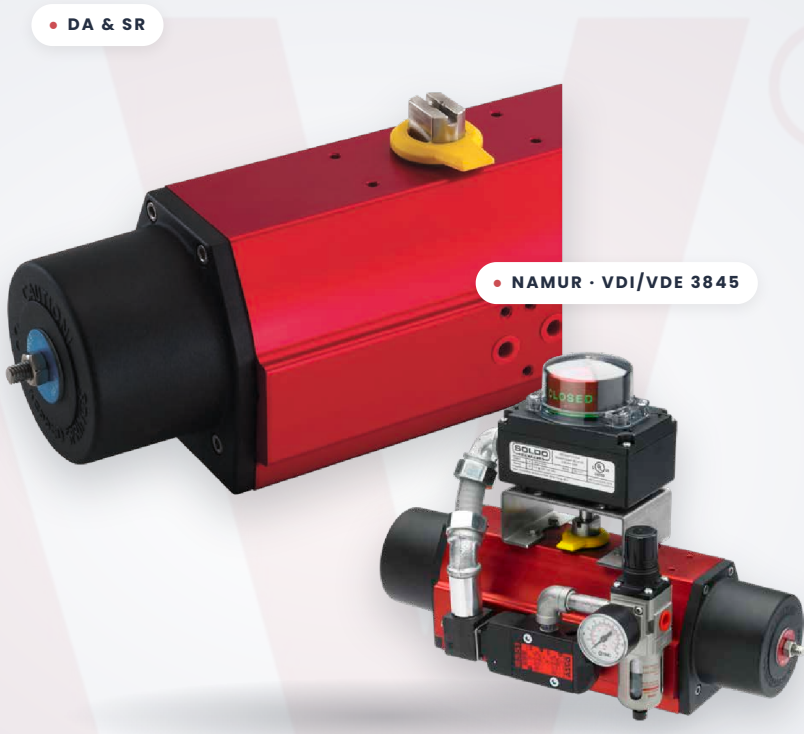
ROTORK · PNEUMATIC ACTUATORS

RC200

Compact scotch-yoke actuators for quarter-turn valves

A modern scotch-yoke mechanism giving high start and end torque in a very compact package – double-acting or spring-return, with an optional integral M1 manual override.

- At least 50% more end-position torque than rack & pinion
- Lowest weight and smallest size for its torque output
- Less stroke volume – saves compressed air
- Pistons guided in three places for long seal life
- SIL 2 and SIL 3 as a single device (IEC 61508)



4,400 Nm	2–10 bar	-20...+75 °C	3 yr
TORQUE OUTPUT UP TO	OPERATING PRESSURE	STANDARD TEMPERATURE	ROTORK WARRANTY

Specification.

RC210 TO RC280

Temperature – standard	-20 to +75 °C (-4 to +167 °F)
High	0 to +150 °C (+32 to +300 °F)
Low	-40 to +60 °C (-40 to +140 °F)
Arctic	-47 to +60 °C (-52 to +140 °F)
Operating medium	Air, inert gases (PED group 2) · water or oil hydraulics available
CE marking	PED and ATEX · made in an ISO 9001 / 14000 environment

Solenoid connection	NAMUR
Fitting accessories	VDI/VDE 3845, NAMUR
Fitting to valve	ISO 5211, DIN 3337, NAMUR
Stardrive shaft	ISO 5211 90° and DIN 79 45°
Corrosion options	RCT hard anodise · epoxy · offshore finish
Stainless parts	Screws & drive shaft std. on RC210 – 260

All RC200 actuators withstand -55 °C (LTA -60 °C) before mechanical operation is impaired. With M1 handwheel the max. operating temperature is +70 °C.

FITTING ACCESSORIES

M1 compact declutchable handwheel · Positioners · Switch boxes · NAMUR solenoid valves · Speed blocks · Mounting kits for all valve types · Close coupling ISO 5211 / DIN 3337

CONSTRUCTION

Anodised aluminium actuator body, steel scotch yoke, aluminium pistons with polymer guides and bearings, nitrile O-rings. Spring-return units use epoxy powder-coated alloy springs in an anodised aluminium cartridge.

M1 MANUAL OVERRIDE

Compact declutchable handwheel integrated in the actuator end cap, fitting all RC200 sizes in double-acting and spring-return configurations – minimum weight and size.

rotork®
BASED ON ROTORK PUBLICATION
PUB014-001-00 · ISSUE 11/23

SUPPLIED & SUPPORTED IN THE UK BY
Actuation Valve & Control Ltd
actuation.co.uk

Torque – double-acting RC200-DA.

OUTPUT TORQUE NM ±5% · 0° CLOSED, 90° OPEN

Model	Pos.	2.1 bar 30 psi	2.8 bar 40 psi	3.5 bar 50 psi	4.2 bar 60 psi	4.5 bar 65 psi	5.5 bar 80 psi	6 bar 87 psi	7 bar 100 psi
	0°	13	17	21	25	27	35	**38**	44
RC210	60°	6	8	10	12	13	17	**19**	22
	90°	9	12	15	18	19	25	**27**	32
	0°	26	34	42	51	55	70	**76**	88
RC220	60°	13	17	21	25	27	35	**38**	44
	90°	18	24	30	36	39	50	**54**	63
	0°	48	64	80	96	103	133	**145**	165
RC230	60°	24	31	39	47	50	66	**72**	83
	90°	35	46	57	69	74	96	**105**	120
	0°	98	130	162	195	209	266	**290**	340
RC240	60°	49	65	81	97	104	133	**145**	170
	90°	70	93	117	140	150	193	**210**	240
	0°	150	200	250	300	321	413	**450**	530
RC250	60°	75	100	125	150	161	206	**225**	260
	90°	108	143	179	215	230	293	**320**	380
	0°	305	407	508	610	654	834	**910**	1,070
RC260	60°	150	200	250	300	321	422	**460**	530
	90°	220	293	367	440	471	596	**650**	770
	0°	432	576	720	864	926	1,188	**1,296**	1,512
RC265	60°	203	271	338	406	435	556	**606**	711
	90°	307	409	512	614	658	844	**921**	1,075
	0°	630	840	1,050	1,260	1,350	1,733	**1,890**	2,200
RC270	60°	315	420	525	630	675	862	**940**	1,100
	90°	455	607	758	910	975	1,247	**1,360**	1,590
	0°	1,270	1,693	2,117	2,540	2,721	3,483	**3,800**	4,450
RC280	60°	635	847	1,058	1,270	1,361	1,742	**1,900**	2,220
	90°	915	1,220	1,525	1,830	1,961	2,512	**2,740**	3,190

Dimensions & weights.

MM · KG

Model	HC1	HC2	HC3	Y**	Z	A	B	A1	B1	H	J	K	M	N	C	E	F	G	U*	V	DA kg	SR kg
RC210	**F05**	F07	–	14	19	45	98	45	150	10	35.4	35.4	40	30	32	41	75	16	35	2	1.2	1.5
RC220	**F05**	F07	–	14	19	98	98	150	150	10	80	30	–	–	32	41	75	16	35	2	1.6	2.2
RC230	**F07**	F10	–	17	30	65	135	65	200	16	80	30	–	–	49	55	110	25	55	3	3.5	4.2
RC240	**F07**	F10	–	22	30	135	135	200	200	16	80	30	–	–	49	55	110	25	70	3	4.9	7.0
RC250	**F10**	F12	–	22	37	90	190	90	285	22	80	30	–	–	69	75	155	35	70	3	9.4	12.4
RC260	**F10**	F12	–	27	37	190	190	285	285	22	80	30	–	–	69	75	155	35	85	3	12.5	18.5
RC265	**F12**	–	–	27	37	195	195	317	317	22	80	30	–	–	76	76	202	35	85	3	18.8	26.6
RC270	**F14**	–	170×110	36	64	145	300	145	510	40	130	30	–	–	110	110	248	60	100	4	32.0	45.0
RC280†	**F12**	F16	234.7×97.2	46	64	300	300	510	510	40	130	30	–	–	110	110	248	60	130	5	42.0	68.0

† Also includes valve mounting pattern of 300 × 110. * Guide ring for other hole circle on request. ** Tolerance H9 – octagonal hole adapts to valve stems with squares at 90° (ISO 5211) or 45° (DIN 3337). Solenoid hole pattern to VDI/VDE 3845 NAMUR: RC210 – 240 M5 depth 8 + R⅛ BSPP; RC250 – 280 M5 depth 8 + R¼ BSPP.

With M1 handwheel.

FIG. 5 · MM · KG

Model	ØD	X	W	DA kg	SR kg
RC210	180	145	295	2.2	2.5
RC220	180	145	295	2.7	3.2
RC230	180	190	345	4.8	5.3
RC240	180	190	345	5.8	7.1
RC250	320	295	505	13.8	15.2
RC260	320	295	505	16.3	20.2
RC265	320	370	600	24.3	31.0
RC270	400	515	812	47.0	57.7
RC280	600	490	812	55.1	80.7

Air & speed.

AT 6 BAR

Model	DA air ACW l	DA air CW l	SR air l	Time s
RC210	0.6	1.1	1.1	**<0.3**
RC220	1.1	1.3	1.3	**<0.3**
RC230	2.2	4	4	**<0.6**
RC240	4.4	5	5	**<0.7**
RC250	6.9	13	13	**<2.5**
RC260	13.8	16	16	**<2.5**
RC265	32	36	36	**<1.5**
RC270	33	54	54	**<5**
RC280	66	67	67	**<5**

Times relate to full air flow and may increase depending on solenoid valves and connecting pipe dimensions.

Data supplied by Rotork and provided for reference only. Specifications may change without notice – please confirm details with Actuation Valve & Control before ordering.

Torque – spring-return RC200-SR (spring to close).

NM ±5%

Model	Stroke	Pos.	2.1 bar 30 psi	2.8 bar 40 psi	3.5 bar 50 psi	4.2 bar 60 psi	5.5 bar 80 psi	6 bar 87 psi	7 bar 100 psi
RC210	Air	0°	7	9	12	14	19	**20**	24
		60°	3	4	5	6	8	**9**	10
		90°	4	5	6	7.5	10	**11**	13
	Spring	90°	6	8	10	12	16	**18**	21
		30°	3	4	5	6	8	**9**	10
		0°	4	6	7	8.5	11	**12**	14
RC220	Air	0°	15	19	24	29	39	**41**	48
		60°	6	8	10	12	16	**18**	21
		90°	8	10	12	15	20	**22**	26
	Spring	90°	13	17	21	25	33	**37**	43
		30°	6	8	10	12	16	**18**	21
		0°	9	11	14	17	23	**25**	29
RC230	Air	0°	27	36	45	54	72	**78**	92
		60°	12	15	19	23	31	**33**	39
		90°	15	19	24	29	39	**41**	48
	Spring	90°	24	31	39	47	63	**69**	81
		30°	12	15	19	23	31	**33**	39
		0°	17	22	27	33	44	**47**	55
RC240	Air	0°	55	73	92	110	147	**158**	185
		60°	24	31	39	47	63	**68**	80
		90°	29	39	48	58	77	**84**	98
	Spring	90°	48	64	80	96	128	**140**	163
		30°	24	31	39	47	63	**68**	80
		0°	33	44	55	66	88	**96**	115
RC250	Air	0°	85	113	142	170	227	**245**	290
		60°	37	49	62	74	99	**105**	125
		90°	45	60	75	90	120	**130**	155
	Spring	90°	75	100	125	150	200	**215**	255
		30°	37	49	62	74	99	**105**	125
		0°	50	67	83	100	133	**150**	175
RC260	Air	0°	173	230	287	345	460	**500**	580
		60°	75	100	125	150	200	**215**	250
		90°	90	120	150	180	240	**265**	310
	Spring	90°	153	203	254	305	407	**440**	515
		30°	75	100	125	150	200	**215**	250
		0°	105	140	175	210	280	**305**	350
RC265	Air	0°	280	373	467	560	671	**730**	935
		60°	113	150	187	225	280	**305**	360
		90°	125	167	208	250	303	**330**	425
	Spring	90°	210	280	350	420	560	**610**	695
		30°	103	137	171	205	273	**330**	355
		0°	153	203	254	305	407	**440**	525
RC270	Air	0°	355	473	592	710	947	**1,030**	1,210
		60°	155	207	258	310	413	**440**	520
		90°	190	253	317	380	507	**550**	640
	Spring	90°	315	420	525	630	840	**910**	1,060
		30°	155	207	258	310	413	**440**	520
		0°	215	287	358	430	573	**620**	720
RC280	Air	0°	715	953	1,192	1,430	1,907	**2,080**	2,430
		60°	310	413	517	620	827	**900**	1,050
		90°	380	507	633	760	1,013	**1,110**	1,290
	Spring	90°	635	847	1,058	1,270	1,693	**1,840**	2,150
		30°	310	413	517	620	827	**900**	1,050
		0°	435	580	725	870	1,160	**1,260**	1,470

0° = closed, 90° = open. Springs adapted to air supply pressure. Spring-to-open (RC200-SRF) torque data available on request.

Data supplied by Rotork and provided for reference only. Specifications may change without notice – please confirm details with Actuation Valve & Control before ordering.

AV®

Need a compact scotch-yoke actuator?

Talk to our UK team about RC200 actuators, M1 overrides and complete valve packages.

actuation.co.uk