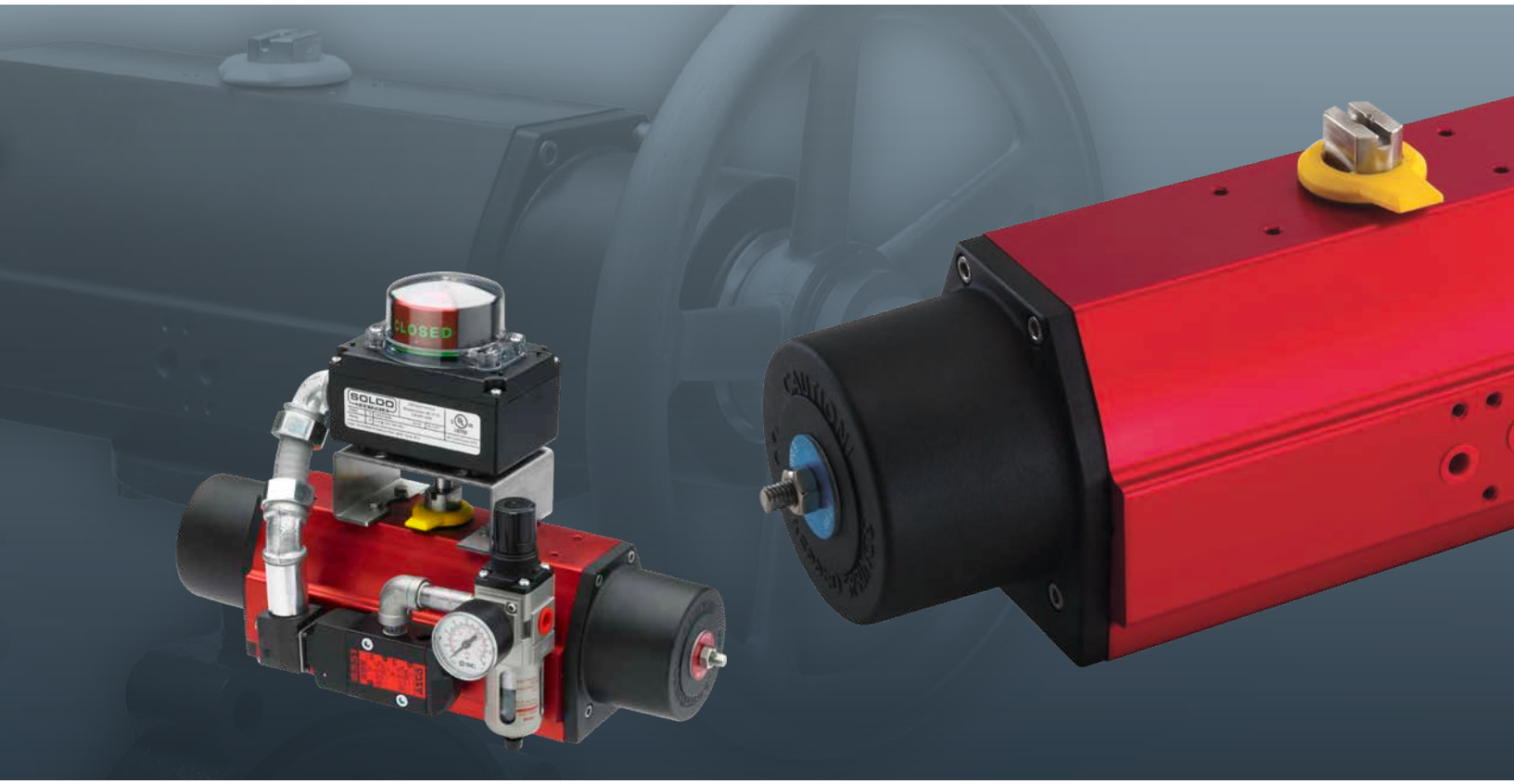
rotork®

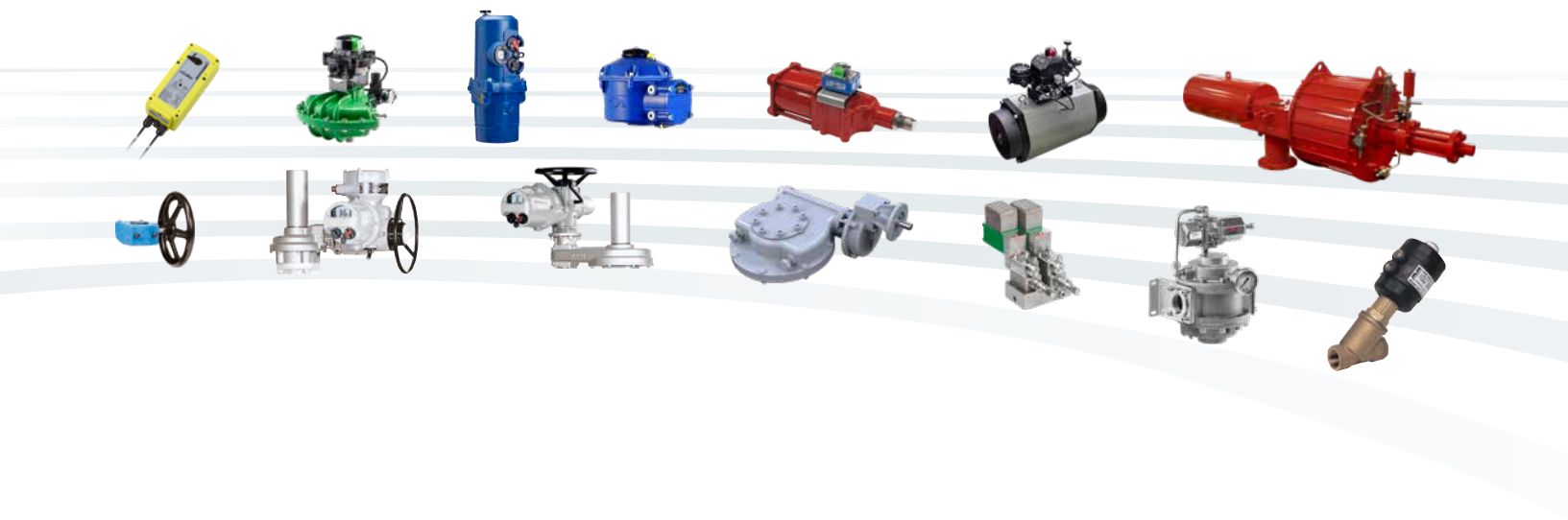
Keeping the World Flowing
for Future Generations

RC200 Range



Compact Scotch-Yoke Actuators for Quarter-Turn Valves

Reliability in critical flow control applications



Reliable operation when it matters

Assured reliability for critical applications and environments.

Whether used infrequently or continuously, Rotork products will operate reliably and efficiently.

Quality-driven global manufacturing

We offer products that have been designed with over 60 years of industry and application knowledge.

Our research and development ensures cutting edge products are available for multiple applications across multiple industries.

Customer focused service and worldwide support

Rotork solve customer challenges and develop new solutions that are tailored to the needs of our clients.

We offer dedicated, expert service and support from initial inquiry, to product installation, to long-term after-sales care.

Low cost of ownership

Long-term reliability prolongs service life.

Rotork helps to reduce long-term cost of ownership and provides greater efficiency to process and plant.

RC200 Range

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Comprehensive product range serving multiple industries

Rotork products offer improved efficiency, assured safety and environmental protection across sectors such as the Power, Oil & Gas, Water & Wastewater, HVAC, Marine, Mining, Pulp & Paper, Food & Beverage, Pharmaceutical and Chemical sectors.

Market leaders and technical innovators

We have been the recognised market leader in flow control for over 60 years.

Our customers rely upon Rotork for innovative solutions to safely manage the flow of liquids, gases and powders.

Global presence, local service

We are a global company with local support.

Manufacturing sites, service centres and sales offices throughout the world provide unrivalled customer services, fast delivery and ongoing, accessible support.

Environmental, Social and Governance is at the heart of our business

Our ambition is to become recognised as a sustainability leader within our industry. We are positioning ourselves to better understand and predict customers' needs and play our fullest role in enabling smart solutions for global sustainability challenges.

RC200 Compact Scotch-Yoke Actuators

The Rotork RC200 pneumatic actuator features a modern scotch-yoke mechanism that provides high start- and end-torque output in a very compact package. It is available in both double-acting and spring-return configurations with an optional integral manual override.

The spring-return actuators feature epoxy-coated springs contained within an anodised cartridge. Pistons are guided in three places by high performance bearing materials which ensure proper alignment, long seal life and smooth operation.

RC200 actuators have the lowest weight and the smallest external dimensions of any actuator with an equivalent torque output. This yields a compact and light yet robust valve / actuator package, particularly when a manual override solution is required. Another benefit is that they have less stroke volume than comparable rack and pinion actuators, providing a significant saving in the use of compressed air.

Quality

RC200 actuators are manufactured under strict quality control in an ISO 9001 / 14000 environment. They comply with all standard international requirements and are CE marked according to PED and ATEX. We use only top-quality materials in a precisely engineered and manufactured product so our actuators are very long lasting. We are proud to provide a unique three-year warranty.

Efficiency

Unlike rack and pinion designs often offered by our competitors, the RC200 with its scotch-yoke drive gives at least 50% more torque in the end positions, where most valves require it.

Reliability

Every Rotork actuator is built to provide long and efficient service with a minimum of maintenance. The design, engineering and materials used in their construction ensure optimum performance even in the harshest of environments.

As a global leader in valve actuation technology, we provide a comprehensive range of valve actuators, controls and associated equipment. We also supply a variety of valve actuator services including commissioning, preventive maintenance and retrofit solutions.

Rotork specialises in the production and support of fluid power actuators and control systems. We are dedicated to providing the marketplace with the latest technology, consistently high quality, innovative design, excellent reliability and superior performance.

We maintain dedicated engineering groups for Applications, Product Improvement and New Product Development so that our customers can gain all the benefits that ever advancing technologies have to offer and to ensure our efforts are in step with the continually evolving needs of our customers.

Most importantly, we have a long-standing commitment to meeting the special needs of a wide range of applications including: oil and gas exploration and transportation; municipal water and wastewater treatment; power generation; and the chemical and process industries.

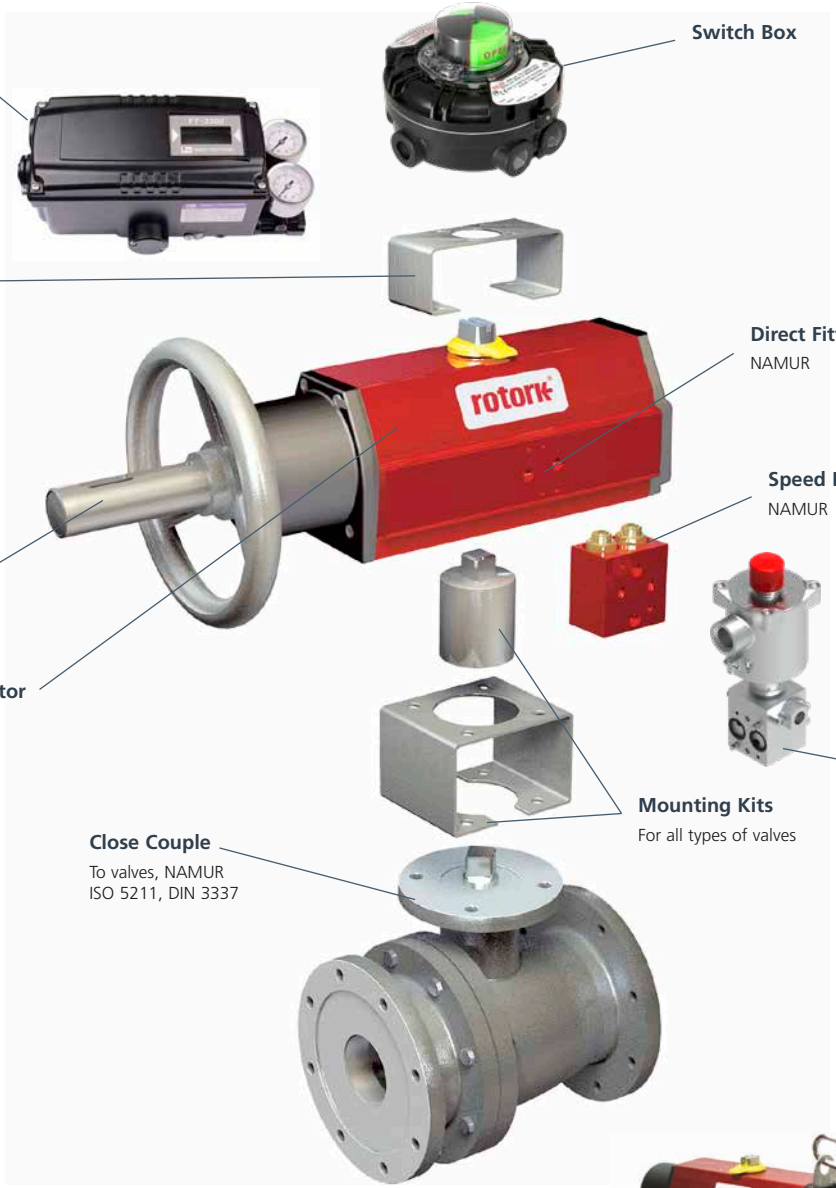
With over 60 years of engineering and manufacturing expertise, we have tens of thousands of successful valve actuator installations throughout the world.



Fitting Accessories

The Right Accessory Solutions

Valves and actuators perform to best effect when the correct solution is expertly engineered. With decades of experience engineering fluid power valve automation for a multitude of applications and markets, you can depend on Rotork to provide a reliable and safe automation solution to meet your requirements.





RC240-SR M1

Compact Declutchable Handwheel

The override is integrated in the endcap of the actuator and can be fitted to all RC200 series units in both double-acting and spring-return configurations. The RC M1 manual override is the optimum solution for users requiring a compact unit of minimum weight and size.

Specifications

Specifications

Operating Pressure:	2-10 bar	(30-145 psi)
Torque Output:	Up to 4,400 Nm	(39,000 lbf.in)

Temperature Ranges (Actuators Remain Air Tight):

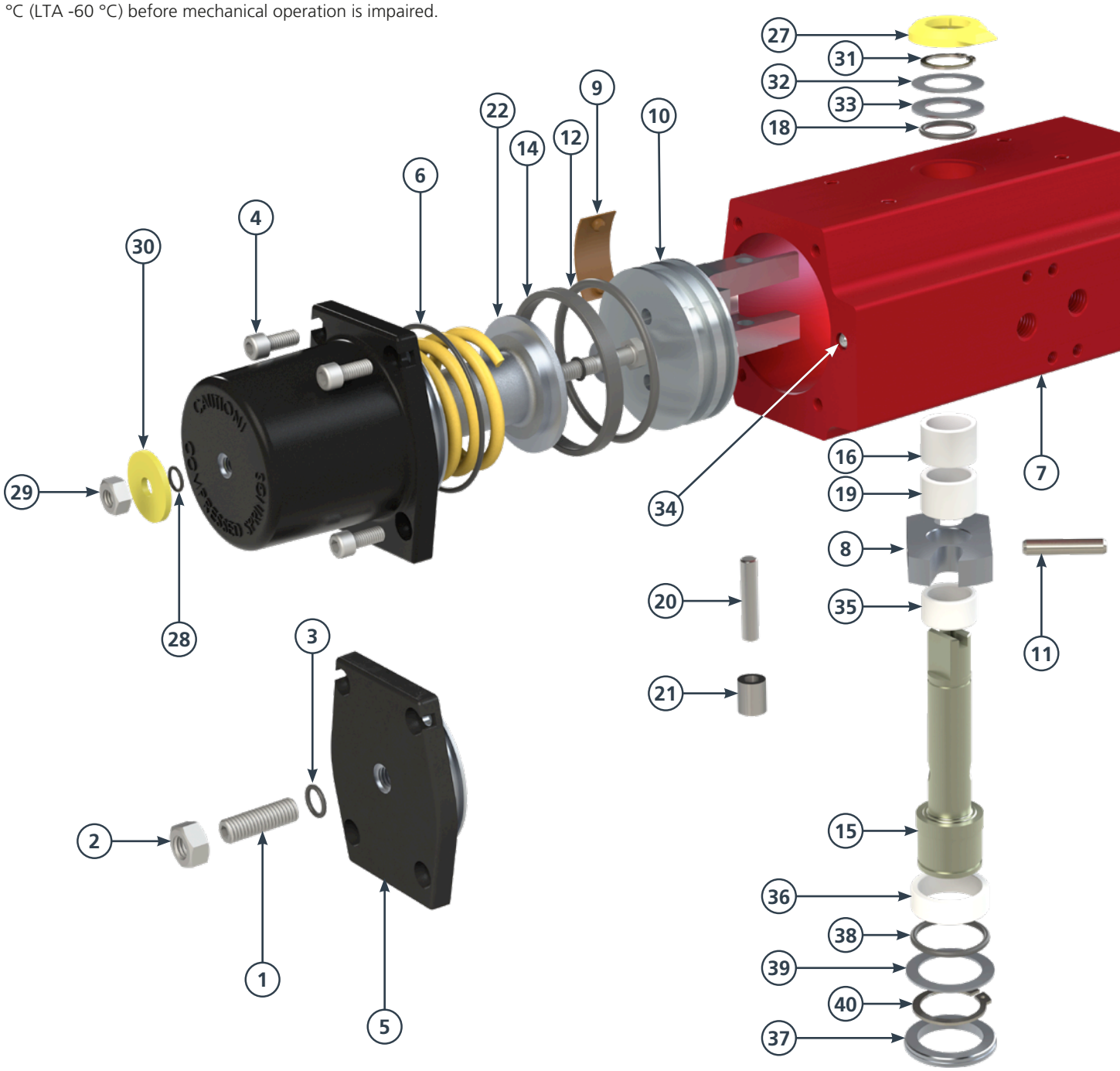
Standard:	-20 to +80 °C	(-4 to +175 °F)
High:	0 to +150 °C	(+32 to +300 °F)
Low:	-40 to +60 °C	(-40 to +140 °F)
Arctic:	-47 to +60 °C	(-52 to +140 °F)

Note: All RC200 actuators withstand temperatures down to -55 °C (LTA -60 °C) before mechanical operation is impaired.

Standards:

Solenoid valve connection:	NAMUR
Fitting accessories:	VDI/VDE 3845, NAMUR
Fitting to valve:	Hole pattern, centering ring ISO 5211, DIN 3337, NAMUR
Stardrive shaft:	ISO 5211 with 90° ☐ and DIN 79 with 45° ◇ and NAMUR

Certified suitable for use at SIL 2 and SIL 3 as a single device in accordance with IEC 61508.



Inside The RC200 Actuator

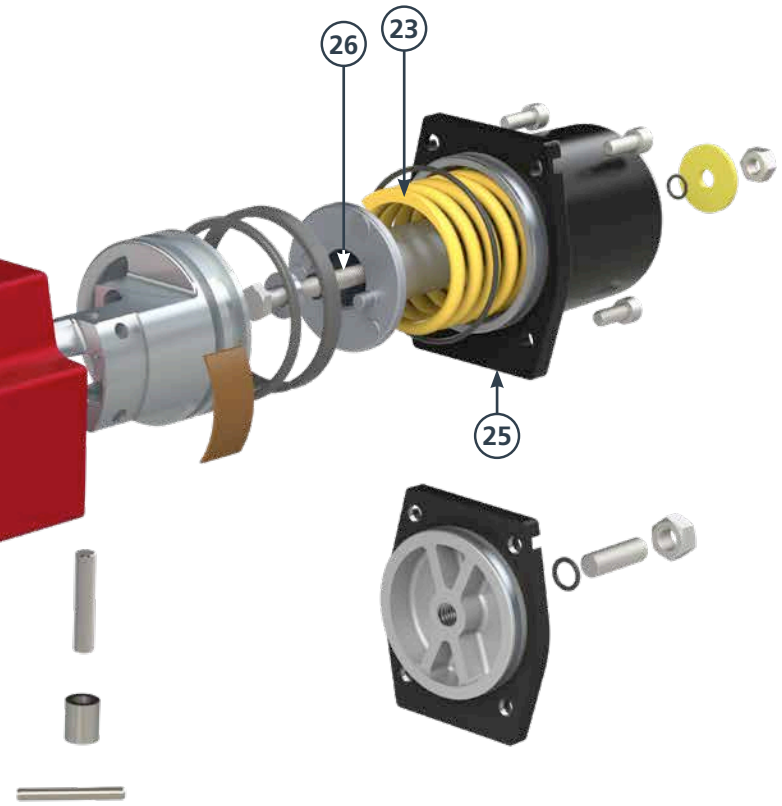
Extra Corrosion Protection:

RCT: hard anodise / low friction polymer treatment.

Epoxy coating.

Offshore or other finish to meet customer specifications.

Stainless screws and drive shaft (standard for RC210 – 260).



Operating Medium:

Air, inert gases (non-dangerous fluids, group 2 according to directive PED 97/23/EC). RC200 actuators are also available for water or oil hydraulics.

CE Marking: CE marked according to PED and ATEX.

Item	Description	Qty DA	Qty SR	Material
1	Adjusting screw[1]	1	-	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
2	Lock nut[1]	1	-	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
3	O-ring[1,6]	1	-	Nitrile
4	Screw	8-16	8-16	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
5	End plate with centre hole[1]	1	-	Anodised and powder coated aluminium
6	O-ring[6]	2	2	Nitrile
7	Actuator body (cylinder)	1	1	Anodised aluminium
8	Scotch Yoke	1	1	Steel
9	Piston guide (support element)[1,6]	1	1	POM
10	Piston[1]	1	1	Aluminium
11	Roll pin, double[2,3]	1	1	Spring steel
12	O-ring[1,6]	1	1	Nitrile
14	Support band - Piston guide ring[1,6]	1	1	Polymer material
15	Driving shaft	1	1	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
16	Bearing, upper	1	1	Polymer material
17†	End plate without centre hole[4]	1	1	Powder coated aluminium
18	O-ring, upper[6]	1	1	Nitrile
19	Bearing, upper (support ring)	1	1	Polymer material
20	Piston pin[1]	1	1	Steel
21	Piston roller[1]	1	1	Steel
22	Spring guide	-	1	Aluminium
23	Spring, external[1]	-	1	Alloyed spring steel, powder coated
24†	Spring, internal[1,5]	-	1	Alloyed spring steel, powder coated
25	Spring housing[1]	-	1	Anodised and powder coated aluminium
26	Pre-tensioning screw[1]	-	1	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
27	Indicator	1	1	Polymer material
28	O-ring[1,6]	-	1	Nitrile
29	Lock nut[1]	-	1	Size 210–260: Stainless steel. Other sizes: Zinc plated steel
30	Marking washer[1]	-	1	Anodised aluminium
31	Retaining ring, upper[6]	1	1	Spring steel, corrosion protected
32	Middle washer[6]	1	1	Stainless steel
33	Support washer, upper[6]	1	1	Polymer material, chemically resistant
34	Cylinder housing bore seal	1	1	Size 210-240: Stainless steel. Other sizes: Nitrile
35	Support ring, lower	1	1	Polymer material
36	Bearing, lower	1	1	Polymer material
37	Guide ring	1	1	Polymer material
38	O-ring, lower[6]	1	1	Nitrile
39	Support washer, lower[6]	1	1	Polymer material, chemically resistant
40	Retaining ring, lower[6]	1	1	Spring steel, corrosion protected

Notes 1) For actuator sizes 220, 240, 260 and 280: The double amount of details.
2) RC240 has triple roll pins. 3) RC270–280 have a slotted pin in steel.
4) Not in the picture. Do not exist for sizes 220, 240, 260 and 280.
5) Only for sizes 270 and 280, not in the picture. 6) Included in seal kit.

† Not shown in diagram

Dimensions

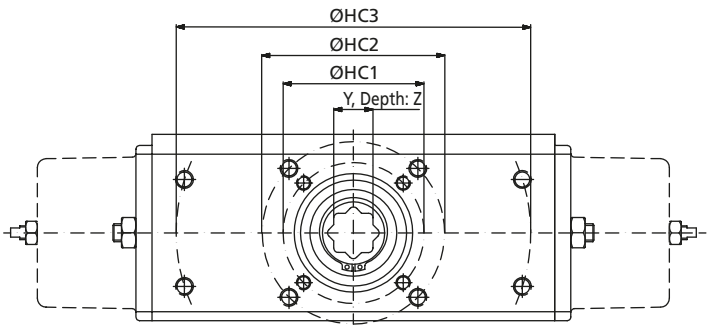


Fig. 1

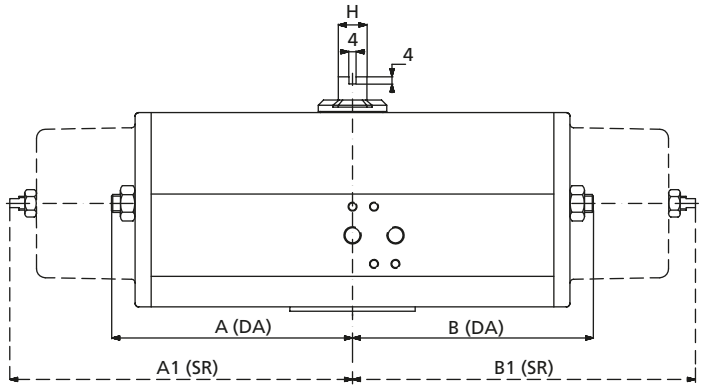


Fig. 2

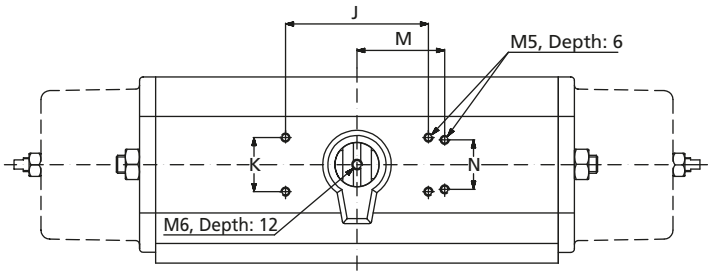


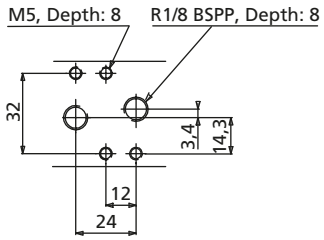
Fig. 3

	Dimensions (mm)																				Weight (kg)	
	Fig. 1					Fig. 2					Fig. 3				Fig. 4/4a							
Model	HC 1	HC 2	HC 3	Y**	Z	A	B	A1	B1	H	J	K	M	N	C	E	F	G	U*	V	DA	SR
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 x 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 x 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 x 110.

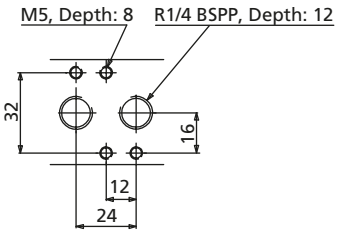
Dimensions

RC210 to 240



Hole pattern for solenoid valves acc. to VDI/VDE 3845, NAMUR

RC250 to 280



RC210 to 265

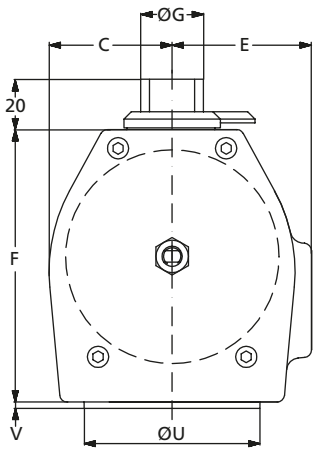


Fig. 4

RC270 to 280

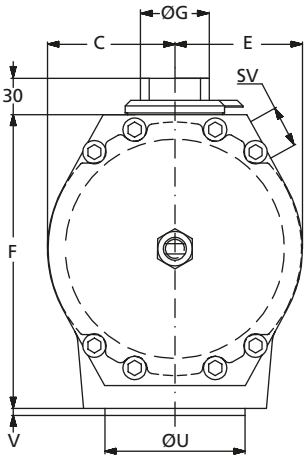


Fig. 4a

SV = Mounting solenoid valves acc. to VDI/VDE 3845, NAMUR

U+V = Guide ring acc. to DIN 3337

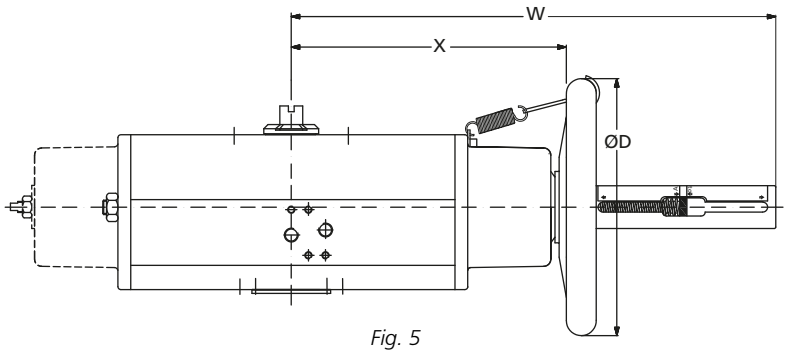


Fig. 5

	Dimensions (mm) Fig. 5			Weight w/M1(kg)	
Model	D	X	W	DA	SR
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

U* = Guide ring for other hole circle on request.

Y** = Tolerance H9. The hole is octagonal and adapts to valve stems with squares at either 90° (ISO 5711) or 45° (DIN 3337) orientations.

Hole Dimensions (mm)			
ISO 5211	Circle Ø	Thread	Depth
F05	50	M6	11
F07	70	M8	14
F10	102	M10	17
F12	125	M12	21
F14	140	M16	32
F16	165	M20	32
170 x 110	-	M16	25
234.7 x 97.2	-	M16	25
300 x 110	-	M16	25

Performance Data

Air Consumption DA

Free Air at 6 bar (litres)		
Model	**Anti-clockwise rotation**	**Clockwise rotation**
RC210	0.6	1.1
RC220	1.1	1.3
RC230	2.2	4
RC240	4.4	5
RC250	6.9	13
RC260	13.8	16
RC265	32	36
RC270	33	54
RC280	66	67

Air Consumption SR

Free Air at 6 bar (litres)	
Model	
RC210	1.1
RC220	1.3
RC230	4
RC240	5
RC250	13
RC260	16
RC265	36
RC270	54
RC280	67

Operation Times DA/SR

Time at 6 bar (sec)	
Model	**Anti-clockwise and Clockwise rotation**
RC210	<0.3
RC220	<0.3
RC230	<0.6
RC240	<0.7
RC250	<2.5
RC260	<2.5
RC265	<1.5
RC270	<5
RC280	<5

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



Torque Data – Double-Acting

RC200-DA

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

* Output torque +/- 5%.

Torque Data – Spring-Return (spring to close)

RC200-SR

		Position	Output Torque (Nm)*						
Model	**Function**	**0° = closed 90° = open**	**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

* Output torque +/- 5%.

Note: Springs adapted to air supply pressure.

Torque Data – Spring-Return (spring to open)

RC200-SRF

		Position	Output Torque (Nm)*						
Model	**Function**	**0° = closed 90° = open**	**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	Spring	0°	7	9.6	12	15	20	21	25
		60°	2.6	3.6	4.6	5.5	7.5	7.8	9
		90°	3	4.3	5.5	6.6	9	10	11.5
	Air	90°	5.2	7.2	9	11	15	16.2	19
		45°	2.8	3.8	4.9	6	8	9	10.1
		0°	4.5	6.2	8	10	13	14.3	17.2
RC220	Spring	0°	14	20	25	30	41	43	50
		60°	5.3	7.2	9	11	15	15.5	18
		90°	6.7	9	12	14	19	20	23
	Air	90°	11	14	18	22	30	33	38
		45°	5.6	7.7	9.8	12	16	18	21.5
		0°	9.4	13	16	20	27	30	34.5
RC230	Spring	0°	27	37	47	57	77	84	93
		60°	9.8	13	17	21	28	30	33
		90°	12	16	21	25	34	38	40
	Air	90°	21	29	37	44	60	62	75
		45°	11	15	19	23	31	33	41
		0°	17	23	29	36	48	51.5	66
RC240	Spring	0°	56	77	98	118	160	180	190
		60°	20	27	35	42	57	65	68
		90°	25	34	43	52	70	80	82
	Air	90°	42	58	73	89	120	123	155
		45°	22	31	39	47	64	66	84
		0°	35	48	61	74	100	112	135
RC250	Spring	0°	84	115	145	175	240	265	305
		60°	30	42	53	64	87	96	112
		90°	37	50	64	78	105	120	130
	Air	90°	65	89	110	135	185	195	225
		45°	34	47	60	73	98	104	123
		0°	54	74	98	115	155	160	195
RC260	Spring	0°	175	240	300	370	500	540	620
		60°	63	86	110	135	180	195	220
		90°	77	105	135	160	220	245	280
	Air	90°	135	185	230	280	385	400	465
		45°	70	96	120	150	200	210	250
		0°	110	150	190	230	315	330	395
RC265	Spring	0°	251	335	419	500	670	730	850
		60°	123	154	175	188	260	300	360
		90°	113	150	188	225	300	325	375
	Air	90°	188	250	313	375	500	525	620
		45°	101	135	169	200	260	290	335
		0°	158	210	263	315	400	445	525
RC270	Spring	0°	350	480	620	750	1,010	1,100	1,250
		60°	130	175	2,220	270	365	400	450
		90°	155	210	270	320	440	480	550
	Air	90°	270	370	470	570	770	830	1,000
		45°	145	195	250	300	410	430	540
		0°	230	310	390	480	645	680	810
RC280	Spring	0°	730	1,000	1,270	1,540	2,080	2,250	2,500
		60°	260	360	460	550	750	780	820
		90°	320	440	560	680	920	1,000	1,100
	Air	90°	560	770	980	1,180	1,600	1,700	2,000
		45°	290	400	510	620	835	900	1,100
		0°	460	630	805	980	1,320	1,380	1,700

* Output torque +/- 5%.

Note: Springs adapted to air supply pressure.

Site Services

Rotork understand the value of prompt, punctual and superior site services. Rotork Site Services have specialist expertise, insight and experience in service support for mission-critical flow control and instrumentation solutions for oil and gas, water and wastewater, power, chemical process and industrial applications. We offer global frontline support backed by dedicated in- house experts.

Our service solutions increase plant efficiency and reduce maintenance costs, while workshop services return equipment to as-new condition. Our experience and understanding of the flow control industry means we have extensive insight and ideas of what we can do to provide significant value to our customers and their operations.

Rotork Site Services is comprised of two main areas; Lifetime Management and Site Services. Lifetime Management is the suite of services within Rotork Site Services which help you manage the risk associated with aging assets and includes our Reliability Services offering. Site Services comprises essential actuator service, repair, maintenance and upgrades.

Rotork has specialist expertise, insight and experience in flow control.

We provide insight into how we can deliver value to our customers.

Our service solutions increase plant efficiency and reduce maintenance costs.



Site Services

Lifetime Management

The services available within Lifetime Management offer a complete solution to managing the risks associated with the life cycle of your equipment and their obsolescence (which compromise reliable performance and valuable uptime).

The aim of Lifetime Management is to provide you with constant support and minimum- to- no disruption to your production flow. It is a customisable service offering designed to seamlessly maintain and improve your assets. We manage the inherent risks associated with advances in technology, component obsolescence and ageing equipment for you. We are committed to helping customers maximise the continuous, fault-free operation and working life of their actuators. Supporting the continuous and reliable operation of your plant allows for improved performance and increases in valuable uptime.

Lifetime Management covers:

- Reliability Services
  - Health Check
  - Planned Maintenance
  - Enhanced Warranty
  - Predictive Maintenance
- Upgrade Services (retrofit)
- Planned Shutdown Support (service or run time)
- Life Cycle Services (based on years in service or run time)
- Overhauls/Refurbishment
- Customised Spares Programme
- Training
- Consultancy

Site Services

Rotork's Site Services comprises the essential on-site actuator service, repair, maintenance and upgrades part of our service offering, plus the commissioning of new actuators and applications. It includes off-site work completed at a Rotork Support Centre including recertification, automation, testing and product selection.

Our decades of experience in the industrial actuation and flow control markets means that customers can rely on us to understand their problems and to deliver reliable, economic solutions. Rotork's talented and experienced engineers have an in-depth understanding of the problems that are faced in the field and they know how to fix them.

On sites where providing evidence of valid asset certification is a legal requirement, Rotork engineers can carry out the necessary OEM level inspections and provide the statutory paperwork to comply with regulations.

- Planned Shutdown Support
- Actuator Workshop Overhaul
- Field Support
- Valve Automation Services
  - On-site
  - Off-site
- Global Support





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

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