REMOTE CONTROL®

Established Leaders in Valve Actuation

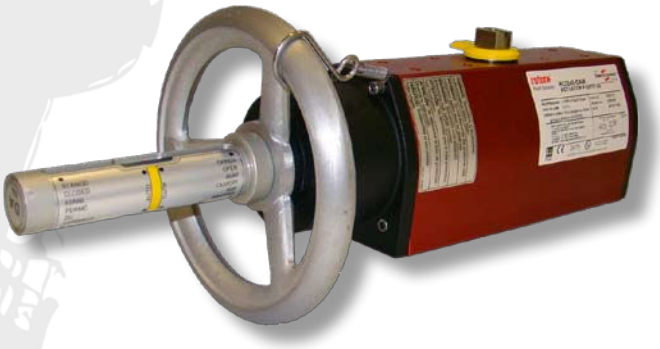
RCI200

Scotch Yoke Actuators
For Quarter-Turn Valves

Remote Control Actuators - Quality Controlled

Since the company was founded in 1961, Remote Control has become the standard for excellence in the field of valve and damper automation for the oil, gas, power, water, and waste treatment industries around the world.

As established leaders in actuation technology, we owe our success to a commitment to quality at every stage, and at every level, of Remote Control's operations.



At the heart of the company is an exceptional workforce of highly trained, forward thinking engineers, technicians, and sales support staff. Each play a crucial role in maintaining Remote Control's unrivaled reputation for innovation, reliability and first class after sales support.

With several fluid power actuator lines and additional electric actuators available, we are able to offer creative solutions and design systems for virtually any application.

Contact Remote Control for your operational or safety application requirements. We will work with you from conception, to design, to manufacture.

Quality
RCI200 actuators are manufactured under strict quality control in accordance with ISO 9001. They are all marked with CE, and comply with ATEX standards. Certified suitable for use at SIL 2 & SIL 3 as a single device in accordance with ICE 61508. The larger volumes are certified with Pressure Equipment Directive (PED).

Efficiency
The RCI200 with its scotch-yoke design gives at least 50% more torque in the end positions over most rack & pinion designs offered by our competitors.

Reliability
The design, engineering and materials used in the RCI200 construction ensure optimum performance even in the hardest of environments.

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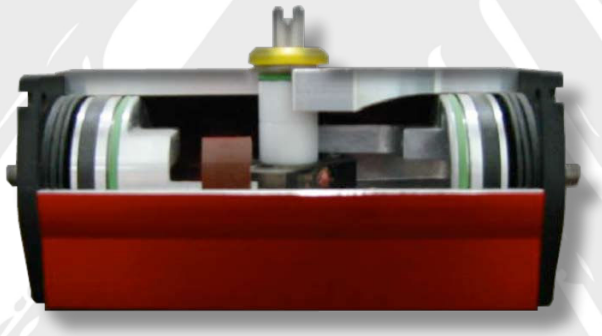
Remote Control Range RCI200

The Remote Control RCI200 Series actuator features a modern scotch yoke mechanism for high starting and ending torques in a very compact package. The RCIO Series have adjustable stops in both directions for 5 sizes offering great flexibility. The spring return actuator features a spring module with the spring(s) safely contained in an epoxy powder coated housing offering maximum corrosion resistance. Our pistons are guided in two places with reinforced Teflon bearings which insure positive alignment and long seal life.



Specifications

Pressure Range (Working)	30-145 PSI continuous RCI210-240 30-116 PSI continuous RCIO250-280 (87 max. on RCIO88)
Torque Output:	Up to 67,000 In-Lbs
Temperature Range	Standard: -4°F to +175°F High: +32°F to +300°F Low: -40°F to +140°F Arctic: -52°F to +140°F
Stroke	90° ± 3° (both directions on RCIO only)
Media	Dry or lubricating air, non corrosive gas, water, or light hydraulic oil
Construction	Suitable for indoor or outdoor installation
Bottom Mounting	ISO 5211/DIN 3337 (excluding RCIO88)
Top/Solenoid Mounting	VDI/VDE 3845 (NAMUR)
Warranty	3-Years up to 2 million cycles for RCI210-RCIO260 & 1 million cycles for RCIO270-RCIO88 (subject to proper use and maintenance)

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Technical Data

Materials of Construction

Description	Standard Material	Finish
Actuator Body	Extruded Aluminum Alloy	Anodized
End Cap	Die Cast Aluminum Alloy	Powder Coated
Drive Shaft (210-260)	Stainless Steel	Plain
Drive Shaft (270-88)	Steel	Zinc Plated
Piston	Die Cast Aluminum Alloy	----
Seals	Nitrile	----
Guide	Acetal Resin (POM)	Plain
O-Rings	Nitrile	----
Springs	Spring Steel	Corrosion Protected
Fasteners	Stainless Steel	Plain

Features

- External adjustable limit stops ± 3°, with RCIO offering external adjustable limit stops +/- 3° in both directions.
- Compact design of end plates, for minimized air consumption
- Optional Compact Manual Override (Not available on the RCIO88)
- NAMUR solenoid interface
- Anodized cylinders, epoxy coated end caps fastened with stainless steel hardware for corrosion resistance

Optional Finishes

- Epoxy coating
- RCT: Hard anodize / low friction polymer treatment

Weights

Actuator Weights (Lbs.)				
Model	DA	DAM	SR	SRM
RCI210	3.1	4.9	4.0	5.5
RCI220	4.0	6.0	5.8	7.0
RCI230	8.0	10.6	10.4	11.7
RCIO240	10.6	12.8	15.5	15.7
RCIO250	20.4	30.4	26.8	33.5
RCIO260	28.0	36.0	40.0	44.5
RCIO270	69.0	104	100.0	127
RCIO280	107.0	121	142.0	192
RCIO88	165.0	-	275.0	-

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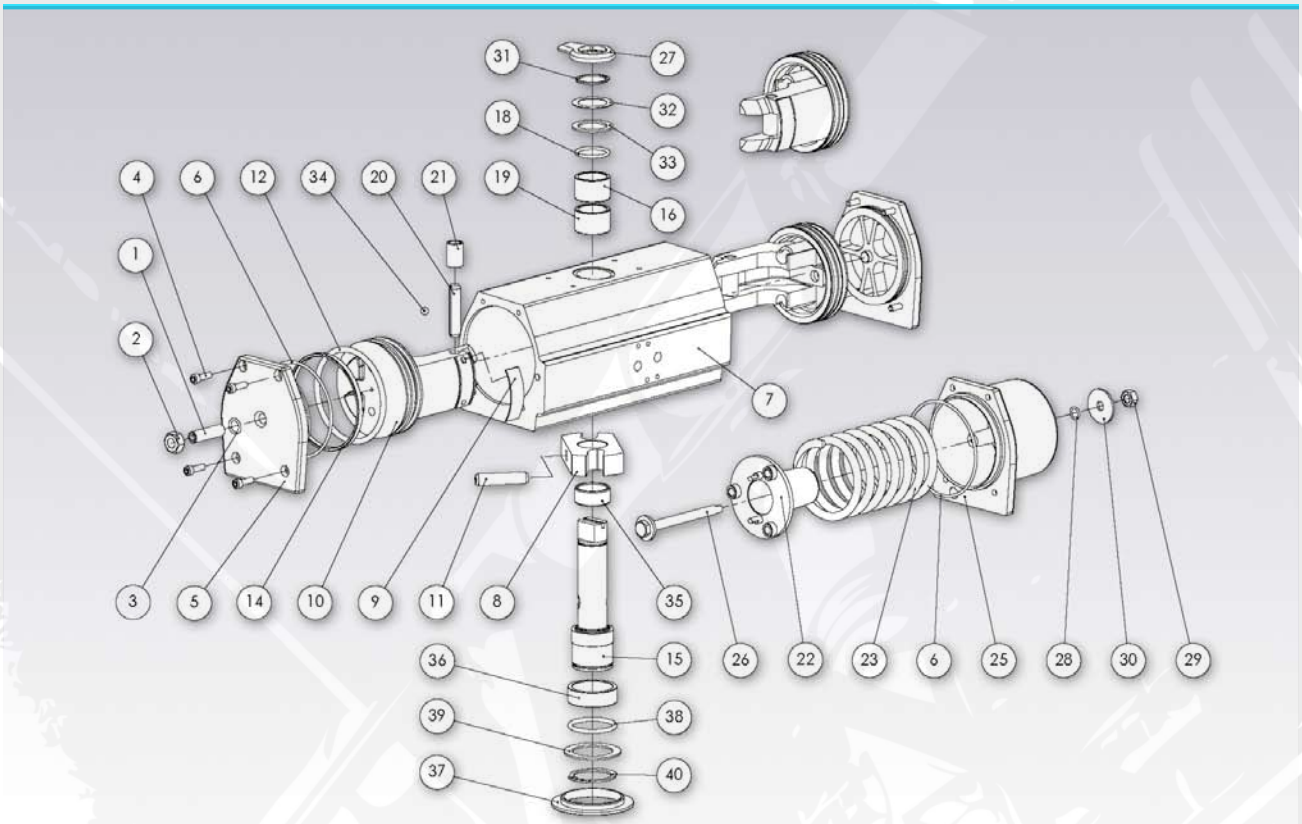
Inside the RCI200 Actuator



Item	Description	DA QTY	SR QTY	Item	Description	DA Qty	SR QTY
1	Adjusting Screw	1	-	22	Spring Guide	-	1
2	Lock Nut	1	-	23	External Spring	-	1
3*	O-Ring	1	-	24	Internal Spring	-	1
4	Screw	8-16	8-16	25	Spring Housing	-	1
5	End Plate	1	-	26	Pre-Tensioning Screw	-	1
6*	O-Ring	2	2	27	Indicator	1	1
7	Cylinder	1	1	28*	O-Ring	-	1
8	Scotch Yoke	1	1	29	Lock Nut	-	1
9*	Support Element	1	1	30	Marking Washer	-	1
10	Piston	1	1	31*	Upper Retaining Ring	1	1
11	Double Rollpin	1	1	32*	Middle Washer	1	1
12*	O-Ring	1	1	33*	Upper Support Washer	1	1
14*	Support Band	1	1	34	Sealing	1	1
15	Driving Shaft	1	1	35	Lower Support Ring	1	1
16	Upper Bearing	1	1	36	Lower Bearing	1	1
17	End Plate	1	1	37	Guide RIng	1	1
18*	Upper O-Ring	1	1	38*	Lower O-Ring	1	1
19	Upper Supporting Ring	1	1	39*	Lower Support Washer	1	1
20	Piston Pin	1	1	40*	Lower Retainer Ring	1	1
21	Piston Roller	1	1	*Indicates Seal Kit Items			

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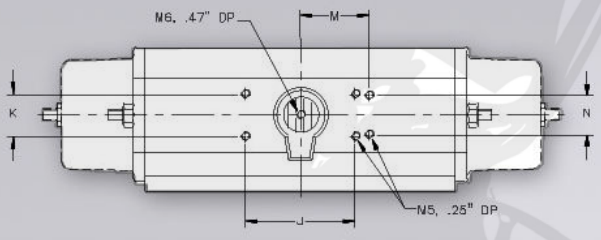
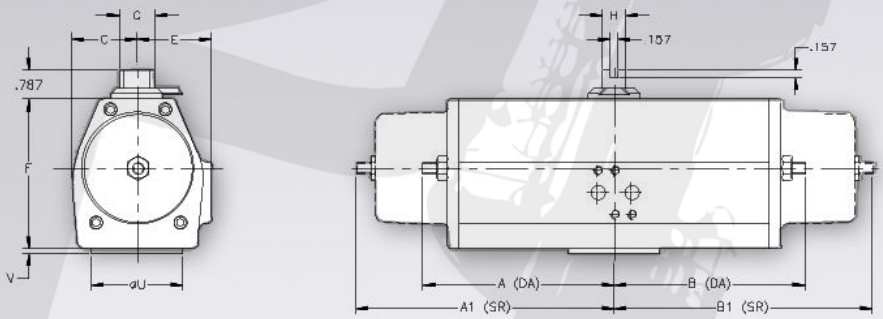
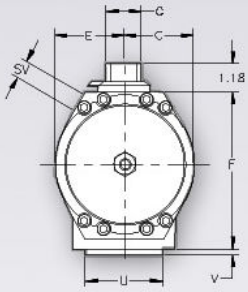
RCI200 Dimensions

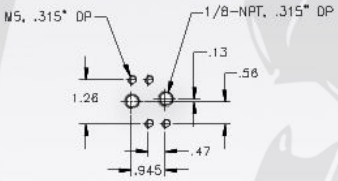


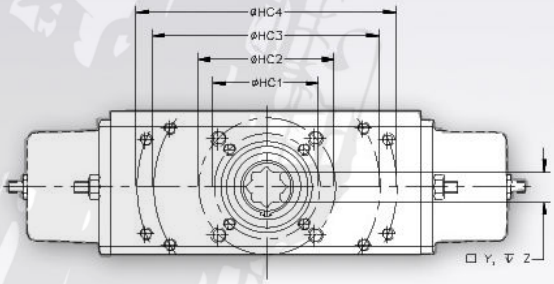
RCI210 to 260

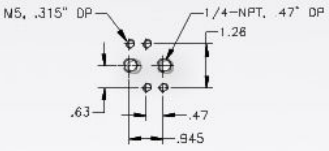
RCI270 to 280











RCI210 to 240
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RCI250 to 280
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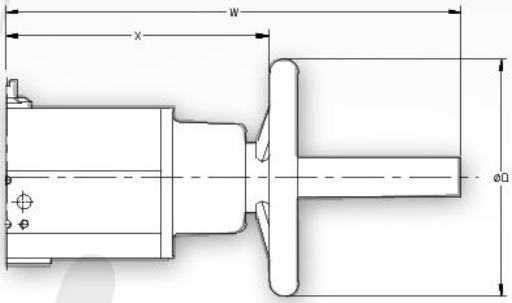

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RCI200 Dimensional Chart

Dimension (Inches)														
Item	A	B	A1	B1	C	D	E	F	G	H	J	K	M	N
RCI210	1.77	3.85	1.77	5.70	1.26	7.1	1.61	2.95	.630	.393	1.39	1.39	1.574	1.18
RCI220	3.85	3.85	5.91	5.91	1.26	7.1	1.61	2.95	.630	.393	3.15	1.18	-	-
RCI230	2.56	5.30	2.56	7.87	1.93	7.1	2.17	4.25	.984	.629	3.15	1.18	-	-
RCI240	5.30	5.30	7.70	7.70	1.93	7.1	2.17	4.25	.984	.629	3.15	1.18	-	-
RCI0250	3.54	7.48	3.54	11.22	2.72	12.6	2.95	6.10	1.378	.629	3.15	1.18	-	-
RCI0260	7.48	7.48	11.22	11.81	2.72	12.6	2.95	6.10	1.378	.944	3.15	1.18	-	-
RCI0270	5.70	11.60	5.70	20.08	4.33	15.8	4.33	9.76	2.362	1.574	5.12	1.18	-	-
RCI0280	11.80	11.60	20.08	20.87	4.33	23.6	4.33	9.76	2.362	1.574	5.12	1.18	-	-

Dimension (Inches)											
Item	U	V	W	X	Y	Z	HC1	HC2	HC3	HC4	ISO 5211
RCI210	1.378	.080	11.4	5.7	.551/.553	.75	-	1.97			F05
RCI220	1.378	.080	11.4	5.7	551/.553	.75	-	1.97			F05
RCI230	2.170	.118	13.4	7.5	.669/.672	1.18	276	4.02			F07/F10
RCI240	2.755	.118	13.4	7.5	.866/.869	1.18	2.76	4.02			F07/F10
RCI0250	2.750	.118	19.7	11.6	.866/.869	1.46	4.02	4.92			F10/F12
RCI0260	3.346	.118	19.7	11.6	1.063/1.066	1.46	4.02	4.92			F10/F12
RCI0270	3.940	.160	31.5	20.3	1.417/1.420	2.52	-	5.51	6.69X4.33		F14
RCI0280	5.110	.196	31.5	30.3	1.812/1.815	2.52	4.92	6.30	9.24X3.82	11.81X4.33	F12/F16

ISO 5211 Fastener Table									
	F05	F07	F10	F12	F14	F16	6.69X4.33	9.24X3.82	11.81X4.33
UNC	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10	5/8-11	5/8-11	5/8-11
Depth	.43	.55	.67	.83	.98	1.26	.98	.98	.98

Manual Override Rim Pull Forces (Lbs)								
	RCI210	RCI220	RCI230	RCI240	RCIO250	RCIO260	RCIO270	RCIO280
DAM	14.3	28.6	26.5	53.0	14.9	30.0	47.5	56.4
SRM	14.3	32.3	26.5	60.0	14.9	33.6	47.5	62.5

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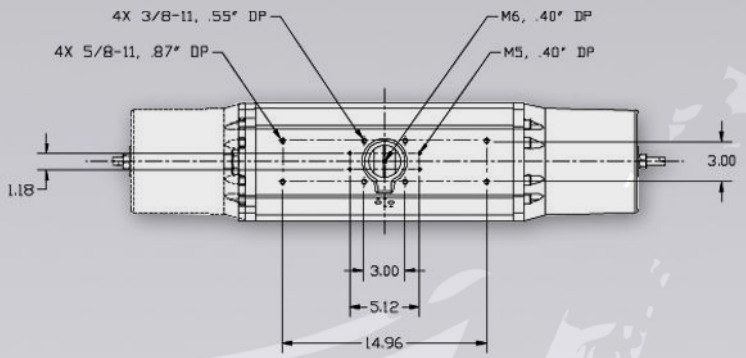
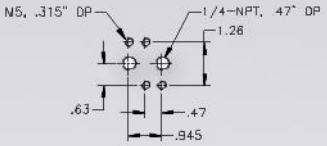
RCI088 Dimensions





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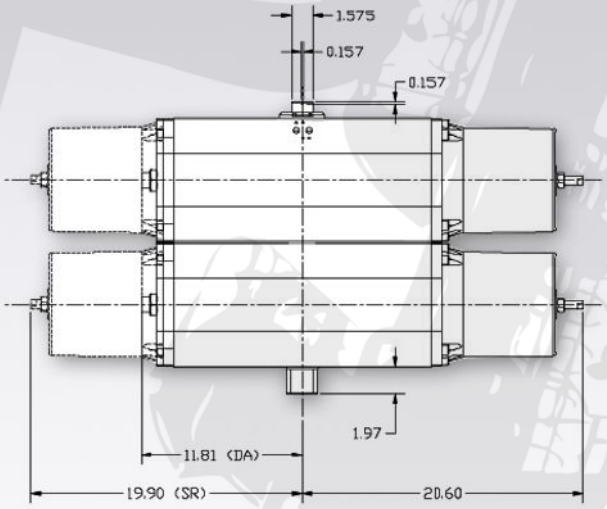

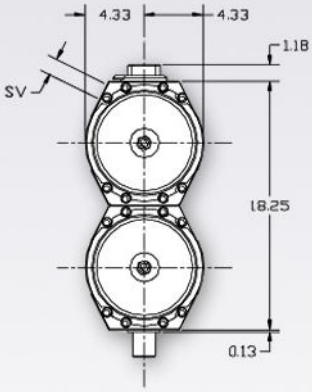

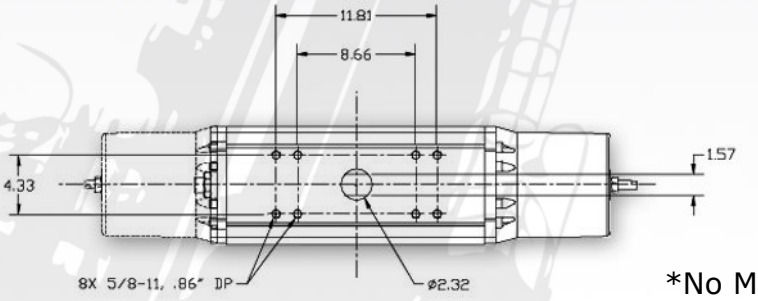

*No M1 override option available.
(Call sales for override options)

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Air Consumption - Displacement Stroke

DA Air Consumption (Free Air)		
Model	Anti-Clockwise Rotation	Clockwise Rotation
RCI210	0.02 (U.S. Gallon)	0.04 (U.S. Gallon)
RCI220	0.04 (U.S. Gallon)	0.05 (U.S. Gallon)
RCI230	0.09 (U.S. Gallon)	0.16 (U.S. Gallon)
RCI240	0.17 (U.S. Gallon)	0.19 (U.S. Gallon)
RCIO250	0.27 (U.S. Gallon)	0.50 (U.S. Gallon)
RCIO260	0.53 (U.S. Gallon)	0.61 (U.S. Gallon)
RCIO270	1.26 (U.S. Gallon)	2.07 (U.S. Gallon)
RCIO280	2.53 (U.S. Gallon)	2.57 (U.S. Gallon)
RCIO88	4.65 (U.S. Gallon)	5.14 (U.S. Gallon)

SR Air Consumption (Free Air)	
Model	Both Directions
RCI210	0.04 (U.S. Gallon)
RCI220	0.05 (U.S. Gallon)
RCI230	0.16 (U.S. Gallon)
RCI240	0.19 (U.S. Gallon)
RCIO250	0.50 (U.S. Gallon)
RCIO260	0.61 (U.S. Gallon)
RCIO270	2.07 (U.S. Gallon)
RCIO280	2.57 (U.S. Gallon)
RCIO88	5.14 (U.S. Gallon)

DA Operation Time at 80 psi (sec)		
Model	Anti-Clockwise Rotation	Clockwise Rotation
RCI210	0.25	0.50
RCI220	0.25	0.30
RCI230	1.00	0.25
RCI240	1.00	1.00
RCIO250	1.50	2.50
RCIO260	2.00	2.50
RCIO270	4.00	6.00
RCIO280	5.00	5.00
RCIO88	40.00	40.00

SR Operation Time at 80 psi (sec)	
Model	Both Directions
RCI210	0.50
RCI220	0.30
RCI230	0.25
RCI240	1.00
RCIO250	2.50
RCIO260	2.50
RCIO270	6.00
RCIO280	5.00
RCIO88	40.00

The times are related to full air flow and may increase depending on solenoid valves and the dimensions of connecting pipes.

Torque Data - Double Acting

Torque Output - Double Acting (DA) in-Lbs.						
Model (DA)	0°= Closed 90° = Open	40 PSI	60 PSI	80 PSI	87 PSI	100 PSI
RCI210	0	150	220	300	336	370
	50	70	105	140	168	175
	90	105	170	220	239	265
RCI220	0	310	470	620	673	780
	50	140	220	290	336	354
	90	220	335	450	478	565
RCI230	0	575	865	1150	1283	1430
	50	275	405	550	637	690
	90	425	635	850	929	1060
RCI240	0	1170	1750	2340	2567	2920
	50	560	840	1120	1283	1415
	90	865	1310	1740	1859	2170
RCIO250	0	1815	2725	3630	3983	4510
	50	860	1285	1720	1991	2170
	90	1325	1990	2650	2832	3320
RCIO260	0	3715	5575	7430	8054	9290
	50	1770	2655	3540	4071	4425
	90	2745	4115	5490	5753	6860
RCIO270	0	7520	11280	15040	16728	18805
	50	3630	5440	7260	8320	9070
	90	5575	8360	11150	12037	13940
RCIO280	0	15490	23230	30970	33633	38720
	50	7300	10975	14600	16816	18230
	90	11500	17260	23010	24251	28760
RCIO88	0	30875	46460	61950	67266	N/A
	50	14600	21900	29200	33633	
	90	23010	34545	46020	48502	

Torque Data - Spring Return

Torque Data - Spring Return (SR) in-Lbs.							
Model (SR)	Function	0°= Closed 90° = Open	40 PSI	60 PSI	80 PSI	87 PSI	100 PSI
RCI210	Air	0	N/A	133	175	177	220
		60		44	62	80	80
		90		62	88	97	110
	Spring	90	N/A	97	135	159	170
		40		44	62	80	80
		0		71	95	106	125
RCI220	Air	0	168	265	350	363	440
		60	71	106	140	159	175
		90	88	133	175	195	220
	Spring	90	124	195	265	327	335
		40	62	97	130	159	170
		0	97	150	200	221	265
RCI230	Air	0	318	495	665	690	830
		60	124	186	255	292	310
		90	150	239	320	363	400
	Spring	90	248	380	515	611	635
		40	115	186	250	292	309
		0	177	274	370	416	460
RCI240	Air	0	637	982	1330	1398	1665
		60	257	389	530	602	665
		90	319	495	665	743	840
	Spring	90	513	788	1060	1239	1330
		40	239	363	495	602	620
		0	363	558	750	850	930

Torque Data - Spring Return

Torque Data - Spring Return (SR) in-Lbs.							
Model (SR)	Function	0°= Closed 90° = Open	40 PSI	60 PSI	80 PSI	87 PSI	100 PSI
RCI0250	Air	0	1062	1637	2210	2168	2745
		60	380	593	795	929	975
		90	487	752	1020	1151	1240
	Spring	90	761	1195	1590	1903	1990
		40	363	558	750	929	930
		0	549	850	1150	1328	1415
RCIO260	Air	0	2124	3274	4420	4425	5530
		60	805	1239	1680	1903	2125
		90	1018	1593	2120	2345	2655
	Spring	90	1549	2389	3270	3894	4070
		40	761	1195	1590	1903	1990
		0	1150	1770	2390	2699	3010
RCIO270	Air	0	4248	6649	8850	9116	11154
		60	1681	2566	3450	3894	4290
		90	2035	3097	4250	4868	5310
	Spring	90	3186	4956	6720	8054	8410
		40	1549	2354	3190	3894	3980
		0	2301	3628	4870	5487	6105
RCIO280	Air	0	8496	13098	17700	18410	22125
		60	3363	5221	7030	7966	885
		90	4248	6549	8850	9824	11060
	Spring	90	6549	10178	13720	16285	17170
		40	3186	4956	6640	7966	8320
		0	4779	7434	10000	11152	12480
RCIO88	Air	0	16922	26196	35400	36819	N/A
		60	6815	10443	14160	15931	
		90	8496	13049	17700	19649	
	Spring	90	13186	20355	27430	32571	
		40	6372	9823	13270	15931	
		0	9558	14780	19910	22304	

REMOTE CONTROL®

For Customers Use

A full listing of our worldwide sales and service network is available on our website
www.rciactuators.com

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