



C Type Pneumatic Actuator



CH-air C Type/ 01

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Competitive ATEX 4th Generation Actuator

The CH-air C Type actuator is assembled using machined internal components which produces a finished product with a low friction coefficient. This produces an actuator that offers durability and reliability in service.

The actuator is of rack and pinion design with an anti blow-out proof pinion, and its extruded aluminium body is hard anodized to protect it against oxidization in non-aggressive atmospheres.

It is compliant with all the usual actuator norms making it compatible with similarly compliant valves, and position monitoring, control and feedback devices.



The C Type is of the 4th generation design whereby the end of travel adjustments can be made externally for both open and closed positions. This is achieved with lockable adjusting bolts striking an internal cam.



Safety is a key feature, particularly in spring return models, where the use of pre-loaded spring capsules which fully relax before the actuator's end cap is removed, protect engineers when servicing the actuator.



An impressive 13 models make up the range of the aluminium version, offering a maximum double acting torque output of 3500Nm at 6 bar air supply, and 1300Nm end of spring torque for the largest spring return model, based on 6 bar air supply.

The C Type actuators are CE marked and ATEX approved making them safe to install in hazardous atmospheres.



In all but the smallest and largest actuator sizes, the actuator has dual ISO:5211 drillings and a double square drive, making the mounting of the C Type actuators flexible and easy.

Quick guide to the CH-air C Type standard features :

Externally adjustable end of travel adjustment

Robust rack and pinion construction

ATEX Ex II 2 GD Approved for use in hazardous areas

CE Marked

Hard anodised aluminium body

Safe to dismantle for routine maintenance

Compliant with all actuator standards

Position feedback and control devices are quick and easy to mount.

**Materials of construction:**

Body	Extruded aluminium alloy
End caps	Die cast aluminium
Pistons	Die cast aluminium
Pinion	Alloy steel
Sliding parts	Engineering plastic
Fasteners	Stainless steel
Springs	Pre-compressed cartridge steel spring with Nylon 66 coating
Seals	NBR Nitrile rubber

Air volumes:

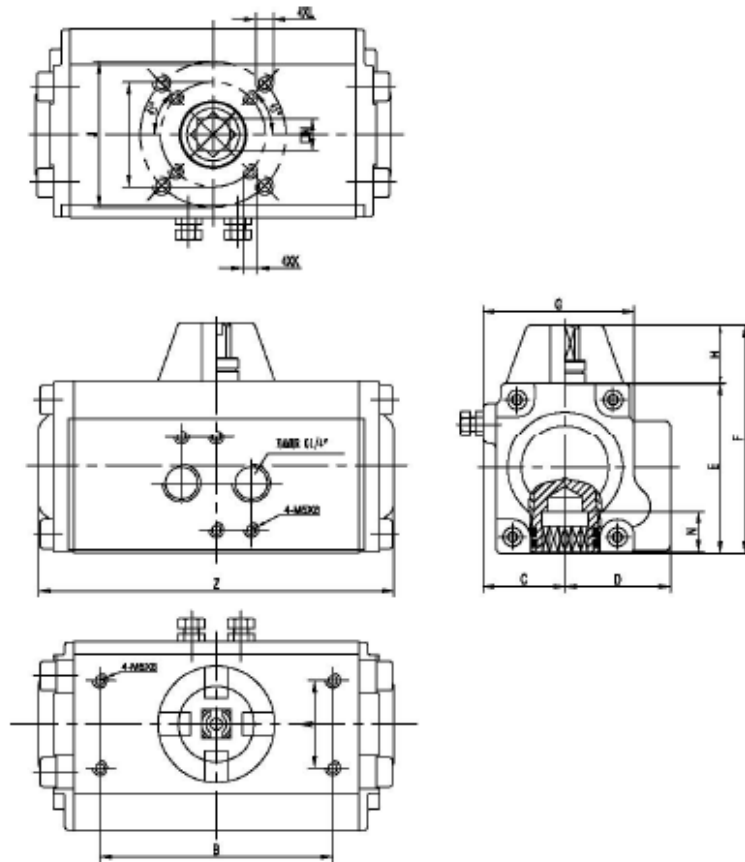
Modelo Model	Volumen apertura Volume opening	Volumen cierre Volume closing	Modelo Model	Volumen apertura Volume opening	Volumen cierre Volume closing
C-52	0.12	0.16	C-140	2.50	2.20
C-63	0.21	0.23	C-160	3.70	3.20
C-75	0.30	0.34	C-190	5.90	5.40
C-83	0.43	0.47	C-210	7.50	7.50
C-92	0.64	0.73	C-240	11.00	9.00
C-105	0.95	0.88	C-270	17.00	14.00
C-125	1.60	1.40			

Torque Output (Nm) - Double Acting

Model	Air supply pressure in Bar					
	4	5	5.5	6	7	8
CH-C 40	9.5	11.9	13.1	14.3	16.7	19.1
CH-C 52	16.0	20.0	21.9	23.9	27.9	31.9
CH-C 63	29.2	36.5	40.1	43.8	51.1	58.4
CH-C 75	40.1	50.2	55.2	60.2	70.2	80.3
CH-C 83	62.7	78.4	86.2	94.1	109.7	125.4
CH-C 92	90.3	112.9	124.1	135.4	158.0	180.6
CH-C 105	132.2	165.3	181.8	198.4	231.4	264.5
CH-C 125	200.6	250.8	275.9	301.0	351.1	401.3
CH-C 140	342.0	427.5	470.3	513.0	598.5	684.0
CH-C 160	532	665	731	798	931	1064
CH-C 190	851	1064	1170	1276	1489	1702
CH-C 210	1064	1330	1463	1596	1862	2128
CH-C 240	1539	1923	2116	2308	2693	3078
CH-C 270	2339	2924	3216	3508	4093	4678

Dimensions:

Model CH-C 40 (DA)



DIMENSION TABLE

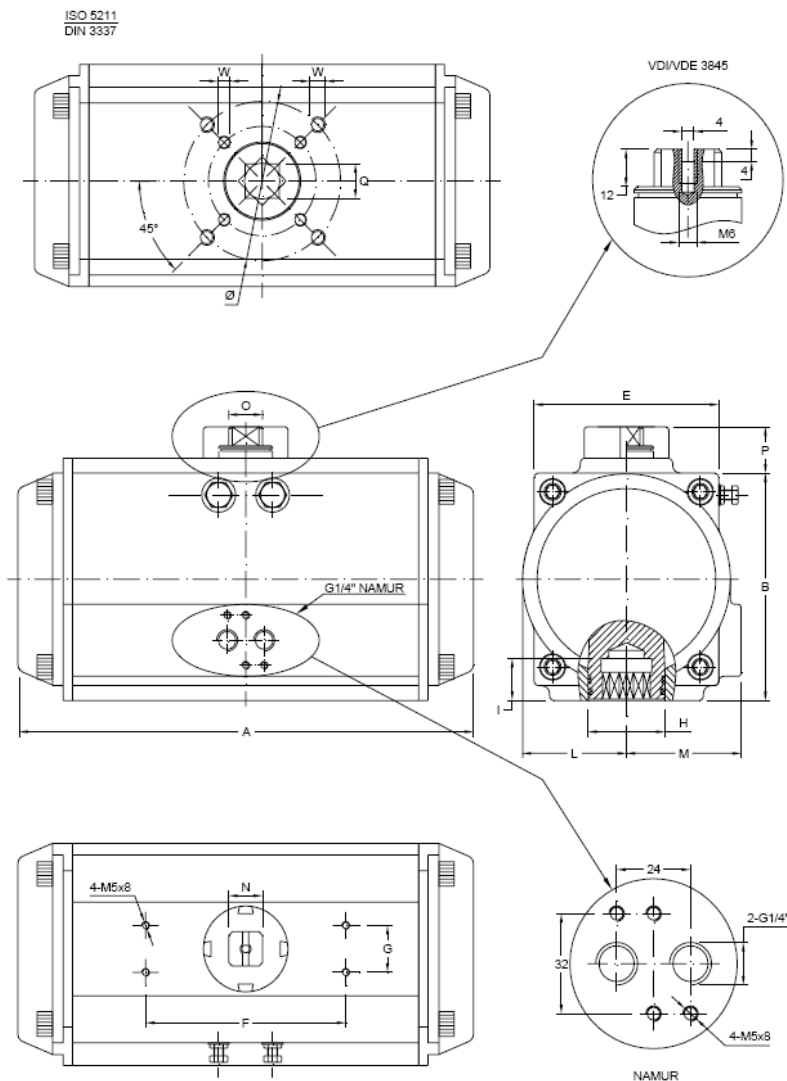
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	Air connection
C-40	30	80	28.5	36.5	60	80	52	20	Ø36	Ø50	M5x8	M6x10	11	14	122	¼"NPT or ¼" BSP

OUTPUT TORQUE

OUTPUT TORQUE OF DOUBLE ACTING ACTUATORS (Unit: Nm)											
Model	Air supply pressure (Unit: Bar)										
	2	2.5	3	4	4.5	5	5.5	6	7	8	10
C-40	4.8	6.0	7.2	9.5	10.7	11.9	13.1	14.3	16.7	19.1	23.9

Dimensions:

Models CH-C 52 to CH-C 270



Modelo	A	B	C	E	F	G	H	I	L	M	N	O	P	Q	R	S	W	ISO5211	Air Connection
C-52	147	65.5	71,5	65	80	30		14	30	41.5	10		20	11				F03/F05	G1/4"
C-63	168	81	83	72	80	30		18	36	47	10		20	11				F03/F05/F07	G1/4"
C-75	184	94	95	81	80	30		18	42	53	10		20	14				F05/F07	G1/4"
C-83	204	98.5	103	92	80	30		21	46	57	10		20	17				F05/F07	G1/4"
C-92	262	111	108,5	98	80	30		21	50	58.5	14		20	17				F05/F07	G1/4"
C-105	268	122.5	121,5	109.5	80	30		26	57.5	64	14		20	17				F05/F07	G1/4"
C-125	296	145.5	142	127.5	130	30		26	67.5	74.5	20		20	22				F07/F10	G1/4"
C-140	390	160.75	152	137.5	130	30		31	75	77	20		20	27				F07/F10	G1/4"
C-160	454	184	174	158	130	30		31	87	87	28		20	27				F10/F12	G1/4"
C-190	525	216	206	189	130	30		40	103	103	32		30	27				F14	G1/4"
C-210	532	235.5	226	210	130	30		40	113	113	32		30	36				F14	G1/4"
C-240	610	264	260	245	130	30		50	130	130	32		30	36				F14	G1/2"
C-270	722	299	294	273	130	30		50	147	147	32		30	46				F16	G1/2"

Torque output (Nm) - Spring return models

(Best balance shown. Other spring combinations available on request.)

SR Model	Qty of springs	4 Bar air pressure		5 Bar air pressure		6 Bar air pressure		Spring output torque	
		0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End
CH-B 52	8	9.2	6.0					9.9	6.7
	9			12.3	7.9			11.1	7.6
	11					14.6	10.4	13.6	9.3
	12					13.8	9.1	14.8	10.2
CH-B 63	8	18.2	12.4					16.7	10.9
	9	16.8	10.4					18.8	12.3
	10			22.8	15.6			20.9	13.7
	11			21.5	13.5			22.9	15.0
	12					27.3	18.6	25.0	16.4
CH-B 75	8	23.1	16.9					23.2	16.9
	10			28.8	21.2			29.0	21.1
	12					34.9	25.4	34.7	25.3
CH-B 83	8	37.4	25.8					36.8	25.3
	9			46.7	32.3			46.0	31.6
	10					56.1	38.9	55.2	38.0
CH-B 92	8	52.9	35.2					55.0	37.3
	10			66.2	44.1			68.7	46.7
	12					79.4	53.0	82.5	56.0
CH-B 105	8	81.6	53.5					78.7	50.6
	10			102.0	66.5			98.4	63.3
	12					122.5	80.6	118.1	75.9
CH-B 125	8	117	75					125	84
	9			157	109			141	94
	10			146	94			157	105
	11					186	128	173	115
	12					176	113	188	125
CH-B 140	8	205	136					206	137
	10			256	169			258	172
	12					307	203	310	206
CH-B 160	8	309	199					333	223
	9			413	290			375	251
	10			386	248			417	279
	11					491	340	458	307
	12					463	298	500	335
CH-B 190	8	531	356					495	320
	10			664	446			618	400
	11			624	384			680	440
	12					797	535	742	480

Torque output (Nm) - Spring return models (Best balance shown. Other spring combinations available on request.)

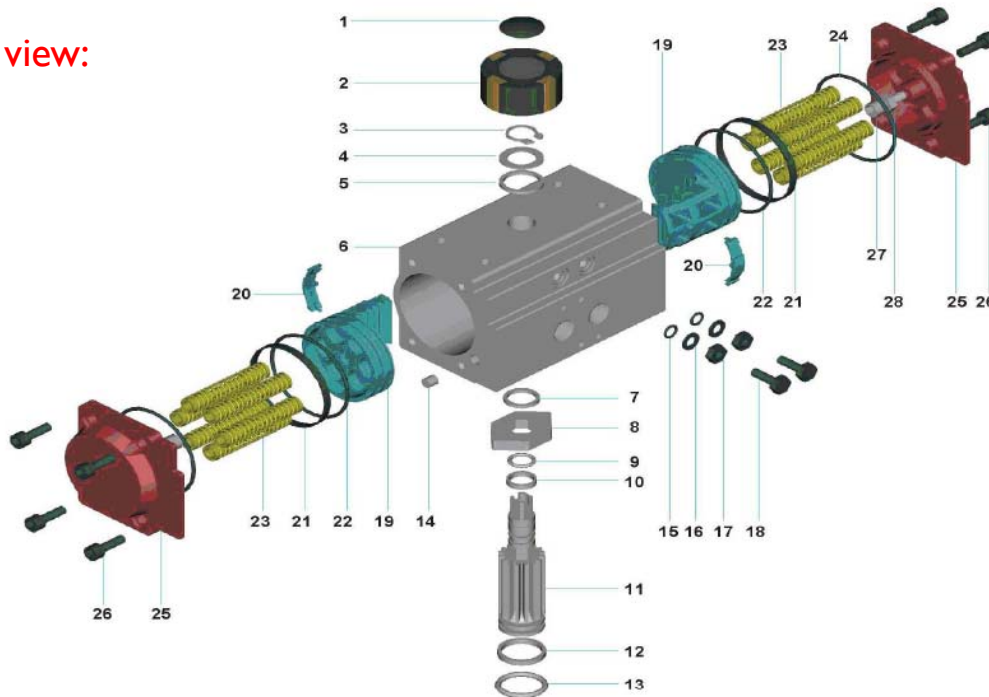
Model	Qty of springs	4 Bar air pressure		5 Bar air pressure		6 Bar air pressure		Spring output torque	
		0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End
CH-C 210	8	624	456					608	440
	10			780	570			760	550
	12					936	684	912	660
CH-B 240	8	883	653					886	656
	10			1103	816			1108	821
	12					1323	979	1330	985
CH-B240	8	1444	1081					1258	895
	9	1332	923					1416	1007
	10			1805	1352			1572	1119
	11			1693	1194			1730	1231
	12					2167	1623	1887	1342

Weights (kg):

Model	C-52	C-63	C-75	C-83	C-92	C-105	C-125	C-140	C-160	C-190	C-210	C-240	C-270
Weight(SR)	1.5	2.2	2.9	3.6	5.5	6.7	10.4	14.4	23.3	46.1	53.2	73.3	115.9
Weight(DA)	1.4	2.1	2.7	3.3	5.0	5.9	9.0	12.0	19.0	39.1	44.1	59.0	93.6



Exploded view:



Num.	Description Descripción	Qty Cant.	MATERIAL	PROTECCIÓN PROTECCIÓN
1	Indicator screw Torn. sujec. indicador	1	ABS	
2	Position Indicator Indicador posición	1	ABS	
3	Spring clip Circclip	1	Stainless Steel 304 Acero inox 304	
4	Metal washer Arandela metálica	1	Stainless Steel 304 Acero inox. 304	
5	Outside washer Arandela exterior	1	Engineering plastics Plástico industrial	
6	Body Cuerpo	1	Extruded Aluminum alloy Aleación aluminio extruido	
7	Inside washer Arandela interior	1	Engineering plastics Plástico industrial	Hard anodized Anodizado duro
8	Travel stop Leva tope regulación	1	Alloy steel Aleación acero	
9	O-ring pinion top Junta	1	NBR	
10	Bearing pinion top Guía sup. piñón	1	Engineering plastic Plástico industrial	
11	Pinion Piñón	1	Alloy steel Aleación acero	Electroless Ni plated Niquel químico
12	O-ring pinion bottom Junta	1	Engineering plastic Plástico industrial	
13	Bearing pinion bottom Guía inferior piñón	1	NBR	
14	Hole sealant Sello taladro	2	NBR	
15	O-ring adjust screw Junta tornillo regulación	2	NBR	
16	Whaser adjust screw Arandela tornillo regul.	2	Stainless Steel 304 Acero inox. 304	
17	Nut adjust screw Tuerca tornillo regul.	2	Stainless Steel 304 Acero inox. 304	
18	Adjust screw Tornillo regulación	2	Stainless Steel Acero inox. 304	
19	Piston Pistón	2	Cast Aluminum 304 Fund. Aluminio 304	
20	Piston bearing Patin antifricción	2	Engineering plastics Plástico industrial	Anodized/Zinc galvanized anodizado/galvanizado
21	Bearing piston Anillo antifricción	2	Engineering plastic Plástico industrial	
22	O-ring piston Junta pistón	2	NBR	
23	Spring Group Grupo muelles	0-12	Spring Steel Muelle acero	
24	O-ring end cap Junta tapa	2	NBR	
25	End cap Tapa	2	Cast Aluminum Fundición Aluminio	Polyester paint Pintura poliéster
26	Cap screw Tornillo tapa	8	Stainless Steel 304 Acero inox. 304	
27	Stop screw Tornillo tope	2	Stainless Steel Acero inox 304	
28	Nut stop screw Tuerca tornillo	2	Stainless Steel Acero inox 304	