

rotork[®]

Fluid Systems

Introducing the RCR Range single- and double-acting pneumatic piston actuators

Design

Single- and double-acting pneumatic piston actuators (rack and pinion).

Action

Standard 90°, 120°, 180° and 240° upon application. Customised angles available as well as three position versions.

Stroke adjustment

90° Position from -5° to +5°

Single and double end stop options

Torques 43 to 49,560 lbf.in

Air Pressure 30 psi to 140 psi

Supply Filtered air PNEURO/ISO class 4, other fluids on request

Materials

Body Anodized aluminium ASTM 6063, UNI 10681, additional versions on request

End caps Aluminium UNI EN1706, EN AC-46100, epoxy coated

Pistons Aluminium UNI EN1706

Pinion Nickel plated steel AISI SAE 11L37 - ASTM B 656, stainless steel optional

Bearing pad guide Technopolymer - Delrin Poliarilammide - IXEF

Seals NBR, alternative Viton or Silicone

Temperature range

Standard -58 to +158 °F (NBR O-Ring - Guide Delrin)

Special versions +5 to +320 °F (Viton O-Ring - Guide IXEF) or -22 to +392 °F (Silicone O-Ring - Guide PTFE)

Mechanical interfaces

ISO 5211, NAMUR VDI/DE 3845, EN 15714-3-4



RCR Range Rack and Pinion Actuators



Redefining Flow Control



Sizing Guide for Double-Acting Actuators

Model	Pneumatic Torque (lbf.in)						
	30 psi	40 psi	60 psi	80 psi	100 psi	120 psi	140 psi
43, 44	43	57	86	115	143	172	201
52	71	95	143	190	238	286	333
63	106	141	212	283	354	425	496
75	183	244	366	489	611	733	855
83	266	354	531	708	886	1,063	1,240
92	366	488	732	977	1,221	1,465	1,709
110	531	708	1,062	1,416	1,770	2,124	2,478
118	787	1,050	1,574	2,100	2,624	3,149	3,675
127	1,062	1,416	2,124	2,832	3,540	4,248	4,956
143	1,702	2,270	3,405	4,541	5,676	6,811	7,946
160	2,105	2,808	4,211	5,615	7,018	8,423	9,826
190	3,662	4,883	7,324	9,765	12,207	14,648	17,090
210	4,394	5,859	8,788	11,718	14,647	17,577	20,506
254	8,423	11,231	16,846	22,462	28,077	33,693	39,308
255	10,620	14,160	21,240	28,320	35,400	42,481	49,560

Sizing Guide for Single-Acting Actuators

Model	Springs	Spring Torque (lbf.in)		Pneumatic Torque (lbf.in)													
				30 psi		40 psi		60 psi		80 psi		100 psi		120 psi		140 psi	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
43, 44	2	15	22	28	20	42	34	71	63	99	91	128	120	156	148	185	177
	4	30	45			27	11	55	40	84	68	113	97	141	126	170	154
	6	45	67							69	46	97	74	126	103	155	131
	8	59	90									82	51	111	80	139	108
52	2	17	28	54	43	78	66	126	114	173	162	221	209	268	257	316	304
	4	34	56	37	14	61	38	108	85	156	133	204	180	251	228	299	276
	6	51	85					91	56	139	104	186	152	234	199	281	247
	8	68	113					74	28	121	75	169	123	217	171	264	218
	10	85	141							104	47	152	94	199	142	247	189
	12	101	169									135	65	182	113	230	161
63	2	27	39	79	66	114	102	185	172	256	243	327	314	398	385	468	456
	4	53	78	52	26	87	62	158	133	229	203	300	274	371	345	441	416
	6	80	117					131	93	202	163	273	234	343	305	414	376
	8	106	157					104	53	175	124	245	194	316	265	387	336
	10	133	196							147	84	218	154	289	225	360	296
	12	160	235							120	44	191	115	262	185	333	256
75	2	46	70	136	111	197	172	319	294	441	416	563	538	685	661	807	783
	4	93	141	89	39	150	100	272	222	394	344	516	467	638	589	760	711
	6	139	211			102	28	224	151	346	273	468	395	591	517	713	639
	8	185	282					177	79	299	201	421	323	543	445	665	567
	10	232	352							252	129	374	251	496	373	618	495
	12	278	423							205	57	327	179	449	301	571	423
83	2	64	99	200	164	289	253	466	430	643	607	820	784	997	961	1,174	1,138
	4	128	198	135	63	223	152	400	329	577	506	754	683	931	860	1,108	1,037
	6	192	297			158	51	335	228	512	405	689	582	866	759	1,043	936
	8	256	396					270	127	447	304	624	481	801	658	978	835
	10	320	495					205	26	382	203	559	380	736	557	913	734
	12	384	594							316	102	493	279	670	456	847	633
92	2	81	127	284	237	406	359	650	603	894	847	1,138	1,091	1,383	1,335	1,627	1,579
	4	161	254	202	107	324	229	568	473	812	718	1,056	962	1,300	1,206	1,545	1,450
	6	242	381			242	100	486	344	730	588	974	832	1,218	1,076	1,462	1,320
	8	322	508					404	214	648	459	892	703	1,136	947	1,380	1,191
	10	403	635					322	85	566	329	810	573	1,054	817	1,298	1,061
	12	483	762							484	200	728	444	972	688	1,216	932

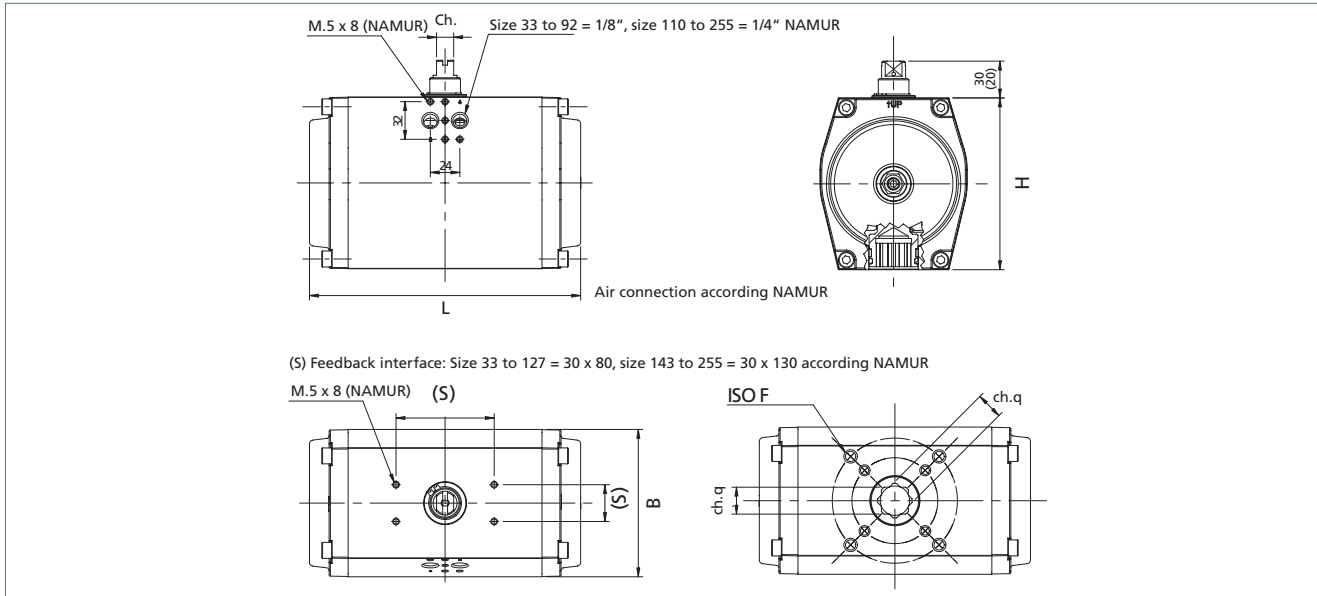
Redefining Flow Control

RCR Range

Rack and Pinion Actuators

Sizing Guide for Single-Acting Actuators *continued*

Model	Springs	Spring Torque (lbf.in)		Pneumatic Torque (lbf.in)													
				30 psi		40 psi		60 psi		80 psi		100 psi		120 psi		140 psi	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
110	2	140	210	388	317	565	494	919	848	1,273	1,202	1,627	1,556	1,981	1,910	2,335	2,264
	4	280	420	246	103	423	280	777	634	1,131	988	1,485	1,342	1,839	1,696	2,193	2,050
	6	420	629			280	66	634	420	988	774	1,342	1,128	1,696	1,482	2,050	1,836
	8	560	839					491	206	845	560	1,199	914	1,553	1,268	1,907	1,622
	10	699	1,049							703	346	1,057	700	1,410	1,054	1,764	1,408
	12	839	1,259							560	132	914	486	1,268	840	1,622	1,194
118	2	188	323	595	458	858	721	1,383	1,246	1,908	1,770	2,433	2,295	2,957	2,820	3,482	3,345
	4	376	645	404	129	666	392	1,191	916	1,716	1,441	2,241	1,966	2,766	2,491	3,290	3,016
	6	564	968			474	62	999	587	1,524	1,112	2,049	1,637	2,574	2,162	3,099	2,687
	8	752	1,291					807	258	1,332	783	1,857	1,308	2,382	1,833	2,907	2,358
	10	940	1,613							1,140	454	1,665	979	2,190	1,504	2,715	2,029
	12	1,128	1,936							949	125	1,473	650	1,998	1,175	2,523	1,699
127	2	265	432	791	622	1,145	976	1,853	1,684	2,561	2,391	3,269	3,099	3,977	3,807	4,685	4,515
	4	531	863	521	181	875	535	1,583	1,243	2,291	1,951	2,998	2,659	3,706	3,367	4,414	4,075
	6	796	1,295			604	95	1,312	803	2,020	1,511	2,728	2,219	3,436	2,927	4,144	3,635
	8	1,062	1,727					1,041	362	1,749	1,070	2,457	1,778	3,165	2,486	3,873	3,194
	10	1,327	2,159							1,478	630	2,186	1,338	2,894	2,046	3,602	2,754
	12	1,592	2,590							1,208	190	1,916	898	2,624	1,606	3,332	2,313
143	2	425	610	1,269	1,081	1,836	1,648	2,972	2,784	4,107	3,919	5,242	5,054	6,377	6,189	7,512	7,324
	4	851	1,219	835	459	1,403	1,027	2,538	2,162	3,673	3,297	4,808	4,432	5,943	5,567	7,079	6,703
	6	1,276	1,829			969	405	2,104	1,540	3,239	2,675	4,374	3,810	5,509	4,945	6,645	6,081
	8	1,702	2,439					1,670	918	2,805	2,053	3,940	3,188	5,076	4,324	6,211	5,459
	10	2,127	3,048					1,236	296	2,371	1,431	3,506	2,567	4,642	3,702	5,777	4,837
	12	2,552	3,658							1,937	809	3,073	1,945	4,208	3,080	5,343	4,215
160	2	495	735	1,596	1,349	2,298	2,051	3,702	3,455	5,106	4,858	6,509	6,262	7,913	7,666	9,317	9,070
	4	989	1,469	1,087	593	1,789	1,294	3,192	2,698	4,596	4,102	6,000	5,506	7,404	6,909	8,807	8,313
	6	1,484	2,204			1,279	538	2,683	1,942	4,087	3,345	5,490	4,749	6,894	6,153	8,298	7,556
	8	1,978	2,938					2,174	1,185	3,577	2,589	4,981	3,992	6,385	5,396	7,789	6,800
	10	2,473	3,673					1,664	428	3,068	1,832	4,472	3,236	5,875	4,640	7,279	6,043
	12	2,967	4,407							2,558	1,076	3,962	2,479	5,366	3,883	6,770	5,287
190	2	940	1,185	2,694	2,441	3,914	3,662	6,355	6,103	8,797	8,545	11,238	10,986	13,679	13,427	16,121	15,868
	4	1,880	2,370	1,725	1,221	2,946	2,441	5,387	4,883	7,828	7,324	10,270	9,765	12,711	12,207	15,152	14,648
	6	2,821	3,555			1,977	1,221	4,419	3,662	6,860	6,103	9,301	8,545	11,743	10,986	14,184	13,427
	8	3,761	4,740					3,450	2,442	5,892	4,883	8,333	7,324	10,774	9,765	13,215	12,207
	10	4,701	5,925					2,482	1,221	4,923	3,662	7,364	6,104	9,806	8,545	12,247	10,986
	12	5,641	7,110							3,955	2,442	6,396	4,883	8,837	7,324	11,279	9,766
210	2	1,011	1,422	3,353	2,929	4,818	4,394	7,747	7,324	10,677	10,253	13,606	13,182	16,535	16,112	19,465	19,041
	4	2,021	2,844	2,312	1,465	3,777	2,929	6,706	5,859	9,636	8,788	12,565	11,718	15,494	14,647	18,424	17,577
	6	3,032	4,266			2,736	1,465	5,665	4,394	8,595	7,324	11,524	10,253	14,453	13,182	17,383	16,112
	8	4,043	5,688					4,624	2,930	7,554	5,859	10,483	8,788	13,412	11,718	16,342	14,647
	10	5,053	7,110					3,583	1,465	6,513	4,394	9,442	7,324	12,371	10,253	15,301	13,182
	12	6,064	8,532							5,472	2,930	8,401	5,859	11,330	8,788	14,260	11,718
254	2	2,108	2,844	6,252	5,494	9,060	8,302	14,675	13,917	20,291	19,532	25,906	25,148	31,522	30,763	37,137	36,379
	4	4,215	5,688	4,082	2,564	6,889	5,372	12,505	10,988	18,120	16,603	23,736	22,218	29,351	27,834	34,966	33,449
	6	6,323	8,532			4,718	2,443	10,334	8,058	15,949	13,674	21,565	19,289	27,180	24,905	32,796	30,520
	8	8,430	11,376					8,163	5,129	13,779	10,744	19,394	16,360	25,009	21,975	30,625	27,591
	10	10,538	14,220					5,992	2,200	11,608	7,815	17,223	13,430	22,839	19,046	28,454	24,661
	12	12,645	17,064							9,437	4,886	15,052	10,501	20,668	16,116	26,283	21,732
255	2	2,409	3,594	8,138	6,918	11,678	10,458	18,758	17,538	25,838	24,618	32,918	31,698	39,998	38,778	47,078	45,858
	4	4,818	7,188	5,657	3,216	9,197	6,756	16,277	13,836	23,357	20,916	30,437	27,996	37,517	35,076	44,597	42,156
	6	7,228	10,783			6,715	3,054	13,795	10,134	20,875	17,214	27,955	24,294	35,035	31,374	42,115	38,454
	8	9,637	14,377					11,314	6,432	18,394	13,512	25,474	20,592	32,554	27,672	39,634	34,751
	10	12,046	17,971					8,832	2,730	15,912	9,810	22,992	16,890	30,072	23,969	37,152	31,049
	12	14,455	21,565							13,431	6,108	20,511	13,187	27,591	20,267	34,671	27,347



Dimensions

Model	Dimensions (inch)								Air consumption (Cubic inches per cycle)				Weight (lbs)			
	90°	120°	180°	H	B	Ch	Ch.q	ISO	SR 90°	90°	DA 120°	180°	SR 90°	90°	DA 120°	180°
43	4.57	-	-	2.56	2.42	0.394	0.354	F03/F05	6.10	11.0	-	-	1.46	1.32	-	-
44	4.57	-	-	2.56	2.42	0.394	0.354	F04	6.10	11.0	-	-	1.46	1.32	-	-
52	5.24	5.94	7.68	2.91	2.70	0.394	0.551	F03/F05	7.93	15.3	17.1	28.1	2.20	1.98	2.43	2.87
63	5.39	6.10	7.87	3.46	3.15	0.394	0.551	F05/F07	12.8	24.4	27.5	45.2	3.57	3.20	3.75	4.41
75	6.34	7.20	9.33	3.94	3.64	0.394	0.669	F05/F07	19.5	36.6	41.5	68.3	5.40	4.63	5.42	6.39
83	7.09	8.07	10.55	4.25	3.92	0.394	0.669	F05/F07	27.5	53.7	61.0	99.5	6.50	5.51	6.50	7.72
92	8.23	9.41	12.20	4.61	4.35	0.551	0.669	F05/F07	37.8	73.2	82.4	137	8.82	7.50	8.82	10.1
110	8.70	9.88	12.68	5.51	4.72	0.551	0.866	F07/F10	59.8	116	131	215	13.7	11.5	13.4	15.9
118	11.46	13.43	16.57	5.51	4.72	0.787	0.866	F07/F10	85.4	165	186	305	18.4	15.7	17.6	21.4
127	11.85	13.90	17.83	6.30	5.39	0.787	0.866	F07/F10	122	223	250	415	23.6	19.8	22.0	27.6
143	13.27	15.24	19.21	7.80	6.77	0.787	1.063	F10/F12	153	281	373	561	34.8	27.4	30.9	35.3
160	14.92	17.48	22.44	7.80	6.77	1.102	1.063	F10/F12	232	427	488	793	44.3	36.2	41.4	57.3
190	16.61	-	-	10.04	8.82	1.102	1.417	F12/F16	397	763	-	-	83.2	61.6	-	-
210	18.43	21.42	27.40	10.04	8.82	1.260	1.417	F14	488	915	1,037	1,312	87.3	70.1	82.5	108
254	23.98	27.99	35.87	11.89	10.71	1.260	1.811	F16	854	1,648	1,922	2,502	156	122	147	176
255	27.13	32.09	-	11.89	10.71	1.260	1.811	F16	1,037	1,953	2,319	-	186	153	170	-

SR = Spring-Return DA = Double-Acting



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

www.rotork.com

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