

	AVAILABLE ON MODELS: 12	14	16	18	21
1=300mm 12"	S	S			
2=330mm 13"			S		
3=430mm 17"	E	E	E	S	
4=508mm 20"	E	E	E	E	S
5=600mm 24"	E	E	E	E	E

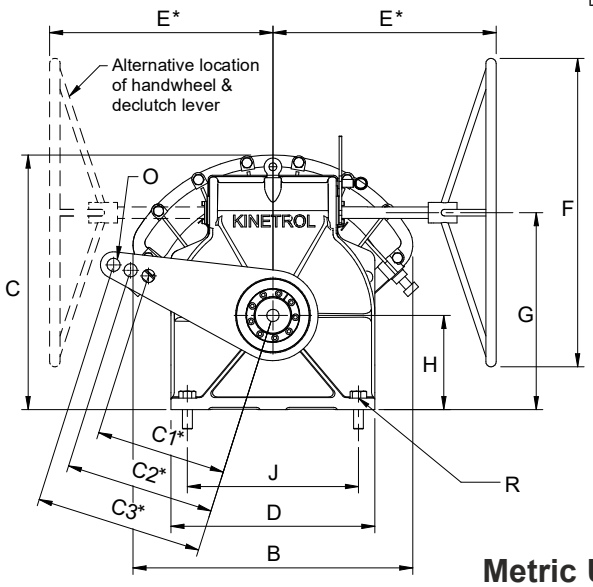
IF NECESSARY, FIT OPTIONAL EXTENSION TO ENSURE THAT HANDWHEEL IS AT A SAFE DISTANCE FROM MOVING OUTPUT LEVER.

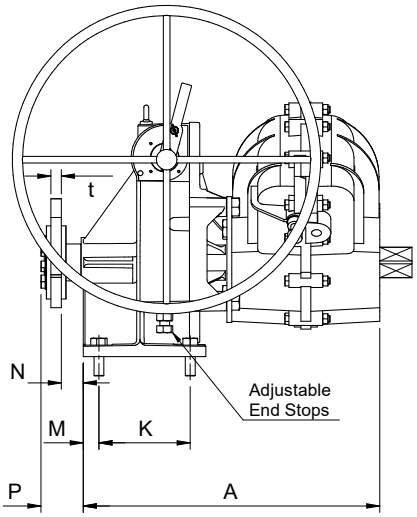
LEVER HOLE PATTERN

No.	DISTANCE FROM CENTRE C1	C2	C3	AVAILABLE ON MODELS: 12	14	16	18	21
01	101.6mm 4"	152.4mm 6"	203.2mm 8"	Y	Y			
02	127mm 5"	152.4mm 6"	177.8mm 7"	Y	Y	Y		
03	127mm 5"	198.1mm 7.8"	254mm 10"	Y	Y	Y		
04	152.4mm 6"	254mm 10"	304.8mm 12"	Y	Y	Y	Y	
05	165.1mm 6.5"	190.5mm 7.5"	215.9mm 8.5"	Y	Y	Y	Y	
06	190.5mm 7.5"	215.9mm 8.5"	241.3mm 9.5"	Y	Y	Y	Y	
07	266.7mm 10.5"	292.1mm 11.5"	317.5mm 12.5"	Y	Y	Y	Y	Y
08	228.6mm 9"	342.9mm 13.5"	457.2mm 18"	Y	Y	Y	Y	
09	254mm 10"	304.8mm 12"	381mm 15"	Y	Y	Y	Y	Y
10	254mm 10"	381mm 15"	508mm 20"	Y	Y	Y	Y	Y
11	254mm 10"	317.5mm 12.5"	406.4mm 16"	Y	Y	Y	Y	Y
12	254mm 10"	330.2mm 13"	406.4mm 16"	Y	Y	Y	Y	Y
13	304.8mm 12"	406.4mm 16"	444.5mm 17.5"	Y	Y	Y	Y	Y
14	317.5mm 12.5"	363.2mm 14.3"	406.4mm 16"	Y	Y	Y	Y	Y
15	147.3mm 5.8"	279.4mm 11"	304.8mm 12"	Y	Y	Y	Y	
16	152.4mm 6"	190.5mm 7.5"	228.6mm 9"	Y	Y	Y		
17	101.6mm 4"		304.8mm 12"	Y	Y			
18			127mm 5"	Y	Y	Y		
19			203.2mm 8"	Y	Y	Y	Y	

* Not available with ATEX approval

Dimensions





Metric Units

Model	A mm	B mm	C mm	D mm	E* mm	F* mm	G mm	H mm	J mm	K mm	ØR mm	M mm	P mm	Weight† kgs
124	366	294	336	275	205	300	300	165	216	152	21	25	70	46
144	410	380	390	275	300	300	300	165	216	152	21	25	70	46
164	495	530	470	275	330	400	300	165	216	152	21	25	70	51
184	721	680	620	496	430	760	479	229	416	222	27	38	94	141
214	771	842	620	496	508	600	479	229	416	222	27	38	94	158

English Units

Model	A inch	B inch	C inch	D inch	E* inch	F* inch	G inch	H inch	J inch	K inch	ØR inch	M inch	P inch	Weight† lbs
127	14.4	11.6	13.2	10.8	11.0	12.0	12.0	6.5	8.50	6.00	0.83	1	2.8	102
147	16.2	15.0	15.4	10.8	12.0	12.0	12.0	6.5	8.50	6.00	0.83	1	2.8	102
167	19.5	20.9	18.5	10.8	13.0	16.0	12.0	6.5	8.50	6.00	0.83	1	2.8	112
187	28.4	26.8	24.4	19.5	17.0	30.0	18.9	9.0	16.38	8.74	1.05	1.6	3.7	310
217	30.4	33.2	24.4	19.5	20.0	24.0	18.9	9.0	16.38	8.74	1.05	1.6	3.7	350

* Default dimensions may change according to ordering code options

† Listed weights exclude actuator

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Kinetrol Geared Manual Overrides



Photo shows right hand handwheel.

ATEX Category 2

Kinetrol declutchable geared overrides are available for models 05 to 21, rated for the same torques as the actuators and fitted between the actuator and the load.

Models 05 to 14 are supplied with the right hand handwheel option as standard (see drawing below), whereby when the handwheel is moved in a clockwise direction the actuator moves in a counter clockwise direction.

A left hand handwheel option is also available for models 05 to 14.

Models 15 to 21 are only available with a left hand handwheel option.

- **Declutch lever switch available**
- **Corrosion resistant -** fully sealed to IP65

Working Temperature Range

-20°C to +80°C (-4°F to +176°F)

Low / High temperature options available on sizes 05 - 14 - contact Kinetrol

Handwheel Orientation

Models 05 - 14 Standard - Right Hand
- Left Hand option available

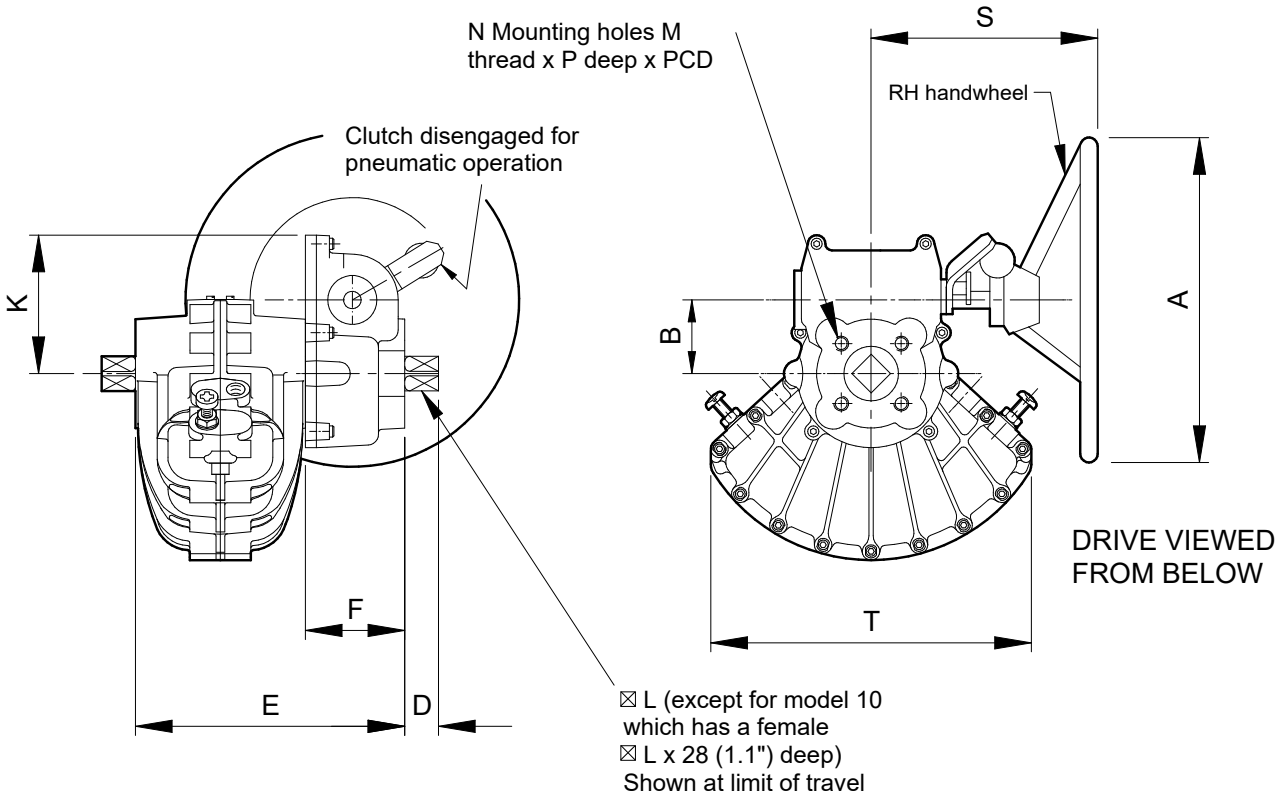
Models 15 - 21 Standard - Left Hand only

	RH HANDWHEEL		LH HANDWHEEL	
MODEL	HANDWHEEL DIRECTION	OUTPUT DIRECTION	HANDWHEEL DIRECTION	OUTPUT DIRECTION
05 to 14	CW	CCW	CW	CW
	CCW	CW	CCW	CCW
15 to 21	N/A		CW	CW
			CCW	CCW

Ordering Codes

Models 05 to 14:
- (Standard right hand handwheel)
Example: 074 K/Box (ISO Version)
077 K/Box (ANSI Version)
- (Left hand handwheel)
Example: 074 K/Box LH (ISO Version)
* For model 15, 16, 18 and 21 replace ‘K’ with ‘G’ and add ‘LH’
Example: 164 G/BOX LH (ISO Version)

Dimensions



DRAWING SHOWS RIGHT HAND HANDWHEEL.

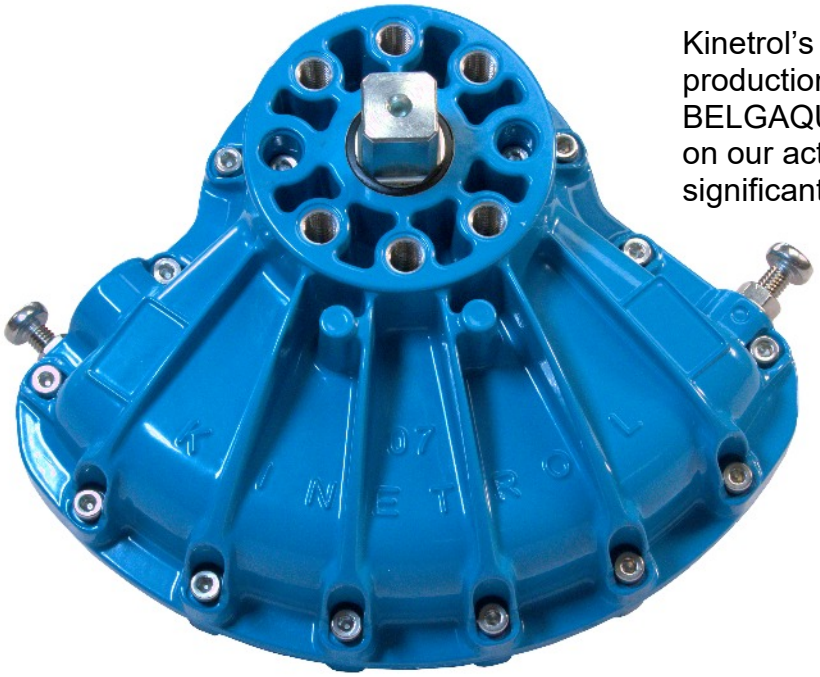
Metric Units

Actuator Model (ISO)	A mm	B mm	D mm	E mm	F mm	K mm	L mm	☒M	N No.	P mm	PCD mm	S mm	T mm	Wt kgs
05	300	67.8	13	170	103	127	9.5	M5	6	12	34.9	220	132	8.40
07	300	67.8	20	192	92	127	16.0	M8	4	16	50.9	220	178	11.20
08	300	67.8	19	202	92	127	17.0	M8	4	16	70.0	220	208	10.61
09	300	67.8	26	218	92	127	19.0	M10	4	20	65.0	220	227	12.06
10	300	67.8	-	267	92	127	22.0	M10	4	20	102.0	220	230	13.40
12	300	67.8	31	248	92	127	25.0	M12	4	25	77.8	220	294	15.40
14	400	67.8	38	292	92	127	28.6	M16	4	28	98.8	250	380	22.36
15*	600	141.0	41	433	188	200	36.0	M20	4	28	165.0	376	433	30.00
16*	600	141.0	55	462	188	200	41.0	M20	4	28	165.0	376	530	45.00
18*	630	145.0	78	606	246	259	57.0	M16	8	24	254.0	471	679	196.00
21*	710	302.0	100	675	265	302	73.0	M20	8	35	298.0	504	842	322.00

English Units

Actuator Model (ANSI)	A inch	B inch	D inch	E inch	F inch	K inch	L inch	☒M UNC	N No.	N inch	PCD inch	S inch	T inch	Wt lbs
05	11.81	2.67	0.51	6.69	4.06	5.0	0.375	10-24	6	0.47	1.375	8.66	5.20	18.5
07	11.81	2.67	0.79	7.56	3.62	5.0	0.630	5⁄16	4	0.63	2.000	8.66	7.01	24.7
08	11.81	2.67	0.75	7.95	3.62	5.0	0.670	5⁄16	4	0.63	2.760	8.66	8.19	23.4
09	11.81	2.67	1.02	8.58	3.62	5.0	0.748	3⁄8	4	0.79	2.560	8.66	8.94	26.6
10	11.81	2.67	-	10.51	3.62	5.0	0.866	3⁄8	4	0.79	4.016	8.66	9.06	29.5
12	11.81	2.67	1.22	9.76	3.62	5.0	0.984	½	4	0.98	3.060	8.66	11.57	33.9
14	15.70	2.67	1.50	11.50	3.62	5.0	1.125	5⁄8	4	1.10	3.890	9.84	14.96	49.2
15*	23.62	5.55	1.61	17.05	7.4	7.9	1.417	¾	4	1.10	6.496	14.80	17.05	66.1
16*	23.62	5.55	2.17	18.19	7.4	7.9	1.614	¾	4	1.10	6.496	14.80	20.87	99.2
18*	24.80	5.71	3.07	23.86	9.69	10.2	2.244	5⁄8	8	0.94	10.000	18.54	26.73	432.1
21*	27.95	11.89	3.94	26.57	10.43	11.9	2.874	¾	8	1.38	11.732	19.84	33.15	709.9

Kinetrol Blueline Food Grade Finish Product



Kinetrol's Blueline coating solution for food production applications meets FDA and BELGAQUA specification and is available on our actuators and accessories offering significant advantages.

Specification

Paint Finish - Epoxy Powder RAL5015

Available option for:

Models 03 to 18 Double Acting and Spring Return

Positioners - EL and AP

Switch boxes - VLS / ULS and Explosion Proof

Features

- Good resistance to "caustic washdown"
- Exceptional resistance to chipping / flaking
- Good non-stick properties
- Good resistance to salt-laden environments
- In extreme circumstances if the coating becomes dislodged, it is clearly visible to the human eye, and sensors/detectors used in food production

KINETROL® BLUELINE

Please contact Kinetrol for more information

Kinetrol Valve Mounting Service



Kinetrol can select, supply and actuate ball, butterfly and plug valves from across the industry or mount free issue valves to Kinetrol actuators and control units for either on / off or modulating valve service.

With over 60 years of valve automation experience Kinetrol can also offer a wide range of engineered and customised packages including assemblies which are SIL rated and/or fully compliant with ATEX, NEC or IEC requirements.

Kinetrol is continually responding to the evolving requirements of the industry for interfacing and mounting arrangements that satisfy user needs and conform to industry standards. The Kinetrol female drive spring fail-safe and manual fail-safe spring unit options with mounting flanges that conform to ISO 5211 standard, facilitate direct mounting to valves.
The innovative, patented ISO adaptor for Kinetrol models 02 – 09 provides versatile direct mounting to ISO top works valves.

Kinetrol's direct mounting limit switch boxes, positioners and other control modules eliminate the cost of interfacing hardware resulting in compact assemblies. Our larger actuators, models 16 and above also offer a drive slot and insert option which is designed to interface with ancillary drives which comply to VDI/VDE 3485 norm.

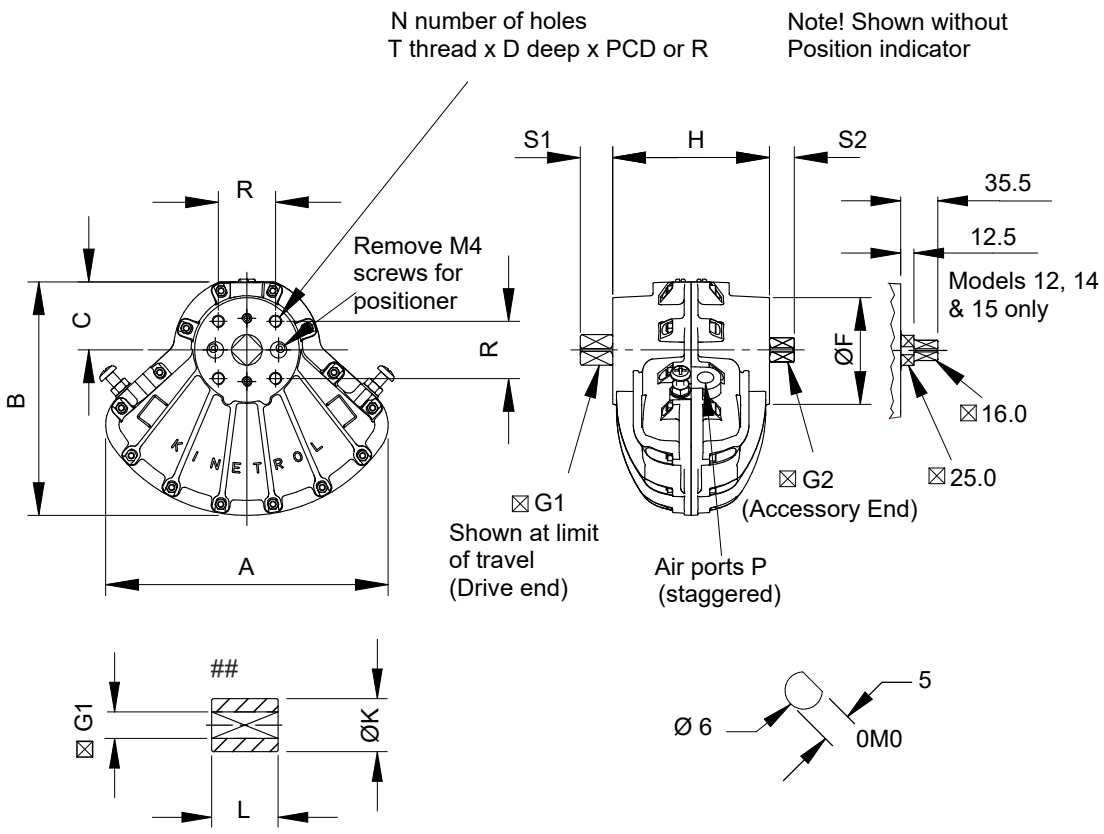
Our rigorous QA and test procedures ensure that effective solutions are engineered and built to the highest standard.

Please also view the valves section on our website

Please contact Kinetrol for more information

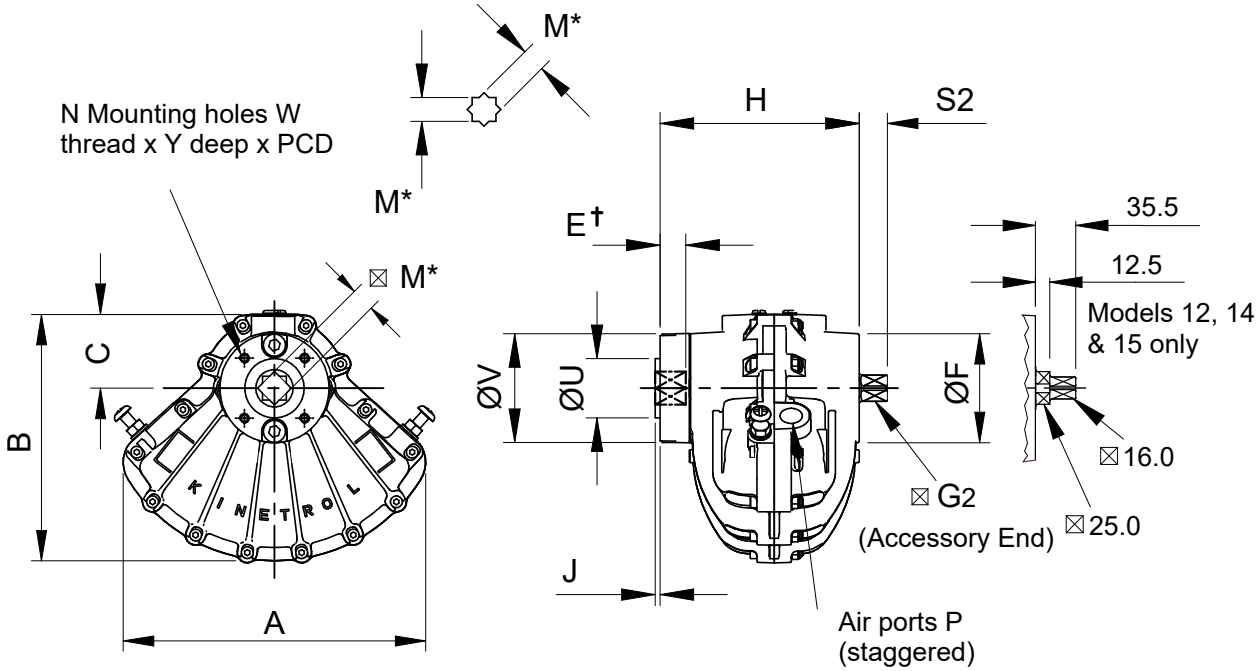
Kinetrol Actuator Dimensions

Standard Actuator



For Model 15, 16, 18, 21, 30 and 60 coupling details see Actuator data sheets

ISO/DIN Options



Kinetrol Actuator Dimensions

Actuator Metric Units

Actuator Model	A mm	B mm	C mm	G1 mm	G2 mm	H mm	ØF mm	S1 mm	S2 mm	N No.	T ISO	D mm	R mm	PCD mm	P ISO	ØK mm	L mm	Wt kg †
0M0	32	31	12.5	SEE PAGE 57		36	22	10.0	10.0	4	M3	5.0	-	16.0**	M5	-	-	0.12
014	72	59	14.0	4.8	4.8	38	26	12.7*	7.0	4	M4	6.0	-	19.0**	G⅛	9.5	12.7	0.29
014P	74	60	14.0	4.8	4.8	38	26	12.7*	7.0	4	Ø4.2	UNIQUE MOUNTING CRS.			G⅛	9.5	12.7	0.35
024	91	76	24.1	8.0	8.0	50	29	10.0	10.0	4	M4	8.0	18.0	25.5	G⅛	16.0	20.0	0.46
034	113	92	28.0	9.0	9.0	60	36	12.0	12.0	4	M5	10.0	22.0	31.1	G⅛	18.0	22.0	0.43
054	132	114	33.6	9.5	9.5	66	50	13.0	13.0	6	M5	10.0	-	34.9	G⅛	19.0	25.4	0.78
074	178	147	43.4	16.0	16.0	100	68	20.0	20.0	4	M8	16.0	36.0	50.9	G¼	32.0	40.0	1.97
084	208	167	46.3	17.0	16.0	110	65	19.0	20.0	4	M8	16.0	49.5	70.0	G¼	36.0	42.0	2.78
094	227	187	54.7	19.0	16.0	126	84	26.0	20.0	4	M10	20.0	46.0	65.0	G¼	38.0	50.0	4.16
124	294	239	68.0	25.0	16.0	156	100	31.0	35.5	4	M12	24.0	55.0	77.8	G⅜	50.0	56.0	7.30
144	380	308	84.0	28.6	16.0	200	128	38.0	35.5	4	M16	28.5	69.9	98.8	G½	57.0	63.5	14.10
154	433	353	101.0	36.0	16.0	245	138	41.0	35.5	4	M16	28.5	99.0	140.0	G½	70.0	80.0	22.70
164	530	427	125.0	41.0	41.0	274	175	55.0	55.0	4	M24	38.0	108.0	152.7	G½	85.0	90.0	39.77
184	680	554	162.0	57.0	57.0	360	286	78.0	78.0	4	M30	50.0	160.0	226.3	G1	115.0	130.0	94.00
214	842	660	189.0	73.0	73.0	410	298	100.0	100.0	8	M30	50.0	160.0	226.3	G1	150.0	170.0	192.40
304	680	554	162.0	73.0	73.0	880	286	100.0	100.0	8	M30	50.0	160.0	226.3	G1	150.0	170.0	288.40
604	1204	944	257.0	100.0	73.0	590	428	100.0	120.0	8	M30	80.0	-	356.0	G2	200.0	140.0	497.00

* INCLUDES PLAIN SHAFT Ø6.35 x 8 LONG

** HOLES ON CENTRE LINES

† All weights include coupling - except 103

Actuator English Units

Actuator Model	A inch	B inch	C inch	G1 inch	G2 inch	H inch	ØF inch	S1 inch	S2 inch	N No.	T UNC	D inch	R inch	PCD inch	P NPT	ØK inch	L inch	Wt lb †
0M0	1.26	1.22	0.49	SEE PAGE 57		1.42	0.87	0.39	0.39	4	M3	0.20	0.390	0.630	M5	-	-	0.26
017	2.83	2.32	0.55	0.187	0.19	1.50	1.02	0.50*	0.28	4	8-32	0.24	-	0.750	⅛	0.37	0.50	0.63
017P	2.91	2.36	0.55	0.187	0.19	1.50	1.02	0.50*	0.39	4	Ø0.17	UNIQUE MOUNTING CRS.			⅛	0.37	0.50	0.78
027	3.58	3.00	0.95	0.315	0.32	1.97	1.14	0.39	0.47	4	8-32	0.31	0.709	1.000	⅛	0.63	0.79	1.01
037	3.62	3.60	1.10	0.354	0.35	2.36	1.42	0.47	0.51	4	10-24	0.39	0.866	1.225	⅛	0.71	0.87	0.95
057	5.20	4.49	1.32	0.375	0.37	2.64	2.60	0.51	0.51	6	10-24	0.39	-	1.375	⅛	0.75	1.00	1.72
077	7.00	5.79	1.71	0.630	0.63	3.94	2.68	0.79	0.79	4	5/16-18	0.63	1.417	2.000	¼	1.26	1.57	4.34
087	6.57	5.79	1.82	0.669	0.63	4.33	2.56	0.75	0.79	4	5/16-18	0.63	1.949	2.756	¼	1.42	1.65	6.10
097	8.94	7.36	2.16	0.748	0.63	4.96	3.31	1.02	0.79	4	⅜-16	0.79	1.811	2.560	¼	1.50	1.97	9.15
107 #	9.00	7.40	2.20	0.866	0.63	6.89	5.43	0.94	0.79	4	⅜-16	0.63	2.839	4.016	¼	-	-	11.90
127	11.57	9.41	2.68	0.984	0.63	6.14	3.94	1.22	1.40	4	½-13	0.94	2.165	3.060	⅜	1.97	2.20	16.11
147	14.96	12.13	3.31	1.125	0.63	7.87	5.00	1.50	1.40	4	⅝-11	1.12	2.750	3.890	½	2.24	2.50	31.10
157	17.05	13.90	3.98	1.417	0.63	9.65	6.70	1.61	1.40	4	⅝-11	1.12	3.900	5.512	½	2.76	3.15	49.90
167	20.87	16.81	4.92	1.614	1.61	10.79	6.90	2.17	2.17	4	⅞-9	1.50	4.250	6.010	½	3.35	3.54	87.49
187	26.77	21.81	6.38	2.244	2.24	14.17	11.26	3.07	3.07	4	1⅛-7	1.97	6.300	8.910	1	4.53	5.12	207.23
217	33.15	25.99	7.45	2.874	2.87	16.14	11.73	3.94	3.94	8	1⅛-7	1.97	6.300	8.910	1	5.91	6.69	424.20
307	26.77	21.81	6.38	2.874	2.87	34.65	11.26	3.94	3.94	8	1⅛-7	1.97	6.300	8.910	1	5.91	6.69	634.50
607	47.40	37.17	10.12	3.937	2.87	23.23	16.85	4.72	3.94	8	1⅛-7	3.15	-	14.020	2	7.87	5.51	1095.70

FEMALE DRIVE

† All weights include coupling - except 107

ISO/DIN Options

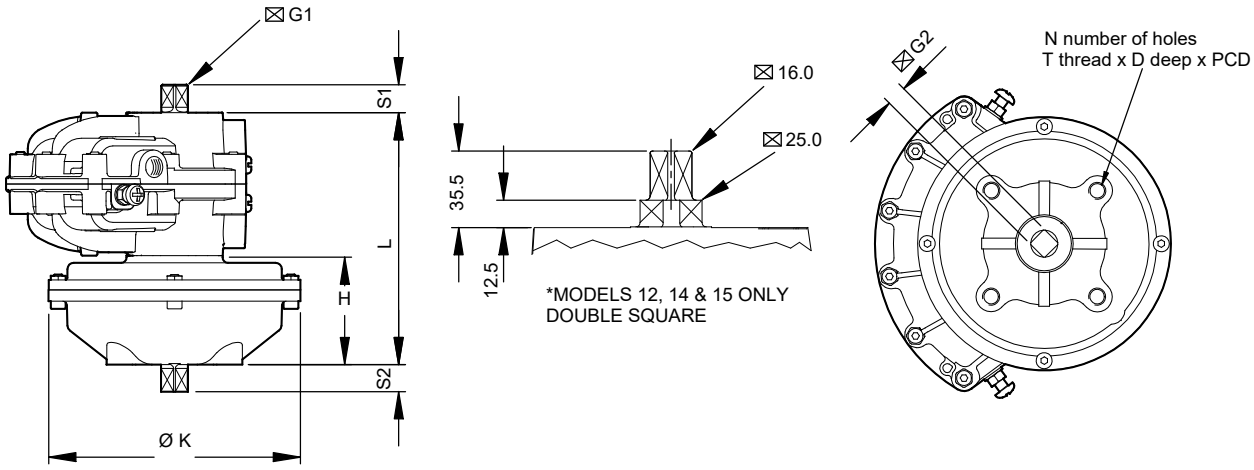
Actuator Model	A mm	B mm	C mm	H mm	ØF mm	ISO/DIN flange no.	M* mm	V mm	ØU mm	PCD mm	N No.	W	Y(Min) mm	J mm	E † mm	P Port	G2 mm	S2 mm
023	91	76	24.1	66	29	F03	9	46	25	36	4	M5	8	2	10	G⅛	8.0	10.0
033	113	92	28.0	74	36	F03	9	46	25	36	4	M5	8	2	10	G⅛	9.0	12.0
053	132	114	33.6	81	66	F04	11	47	30	42	4	M5	8	2	12	G⅛	9.5	13.0
073	178	147	43.4	117	68	F05	14	64	35	50	4	M6	10	3	16	G¼	16.0	20.0
083	208	167	46.3	133	65	F07	17	70	55	70	4	M8	16	3	19	G¼	16.0	20.0
093	227	187	54.7	146	84	F07	17	85	55	70	4	M8	13	3	19	G¼	16.0	20.0
103	229	188	57.0	175	77	F10	22	-	-	102	4	M10	16	-	24	G¼	16.0	20.0
123	294	239	68.0	181	100	F10	22	125	70	102	4	M10	16	3	24	G⅜	16.0	35.5
143	380	308	84.0	227	128	F12	27	150	85	125	4	M12	20	3	29	G½	16.0	35.5
153	433	353	101.0	290	138	F14	36	133	100	140	4	M16	38	4	45	G½	16.0	35.5
163	530	427	125.0	380	175	F16	46	203	130	165	4	M20	32	4	48	G½	41.0	55.0
183	680	554	162.0	501	286	F25	55	300	200	254	8	M16	24	4	57	G1	57.0	78.0
213	842	660	189.0	594	410	F30	75	350	230	298	8	M20	30	4	77	G1	73.0	100.0

† Minimum

* Models 02, 03, 05, 07, 09, 12 and 14 are female star drive, all other models are female square drive

Kinetrol Spring Return Actuator Dimensions

Male Spring Return Actuator Dimensions



Metric Units

Actuator** Model	L mm	H mm	ØK mm	⊠G1 mm	⊠G2 mm	S1 mm	S2 mm	N No.	T ISO	D mm	PCD mm	Wt kg †
024-120	90	40	73	8.0	8.0	10	10	4	M4	8.0	25.5	0.93
034-120	103	43	108	9.0	9.0	12	12	4	M5	10.0	31.1	1.73
054-120	118	50	118	9.5	9.5	13	13	6	M5	10.0	34.9	1.96
074-120	182	82	152	16.0	16.0	20	20	4	M8	16.0	50.9	4.71
084-120	197	87	174	16.0	17.0	20	19	4	M8	16.0	70.0	7.62
094-120	218	92	200	16.0	19.0	20	26	4	M10	20.0	65.0	11.06
104-120	285	110	206	16.0	22.0	20	26	4	M10	16.0	102.0	14.80
124-120	292	136	258	16.0*	25.0	36	31	4	M12	24.0	77.8	23.50
144-120-4900	417	217	258	16.0*	28.6	36	38	4	M16	28.5	98.8	43.10
144-120	387	187	396	16.0*	28.6	36	38	4	M16	28.5	98.8/140.0	64.10
144-120-5000	337	137	258	16.0*	28.6	36	38	4	M16	28.5	98.8	38.18
154-120	432	187	396	16.0*	36.0	36	41	4	M16	28.5	140.0	77.00
164-120-6100	461	187	396	41.0	41.0	55	55	4	M24	28.0	152.7	88.10
164-120	486	212	524	41.0	41.0	55	55	4	M24	38.0	152.7	140.0
184-120-7000	572	212	524	57.0	57.0	78	78	4	M30	50.0	226.3	161.0
184-120	602	242	634	57.0	57.0	78	78	4	M30	50.0	226.3	278.0
214-120-8000	652	242	634	73.0	73.0	100	100	8	M30	50.0	226.3	368.0
214-120-7300	822	412	524	73.0	73.0	100	100	8	M30	50.0	226.3	386.0
214-120	772	362	634	73.0	73.0	100	100	8	M30	50.0	226.3	516.0
304-120-7600	1293	412	524	73.0	73.0	100	100	8	M30	50.0	226.3	524.0
304-120-8300	1243	358	634	73.0	73.0	100	100	8	M30	50.0	226.3	630.4
304-120-7800	1493	612	524	73.0	73.0	100	100	8	M30	50.0	226.3	688.0
304-120	1354	483	634	73.0	73.0	100	100	8	M30	50.0	226.3	768.4
600-120-8400***	1194	604	634	***	***	***	***	***	***	***	***	1125.0
600-120-8500***	1315	725	634	***	***	***	***	***	***	***	***	1272.0
600-120***	1436	846	634	***	***	***	***	***	***	***	***	1420.0

*** Springs mounted above actuator - see Kinetrol Model 60 Double Acting Actuator data sheet

† All weights include coupling - except 103

English Units

Actuator** Model	L inch	H inch	ØK inch	⊠ G1 inch	⊠ G2 inch	S1 inch	S2 inch	N No.	T UNC	D inch	PCD inch	Wt lb †
027-120	3.54	1.58	2.87	0.315	0.315	0.39	0.39	4	8-32	0.31	1.00	2.05
037-120	4.06	1.69	4.21	0.354	0.354	0.47	0.47	4	10-24	0.39	1.225	3.46
057-120	4.65	1.97	4.65	0.375	0.375	0.51	0.51	6	10-24	0.39	1.375	4.32
077-120	7.17	3.23	6.00	0.630	0.630	0.79	0.79	4	5/16-18	0.63	2.00	10.38
087-120	7.76	3.43	6.85	0.630	0.669	0.79	0.75	4	5/16-18	0.63	2.76	16.80
097-120	8.58	3.62	7.90	0.630	0.748	0.79	1.02	4	3/8-16	0.79	2.56	24.38
107-120	11.22	4.33	8.11	0.630	0.866	0.79	1.02	4	3/8-16	0.63	4.02	32.63
127-120	11.50	5.35	10.16	0.630*	0.984	1.40	1.22	4	1/2-13	0.94	3.06	51.81
147-120-4900	16.43	8.54	10.16	0.630*	1.125	1.40	1.50	4	5/8-11	1.12	3.89	95.02
147-120	15.24	7.36	15.59	0.630*	1.125	1.40	1.50	4	5/8-11	1.13	5.51	141.32
147-120-5000	13.27	5.40	10.16	0.630*	1.125	1.40	1.50	4	5/8-11	1.13	3.89	84.19
157-120	17.00	7.36	15.59	0.630*	1.417	1.40	1.61	4	5/8-11	1.13	5.51	170.0
167-120-6100	18.15	7.36	15.59	1.614	1.614	2.17	2.17	4	7/8-9	1.10	6.01	194.2
167-120	19.11	8.33	20.63	1.614	1.614	2.17	2.17	4	7/8-9	1.50	6.01	308.0
187-120-7000	22.50	8.33	20.63	2.244	2.244	3.07	3.07	4	1 1/8-7	1.97	8.91	356.0
187-120	23.69	9.52	24.96	2.244	2.244	3.07	3.07	4	1 1/8-7	1.97	8.91	612.9
217-120-8000	25.67	9.53	24.96	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	811.3
217-120-7300	32.36	16.22	20.63	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	851.0
217-120	30.39	14.25	24.96	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	1137.6
307-120-7600	50.91	16.20	20.63	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	1158.0
307-120-8300	48.93	14.13	24.96	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	1389.8
307-120-7800	58.78	24.07	20.63	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	1520.0
307-120	53.68	19.02	24.96	2.874	2.874	3.94	3.94	8	1 1/8-7	1.97	8.91	1694.0
609-120-8400***	47.01	23.78	24.96	***	***	***	***	***	***	***	***	2480.0
609-120-8500***	51.77	28.54	24.96	***	***	***	***	***	***	***	***	2804.0
609-120***	56.54	33.31	24.96	***	***	***	***	***	***	***	***	3131.0

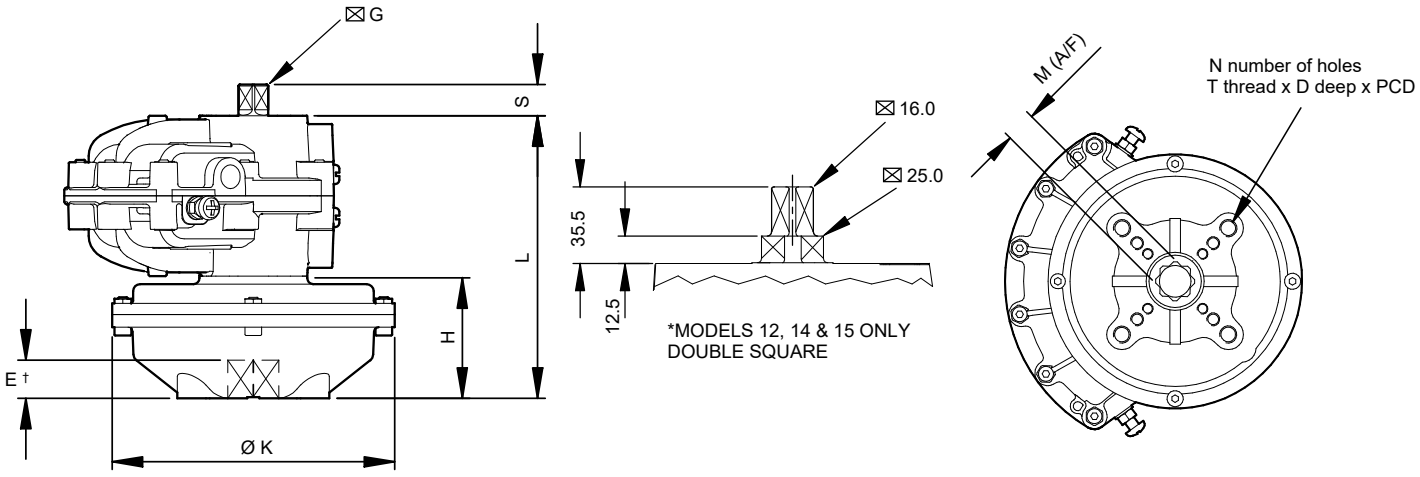
*** Springs mounted above actuator - see Kinetrol Model 60 Double Acting Actuator data sheet

† All weights include coupling - except 107

Spring dimensions are identical for counter-clockwise models

Kinetrol Spring Return Actuator Dimensions

ISO Flange Female Spring Return Actuator Dimensions



Metric Units

Actuator** Model	ISO Flange No.	L mm	H mm	ØK mm	M mm	S mm	⊠G mm	E † mm	N No.	T ISO	D mm	PCD mm
033F120	F03/F05	103	43	108	11	12	9.0	12	4	M5/M6	8/10	36/50
033F180	F04	103	43	108	11	12	9.0	12	4	M5	10	42
053F120	F03/F05/F07	118	50	119	14	13	9.5	16	4	M5/M6/M8	10/12/13	36/50/70
053F180	F04	118	50	119	14	13	9.5	16	4	M5	10	42
073F120-4000	F03/F05/F07	150	50	118	14	20	16.0	16	4	M5/M6/M8	10/12/13	36/50/70
073F120	F05/F07	182	82	152	17	20	16.0	19	4	M6/M8	10/13	50/70
083F120	F07	197	87	174	17	20	16.0	19	4	M8	16	70
093F120-4200	F05/F07	208	82	152	17	20	16.0	19	4	M6/M8	10/13	50/70
093F120	F07/F10	218	92	200	22	20	16.0	24	4	M8/M10	13/16	70/102
103F120-5800	F07/F10	268	92	200	22	20	16.0	24	4	M8/M10	13/16	70/102
103F120	F10	285	110	206	22	20	16.0	24	4	M10	16	102
123F120-4300	F10	248	92	200	22	35.5	16.0*	25	4	M10	16	102
123F120	F10	292	136	258	22	35.5	16.0*	25	4	M10	16	102
123F180	F12	292	136	258	27	35.5	16.0*	29	4	M12	20	125
143F120-4900	F12	417	217	258	27	35.5	16.0*	29	4	M12	20	125
143F120-5000	F12	337	136	258	27	35.5	16.0*	29	4	M12	20	125
143F120	F12	387	187	396	27	35.5	16.0*	29	4	M12	24	125
153F120***	F14	432	187	396	36	35.5	16.0*	38	4	M16	28	140
163F120***	F14	486	212	524	36	55	41.0	38	4	M16	24	140
183F120-7000***	F16	572	212	524	46	78	57.0	48	4	M20	30	165
183F120***	F16	602	242	634	46	78	57.0	48	4	M20	30	165
213F120-8000***	F25	652	238	634	55	100	73.0	57	8	M16	24	254
213F120-7300***	F25	822	412	524	55	100	73.0	57	8	M16	24	254
213F120***	F25	772	359	634	55	100	73.0	57	8	M16	24	254

English Units

Actuator** Model	ISO Flange No.	L inch	H inch	ØK inch	M inch	S inch	⊠G inch	E † inch	N No.	T UNC	D inch	PCD inch
037F120	F03/F05	4.06	1.69	4.21	0.433	0.47	0.354	0.47	4	10-24 1/4	0.31/0.39	1.41/1.97
037F180	F04	4.06	1.69	4.21	0.433	0.47	0.354	0.47	4	10-24	0.39	1.65
057F120	F03/F05/F07	4.65	1.97	4.69	0.551	0.51	0.374	0.63	4	10-24 1/4 5/16	0.39/0.47/0.51	1.42/1.97/2.76
057F180	F04	4.65	1.97	4.69	0.551	0.51	0.374	0.63	4	10-24	0.39	1.65
077F120-4000	F03/F05/F07	5.91	1.97	4.65	0.551	0.79	0.630	0.63	4	10-24 1/4 5/16	0.39/0.47/0.51	1.42/1.97/2.76
077F120	F05/F07	7.17	3.23	5.98	0.669	0.79	0.630	0.75	4	1/4 5/16	0.39/0.51	1.97/2.76
087F120	F07	7.76	3.43	6.85	0.669	0.79	0.630	0.75	4	5/16	0.63	2.76
097F120-4200	F05/F07	8.19	3.23	5.98	0.669	0.79	0.630	0.75	4	1/4 5/16	0.39/0.51	1.97/2.76
097F120	F07/F10	8.58	3.62	7.87	0.866	0.79	0.630	0.94	4	5/16 3/8	0.51/0.63	2.76/4.01
107F120-5800	F07/F10	10.55	3.62	7.87	0.866	0.79	0.630	0.94	4	5/16 3/8	0.51/0.63	2.76/4.01
107F120	F10	11.22	4.33	8.11	0.866	0.79	0.630	0.94	4	3/8	0.63	4.02
127F120-4300	F10	9.76	3.62	7.87	0.866	1.40	0.630*	0.94	4	3/8	0.63	4.02
127F120	F10	11.50	5.35	10.16	0.866	1.40	0.630*	0.98	4	3/8	0.63	4.02
127F180	F12	11.50	5.35	10.16	1.063	1.40	0.630*	0.98	4	1/2	0.79	4.92
147F120-4900	F12	16.42	8.54	10.16	1.063	1.40	0.630*	1.14	4	1/2	0.79	4.92
147F120-5000	F12	13.27	5.35	10.16	1.063	1.40	0.630*	1.14	4	1/2	0.79	4.92
147F120	F12	15.24	7.36	15.59	1.063	1.40	0.630*	1.14	4	1/2	0.94	4.92
157F120***	F14	17.00	7.36	15.59	1.420	1.40	0.630*	1.50	4	5/8	1.10	5.51
167F120***	F14	19.13	8.35	20.63	1.417	2.17	1.614	1.50	4	5/8	0.94	5.51
187F120-7000***	F16	22.52	8.35	20.63	1.811	3.07	2.244	1.89	4	3/4	1.18	6.50
187F120***	F16	23.69	9.52	24.96	1.811	3.07	2.244	1.89	4	3/4	1.18	6.50
217F120-8000***	F25	25.67	9.37	24.96	2.165	3.94	2.874	2.24	8	5/8	0.94	10.00
217F120-7300***	F25	32.36	16.22	20.63	2.165	3.94	2.874	2.24	8	5/8	0.94	10.00
217F120***	F25	25.67	14.13	24.96	2.165	3.94	2.874	2.24	8	5/8	0.94	10.00

† Minimum

Spring dimensions are identical for counter-clockwise models

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Kinetrol VDI / VDE

Kinetrol's VDI/VDE 3845 mounting option is available from Model 03 up to Model 15. This option enables Kinetrol actuators to be retrofitted to assemblies where customers want to retain existing position feedback units.

Kinetrol actuator models 03 and 05 have an extended vane accessory shaft with a VDI/VDE 3845 Namur slot along with an adaptor plate that allows the fitment of an industry standard F05 VDI/VDE bracket.

Kinetrol actuator models 07 and 08 have standard length accessory shafts but incorporate the VDI/VDE 3845 Namur slot along with the adaptor plate.



Model 07 actuator with Namur slot and adaptor plate



Model 09 actuator with Namur slot and additional M5 mounting holes

Kinetrol actuator models 09 and 10 have standard length vane accessory shafts with the VDI/VDE 3845 Namur slot but also have additional M5 mounting holes machined into the case boss.

Kinetrol actuators model 12, 14 and 15 have a shortened vane accessory shaft with the VDI/VDE 3845 Namur slot, M5 mounting holes are standard supply on these actuators.

An industry standard F05 VDI/VDE bracket is also available but is not included as standard supply - please contact Kinetrol.

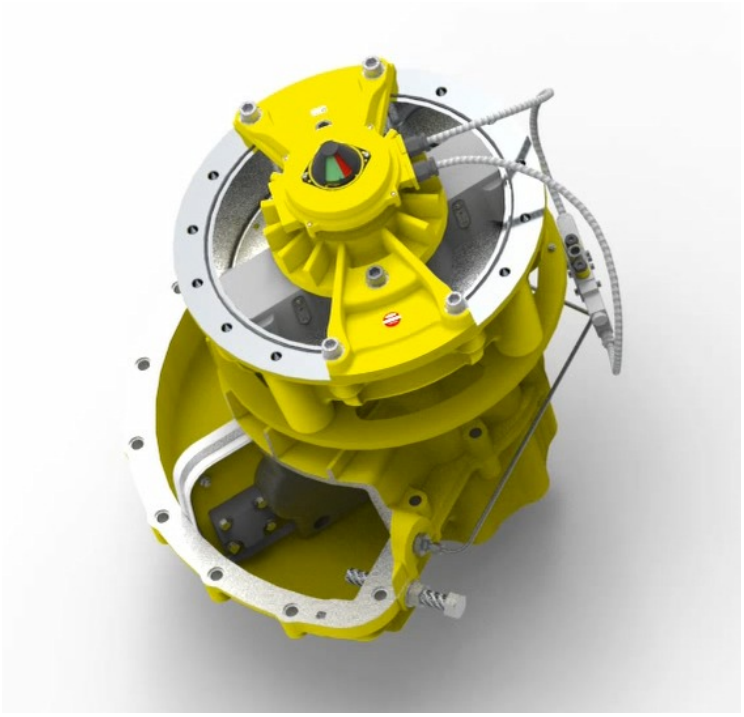
Ordering Codes

To order an actuator with the VDI/VDE mounting option add "V" to the end of the standard Kinetrol actuator code
Example: 054-100V or 074-120V

An industry standard F05 VDI/VDE bracket can be ordered in addition under spares code: SP642

Please contact Kinetrol for dimensional details.





Kinetrol's Steadyline pneumatic actuator assemblies are precision valve actuators, integrating our dashpot rotary damping units to provide smooth resistance to actuator/valve shaft rotation, and are designed to the customers individual requirements.

Kinetrol Steadyline assemblies smooth out the actuator's standard travel, dampen any flow-induced valve disc oscillations and allow the user to specify a minimum amount of travel time upon power failure.

KINETROL
STEADYLINE

Please contact Kinetrol for more information.

Kinetrol Model 07 Reversible Spring Unit



- Fully reversible direction of spring from clockwise to counter clockwise or counter clockwise to clockwise
- No air or special tools required and direction reverse can be completed in minutes
- International patents
- Keeper plates no longer required for removal of the spring from the actuator
- Sealed, non breathing housing
- Can be converted from male to female drive and vice versa
- Spring can be converted to manual fail-safe or fire fail-safe spring units
- Special output drives available

The reversible spring units' patented design takes the Kinetrol expertise and low stress range clock type spring to a new level. The direction of the spring can be reversed from clockwise to counter clockwise or vice versa with only simple tools and can be completed within minutes.

The units' fully sealed, non breathing housing protects the spring from corrosive environments the enhanced durability which Kinetrol is known for.

Factory assembled actuator and springs have the spring tension set for a balanced torque output when the actuator is operated at 80 psi (5.5 Bar). If required, the spring can be set for different air pressures on request.

Direction of Spring Action

The reversible spring unit is available either clockwise or counter clockwise and is determined by looking at the unit from the end which interfaces with the actuator.

Suffix
- 0A0 = counter clockwise (male drive)
- 0C0 = clockwise (male drive)
- 0R0 = reversible spring core only

ISO / DIN "Star" Drive

Female bi-square (star) drive option is also available.

Suffix
F0A0 = counter clockwise F05/F07
F0C0 = clockwise F05/F07

Specification

Spring Torque
Start 50.8 Nm / 450 lbf ins
Finish 42.1 Nm / 375 lbf ins

Angle of Travel (adjustable)
0 - 97° (alternative angles available)

Materials of Construction
Casing: Extruded & pressure die cast aluminium alloy
Output Shaft: Stainless steel
Shaft bushes: PTFE coated bronze (lead free)
Clock Type Spring: Carbon spring steel
Stop Elements: Mild steel

Finish
Epoxy stove enamel

Weight
5.07 kg / 11.18 lb (including coupling)

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



Photo shows non-directional option suffix 074-0R0 without actuator interface and output flange

ATEX Category 2

Options

- Male or Female drive options may be fitted to both ends
- High temperature / Low temperature options
- Available in Blueline paint finish

Non Kinetrol Actuator Application Notes

Kinetrol spring units can be used in non Kinetrol actuator applications however the following must be considered.

A static gasket is provided to seal the base plate mounting face but the user's shaft must also be sealed to prevent water ingress into the spring housing.

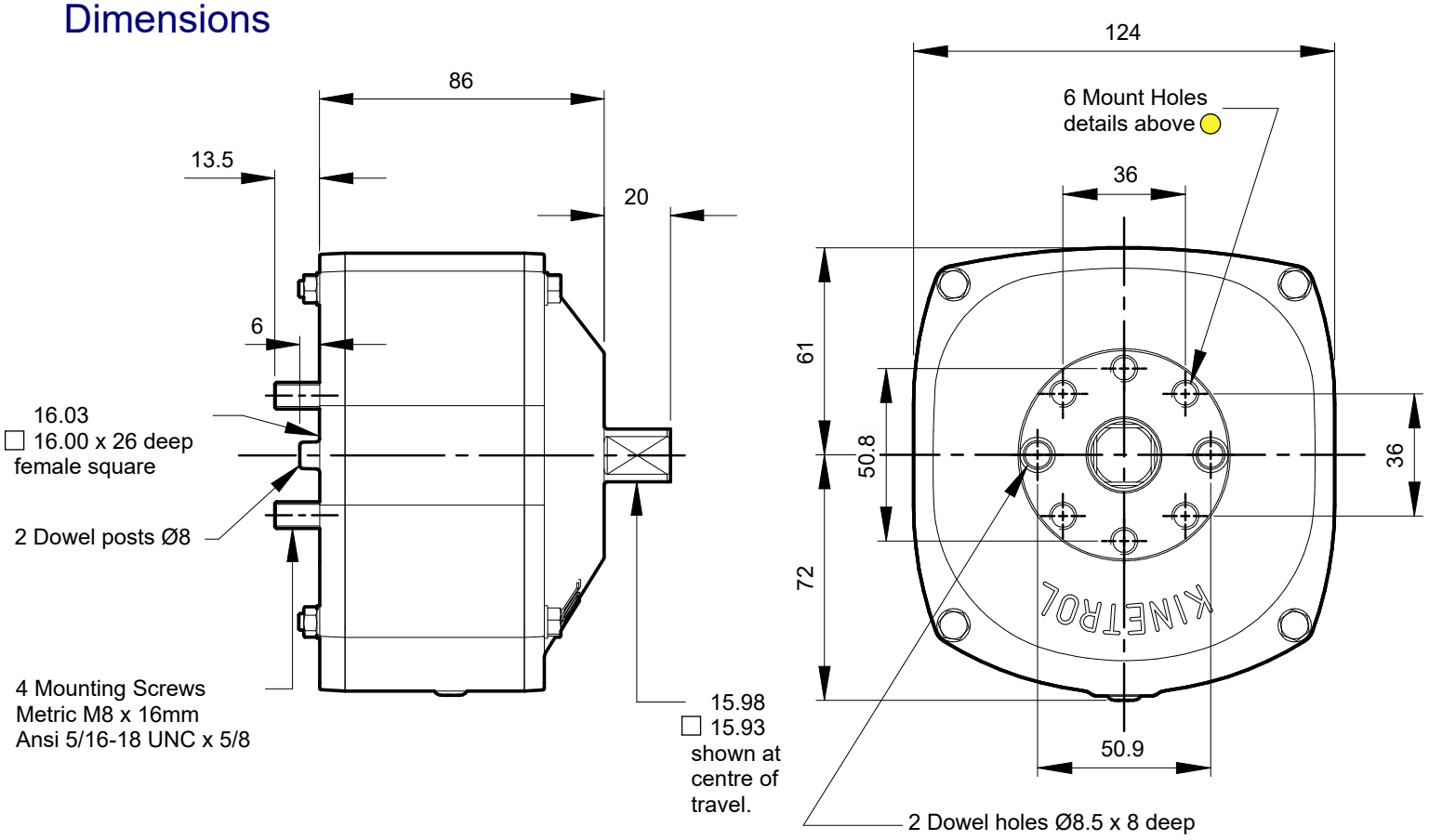
See Kinetrol installation, operation and maintenance instructions for application example.

Kinetrol Model 07 Reversible Spring Unit - Male Drive

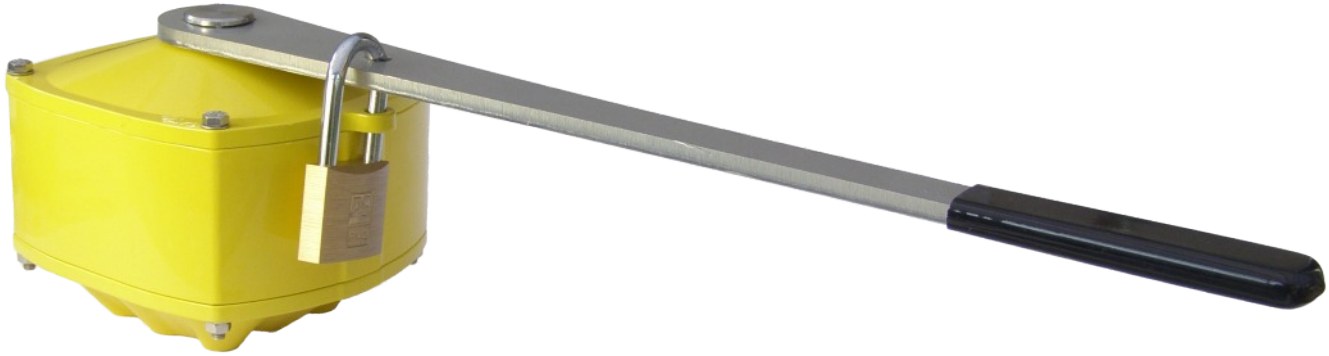
Product Code	Air Ports	Mount Holes
074-0C0 Metric Spring Return Clockwise	G¼	4 x M8 x 16 deep on 50.9 PCD 2 x M8 x 16 deep on 50.8 PCD
074-0A0 Metric Spring Return Counter Clockwise	G¼	4 x M8 x 16 deep on 50.9 PCD 2 x M8 x 16 deep on 50.8 PCD
077-0C0 English Spring Return Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD 2 x 5/16-18 UNC x 0.63” deep on 2.00” PCD
077-0A0 English Spring Return Counter Clockwise	¼ NPT	4 x 5/16-18 UNC x 0.63” deep on 2.00” PCD 2 x 5/16-18 UNC x 0.63” deep on 2.00” PCD

For female drive part codes contact Kinetrol

Dimensions



Kinetrol Model 07 Reversible Manual Fail-Safe Spring Unit



ATEX Category 2

- Manual unit, cannot be left in the wrong position
- Reliable torque delivery for valve reseat
- Fully reversible direction of spring from clockwise to counter clockwise or counter clockwise to clockwise
- No air or special tools required and direction reverse can be completed in minutes
- Can be converted from male to female drive and vice versa
- Spring housing sealed to IP65 to protect from internal corrosion
- Locking feature as standard (padlock not included)
- Stainless steel shaft and lever as standard

Specification

Maximum Torque
50.8 Nm / 450 lbf.ins

Torque Reduction Through Stroke
5.8 Nm / 51 lbf.ins

Angle of Travel (adjustable)
97° (alternative angles available)

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Stainless steel
Clock Type Spring: Carbon spring steel
Lever: Stainless steel

Finish
Epoxy stove enamel

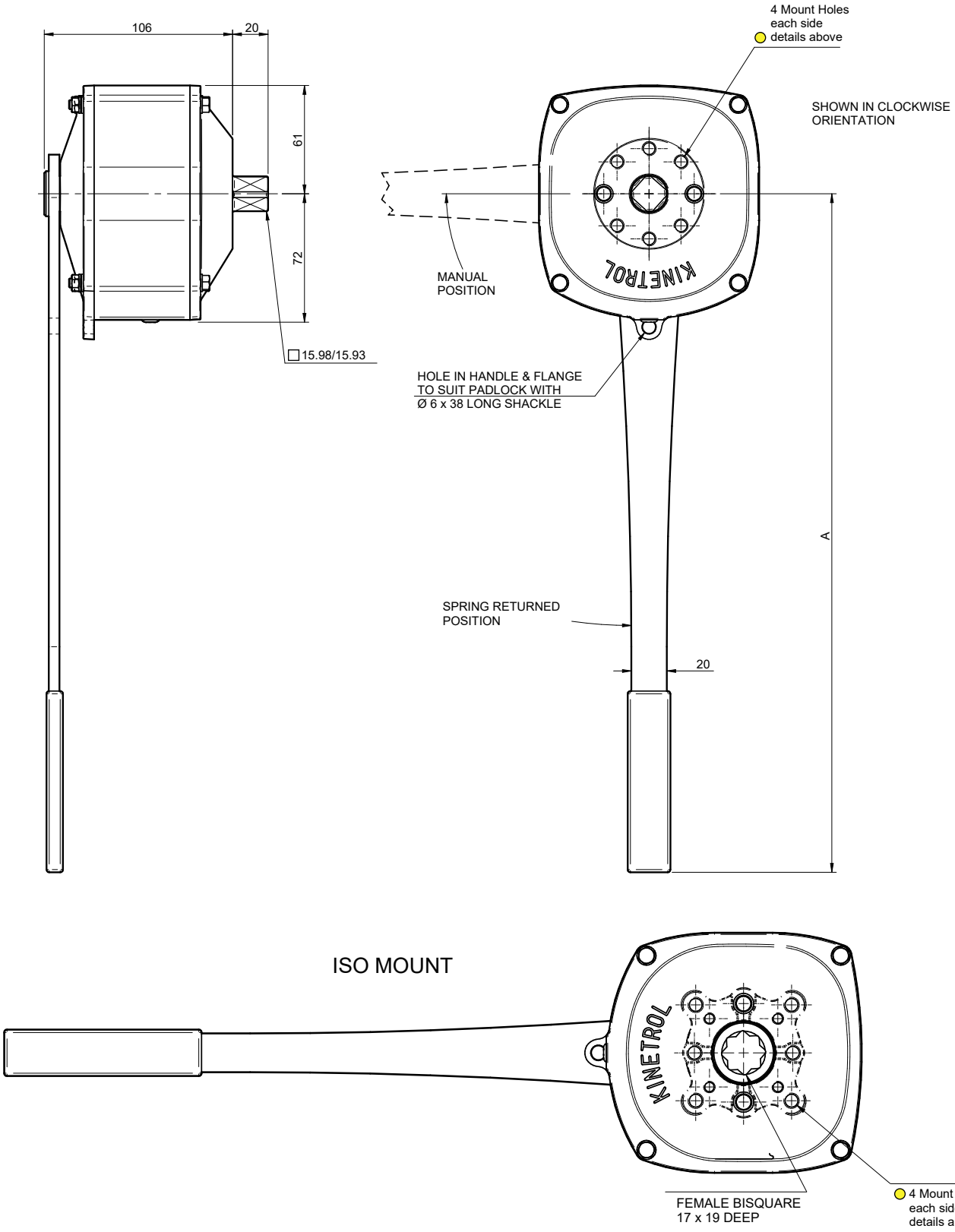
Weight
3.8 kg / 8.37 lb (including coupling)

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

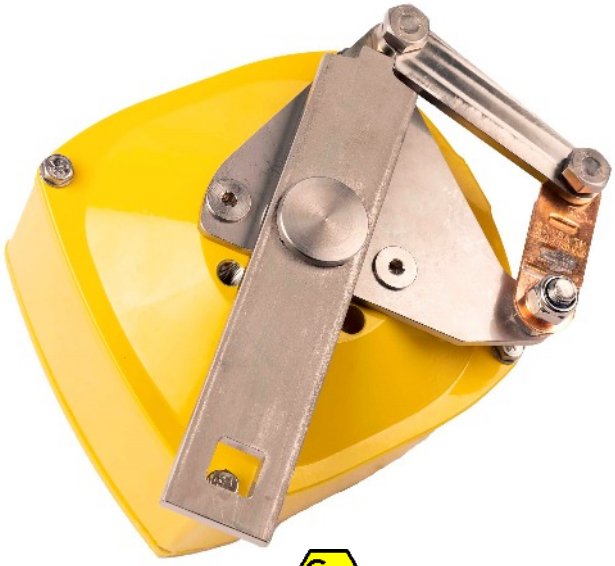
Product Codes

074-0A0-1006	Metric Manual Fail-safe Spring Unit Counter Clockwise
074-0C0-1006	Metric Manual Fail-safe Spring Unit Clockwise
077-0A0-1006	ANSI Manual Fail-safe Spring Unit Counter Clockwise
077-0C0-1006	ANSI Manual Fail-safe Spring Unit Clockwise
073F0A0-1006	Metric Female Drive ISO /DIN Manual Fail-safe Spring Unit - F05/F07 with 17mm star drive
073F0C0-1006	Metric Female Drive ISO /DIN Manual Fail-safe Spring Unit - F05/F07 with 17mm star drive

Dimensions


106
20
61
72
□15.98/15.93
4 Mount Holes
each side
details above
SHOWN IN CLOCKWISE
ORIENTATION
MANUAL
POSITION
KINETROL
HOLE IN HANDLE & FLANGE
TO SUIT PADLOCK WITH
Ø 6 x 38 LONG SHACKLE
A
SPRING RETURNED
POSITION
20
ISO MOUNT
KINETROL
FEMALE BISQUARE
17 x 19 DEEP
4 Mount Holes
each side
details above

Kinetrol Model 07 Reversible Fire Fail-Safe Spring Unit



ATEX Category 2

- Reliable torque delivery for valve reseat
- Fully reversible direction of spring from clockwise to counter clockwise or counter clockwise to clockwise
- Two yield temperature options
- No air or special tools required and direction reverse can be completed in minutes
- Can be converted from male to female drive and vice versa
- Spring housing sealed to IP65 to protect from internal corrosion
- Stainless steel shaft and levers as standard

Specification

Maximum Torque
50.8 Nm / 450 lbf.ins
For reduced torque options contact Kinetrol

Yield Temperatures

Yield temperature options	74°C	100°C
Max. normal ambient temperature	38°C	66°C

Angle of Travel (adjustable)
97° (alternative angles available)

Materials of Construction
Casing: Pressure die cast aluminium alloy
Output Shaft: Stainless steel
Lever: Stainless steel
Clock Type Spring: Carbon spring steel
Fusible Link: Solder type (UL approved)

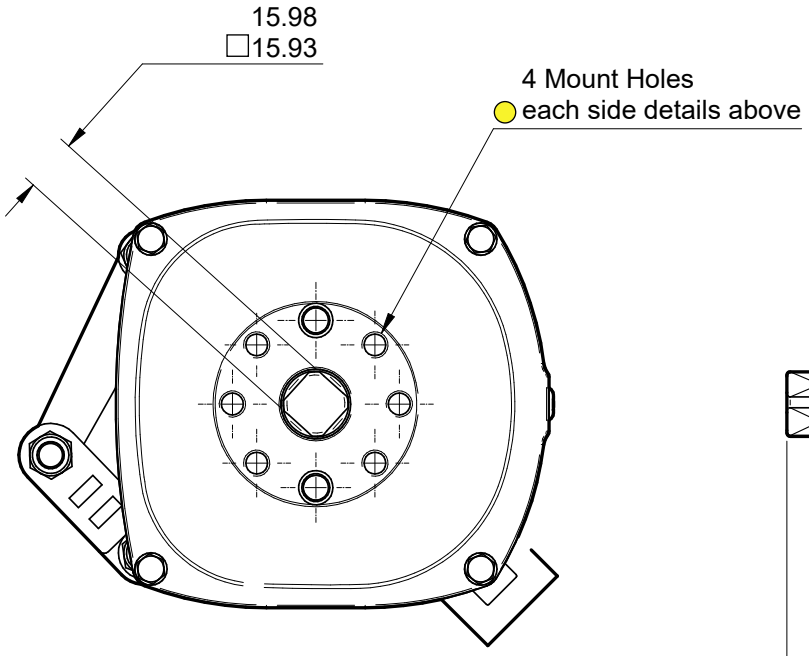
Finish
Epoxy stove enamel

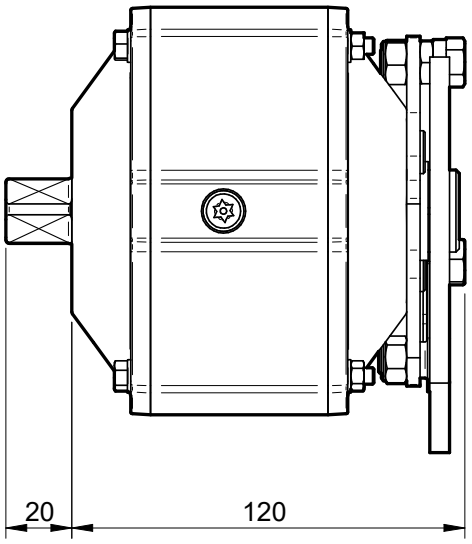
Weight
4.0 kg / 8.82 lb (including coupling)

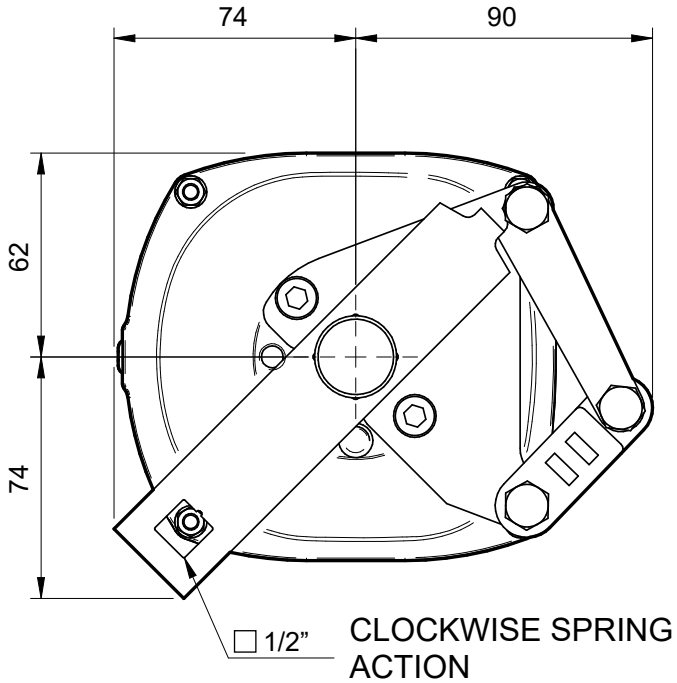
Product Codes

074-0A0-0074	Metric Fire Fail-safe Spring Unit Counter Clockwise 74°C
074-0C0-0074	Metric Fire Fail-safe Spring Unit Clockwise 74°C
074-0A0-0100	Metric Fire Fail-safe Spring Unit Counter Clockwise 100°C
074-0C0-0100	Metric Fire Fail-safe Spring Unit Clockwise 100°C
077-0A0-0074	ANSI Fire Fail-Safe Spring Unit Counter Clockwise 74°C
077-0C0-0074	ANSI Fire Fail-Safe Spring Unit Clockwise 74°C
077-0A0-0100	ANSI Fire Fail-Safe Spring Unit Counter Clockwise 100°C
077-0C0-0100	ANSI Fire Fail-Safe Spring Unit Clockwise 100°C
073F0A0-0074	Metric Female Drive ISO /DIN Fire Fail-Safe Spring Unit Counter Clockwise 74°C - F05/F07 with 17mm star drive
073F0C0-0074	Metric Female Drive ISO /DIN Fire Fail-Safe Spring Unit Clockwise 74°C - F05/F07 with 17mm star drive
073F0A0-0100	Metric Female Drive ISO /DIN Fire Fail-Safe Spring Unit Counter Clockwise 100°C - F05/F07 with 17mm star drive
073F0C0-0100	Metric Female Drive ISO /DIN Fire Fail-Safe Spring Unit Clockwise 100°C - F05/F07 with 17mm star drive

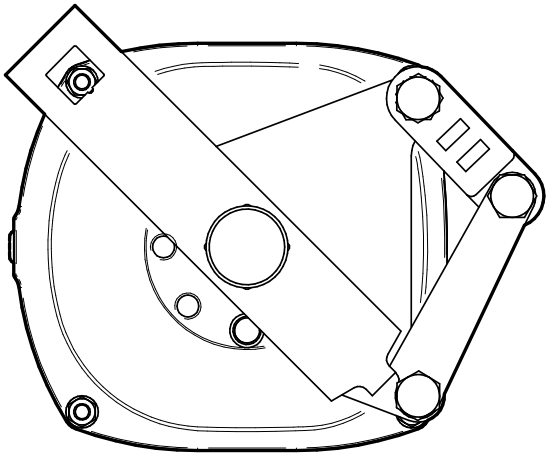
Dimensions







CLOCKWISE SPRING ACTION



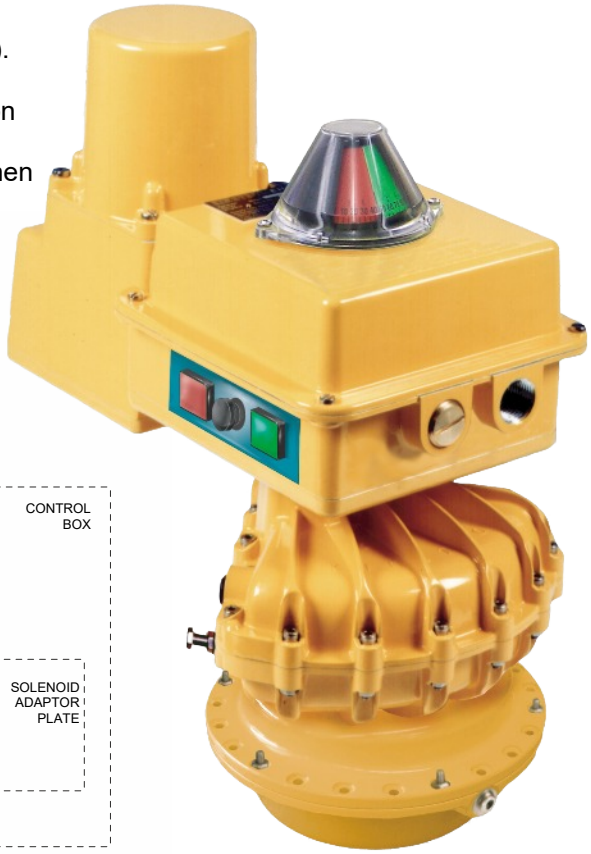
ANTI-CLOCKWISE SPRING ACTION

Kinetrol EHD ¼ Turn Electric Actuator

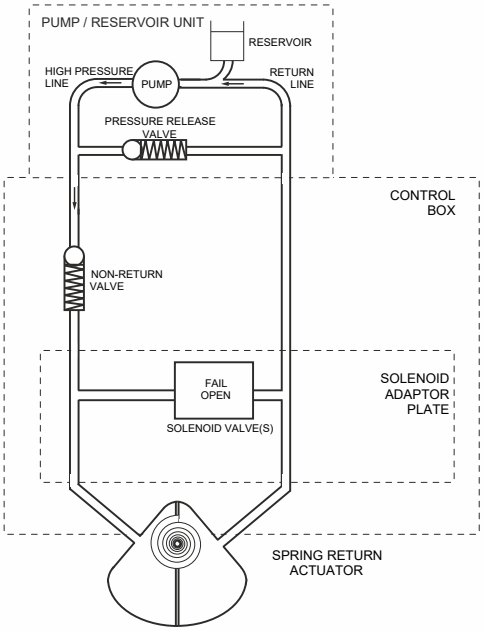
A hydraulic gear pump immersed in its own reservoir delivers pressurised oil to our vane-type 90° actuator via the control box, which contains non-return valves and solenoid valves to direct the flow into the actuator; with cam operated limit switches to control travel and (optionally) signal position to the user. The unpressurised side of the actuator is connected to the reservoir, so there is no net transfer of oil from reservoir to actuator. The pump and its motor run entirely on precision ball bearings, so that the friction and motor size can be minimised and life maximised; the efficiency resulting from this reduces the heating effect and allows 100% rating. A pressure release valve is built into the pump so that if the actuator load becomes jammed the torque is limited and dangerous over pressures or motor stalls are avoided.

Fail-safe spring return action uses our reliable low-stress-range sealed clock-type spring unit mounted coaxially with the actuator, together with a fail-open solenoid valve, to ensure reliable positioning when power is not supplied to the unit. A high flow external dump valve can be fitted to allow very rapid spring-driven action (to be wired by customer - contact Kinetrol for details).

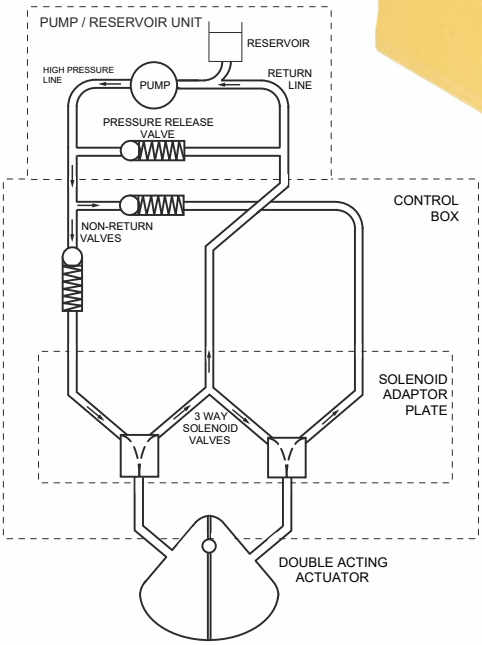
Double-acting models are supplied with solenoids arranged to give position locking when power is disconnected. An optional manual by-pass valve is available to allow manual override movement of a double acting model when power is disconnected.



SKETCH 1
HYDRAULIC CIRCUIT DIAGRAM
SPRING RETURN EHD



SKETCH 2
HYDRAULIC CIRCUIT DIAGRAM
DOUBLE ACTING EHD



The interface between pump/reservoir unit and the control box allows mounting of the pump in different orientations at 90° to each other, so that the motor can be kept above the reservoir whether the actuator output axis is horizontal or vertical. External electrical connections are all made via a single accessible connector block in the control box, with the simplest possible switching needed to drive the unit. Two conduit entries are available, to allow easy separate connection of power and signal lines (if used). All internal wiring is connected via a central connector and fuse board and the actuator is protected from supply surges by a metal oxide varistor suppressor.

Features

- LOW WEAR from low-stress, low pressure gear pump driving simple vane actuator gives long life.
- RUNS ALL DAY and all night without overheating.
- IF LOAD JAMS, pressure release valve prevents overtorque or motor stalling.
- ENVIRONMENTALLY SEALED ENCLOSURE to IP65/NEMA 4, with tough epoxy paint on robust cast metal to resist outdoor environments.
- COMPACT POWERFUL SINGLE UNIT with no external pipes or wires.
- 6 MODELS - WIDE TORQUE/SPEED RANGE - each model can be specified as failsafe spring-return or high-torque double acting, on-off or modulating.

Kinetrol EHD ¼ Turn Electric Actuator

CLEAR CONE MONITOR - Externally visible position indication shows open-closed status and/or angular position through full 180° viewing angle - made of robust transparent polymer fully sealed onto metal lid. A special option for chemical resistance is available.

LID - Made of robust epoxy-coated zinc alloy, held on by captive screws and sealed with nitrile rubber O-ring.

FUSE & CONNECTOR BOARD - Easy access fuses and integral over-voltage detectors protect against over-voltage damage to major components. Easy access connector block allows rapid disconnection of motor and solenoids for maintenance or inspection.

CONNECTOR BLOCK FOR EXTERNAL WIRING - Easy access 10 way block for cables up to 2.5mm^2. Connects all power and signal cables needed.

CARRIER PLATE - All connectors, limit switches, motor capacities, positioner modules and other optional electronic units are mounted on this easily removable plate for easy examination and access.

POSITIONER CIRCUIT - Optional electronic 4-20 mA positioner - see page 4/5.

PUMP MOTOR - Brushless, runs on ball bearings for unlimited maintenance free life. AC types are single phase capacitor induction motors, with self-resetting cut-out for over temperature protection. DC type is brushless with integral drive circuitry.

CONDUIT PLUG - If only one of the conduit entries is needed by the user, the plug gives permanent sealing to the unused entry, while remaining removable if necessary.

OIL PUMP WITH INTEGRAL RESERVOIR - Efficient, low friction gear pump runs on ball bearings for minimum wear, maximum life. Enclosure integrates pressure release valve to prevent harmful overpressure build up. Uses silicone oil for minimal effect of temperature on performance.

LOCAL ISOLATION SWITCHES - This option allows the user to switch between local and remote control, with clockwise and anti-clockwise switches available.

CONTROL BOX - All metal assembly integrates oil parting, non-return valves, mounting for solenoid valves, shaft sealing and mounting arrangement onto the actuator. Encloses all central electrical wiring inside robust box, sealed by O-rings to IP 65 / NEMA 4, with tough epoxy enamel finish for external protection.

KINETROL VANE ACTUATOR - Compact, robust long life design with one moving part gives optimum efficiency and reliability in converting oil pressure into output torque.

ADJUSTABLE END STOPS - Easy adjustment at each end of stroke for accurate seating.

OPTIONAL ANGLE ADAPTOR PLATES - Allows mounting of motor-pump assembly within 15° of vertical whatever the angle at which the actuator output shaft is mounted. (Not needed if output shaft is vertical or horizontal).

MULTI-POSITION PUMP MOUNTING INTERFACE - Allows motor to always be above oil reservoir, so that motor shaft seal is never pressurised by oil and motor always remains oil free.

FAIL SAFE SPRING UNIT - Fully sealed clock type spring unit, operating over small range of stress gives best reliability and most constant torque output available. Fail-safe action requiring no maintenance, no batteries and no gas bottles. Male or female output drives available.

Options

- FAIL SAFE uses simple integral spring unit working against electrohydraulic vane actuator - no batteries or gas bottles .
- DOUBLE ACTING also available for high torque conventional electric actuator options.
- INTEGRAL POSITIONER option drives to and holds any angle from 0° to 90° in response to 4-20mA signal.
- AUXILIARY LIMIT SWITCHES optionally available for external signalling of position by user.
- FAIL LOCKED DOUBLE ACTING - Solenoid arrangement gives position locking on power disconnection - manual bypass valve can be fitted for manual override of fail-locked actuator.
- LOCAL ISOLATION SWITCHES OPTION - Switch between local and remote control, with clockwise and anti-clockwise switches available on unit.
- LOW TEMPERATURE OPTION - A heater and jacket assembly can now be supplied to further increase our EHD operating temperature range.
- SILICONE FREE OIL VERSIONS AVAILABLE - A mineral oil is used instead of the standard silicone oil (temperature restrictions apply).
- INTEGRAL OPTIONS AND ADD-ON UNITS: -4-20mA transducer for independent position feedback.
  -internal feedback potentiometer for connection to user's external circuit.
  -split range positioner signals (4-20mA and 12-20mA signals).
- CLEAR CONE - High visibility monitor available.
- ISO/DIN FEMALE DRIVE OPTIONS AVAILABLE

On / Off Specification

Power Consumption: 150W. Current ac Models
1.5A max. dc Models 6A max.

Supply Voltages: 230v or 115v ± 10%.
50 or 60 Hz ac, 24v dc and 24v ac.

Operating Temperature Range: -20 to +60°C (-4 to 140°F)
(contact Kinetrol for low temperature options).

Motor Type: AC - permanent capacitor single phase induction motor running on sealed-for-life ball bearings. No brushes. Self re-setting thermal cut out built into windings.
DC - Brushless with integral drive circuitry. Ball bearings.

Environmental sealing: To IP65 / NEMA 4X

Auxiliary Limit switches: User adjustable cams, 3 pole changeover type. 3A 250V Max

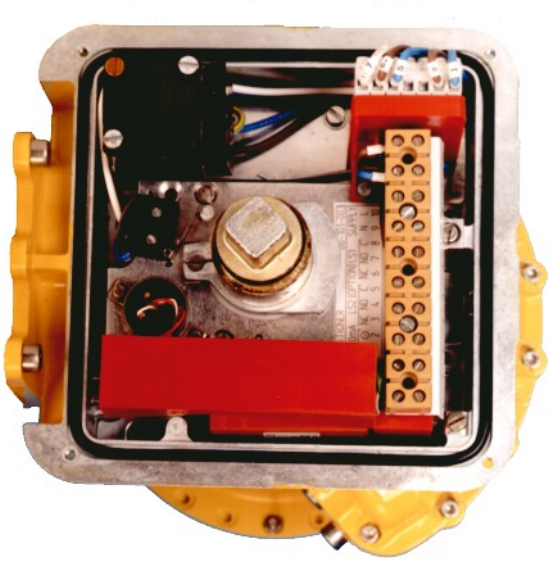
Position Indicator: Red plastic indicator clamped onto control box square supplied as standard, clear cone and chemical resistant clear cone monitor options are available. Positioner models are complete with indicator angle scale. No indicator is available if angle transducer is fitted.

Manual Override: Declutchable geared units available for models 05 to 14. If the unit is a double acting version, then it must also have manual bypass fitted. For model 05, levers are available for direct fitting to control box square.

Construction: Hydraulic pump and control box - diecast zinc alloy.
Actuator Case - diecast aluminium alloy.
Vane - 05 model stainless steel, others SG Iron.
Spring return case - diecast aluminium alloy.
Clock type spring - Carbon Steel.
External surfaces coated with tough, corrosion resistant epoxy paint.

Kinetrol EHD ¼ Turn Electric Actuator

EHD Positioner Option



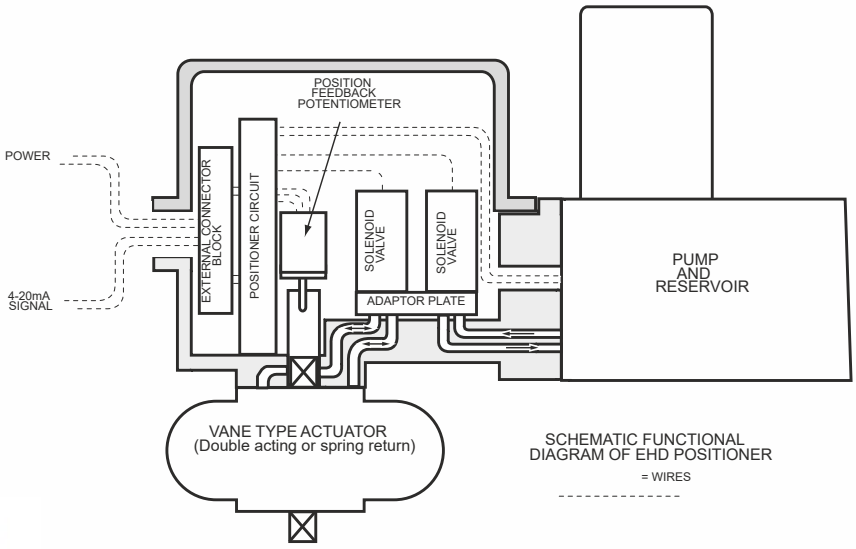
- Moves to and holds any position between 0° and 90° in response to control signal (4-20mA standard, split range available).
- Integral with standard actuator - no add-on modules.
- Excellent sensitivity, linearity, accuracy and stability.
- Available with fail-safe spring return and double-acting actuators.
- Adjustable range, zero and dead band.
- Economical, simple installation - only one connector block.
- Suitable for oscillating and unstable loads.

An electronic circuit and a feedback potentiometer are fitted inside the standard actuator control box. The circuit is a high stability linear comparator, which switches the actuator pump and solenoid valves via solid state mains switches in response to the difference between the actual position measured by the potentiometer and the intended position given by the 4-20mA signal. Limit switches prevent the actuator driving against its own endstop, whatever the signal may be.

The positioner mains switches are optically isolated from the low voltage dc control circuit, which is electrically isolated from the rest of the actuator.

The feedback potentiometer is a conductive plastic servo-type unit driven by a backlash-free drive. The positioner circuit is mounted inside an insulating polymer box for safety; it is fitted with screwdriver adjustable potentiometers to allow customer turning of zero, gain and dead band width.

The efficient design of the Kinetrol EHD actuator allows a high start frequency to be achieved, without overheating. The positioner is available on fail-safe spring-return and double-acting units, and gives accurate, linear low hysteresis performance with excellent thermal stability. The intrinsic stiffness of the hydraulic system together with the backlash-free design of the Kinetrol vane actuator makes this positioner very tolerant of varying or unstable loads (eg. butterfly valves). The complete absence of separately mounted enclosures makes installation neat, simple and economical - all external connections for power, signal and limit switches are made to the normal connector block in the control box.





Kinetrol EHD ¼ Turn Electric Actuator

Positioner Specification

Control response: 0° to 90° positioning, linearly proportional to 4-20 mA control signal (factory set) (4-20mA and 12-20mA versions are available).

Range: Preset pot adjustable to vary angular range by at least ± 15%.

Dead Band: Preset pot adjustable to give dead band 0.1° to 1.6° of travel.

Sensitivity*:

05 model	<0.15mA
07 model	<0.06mA
09, 12 and 14 models	<0.04mA

Hysteresis*: <0.5% of span

Repeatability: <0.5% of span

Deviation from linearity: <1% of span

Operating temperature range: -20°C to +60°C (-4°F to 140°F) (contact Kinetrol for low temperature options).

Setpoint stability across temperature range: Drive <0.5% of span

Maximum number of starts per hour: 3,000

Supply Voltage: 240v ac, 115v ac, 24v dc and 24v ac. 50/60 Hz

Control input resistance: 250 ohms for 4-20mA signal
500 ohms for 4-12mA and 12-20mA signals

Max. Power consumption: 150W

*These parameters will achieve quoted levels only if the dead band adjustment is optimised by the user in accordance with the instructions supplied with this unit.

EHD Torques

Double Acting Torques

Metric Units Nm

Actuator Model	Torque (Nm)
054	44.0
074	108.0
094	228.0
103	371.0
124	506.0
144	1220.0

English Units lbf.in

Actuator Model	Torque (lbf.in)
057	390.0
077	955.0
097	2020.0
107	3250.0
127	4478.0
147	10800.0

Spring ReturnTorques

Metric Units Nm

Actuator Model	Start Torque (Nm)	Finish Torque (Nm)
054	20.9	17.5
074	50.8	42.4
094	104.0	94.0
103	164.0	143.0
124	238.0	204.0
144	530.0*	445.0*

* 4900 Spring Units

English Units lbf.in

Actuator Model	Start Torque (lbf.in)	Finish Torque (lbf.in)
057	185.0	155.0
077	450.0	375.0
097	925.0	830.0
107	1450.0	1270.0
127	2110.0	1810.0
147	4680.0*	3960.0*

* 4900 Spring Units

Kinetrol EHD ¼ Turn Electric Actuator

EHD Weights

Double Acting

Actuator Model	Weight (Kg)	Weight (lb)
05	10.2	22.5
07	13.2	29.0
09	16.9	37.2
10	20.5	45.1
12	23.6	51.9
14	34.1	75.0

Spring Return

Actuator Model	Weight (Kg)	Weight (lb)
05	11.2	24.7
07	17.2	37.8
09	25.2	55.4
10	32.0	70.4
12	39.1	86.0
14	63.2*	139.2*

* 4900 Spring Units

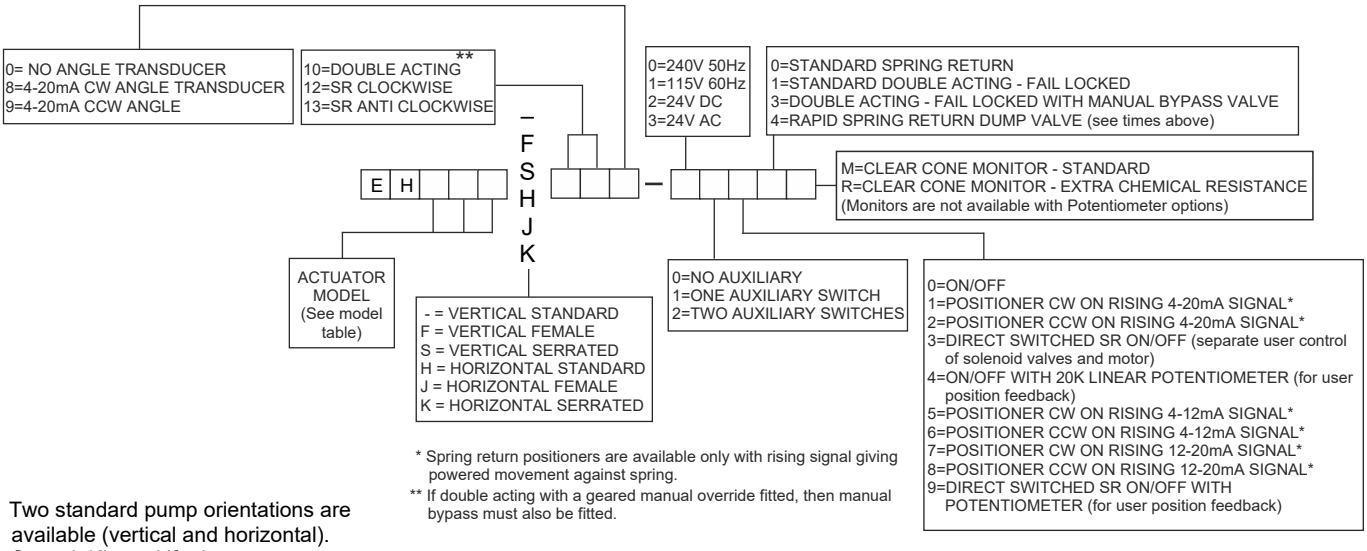
EHD Travel Times

Actuator Model	Spring Return Travel Time (Secs)*1	Travel Time with Optional Dump Valve (Secs)*2
05	7	1.5
07	18	1.5
09	38	1.5
10	60	2.0
12	83	3.0
14	194	7.0

*1 Unloaded travel time at 20°C
Multiply by 1.3 for Doube Acting Models

*2 Unloaded travel time at 20°C

Ordering Codes



* Spring return positioners are available only with rising signal giving powered movement against spring.

** If double acting with a geared manual override fitted, then manual bypass must also be fitted.

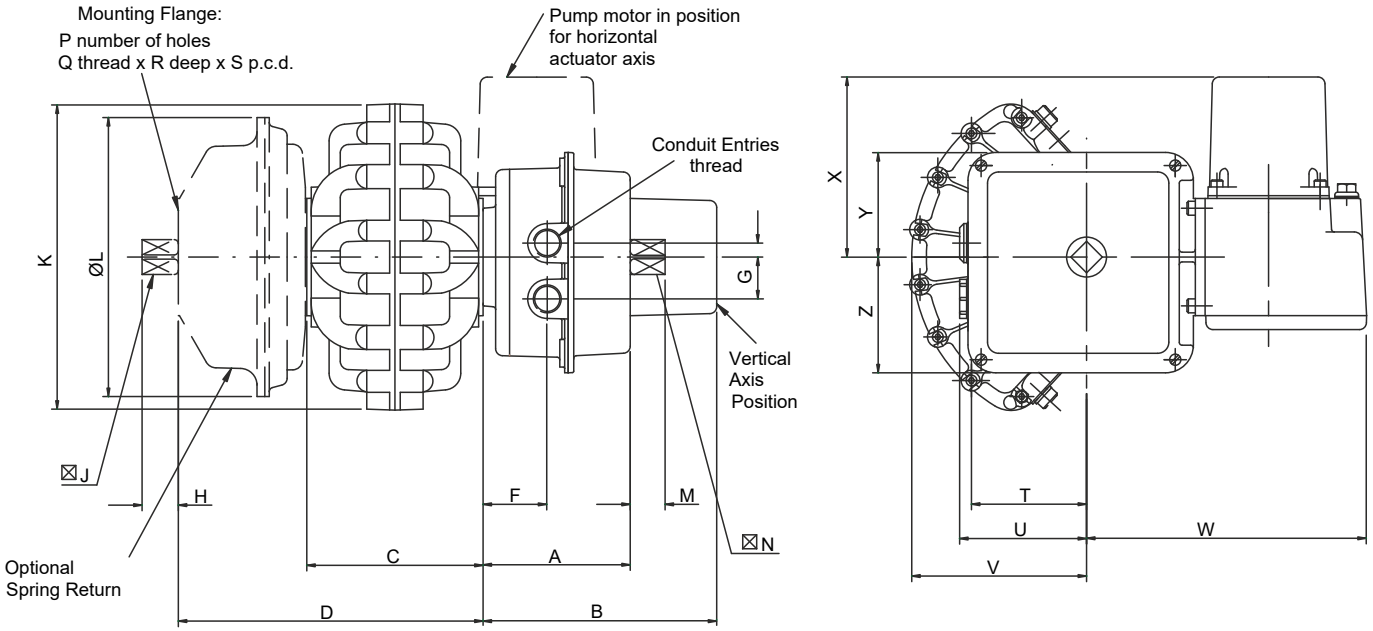
Two standard pump orientations are available (vertical and horizontal). Consult Kinetrol if other arrangements are required. All units will be supplied with vertical axis actuators unless otherwise specified.

There are numerous options available for the EHD unit. For any of the below, contact Kinetrol for information on how to order:

- Slower speeds than those listed above
- Angle adjuster plates
- Low temperature units
- Silicone free oil units
- Local isolation switches

Kinetrol EHD ¼ Turn Electric Actuator

Dimensions



Metric Dimensions

ACTUATOR MODEL	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (No)	Q Thread	R (mm)	S (mm)	T (mm)	U (mm)	V (mm)	W (mm)	X (mm)	Y (mm)	Z (mm)
054	105	167	67	118	30	46	10	13	9.5	132	118	20	16	6	M5	8	34.9	85	87	80	201	129	75	83
074	105	167	100	182	30	46	10	20	16	178	152	20	16	4	M8	16	50.9	85	87	102.6	201	129	75	83
094	105	167	126	218	30	46	10	26	19	227	200	20	16	4	M10	20	65	85	87	132	201	129	75	83
103	105	167	170	285	30	46	10	26*3	22*3	230	206	20	16	8	M10	20	102	85	87	130.5	201	129	75	83
124	105	167	171	308	30	46	10	31	25	294	258	20	16	4	M12	22	77.8	85	87	171	201	129	75	83
144	105	167	218	435*	30	46	10	38	28.6	353	258*	20	16	4	M16	28.5	98.8	85	87	223	201	129	75	83

* 3 For model 10 only main table shows SR interface details only.
DA details are female:

	H Deep	J ☒
ISO/DIN	24	22
ANSI	0.94	0.87

English (ANSI) Dimensions

ACTUATOR MODEL	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	N (in)	P (No)	Q Thread	R (in)	S (in)	T (in)	U (in)	V (in)	W (in)	X (in)	Y (in)	Z (in)
057	4.13	6.58	2.64	4.64	1.18	1.81	0.39	0.51	0.375	5.19	4.65	0.79	0.63	6	10-24 UNC	0.32	1.375	3.35	3.43	3.15	7.92	5.08	2.95	3.27
077	4.13	6.58	3.94	182	1.18	1.81	0.39	0.79	0.63	7.01	6.00	0.79	0.63	4	5/16-18 UNC	0.63	2.00	3.35	3.43	4.04	7.92	5.08	2.95	3.27
097	4.13	6.58	4.96	218	1.18	1.81	0.39	1.02	0.75	8.94	7.87	0.79	0.63	4	3/8-16 UNC	0.79	2.56	3.35	3.43	5.19	7.92	5.08	2.95	3.27
107	4.13	6.58	6.69	285	1.18	1.81	0.39	1.02*3	0.866*3	9.06	8.11	0.79	0.63	8	3/8-16 UNC	0.79	4.02	3.35	3.43	5.14	7.92	5.08	2.95	3.27
127	4.13	6.58	6.73	308	1.18	1.81	0.39	1.22	0.98	11.57	10.16	0.79	0.63	4	1/2-13 UNC	0.87	3.06	3.35	3.43	6.73	7.92	5.08	2.95	3.27
147	4.13	6.58	8.58	17.12*	1.18	1.81	0.39	1.50	1.13	13.90	10.16*	0.79	0.63	4	5/8-11 UNC	1.12	3.89	3.35	3.43	8.78	7.92	5.08	2.95	3.27

Kinetrol Model 02 & 03 Type 72 Limit Switch Box

Specification

Materials of Construction
Casing: Pressure diecast zinc alloy
Output Shaft: Plated mild steel
Finish: Epoxy stove enamel
Cable Entry: Single Entry
M20 x 1.5 Conduit thread
or
½" NPS



Weight
0.3 kg / 0.66 lb

Operating Temperature
See switch temperatures.

Switch Options

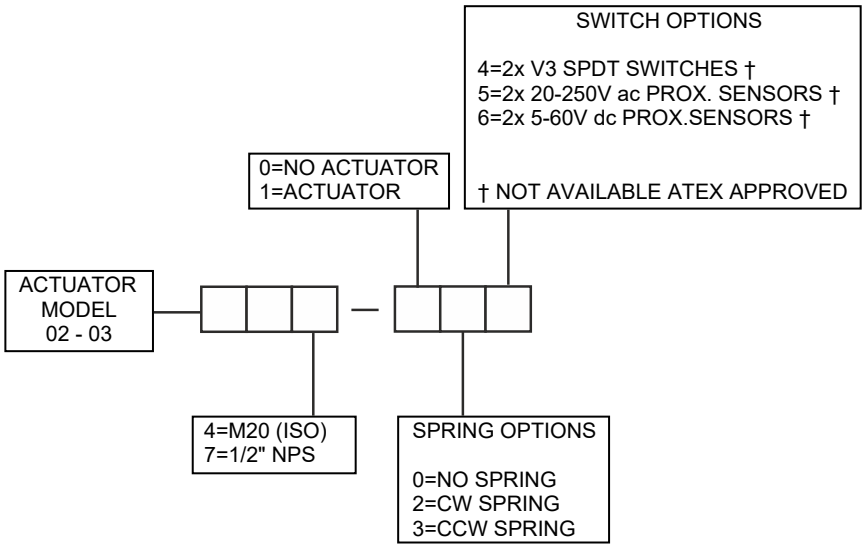
Switch Type 004
2 x 3 wire microswitches for SPDT.
Ambient temperature range -40°C to +80°C
(-40°F to +176°F)

Switch Type 005
2 x 2 wire proximity sensors 20-250 volts AC, 10-300 volts DC, normally open.
Ambient temperature range -25°C to +70°C
(-13°F to +158°F)

Switch Type 006
2 x 2 wire proximity sensors 5-60 volts DC, normally open, with LED status indicators.
Ambient temperature range -20°C to +80°C
(-4°F to +176°F)

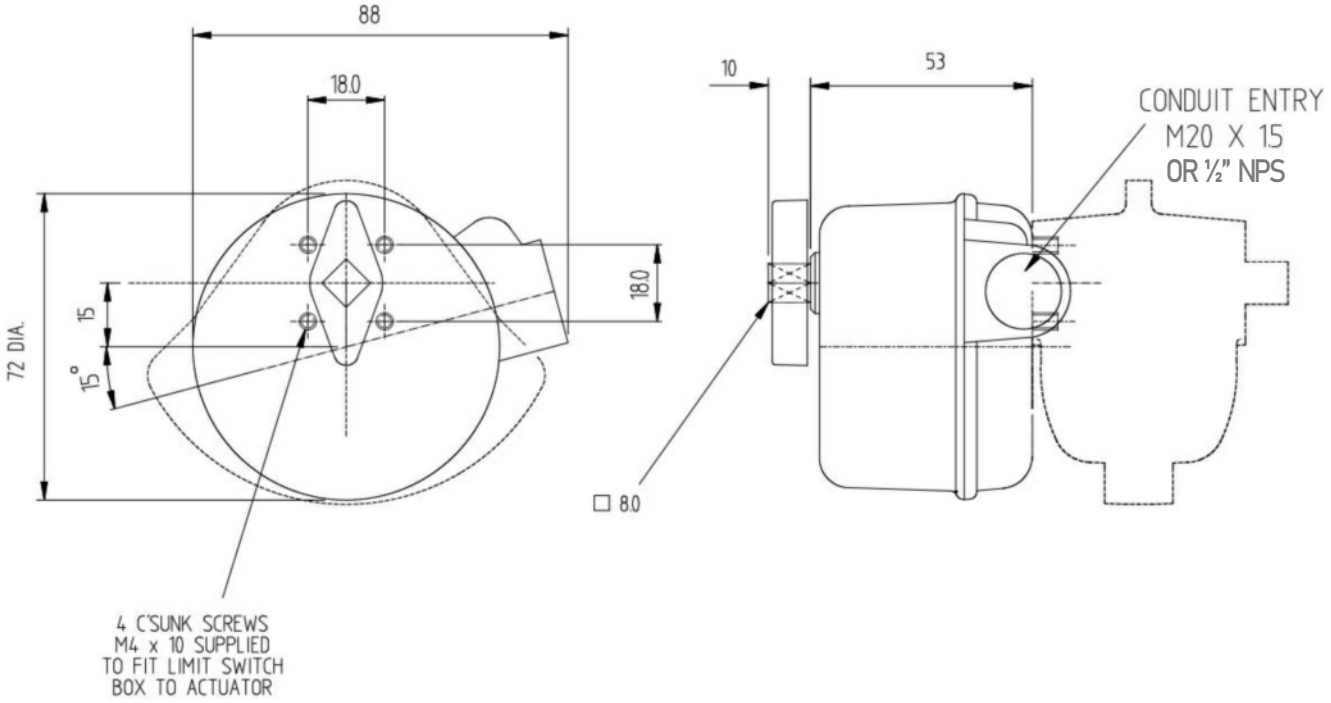


Ordering Codes

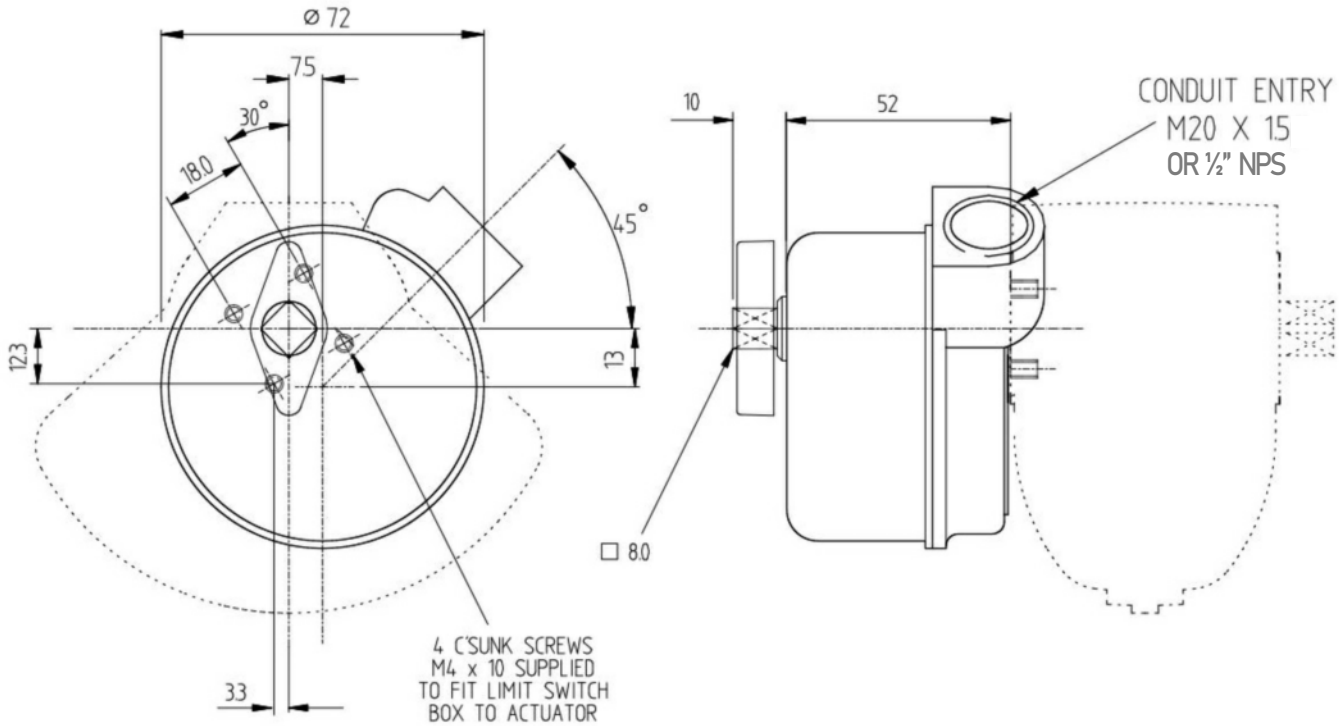


Dimensions

Model 02



Model 03



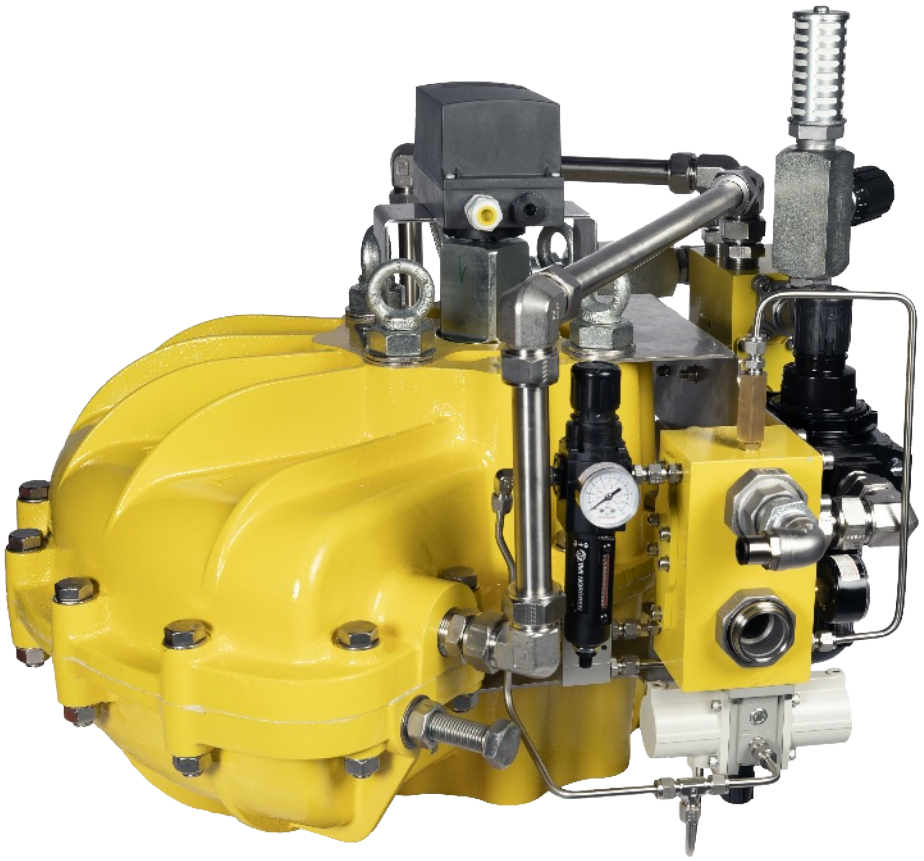


Available from Model 03 up to Model 14 Kinetrol's stainless steel units use our proven quarter turn vane design in a SS316 casing.

Please contact Kinetrol for more information.

Kinetrol Application Engineered Solutions





With Kinetrol’s vast experience in flow control and its own in-house engineering and manufacturing, we are able to offer bespoke, application engineered solutions to meet your customer’s individual needs.

Please contact Kinetrol for more information.

Kinetrol PDK Valve

Three-piece severe duty ball valves



ATEX Category 2



Specification

Class 900 (104.4 Bar Max)

Floating Ball - Reduced Bore

O-ring loaded UHMWPE Seats

Tested at 100bar – 1M cycles

ISO5211 Mounting Pad

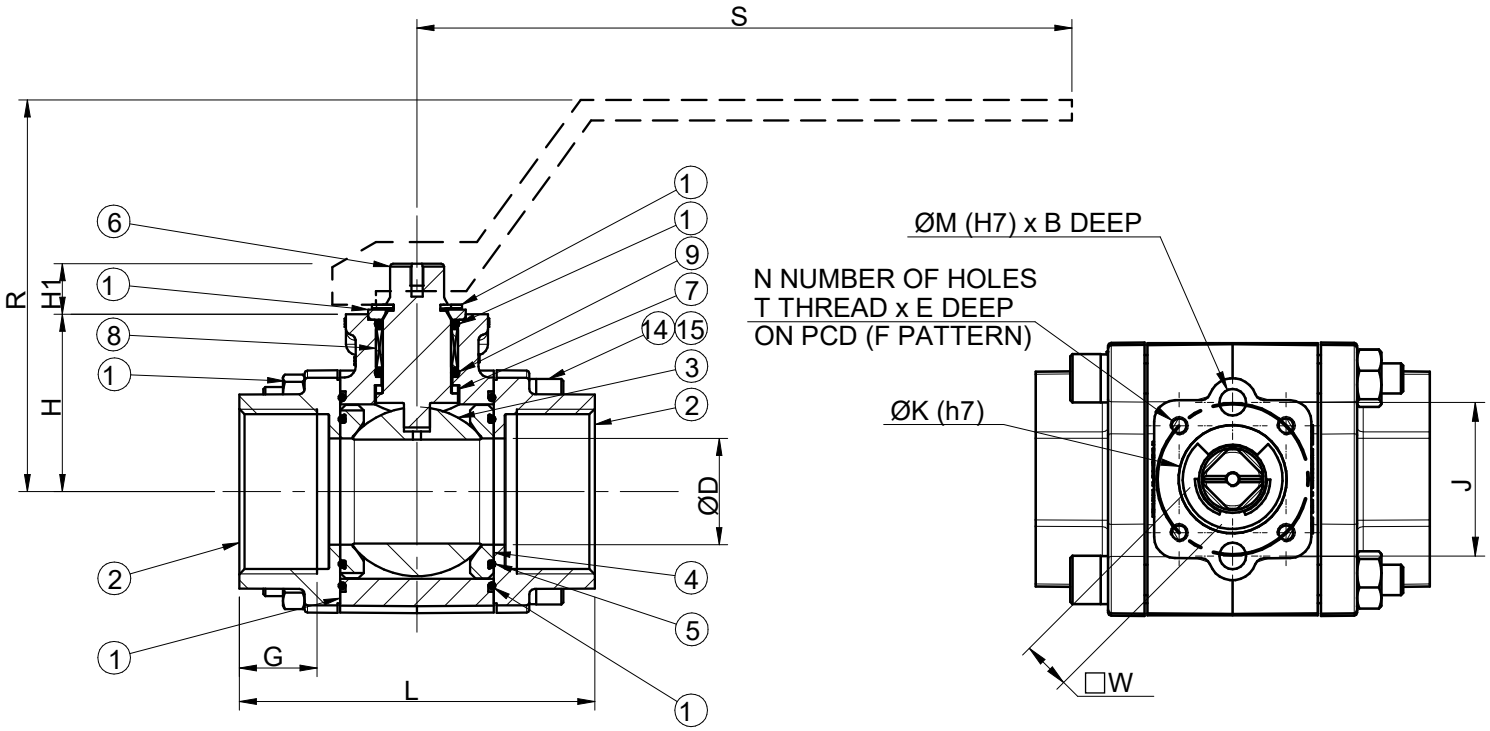
Operating Limits -40°C to 80°C
(-40°F to 176°F)

PED Category I Module A
Group 2 : Liquids & Gases

Designed to EN12516-1

Tested to EN1226-1

Dimensions & Materials List



DN	NPS	W	K	ØM	B	F	N	T	E
25	1	9.5	36	8.8	4	F05	4	M6	10
50	2	16	36	8.8	4	F05	4	M6	10

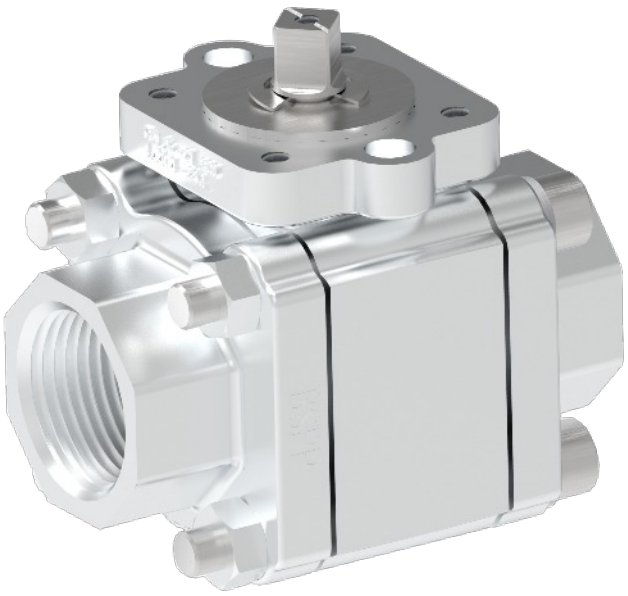
DN	D	G	L	R	S	H	H1	J	PCD	Cv	Torque (Nm)*
25	20	22	96	64	175	42.5	15	50.8	50	27	10
50	37.1	29	130	144	240	65	18.5	50.8	50	96	45

* does not including safety factor

No.	Part Name	Material	No.	Part Name	Material
1	Body	CF3M	9	Stem O-ring	Nitrile
2	End Cap	CF3M	10	Bush O-ring	Nitrile
3	Ball	CF3M	11	Stem Washer	316
4	Ball Seat	UHMWPE	12	Circlip	Plated Carbon Steel
5	Seat O-ring	Nitrile	13	Body O-ring	Nitrile
6	Stem	17-4PH / 316SS	14	Bolt	A4-70
7	Thrust Washer	UHMWPE	15	Washer	A4-70
8	Stem Bearing	UHMWPE	16	Nut	A4-70

Features & Benefits

UHMWPE Seats	Ultra High Molecular Weight Polyethylene (UHMWPE) is extremely wear-resistant compared to PTFE. The valve seats last much longer than standard PTFE valve seats under the same conditions
O-ring Loaded Seat	Upstream and downstream, the valve seat continues to be pre-loaded onto the ball as it wears, ensuring the valve retains shut off tightness so media cannot leak past the seat
UHMWPE Stem Bearing	Stem alignment does not deteriorate over the life of the valve
2 off Stem O-rings	Stem leakage and foreign particle ingress is prevented by two stem o-ring seals. External leakage is prevented without the requirement to continually tighten a gland nut. In addition, the bearing surfaces are protected from particle ingress
Dowels in Valve Mounting Flange	Ensures good alignment between the valve and actuator, preventing premature failure from misalignment loading





Kinetrol actuator on valve installed on highly abrasive kaolin slurry feed pipes.

WORLDWIDE DISTRIBUTION

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email: armatec@armatec.dk
web: www.armatec.com/dk

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