RA

II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

RA/180°

II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

In conformità / *According to*
ATEX 2014/34/EU

In conformità / *According to*
IEC 61508:2010

-15°C ÷ +150°C
Guarnizioni per alte temperature su richiesta
High temperatures seals on request

-40°C ÷ +80°C
Guarnizioni per basse temperature su richiesta
Low temperatures seals on request

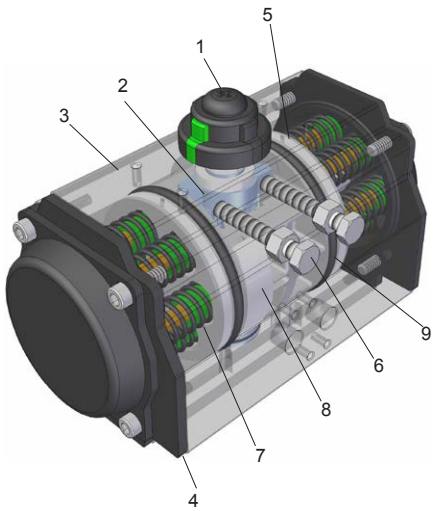
Descrizione - *Description*

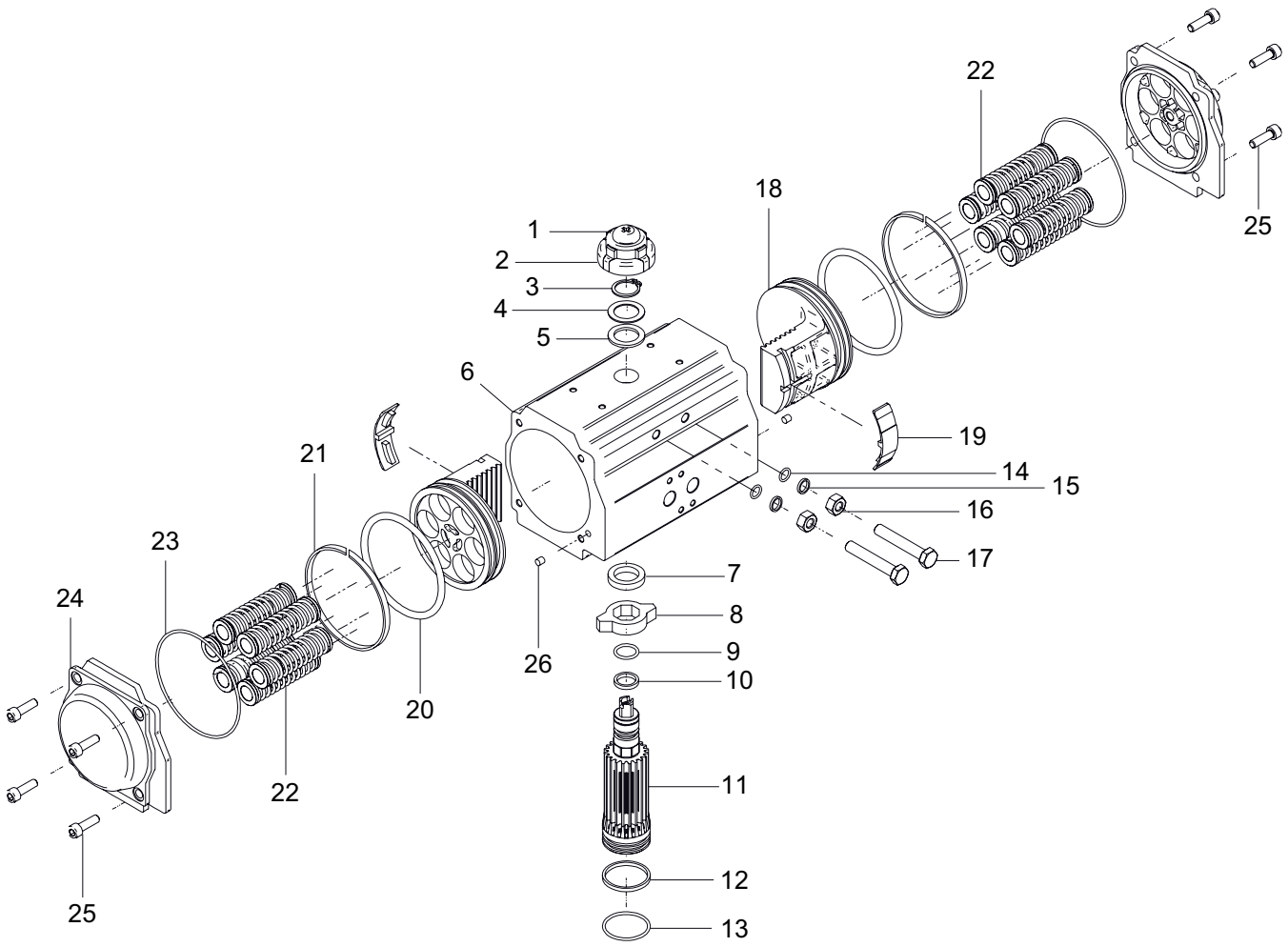
La nostra nuova serie di attuatori pneumatici RA è stata progettata con pignone e cremagliera, corpo in alluminio con versioni a doppio e semplice effetto con molle di ritorno.
Questo tipo di attuatore è dotato come standard di un indicatore superiore multi funzione open-close e della regolazione della apertura / chiusura. Siamo anche riusciti a ridurre le dimensioni dell'attuatore mantenendo un ottimo livello di coppia. Tutti gli attuatori della Serie sono inoltre certificati SIL (in conformità alla normativa IEC 61508:2010), e sono altresì conformi alla Direttiva ATEX 2014/34/UE (per maggiori informazioni sulle classificazioni ATEX vedi pag. II). Queste caratteristiche permettono al nostro attuatore di soddisfare le sempre più esigenti richieste di mercato.

Our new series of pneumatic actuators RA was designed with rack and pinion, aluminium body with double and single-acting versions with return springs. This type of actuator is equipped with a top indicator multi open-close function and the adjustment of the opening / closing as standard. We also succeeded in reducing the size of the actuator while maintaining an excellent level of torque. Furthermore all the actuators of the series are SIL certified (according to IEC 61508:2010), and also conforming to 2014/34/EU ATEX Directive (for more information about ATEX classification, please see page III). These features enable our actuator to meet the increasingly demanding market requirements.

Componenti - *Components*

N°	Descrizione *Description*	Materiali *Materials*
1	Indicatore *Indicator*	Indicatore di posizione a normativa NAMUR per montaggio di accessori tipo: box fine-corsa, posizionatori, ecc. *Position indicator conforming to NAMUR normative for convenient assembly of accessories such as limit switch box, positioner and so on.*
2	Pignone *Pinion*	Ad alta precisione, in lega d'acciaio nichelato, conforme alle normative ISO 5211, DIN 3337 e NAMUR. Su richiesta fornibile in acciaio Inox. *High-precision, in steel alloy nickel-plated, conforming to normatives ISO 5211, DIN 3337 and NAMUR. On request avaible in Stainless Steel.*
3	Corpo *Body*	In estruso d'alluminio anodizzato duro, su richiesta fornibile con altri trattamenti. *In extruded hard anodized aluminium, on request available with other treatment.*
4	Testate *Heads*	In alluminio pressofuso verniciato con polvere di poliestere, fornibili anche rivestite in PTFE o nichelate. *In die-casting aluminium painted with polyester powder, available with PTFE coating or nickel-plated.*
5	Pistoni *Pistons*	A doppia cremagliera in alluminio pressofuso anodizzato duro. La posizione di montaggio è simmetrica ed è possibile invertire il senso di rotazione invertendo i pistoni. *Twin-rack in die-casting hard anodizedm aluminium. Mounting position is symmetric and by simply inverting the pistons rotation reverse.*
6	Viti di regolazione *Adjustment screw*	Le due viti di regolazione indipendenti possono regolare ± 5° in entrambe le operazioni di apertura e chiusura con precisione. *The two independent adjustment screw can adjust ± 5° at both open and close operations easily and precisely.*
7	Molle *Springs*	In materiale di alta qualità, garantiscono resistenza alla corrosione e lunga durata. Possono essere smontate facilmente per soddisfare diverse necessità di forze cambiando il numero di molle. *In high quality material, grant resistance to corrosion and long life. Can easily be demonted to satisfy different torque requirement by changing spring number.*
8	Cuscinetti e guide *Bearings and guides*	In materiali a bassa frizione per evitare il diretto contatto tra le parti metalliche. Facili da sostituire. *In low friction materials to avoid direct contact between metal parts. Easy to replace.*
9	O-rings *O-rings*	O-ring in NBR / *NBR O-ring:* -20°C ÷ +80°C (standard) O-ring in LNBR / *LNBR O-ring:* -40°C ÷ +80°C (option) O-ring in Viton / *Viton O-ring:* -15°C ÷ +150°C (option)



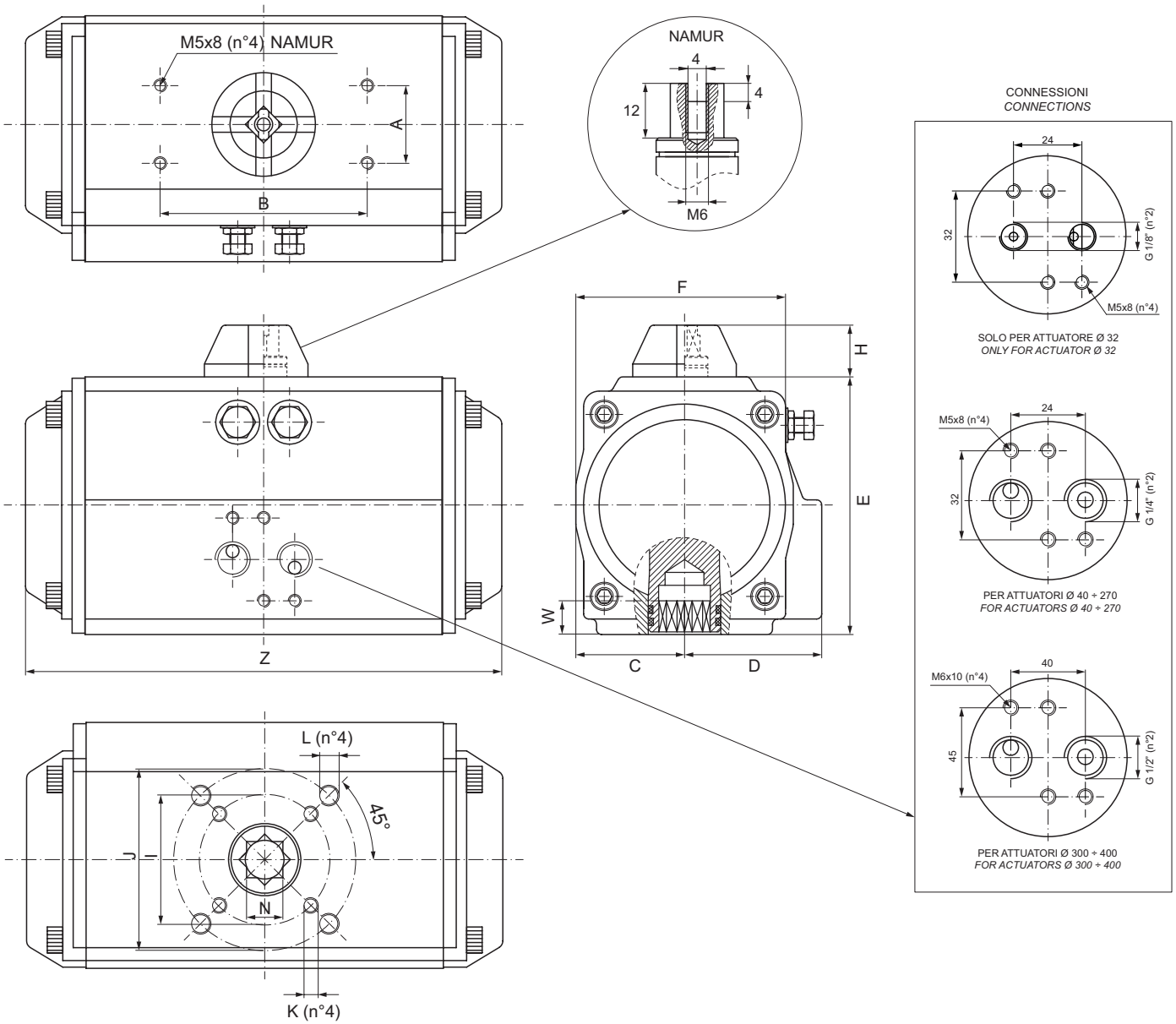


N°	Descrizione / *Description*	Q.tà / *Q.ty*	Materiali / *Materials*
1	Vite indicatore / *Indicator screw*	1	ABS e Acciaio Inox / ABS and *Stainless Steel*
2	Indicatore / *Indicator*	1	ABS
3	Seeger / *Seeger*	1	Acciaio Inox / *Stainless Steel*
4	Rosetta / *Washer*	1	Acciaio Inox / *Stainless Steel*
5	Rosetta esterna / *Outside washer*	1	Poliossimetilene / *Polyoxymethylene*
6	Corpo / *Body*	1	Lega d'alluminio estruso anodizzato duro / *Extruded hard anodized aluminium alloy*
7	Rosetta interna / *Inside washer*	1	Poliossimetilene / *Polyoxymethylene*
8	Camma / *Cam*	1	Acciaio C 45 / *Steel C 45*
9	O-ring (Pignone superiore) / *O-ring (Pinion top)*	1	NBR
10	Anello (Pignone superiore) / *Bearing (Pinion top)*	1	Poliossimetilene / *Polyoxymethylene*
11	Pignone / *Pinion*	1	Lega d'acciaio nichelato / *Nickel plated alloy steel*
12	Anello (Pignone inferiore) / *Bearing (Pinion bottom)*	1	Poliossimetilene / *Polyoxymethylene*
13	O-ring (Pignone inferiore) / *O-ring (Pinion bottom)*	1	NBR
14	O-ring (Vite di regolazione) / *O-ring(Adjust screw)*	2	NBR
15	Rondella (Vite di regolazione) / *Gasket (Adjust screw)*	2	Acciaio Inox / *Stainless Steel*
16	Dado (Vite di regolazione) / *Nut (Adjust screw)*	2	Acciaio Inox / *Stainless Steel*
17	Vite di regolazione / *Adjust screw*	2	Acciaio Inox / *Stainless Steel*
18	Pistone / *Piston*	2	Alluminio anodizzato pressofuso / *Cast anodized aluminium*
19	Guida (Pistone) / *Guide (Piston)*	2	Nylon 66
20	O-ring (Pistone) / *O-ring (Piston)*	2	NBR
21	Anello (Pistone) / *Bearing (Piston)*	2	Poliossimetilene / *Polyoxymethylene*
22	Molla / *Spring*	0 ÷ 12*	Acciaio armonico verniciato elettroforeticamente / *Electrophoretic painted spring steel*
23	O-ring (Testata) / *O-ring (End cap)*	2	NBR
24	Testata / *End cap*	2	Alluminio anodizzato verniciato a polvere / *Powder painted cast aluminium*
25	Vite testata / *Cap screw*	8	Acciaio Inox / *Stainless Steel*
26	Tappo / *Plug*	2	NBR

Su richiesta fornimbili con guarnizioni per alte temperature (Viton -15°C ÷ +150°C) e basse temperature (LNBR -40°C ÷ + 80°C)
On request available with seals for high temperatures (Viton -15°C ÷ +150°C) and low temperatures (LNBR -40°C ÷ +80°C)

* Gli attuatori RA040SR utilizzano solo 2 molle, mentre per gli attuatori RA400SR lo standard è a 16 molle
** RA040SR actuators use only 2 springs, wile for RA400SR actuators the standard is at 16 springs*

Specifiche tecniche attuatori 0-90° - *Technical features actuators 0-90°*



Ø Attuatore *Actuator Ø*	A	B	C	D	E	F	H	I	J	K	L	ØN	W	Z	Connessione *Connection*	Flangia ISO *ISO flange*
32	30	80	24.5	30.5	49	51	20	Ø 36	-	M5x8	-	9	11	114	G 1/8"	F03
40	30	80	28.5	36.5	60	65	20	Ø 36	Ø 50	M5x8	M6x9	11	14	120	G 1/4" NAMUR	F03 / F05
52	30	80	30.5	41	72	65	20	Ø 36	Ø 50	M5x8	M6x9	11	14	147	G 1/4" NAMUR	F03 / F05
63	30	80	36	47	88	72	20	Ø 50	Ø 70	M6x10	M8x13	14	18	165	G 1/4" NAMUR	F05 / F07
75	30	80	42	53	99.5	81	20	Ø 50	Ø 70	M6x10	M8x13	14	18	182	G 1/4" NAMUR	F05 / F07
83	30	80	46	57	109	92	20	Ø 50	Ø 70	M6x10	M8x13	17	21	208	G 1/4" NAMUR	F05 / F07
92	30	80	50	58.5	116.5	98	20	Ø 50	Ø 70	M6x10	M8x13	17	21	262	G 1/4" NAMUR	F05 / F07
105	30	80	58	66.5	133	109.5	20	Ø 70	Ø 102	M8x13	M10x16	22	26	270	G 1/4" NAMUR	F07 / F10
115	30	80	62	72	144	119	20	Ø 70	Ø 102	M8x13	M10x16	22	26	298	G 1/4" NAMUR	F07 / F10
125	30	80	67	75	155	127.5	20	Ø 70	Ø 102	M8x13	M10x16	22	26	301	G 1/4" NAMUR	F07 / F10
130	30	80	74	74	160	130	20	Ø 102	Ø 125	M10x16	M12x19	27	31	367	G 1/4" NAMUR	F10 / F12
140	30	80	76	76	172	137.5	20	Ø 102	Ø 125	M10x16	M12x19	27	31	395	G 1/4" NAMUR	F10 / F12
160	30	80	87	87	197	158	20	Ø 102	Ø 125	M10x16	M12x19	27	31	454	G 1/4" NAMUR	F10 / F12
190	30	130	103	103	230	189	30	-	Ø 140	-	M16x24	36	40	528	G 1/4" NAMUR	F14
210	30	130	113	113	255	211	30	-	Ø 140	-	M16x24	36	40	536	G 1/4" NAMUR	F14
240	30	130	130	130	289	245	30	-	Ø 165	-	M20x25	46	50	608	G 1/4" NAMUR	F16
270	30	130	147	147	328	273	30	-	Ø 165	-	M20x25	46	50	721	G 1/4" NAMUR	F16
300	30	130	203	203	348	406	30	Ø 165	Ø 215	M20x25	M20x25	46	60	769	G 1/2" NAMUR	F16
350	30	130	230	230	408	460	30	Ø 165	Ø 254	M20x25	M16x24*	46	60	909	G 1/2" NAMUR	F16 / F25
400	30	130	258	258	480	516	30	Ø 165	Ø 254	M20x25	M16x24*	55	60	925	G 1/2" NAMUR	F16 / F25

*Con 8 fori di connessione / *With 8 connection holes*

1

Attuatori alluminio a doppio effetto, 0-90°

Aluminium actuators double acting, 0-90°

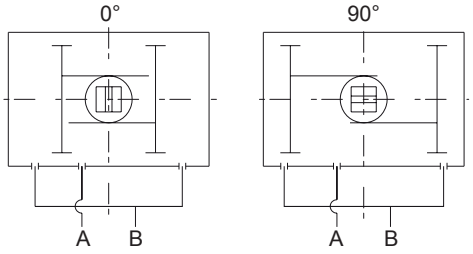
II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

Doppio effetto *Double acting*			
Codice / *Code*	Articolo / *Article*	Ø Attuatore / *Actuator Ø*	Peso in kg / *Weight in kg*
40257	RA032DA	32	0,80
40001	RA040DA	40	0,97
40002	RA052DA	52	1,22
40003	RA063DA	63	2,02
40004	RA075DA	75	2,60
40005	RA083DA	83	3,23
40006	RA092DA	92	4,58
40007	RA105DA	105	5,92
40587	RA115DA	115	8,18
40008	RA125DA	125	8,68
40045	RA130DA	130	11,20
40009	RA140DA	140	14,10
40010	RA160DA	160	20,60
40011	RA190DA	190	33,20
40012	RA210DA	210	39,70
40013	RA240DA	240	57,00
40014	RA270DA	270	78,70
40434	RA300DA	300	114,00
40435	RA350DA	350	171,00
40436	RA400DA	400	240,00

Rotazione Standard - *Standard rotation*

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione A.

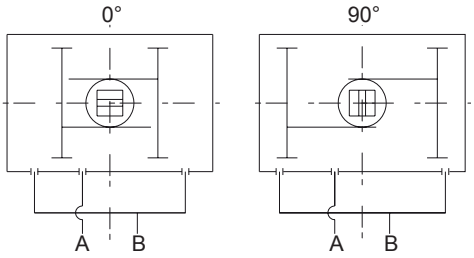
Air to port A forces the pistons outwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port A.



Rotazione inversa - *Reverse rotation* (a richiesta - *on request*)

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione A.

Air to port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port A.



Momenti torcenti degli attuatori doppio effetto (Nm)
Output torque of double acting actuators (Nm)

Ø Attuatore *Actuator Ø*	Pressione (bar) / *Pressure (bar)*									
	2	2,5	3	4	4,5	5	5,5	6	7	8
32	3,1	3,8	4,6	6,1	6,9	7,6	8,4	9,2	10,7	12,2
40	4,8	6	7,2	9,5	10,7	11,9	13,1	14,3	16,7	19,1
52	8,0	10,0	12,0	16,0	18,0	20,0	21,9	23,9	27,9	31,9
63	14,6	18,2	21,9	29,2	32,8	36,5	40,1	43,8	51,1	58,4
75	20,1	25,1	30,1	40,1	45,1	50,2	55,2	60,2	70,2	80,3
83	31,4	39,2	47,0	62,7	70,5	78,4	86,2	94,1	109,7	125,4
92	45,1	56,4	67,7	90,3	101,6	112,9	124,1	135,4	158,0	180,6
105	66,1	82,7	99,2	132,2	148,8	165,3	181,8	198,4	231,4	264,5
115	86,0	108,0	130,1	173,0	194,0	216,0	238,0	259,0	302,0	346,0
125	100,3	125,4	150,5	200,6	225,7	250,8	275,9	301,0	351,1	401,3
130	138,0	173,0	208,0	277,0	312,0	346,0	381,0	416,0	485,0	555,0
140	171,0	213,8	256,5	342,0	384,8	427,5	470,3	513,0	598,5	684,0
160	266,0	332,5	399,0	532,0	598,5	665,0	731,5	798,0	931,0	1.064,0
190	425,6	532,0	638,4	851,2	957,6	1.064,0	1.170,4	1.276,8	1.489,6	1.702,4
210	532,0	665,0	798,0	1.064,0	1.197,0	1.330,0	1.463,0	1.596,0	1.862,0	2.128,0
240	796,5	961,9	1154,3	1539,0	1731,4	1923,8	2116,1	2308,5	2693,3	3078,0
270	1.169,6	1.462,1	1.754,5	2.339,3	2.631,7	2.924,1	3.216,5	3.508,9	4.093,7	4.678,6
300	1.526,0	1.908,0	2.289,0	3.052,0	3.434,0	3.815,0	4.187,0	4.578,0	5.341,0	6.104,0
350	2.285,0	2.856,0	3.427,0	4.570,0	5.141,0	5.712,0	6.283,0	6.854,0	7.997,0	9.139,0
400	3.256,0	4.070,0	4.884,0	6.512,0	7.326,0	8.140,0	8.954,0	9.768,0	11.396,0	13.024,0

Momento torcente costante / *Output torque constant 0° - 90° e 90° - 0°*

Attuatori alluminio a semplice effetto, 0-90°

Aluminium actuators spring return, 0-90°

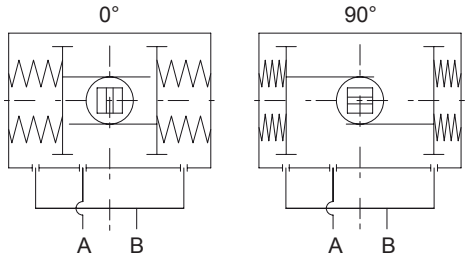
II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

Semplice effetto (standard 12 molle) *Spring return (standard 12 springs)*			
Codice / *Code*	Articolo / *Article*	Ø Attuatore / *Actuator Ø*	Peso in kg / *Weight in kg*
40318	RA040SR*	40	1,10
40015	RA052SR	52	1,35
40016	RA063SR	63	2,19
40017	RA075SR	75	2,86
40018	RA083SR	83	3,64
40019	RA092SR	92	5,35
40020	RA105SR	105	6,76
40588	RA115SR	115	9,30
40021	RA125SR	125	10,06
40046	RA130SR	130	13,70
40022	RA140SR	140	16,50
40023	RA160SR	160	24,40
40024	RA190SR	190	40,20
40025	RA210SR	210	49,20
40026	RA240SR	240	70,00
40027	RA270SR	270	100,30
40437	RA300SR	300	141,00
40438	RA350SR**	350	220,00
40439	RA400SR	400	285,00
*Utilizza solo 2 molle / *Use only 2 springs*		**Standard 16 molle / **Standard 16 springs*	

Rotazione Standard - *Standard rotation*

L'aria sulla connessione A forza i pistoni all'esterno, comprimendo le molle e muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione B. Togliendo l'aria dalla connessione A l'energia immagazzinata dalle molle forza il pistone verso l'interno. Il pignone ruota in senso orario mentre l'aria viene scaricata dalla connessione A.

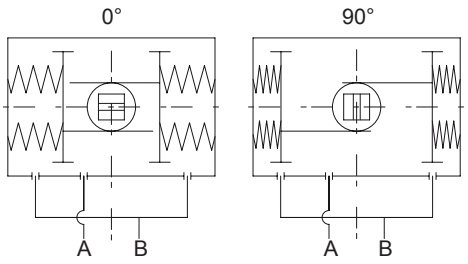
Air to port A forces the pistons outwards, causing the spring to compress, the pinion to turn counter-clockwise while the air is being exhausted from port B. Removing air pressure on port A, causes the stored energy in the springs to force the pistons inwards. The pinion turn clockwise while the air is being exhausted from port A.



Rotazione inversa - *Reverse rotation* (a richiesta - *on request*)

L'aria sulla connessione A forza i pistoni all'esterno, comprimendo le molle e muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione B. Togliendo l'aria dalla connessione A l'energia immagazzinata dalle molle forza il pistone verso l'interno. Il pignone ruota in senso antiorario mentre l'aria viene scaricata dalla connessione A.

Air to port A forces the pistons outwards, causing the spring to compress, the pinion to turn clockwise while the air is being exhausted from port B. Removing air pressure on port A, causes the stored energy in the springs to force the pistons inwards. The pinion turn counter-clockwise while the air is being exhausted from port A.



Momenti torcenti degli attuatori semplice effetto (Nm)
Output torque of spring return actuators (Nm)

Ø Attuatore *Actuator Ø*	Molle *Springs*	Pressione (bar) / *Pressure (bar)*														Forza della molla *Spring output*	
		2,5		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
40	2					5,6	3,4	7,6	5,4	9,6	7,4	12,6	10,4	14,6	12,4	6,6	4,4
52	5	5,7	3,8	7,6	5,7											6,2	4,3
	6	4,9	2,5	6,9	4,5	10,9	8,5									7,4	5,0
	7	4,0	1,3	6,0	3,3	9,8	7,3	14,0	10,4							8,6	5,9
	8			5,2	2,0	9,2	6,0	13,2	9,1	17,2	14,1					9,9	6,7
	9			4,3	0,8	8,3	4,8	12,3	7,9	16,3	12,8	20,3	16,8			11,1	7,6
	10					7,4	3,6	11,5	6,7	15,5	11,6	19,5	15,6			12,4	8,5
	11					6,6	2,3	10,6	5,4	14,6	10,4	18,6	14,3	22,6	18,3	13,6	9,3
	12							9,7	4,2	13,8	9,1	17,8	12,2	21,8	17,1	14,8	10,2
63	5	11,4	7,7	15,0	11,4	22,3	14,9									10,4	6,8
	6	10,1	5,7	13,6	9,3	20,9	16,6	29,3	23,9							12,5	8,2
	7	8,6	3,6	12,5	7,2	19,5	14,5	26,8	21,9							14,6	9,6
	8			10,9	5,1	18,2	12,4	25,5	19,8	32,8	27,0	40,1	34,3			16,7	10,9
	9					16,8	10,4	24,1	17,7	31,4	24,9	38,7	32,2			18,8	12,3
	10					1,4	8,2	22,8	15,6	30,0	22,8	37,3	30,1	44,7	37,4	20,9	13,7
	11							21,5	13,5	28,7	20,7	36,0	28,0	43,3	35,3	22,9	15,0
	12							20,0	11,4	27,3	18,6	34,6	25,9	41,9	33,3	25,0	16,4

Momenti torcenti degli attuatori semplice effetto (Nm)
Output torque of spring return actuators (Nm)

Ø Attuatore *Actuator Ø*	Molle *Springs*	Pressione (bar) / *Pressure (bar)*														Forza della molla *Springs' output*	
		2,5		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
75	5	14,5	10,6	19,4	15,5	29,5	25,7									14,5	10,5
	6	12,4	7,6	17,3	12,6	27,4	22,7	37,5	32,8							17,4	12,7
	7	10,4	4,8	15,2	9,7	25,3	19,9	35,4	29,9							20,3	14,8
	8			13,1	6,8	23,1	16,9	33,3	27,0	43,2	37,0	53,3	47,0			23,2	16,9
	9					19,0	14,1	31,2	24,1	41,1	34,1	51,2	44,2			26,1	19,0
	10						11,1	28,8	21,2	39,0	31,2	49,1	41,2	59,1	51,2	29,0	21,1
	11							27,0	18,3	37,0	28,3	47,0	38,4	57,0	48,4	31,9	23,2
	12							24,9	15,4	34,9	25,4	44,9	35,4	54,9	45,4	34,7	25,3
83	5	23,3	16,1	31,1	24,0	46,8	39,7									23,0	15,8
	6	20,1	11,5	28,0	19,3	43,7	35,1	59,4	50,7							27,6	19,0
	7	17,0	6,9	24,8	14,8	40,5	30,5	56,2	46,2							32,2	22,1
	8			21,7	10,1	37,4	25,8	53,1	41,5	68,8	57,2	84,5	72,9			36,8	25,3
	9					34,2	21,3	49,9	37,0	65,6	52,6	81,2	68,3			41,4	28,5
	10					31,0	16,6	46,7	32,3	62,4	48,0	78,1	63,7	93,8	79,3	46,0	31,6
	11							43,6	27,7	59,3	43,4	75,0	59,1	90,6	74,8	50,6	34,8
	12							40,4	23,2	56,1	38,9	71,7	54,5	87,4	70,2	55,2	38,0
92	5	33,1	22,0	44,2	33,2	66,8	55,9									34,4	23,3
	6	28,4	15,2	39,6	26,4	62,2	49,0	84,8	71,6							41,2	28,0
	7	23,8	8,2	34,9	19,4	57,5	42,1	80,2	64,7							48,1	32,7
	8			31,3	12,6	52,9	35,2	75,5	57,9	98,1	80,5	120,7	103,0			55,0	37,3
	9					48,2	28,4	70,9	51,0	93,5	73,6	116,0	96,1			61,9	42,0
	10					43,6	21,5	66,2	44,1	88,8	66,7	111,3	89,2	134,0	111,8	68,7	46,7
	11							61,5	37,2	84,1	59,9	106,6	82,4	129,2	105,0	75,6	51,4
	12							56,8	30,4	79,4	53,0	101,9	75,5	124,5	98,1	82,5	56,0
105	5	51,0	33,4	67,5	49,9	100,6	83,0									49,2	31,6
	6	44,7	23,5	61,1	40,0	94,2	73,2	127,3	106,2							59,1	38,0
	7	38,4	13,7	54,9	30,3	87,9	63,4	121,0	96,4							68,9	44,3
	8			48,5	20,4	81,6	53,5	114,7	86,5	147,7	119,6	180,8	152,7			78,7	50,6
	9					75,3	43,7	108,4	76,8	141,5	109,8	174,5	142,9			88,6	56,9
	10					68,9	33,4	102,0	66,5	135,1	99,6	168,2	132,9	201,2	165,7	98,4	63,3
	11							95,7	57,0	128,7	90,1	161,8	123,1	194,8	156,2	108,3	69,6
	12							89,4	47,5	122,5	80,6	155,5	113,6	188,6	146,7	118,1	75,9
115	5	65,0	43,0	87,0	65,0	130,0	108,0									65,0	43,0
	6	56,0	30,0	78,0	52,0	121,0	95,0	164,0	138,0							78,0	52,0
	7	47,0	17,0	69,0	39,0	112,0	82,0	155,0	125,0							91,0	61,0
	8			61,0	26,0	104,0	69,0	147,0	112,0	190,0	155,0	233,0	198,0			104,0	69,0
	9					95,0	56,0	138,0	99,0	181,0	142,0	224,0	185,0			117,0	78,0
	10					86,0	43,0	129,0	86,0	172,0	129,0	215,0	172,0	259,0	216,0	130,0	87,0
	11							121,0	73,0	164,0	116,0	207,0	159,0	251,0	203,0	143,0	95,0
	12							112,0	60,0	156,0	104,0	198,0	146,0	242,0	190,0	156,0	104,0
125	5	73,0	47,0	98,0	72,0	148,0	122,0									79,0	52,0
	6	63,0	31,0	88,0	56,0	138,0	107,0	188,0	157,0							94,0	63,0
	7	52,0	15,0	77,0	40,0	127,0	90,0	178,0	141,0							110,0	73,0
	8			67,0	25,0	117,0	75,0	167,0	125,0	217,0	176,0	268,0	226,0			125,0	84,0
	9					107,0	59,0	157,0	109,0	207,0	159,0	257,0	210,0			141,0	90,0
	10					96,0	44,0	146,0	94,0	196,0	144,0	247,0	194,0	297,0	245,0	157,0	105,0
	11							136,0	78,0	186,0	128,0	236,0	178,0	286,0	228,0	173,0	115,0
	12							125,0	63,0	176,0	113,0	226,0	163,0	276,0	213,0	188,0	125,0
130	5	107,0	68,0	142,0	103,0	211,0	172,00									105,0	66,0
	6	93,0	46,0	128,0	81,0	197,0	150,0	266,0	219,0							127,0	80,0
	7	80,0	25,0	115,0	60,0	184,0	129,0	253,0	198,0							148,0	93,0
	8			101,0	39,0	170,0	108,0	239,0	177,0	309,0	247,0	378,0	316,0			169,0	107,0
	9					157,0	87,0	226,0	156,0	296,0	226,0	365,0	295,0			190,0	120,0
	10					144,0	65,0	213,0	134,0	283,0	204,0	352,0	273,0	422,0	343,0	212,0	133,0
	11							199,0	113,0	269,0	183,0	338,0	252,0	408,0	322,0	233,0	147,0
	12							185,0	91,0	255,0	161,0	324,0	230,0	394,0	300,0	255,0	161,0
140	5	128,0	85,0	171,0	127,0	256,0	213,0									129,0	86,0
	6	111,0	59,0	154,0	102,0	239,0	187,0	325,0	273,0							155,0	103,0
	7	94,0	33,0	137,0	76,0	222,0	162,0	308,0	247,0							181,0	120,0
	8			120,0	50,0	205,0	136,0	291,0	221,0	376,0	307,0	462,0	392,0			206,0	137,0
	9					187,0	110,0	273,0	196,0	358,0	281,0	444,0	367,0			232,0	155,0
	10					170,0	84,0	256,0	169,0	341,0	255,0	427,0	340,0	512,0	426,0	258,0	172,0
	11							238,0	143,0	324,0	229,0	409,0	314,0	495,0	400,0	284,0	189,0
	12							221,0	118,0	307,0	203,0	392,0	289,0	478,0	374,0	310,0	206,0
160	5	193,0	124,0	259,0	191,0	392,0	324,0									208,0	140,0
	6	165,0	83,0	232,0	149,0	365,0	282,0	498,0	415,0							250,0	168,0
	7	137,0	41,0	203,0	107,0	336,0	240,0	469,0	373,0							292,0	196,0
	8			176,0	66,0	309,0	199,0	442,0	273,0	575,0	465,0	708,0	598,0			333,0	223,0
	9					280,0	157,0	413,0	290,0	546,0	423,0	679,0	556,0			375,0	251,0
	10					253,0	115,0	386,0	248,0	519,0	381,0	652,0	514,0	785,0	647,0	417,0	279,0
	11							358,0	207,0	491,0	340,0	624,0	473,0	757,0	606,0	458,0	307,0
	12							330,0	165,0	463,0	298,0	596,0	431,0	729,0	564,0	500,0	355,0
190	5	332,0	222,0	438,0	329,0	651,0	542,0									309,0	200,0
	6	292,0	161,0	398,0	267,0	611,0	480,0	824,0	693,0							371,0	240,0
	7	252,0	99,0	358,0	205,0	571,0	418,0	784,0	631,0							433,0	280,0
	8			318,0	143,0	531,0	356,0	744,0	569,0	957,0	782,0	1.169,0	995,0			495,0	320,0
	9					491,0	295,0	704,0	507,0	917,0	720,0	1.130,0	933,0			557,0	360,0
	10					451,0	233,0	664,0	446,0	877,0	658,0	1.090,0	871,0	1.302,0	1.084,0	618,0	400,0
	11							624,0	384,0	837,0	597,0	1.050,0	809,0	1.263,0	1.022,0	680,0	440,0
	12							584,0	322,0	797,0	535,0	1.010,0	748,0	1.223,0	960,0	742,0	480,0

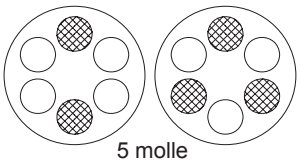
Momenti torcenti degli attuatori semplice effetto (Nm)
Output torque of spring return actuators (Nm)

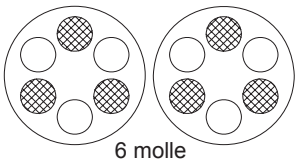
Ø Attuatore *Actuator Ø*	Molle *Springs*	Pressione (bar) / *Pressure (bar)*														Forza della molla *Springs' output*	
		2,5		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
210	5	390,0	285,0	523,0	418,0	789,0	684,0									380,0	275,0
	6	335,0	209,0	468,0	342,0	734,0	608,0	1.000,0	874,0							456,0	330,0
	7	280,0	133,0	413,0	266,0	679,0	532,0	945,0	798,0							532,0	385,0
	8			358,0	190,0	624,0	456,0	890,0	722,0	1.156,0	988,0	1.422,0	1.254,0			608,0	440,0
	9					569,0	380,0	835,0	646,0	1.101,0	912,0	1.367,0	1.178,0			684,0	495,0
	10					514,0	304,0	780,0	570,0	1.046,0	836,0	1.312,0	1.102,0	1.578,0	1.368,0	760,0	550,0
	11							725,0	494,0	991,0	760,0	1.257,0	1.026,0	1.523,0	1.292,0	836,0	605,0
	12							670,0	418,0	936,0	684,0	1.202,0	950,0	1.468,0	1.216,0	912,0	660,0
240	5	552,0	409,0	744,0	600,0	1.129,0	985,0									554,0	410,0
	6	470,0	297,0	662,0	489,0	1.047,0	874,0	1.432,0	1.259,0							665,0	492,0
	7	388,0	187,0	580,0	379,0	964,0	764,0	1.349,0	1149,0							775,0	575,0
	8			498,0	268,0	883,0	653,0	1.267,0	1037,0	1.652,0	1.422,0	2.037,0	1.807,0			886,0	656,0
	9					800,0	542,0	1.185,0	926,0	1.569,0	1.311,0	1.954,0	1.696,0			998,0	739,0
	10					718,0	431,0	1.103,0	816,0	1.488,0	1.201,0	1.872,0	1.586,0	2.257,0	1.970,0	1.108,0	821,0
	11							1.021,0	705,0	1.406,0	1.090,0	1.791,0	1.474,0	2.176,0	1.859,0	1.219,0	903,0
	12							939,0	594,0	1.323,0	979,0	1.708,0	1.363,0	2.093,0	1.748,0	1.330,0	985,0
270	5	903,0	675,0	1.195,0	968,0	1.779,0	1.552,0									787,0	560,0
	6	790,0	519,0	1.083,0	811,0	1.667,0	1.396,0	2.252,0	1.981,0							943,0	672,0
	7	679,0	361,0	972,0	654,0	1.556,0	1.238,0	2.141,0	798,0							1.101,0	783,0
	8			860,0	497,0	1.444,0	1.081,0	2.029,0	1.823,0	2.614,0	2.252,0	3.199,0	2.836,0			1.258,0	895,0
	9					1.332,0	923,0	1.917,0	1.666,0	2.502,0	2.094,0	3.087,0	2.678,0			1.416,0	1.007,0
	10					1.220,0	767,0	1.805,0	1.509,0	2.390,0	1.937,0	2.974,0	2.521,0	3.560,0	3.107,0	1.572,0	1.119,0
	11							1.693,0	1.352,0	2.278,0	1.179,0	2.862,0	2.364,0	3.448,0	2.949,0	1.730,0	1.231,0
	12							1.582,0	1.037,0	2.167,0	1.623,0	2.751,0	2.207,0	3.336,0	2.792,0	1.887,0	1.342,0
300	5	1.097,0	729,0													1.061,0	730,0
	6	935,0	494,0	1.316,0	875,0											1.273,0	876,0
	7	772,0	258,0	1.153,0	639,0	1.916,0	1.402,0									1.485,0	1.022,0
	8			991,0	403,0	1.754,0	1.166,0	2.517,0	1.929,0							1.697,0	1.168,0
	9					1.592,0	930,0	2.255,0	1.693,0	3.118,0	2.456,0					1.909,0	1.314,0
	10					1.430,0	695,0	2.193,0	1.458,0	2.956,0	2.221,0	3.719,0	2.984,0	4.482,0	3.747,0	2.122,0	1.460,0
	11							2.030,0	1.222,0	2.793,0	1.985,0	3.556,0	2.748,0	4.319,0	3.511,0	2.334,0	1.606,0
	12							1.868,0	986,0	2.631,0	1.749,0	3.394,0	2.512,0	4.157,0	3.275,0	2.546,0	1.752,0
350	5	1.552,0	964,0													1.702,0	1.173,0
	6	1.292,0	586,0	1.863,0	1.157,0											2.043,0	1.408,0
	7	1.031,0	208,0	1.602,0	779,0	2.745,0	1.922,0									2.383,0	1.642,0
	8			1.341,0	401,0	2.484,0	1.544,0	3.626,0	2.686,0							2.724,0	1.877,0
	9					2.224,0	1.165,0	3.336,0	2.307,0	4.508,0	3.449,0					3.064,0	2.112,0
	10					1.963,0	787,0	3.105,0	1.929,0	4.247,0	3.071,0	5.390,0	4.214,0	6.532,0	5.356,0	3.405,0	2.346,0
	11							2.844,0	1.551,0	3.986,0	2.693,0	5.129,0	3.836,0	6.271,0	4.978,0	3.745,0	2.581,0
	12							2.584,0	1.172,0	3.726,0	2.314,0	4.869,0	3.457,0	6.011,0	4.599,0	4.086,0	2.816,0
400	7	2.028,0	869,0													2.880,0	1.837,0
	8	1.736,0	411,0	2.550,0	1.225,0											3.292,0	2.100,0
	9			2.259,0	768,0	3.887,0	2.396,0									3.703,0	2.362,0
	10			1.967,0	311,0	3.595,0	1.939,0	5.223,0	3.567,0							4.115,0	2.624,0
	11					3.303,0	1.482,0	4.931,0	3.110,0	6.559,0	4.738,0					4.526,0	2.887,0
	12					3.012,0	1.025,0	4.640,0	2.653,0	6.268,0	4.281,0	7.895,0	5.908,0	9.523,0	7.536,0	4.938,0	3.149,0
	13							4.348,0	2.195,0	5.976,0	3.823,0	7.603,0	5.450,0	9.231,0	7.078,0	5.349,0	3.412,0
	14							4.057,0	1.738,0	5.685,0	3.366,0	7.312,0	4.993,0	8.940,0	6.621,0	5.761,0	3.674,0
	15							3.756,0	1.281,0	4.393,0	2.909,0	7.020,0	4.536,0	8.648,0	6.164,0	6.172,0	3.937,0
	16									5.101,0	2.452,0	6.728,0	4.079,0	8.356,0	5.707,0	6.584,0	4.199,0

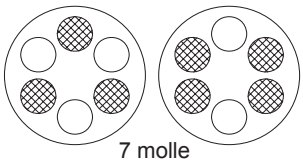
Momento torcente aria in decremento da 90° - 0° / *Output torque air decreasing 90° - 0°*
Momento torcente molle in decremento da 90° - 0° / *Output torque springs decreasing 90° - 0°*

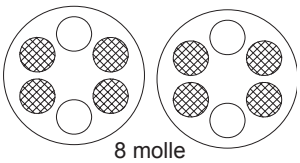
Specifica di montaggio delle molle per attuatori semplice effetto

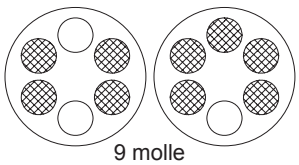
Springs mounting form for spring return actuators

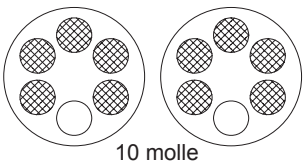

5 molle
5 springs

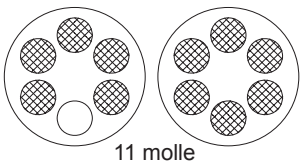

6 molle
6 springs

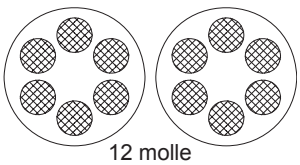

7 molle
7 springs


8 molle
8 springs


9 molle
9 springs

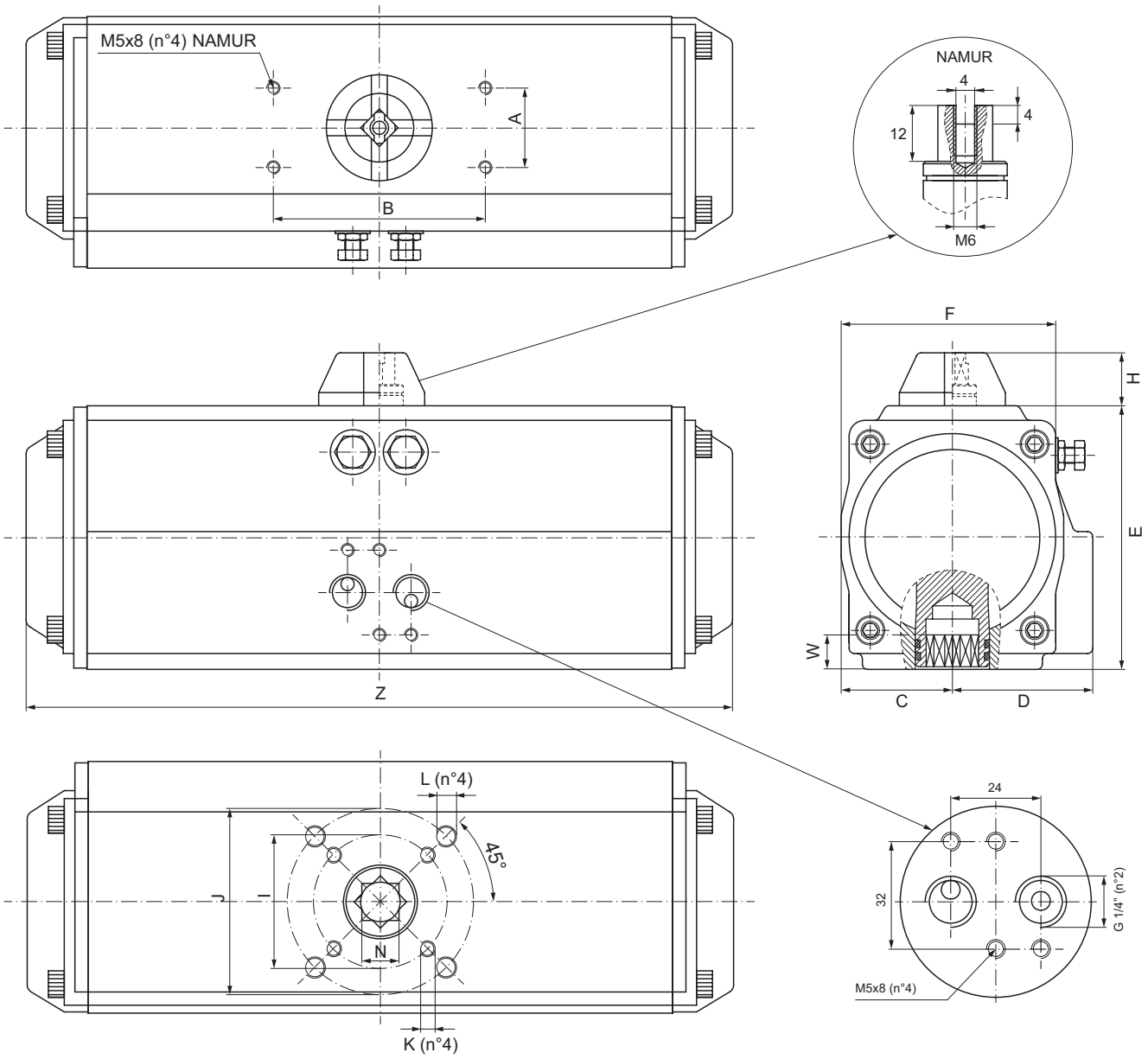

10 molle
10 springs


11 molle
11 springs


12 molle
12 springs

1

Specifiche tecniche attuatori 0-180° - *Technical features actuators 0-180°*



Ø Attuatore *Actuator Ø*	A	B	C	D	E	F	H	I	J	K	L	ØN	W	Z	Connessione *Connection*	Flangia ISO *ISO flange*
52	30	80	26	41	72	65	20	Ø 36	Ø 50	M5x8	M6x9	11	14	210	G 1/4" NAMUR	F03 / F05
63	30	80	33,5	47	88	72	20	Ø 50	Ø 70	M6x10	M8x13	14	18	241	G 1/4" NAMUR	F05 / F07
75	30	80	39	53	99,5	81	20	Ø 50	Ø 70	M6x10	M8x13	14	18	258	G 1/4" NAMUR	F05 / F07
83	30	80	40	57	109	92	20	Ø 50	Ø 70	M6x10	M8x13	17	21	302	G 1/4 NAMUR	F05 / F07
92	30	80	44,5	58,5	116,5	98	20	Ø 50	Ø 70	M6x10	M8x13	17	21	375	G 1/4" NAMUR	F05 / F07
105	30	80	52	66,5	133	109,5	20	Ø 70	Ø 102	M8x13	M10x16	22	26	396	G 1/4" NAMUR	F07 / F10
125	30	80	67,5	65	155	127,5	20	Ø 70	Ø 102	M8x13	M10x16	22	26	440	G 1/4" NAMUR	F07 / F10
140	30	80	75	77	172	137,5	20	Ø 102	Ø 125	M10x16	M12x19	27	31	585	G 1/4" NAMUR	F10 / F12
160	30	80	87	87	197	158	20	Ø 102	Ø 125	M10x16	M12x19	27	31	675	G 1/4" NAMUR	F10 / F12
190	30	130	103	103	230	189	30	-	Ø 140	-	M16x24	36	40	781	G 1/4" NAMUR	F14
210	30	130	114	114	255	211	30	-	Ø 140	-	M16x24	36	40	789	G 1/4" NAMUR	F14

Attuatori alluminio a doppio effetto, 0-180°
Aluminium actuators double acting, 0-180°

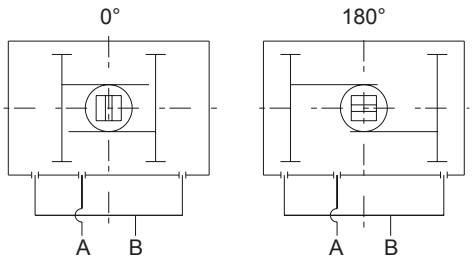
II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

Doppio effetto *Double acting*		
Codice / *Code*	Articolo / *Article*	Ø Attuatore / *Actuator Ø*
40535	RA052DA/180°	52
40526	RA063DA /180°	63
40527	RA075DA /180°	75
40294	RA083DA /180°	83
40528	RA092DA /180°	92
40529	RA105DA /180°	105
40530	RA125DA /180°	125
40531	RA140DA /180°	140
40532	RA160DA /180°	160
40533	RA190DA /180°	190
40534	RA210DA /180°	210

Rotazione Standard - *Standard rotation*

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione A.

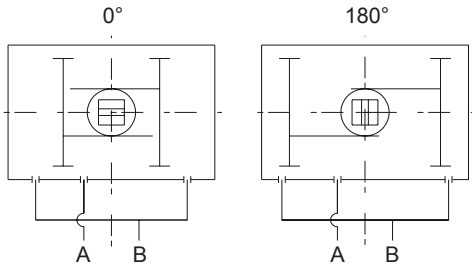
Air to port A forces the pistons outwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port A.



Rotazione inversa - *Reverse rotation* (a richiesta - *on request*)

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione A.

Air to port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port A.



Momenti torcenti degli attuatori doppio effetto (Nm) *Output torque of double acting actuators (Nm)*										
Ø Attuatore *Actuator Ø*	Pressione (bar) / *Pressure (bar)*									
	2	2,5	3	4	4,5	5	5,5	6	7	8
52	8,0	10,0	12,0	16,0	18,0	20,0	21,9	23,9	27,9	31,9
63	14,6	18,2	21,9	29,2	32,8	36,5	40,1	43,8	51,1	58,4
75	20,1	25,1	30,1	40,1	45,1	50,2	55,2	60,2	70,2	80,3
83	31,4	39,2	47,0	62,7	70,5	78,4	86,2	94,1	109,7	125,4
92	45,1	56,4	67,7	90,3	101,6	112,9	124,1	135,4	158,0	180,6
105	66,1	82,7	99,2	132,2	148,8	165,3	181,8	198,4	231,4	264,5
125	100,3	125,4	150,5	200,6	225,7	250,8	275,9	301,0	351,1	401,3
140	171,0	213,8	256,5	342,0	384,8	427,5	470,3	513,0	598,5	684,0
160	266,0	332,5	399,0	532,0	598,5	665,0	731,5	798,0	931,0	1.064,0
190	425,6	532,0	638,4	851,2	957,6	1.064,0	1.170,4	1.276,8	1.489,6	1.702,4
210	532,0	665,0	798,0	1.064,0	1.197,0	1.330,0	1.463,0	1.596,0	1.862,0	2.128,0
Momento torcente costante / *Output torque constant 0° - 180° e 180° - 0°*										

Nota: su richiesta fornibili anche nelle versioni 0-125° e 0-135°
Note: *on request available also in 0-125° and 0-135° versions*

RAX

II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

In conformità / *According to*
ATEX 2014/34/EU

In conformità / *According to*
IEC 61508:2010

-15°C ÷ +150°C
Guarnizioni per alte temperature su richiesta
High temperatures seals on request

-40°C ÷ +80°C
Guarnizioni per basse temperature su richiesta
Low temperatures seals on request

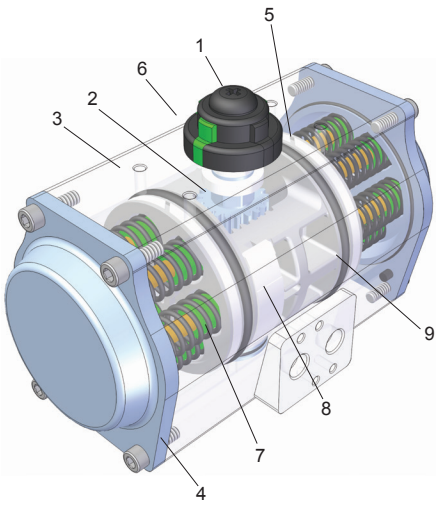
Descrizione - *Description*

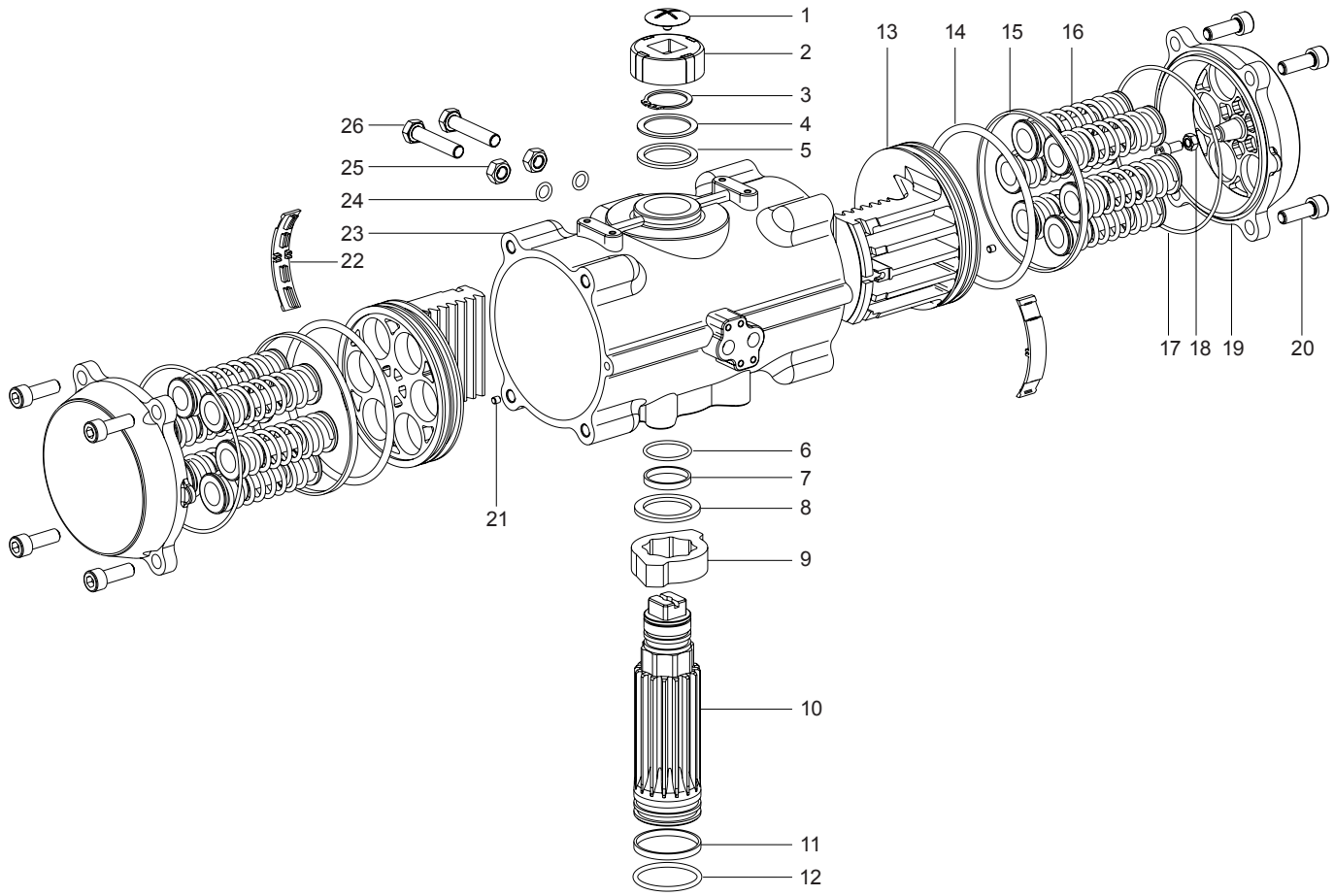
La nostra nuova serie di attuatori pneumatici RAX è stata progettata con pignone e cremagliera, corpo in acciaio Inox AISI 316 con versioni a doppio e semplice effetto con molle di ritorno. Questo tipo di attuatore è dotato come standard di un indicatore superiore multi funzione open-close e della regolazione dell'apertura / chiusura. La caratteristica principale di questi attuatori è l'altissima resistenza in ambienti con condizioni aggressive. La struttura generale e l'assieme delle parti interne garantiscono prestazioni e cicli di vita elevati. Tutti gli attuatori della Serie sono inoltre certificati SIL (in conformità alla normativa IEC 61508:2010), e sono altresì conformi alla Direttiva ATEX 2014/34/UE (per maggiori informazioni sulle classificazioni ATEX vedi pag. II).

Our new series of pneumatic actuators RAX was designed with rack and pinion, Stainless Steel AISI 316 body with double and single acting version with return springs. This type of actuator is equipped with a top indicator multi open-close function and the adjustment of the opening / closing as standard. The main feature of these actuators is the very high resistance in environments with aggressive conditions. The general structure and the assembly of the internal parts ensure high performance and long life cycles. Furthermore all the actuators of the series are SIL certified (according to IEC 61508:2010), and also conforming to 2014/34/EU ATEX Directive (for more information about ATEX classification, please see page III).

Componenti - *Components*

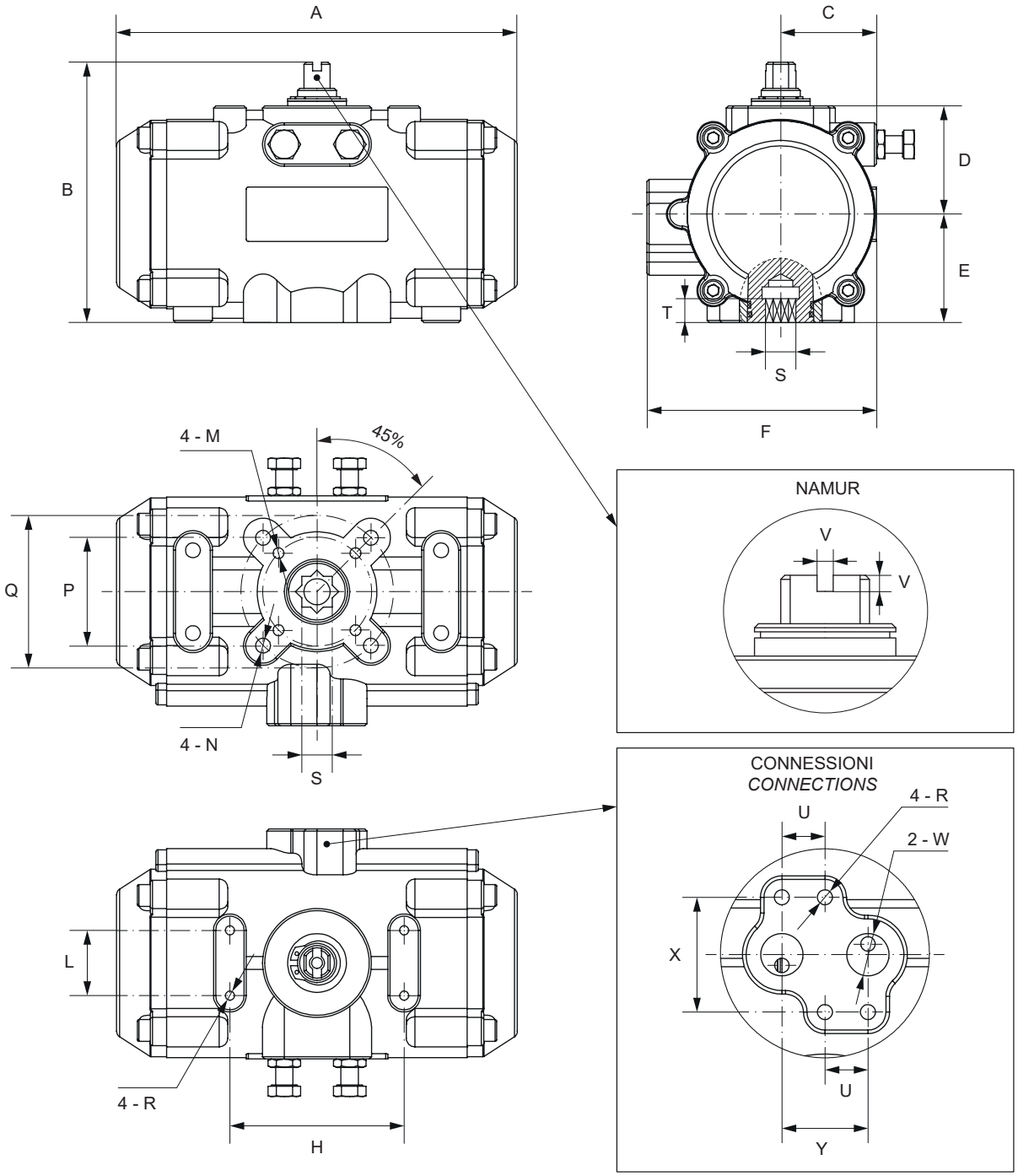
N°	Descrizione *Description*	Materiali *Materials*
1	Indicatore *Indicator*	Indicatore di posizione a normativa NAMUR per montaggio di accessori tipo: box fine-corsa, posizionatori, ecc. *Position indicator conforming to NAMUR normative for convenient assembly of accessories such as limit switch box, positioner and so on.*
2	Pignone *Pinion*	Ad alta precisione, in lega d'acciaio nichelato, conforme alle normative ISO 5211, DIN 3337 e NAMUR. Su richiesta fornibile in acciaio Inox. *High-precision, in steel alloy nickel-plated, conforming to normatives ISO 5211, DIN 3337 and NAMUR. On request available in Stainless Steel.*
3	Corpo *Body*	Secondo i differenti requisiti, il corpo in acciaio Inox con finitura elettro-lucidata offre eccellente resistenza alla maggior parte dei prodotti chimici corrosivi presenti nelle atmosfere industriali. *According to the different requirements, the Stainless Steel body with electro-polish finish offers excellent resistance to most corrosive chemicals in industrial atmospheres.*
4	Testate *Heads*	Le testate in acciaio Inox con finitura elettro-lucidata offrono eccellente resistenza alla maggior parte dei prodotti chimici corrosivi presenti nelle atmosfere industriali. *The stainless stell end-caps with electro-polish finish offers excellent resistance to most corrosive chemicals in industrial atmospheres.*
5	Pistoni *Pistons*	I pistoni a doppia cremagliera sono fatti in acciaio inossidabile resistente alla maggior parte dei prodotti chimici corrosivi presenti nelle atmosfere industriali. *The twin-rack pistons are made in Stainless Steel resistant to most corrosive chemicals in industrial atmospheres.*
6	Viti di regolazione *Adjustment screw*	Le due viti di regolazione indipendenti possono regolare ± 5° in entrambe le operazioni di apertura e chiusura con precisione. *The two independent adjustment screws can adjust ± 5° at both open and close operations easily and precisely.*
7	Molle *Springs*	In materiale di alta qualità, garantiscono resistenza alla corrosione e lunga durata. Possono essere smontate facilmente per soddisfare diverse necessità di forze cambiando il numero di molle. *In high quality material, grant resistance to corrosion and long life. Can easily be demounted to satisfy different torque requirement by changing spring number.*
8	Cuscinetti e guide *Bearing and guides*	In materiali a bassa frizione per evitare il diretto contatto tra le parti metalliche. Facili da sostituire. *In low friction materials to avoid direct contact between metal parts. Easy to replace.*
9	O-rings *O-rings*	O-ring in NBR / *NBR O-ring:* -20°C ÷ +80°C (standard) O-ring in LNBR / *LNBR O-ring:* -40°C ÷ +80°C (option) O-ring in viton / *Viton O-ring:* -15°C ÷ +150°C (option)





N°	Descrizione / *Description*	Q.tà / *Q.ty*	Materiali / *Materials*
1	Vite indicatore / *Indicator screw*	1	ABS
2	Indicatore / *Indicator*	1	ABS
3	Anello di tenuta / *Snap ring*	1	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
4	Rosetta / *Washer*	1	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
5	Rosetta esterna / *Outside washer*	1	Poliossimetilene / *Polyoxymethylene*
6	O-ring (Pignone superiore) / *O-ring (Pinion top)*	1	NBR
7	Anello (Pignone superiore) / *Bearing (Pinion top)*	1	Poliossimetilene / *Polyoxymethylene*
8	Rosetta interna / *Inside washer*	1	Poliossimetilene / *Polyoxymethylene*
9	Camma / *Cam*	1	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
10	Pignone / *Pinion*	1	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
11	Anello (Pignone inferiore) / *Bearing (Pinion bottom)*	1	Poliossimetilene / *Polyoxymethylene*
12	O-ring (Pignone inferiore) / *O-ring (Pinion bottom)*	1	NBR
13	Pistone / *Piston*	2	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
14	O-ring (Pistone) / *O-ring (Piston)*	2	NBR
15	Anello (Pistone) / *Bearing (Piston)*	2	Poliossimetilene / *Polyoxymethylene*
16	Kit Molla / *Spring cartridge*	0 ÷ 12	Acciaio armonico / *Spring steel*
	Fermo Molla (Dx e Sx) / *Spring retainer (L & R)*		Nylon 66
	Connettore del fermo molla / *Spring retainer connector*		Acciaio Inox AISI 316 e ottone / *Stainless Steel AISI 316 and Brass*
17	O-ring (Testata) / *O-ring (End cap)*	2	NBR
18	Vite d'arresto / *Stop screw*	2	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
19	Testata / *End cap*	2	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
20	Vite testata / *Cap screw*	8	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
21	Tappo / *Plug*	2	NBR
22	Guida pistone / *Piston guide*	2	Nylon 66
23	Corpo / *Body*	1	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
24	O-ring (Vite di regolazione) / *O-ring (Adjustment screw)*	2	NBR
25	Dado (Vite di regolazione) / *Nut (Adjustment screw)*	2	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
26	Vite di regolazione / *Adjustment screw*	2	Acciaio Inox AISI 316 / *Stainless Steel AISI 316*
Fornibili su richiesta con guarnizioni per alte temperature (Viton -15°C ÷ +150°C) e basse temperature (LNBR -40°C ÷ + 80°C) *On request available with seals for high temperatures (Viton -15°C ÷ +150°C) and low temperatures (LNBR -40°C ÷ +80°C)*			

Specifiche tecniche attuatori 0-90° - *Technical features actuators 0-90°*



Ø Attuatore *Actuator Ø*	A	B	C	D	E	F	H	L	M	N	P	Q	R	ØS	T	V	U	X	Y	W (NAMUR)	Flangia ISO *ISO flange*
45	133	84	28	32	32	70	80	30	M5	M6	Ø36	Ø50	M5	11	13	4	12	32	24	G1/4"	F03/F05
52	146	92	30	36	36	79	80	30	M5	M6	Ø36	Ø50	M5	11	13	4	12	32	24	G1/4"	F03/F05
63	173	108	36	44	44	93	80	30	M6	M8	Ø50	Ø70	M5	14	18	4	12	32	24	G1/4"	F05/F07
75	184	120	44	50	50	106	80	30	M6	M8	Ø50	Ø70	M5	14	20	4	12	32	24	G1/4"	F05/F07
83	211	128	48	54	54	114	80	30	M6	M8	Ø50	Ø70	M5	17	21	4	12	32	24	G1/4"	F05/F07
92	262	138	49	59	59	126	80	30	M6	M8	Ø50	Ø70	M5	17	22	4	12	32	24	G1/4"	F05/F07
105	270	153	50	67	67	137	80	30	M8	M10	Ø70	Ø102	M5	22	26	4	12	32	24	G1/4"	F07/F10
125	302	175	58	78	78	157	130	30	M8	M10	Ø70	Ø102	M5	22	27	4	12	32	24	G1/4"	F07/F10
140	394	192	69	86	86	173	130	30	M10	M12	Ø102	Ø125	M5	27	32	4	12	32	24	G1/4"	F10/F12
160	456	218	75	99	99	195	130	30	M10	M12	Ø102	Ø125	M5	27	32	4	12	32	24	G1/4"	F10/F12
190	528	260	86	115	115	235	130	30	M16	-	Ø140	-	M5	36	40	4	12	32	24	G1/4"	F14
210	532	285	101	128	128	255	130	30	M16	-	Ø140	-	M5	36	40	4	12	32	24	G1/4"	F14
240	608	322	115	146	146	294	130	30	M20	-	Ø165	-	M5	46	49	4	12	32	24	G1/4"	F16
270	714	361	126	166	166	327	130	30	M20	-	Ø165	-	M5	46	49	4	12	45	40	G1/2"	F16
300	783	384	144	177	177	355	130	30	M20	-	Ø165	-	M5	46	56	4	12	45	40	G1/2"	F16

1

Attuatori Inox a doppio effetto, 0-90°

Stainless Steel actuators double acting, 0-90°

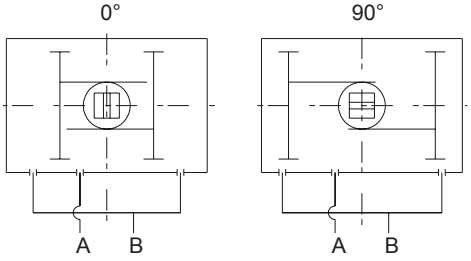
II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

Doppio effetto *Double acting*			
Codice / *Code*	Articolo / *Article*	Ø Attuatore / *Actuator Ø*	Peso in kg / *Weight in kg*
40394	RAX045DA-316	45	1,80
40395	RAX052DA-316	52	2,50
40396	RAX063DA-316	63	3,60
40320	RAX075DA-316	75	6,50
40397	RAX083DA-316	83	6,50
40029	RAX092DA-316	92	9,20
40398	RAX105DA-316	105	10,00
40399	RAX125DA-316	125	12,10
40400	RAX140DA-316	140	15,50
40401	RAX160DA-316	160	27,00
40032	RAX190DA-316	190	45,00
40402	RAX210DA-316	210	71,50
40041	RAX240DA-316	240	86,00
40043	RAX270DA-316	270	145,00
40403	RAX300DA-316	300	198,00

Rotazione Standard - *Standard rotation*

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione A.

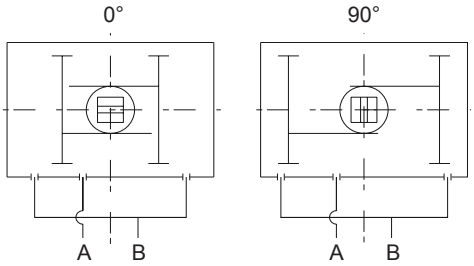
Air to port A forces the pistons outwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port A.



Rotazione inversa - *Reverse rotation* (a richiesta - *on request*)

L'aria sulla connessione A forza i pistoni all'esterno, muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione B. L'aria nella connessione B forza il pistone verso l'interno, muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione A.

Air to port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn counter-clockwise while the air is being exhausted from port A.



Momenti torcenti degli attuatori doppio effetto (Nm) *Output torque of double acting actuators (Nm)*						
Ø Attuatore *Actuator Ø*	Pressione (bar) / *Pressure (bar)*					
	3	4	5	6	7	8
45	9,0	12,0	15,0	18,0	21,0	24,0
52	12,0	16,0	20,0	24,0	28,0	32,0
63	22,0	29,0	36,0	43,0	51,0	58,0
75	30,0	40,0	50,0	60,0	70,0	80,0
83	47,0	62,0	78,0	94,0	109,0	125,0
92	68,0	90,0	113,0	135,0	158,0	181,0
105	98,0	130,0	163,0	196,0	228,0	261,0
125	151,0	201,0	251,0	301,0	351,0	401,0
140	261,0	348,0	434,0	521,0	608,0	695,0
160	397,0	530,0	662,0	794,0	927,0	1.059,0
190	640,0	854,0	1.067,0	1.280,0	1.494,0	1.707,0
210	798,0	1.064,0	1.330,0	1.596,0	1.862,0	2.128,0
240	1.154,0	1.539,0	1.924,0	2.309,0	2.693,0	3.078,0
270	1.755,0	2.340,0	2.924,0	3.510,0	4.095,0	4.680,0
300	2.291,0	3.055,0	3.819,0	4.583,0	5.347,0	6.110,0
Momento torcente costante / *Output torque constant 0° - 90° e 90° - 0°*						

Attuatori Inox a semplice effetto, 0-90°
Stainless Steel actuators spring return, 0-90°

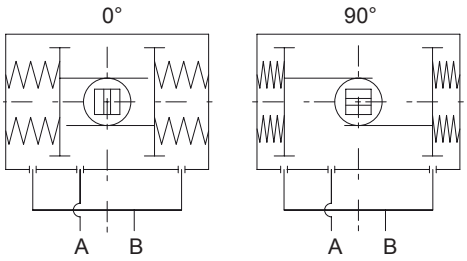
II 2G Ex h IIC T6 Gb
II 2D Ex h IIIC T85°C Db

Semplice effetto (standard 12 molle) *Spring return (standard 12 springs)*			
Codice / *Code*	Articolo / *Article*	Ø Attuatore / *Actuator Ø*	Peso in kg / *Weight in kg*
40404	RAX045SR-316	45	1,90
40405	RAX052SR-316	52	2,60
40406	RAX063SR-316	63	3,70
40028	RAX075SR-316	75	6,70
40407	RAX083SR-316	83	6,80
40030	RAX092SR-316	92	9,80
40408	RAX105SR-316	105	11,00
40409	RAX125SR-316	125	13,00
40410	RAX140SR-316	140	17,00
40317	RAX160SR-316	160	30,00
40033	RAX190SR-316	190	51,00
40412	RAX210SR-316	210	79,00
40042	RAX240SR-316	240	97,00
40044	RAX270SR-316	270	163,00
40413	RAX300SR-316	300	221,00

Rotazione Standard - *Standard rotation*

L'aria sulla connessione A forza i pistoni all'esterno, comprimendo le molle e muovendo il pignone in senso antiorario mentre l'aria viene scaricata dalla connessione B. Togliendo l'aria dalla connessione A l'energia immagazzinata dalle molle forza il pistone verso l'interno. Il pignone ruota in senso orario mentre l'aria viene scaricata dalla connessione A.

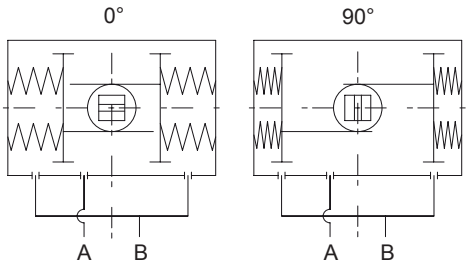
Air to port A forces the pistons outwards, causing the spring to compress, the pinion to turn counter-clockwise while the air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turn clockwise while the air is being exhausted from port A.



Rotazione inversa - *Reverse rotation* (a richiesta - *on request*)

L'aria sulla connessione A forza i pistoni all'esterno, comprimendo le molle e muovendo il pignone in senso orario mentre l'aria viene scaricata dalla connessione B. Togliendo l'aria dalla connessione A l'energia immagazzinata dalle molle forza il pistone verso l'interno. Il pignone ruota in senso antiorario mentre l'aria viene scaricata dalla connessione A.

Air to port A forces the pistons outwards, causing the spring to compress, the pinion to turn clockwise while the air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turn counter-clockwise while the air is being exhausted from port A.



Momenti torcenti degli attuatori semplice effetto (Nm) *Output torque of spring return actuators (Nm)*													
Ø Attuatore *Actuator Ø*	Pressione (bar) / *Pressure (bar)*											Forza della molla *Springs' output*	
	Molle *Springs*	3		4		5		6		7			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
45	2	4,2	1,3	7,2	4,3	10,2	7,3	-	-	-	-	7,4	4,6
	3			6,0	2,4	9,0	5,4	12,0	8,4	15,0	11,4	9,2	5,8
	4					7,8	3,5	10,8	6,5	13,8	9,5	11,1	7,0
52	5	8,1	5,8	12,1	9,8							6,2	4,0
	6	7,3	4,6	11,3	8,6							7,4	4,7
	7	6,5	3,3	10,5	7,3	14,5	11,3					8,7	5,5
	8			9,7	6,1	13,7	10,1					9,9	6,3
	9			8,9	4,8	12,9	8,8	16,9	12,8			11,2	7,1
	10			8,1	3,6	12,1	7,6	16,1	11,6	20,1	15,6	12,4	7,9
	11			7,3	2,4	11,3	6,4	15,3	10,4	19,3	14,4	13,6	8,7
	12					10,5	5,1	14,5	9,1	18,5	13,1	14,9	9,5

Momenti torcenti degli attuatori semplice effetto (Nm)
Output torque of spring return actuators (Nm)

Ø Attuatore *Actuator Ø*	Molle *Springs*	Pressione (bar) / *Pressure (bar)*										Forza della molla *Springs' output*	
		3		4		5		6		7			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
63	5	14,9	11,3	22,1	18,5							10,4	6,8
	6	13,5	9,2	20,7	16,4							12,5	8,2
	7	12,1	7,1	19,3	14,3	26,5	21,5					14,6	9,6
	8			18,0	12,2	25,2	19,4					16,7	10,9
	9			16,6	10,0	23,8	17,2	31,1	24,5			18,9	12,3
	10			15,2	8,0	22,4	15,2	29,7	22,5	36,9	29,7	20,9	13,7
	11					21,1	13,2	28,4	20,5	35,6	27,7	22,9	15,0
	12					19,7	11,1	27,0	18,4	34,2	25,6	25,0	16,4
75	5	20,0	15,0	30,0	25,0							15,0	10,0
	6	18,0	12,0	28,0	22,0							18,0	12,0
	7	16,0	9,0	26,0	19,0							21,0	14,0
	8			24,0	16,0	34,0	26,0					24,0	16,0
	9			22,0	13,0	32,0	23,0	42,0	33,0			27,0	18,0
	10			20,0	10,0	30,0	20,0	40,0	30,0	50,0	40,0	30,0	20,0
	11			18,0	7,0	28,0	17,0	38,0	27,0	48,0	37,0	33,0	22,0
	12					26,0	14,0	36,0	24,0	46,0	34,0	36,0	24,0
83	5	30,5	23,0	46,5	39,0							23,0	15,5
	6	27,4	18,4	43,4	34,4							27,6	18,6
	7			40,3	29,8	56,3	45,8					32,2	21,7
	8			37,2	25,2	53,2	41,2					36,8	24,8
	9			34,1	20,6	50,1	36,6	65,1	51,6			41,4	27,9
	10			31,0	16,0	47,0	32,0	62,0	47,0	77,0	62,0	46,0	31,0
	11					43,9	27,4	58,9	42,4	73,9	57,4	50,6	34,1
	12					40,8	22,8	55,8	37,8	70,8	52,8	55,2	37,2
92	5	44,6	34,7	67,1	57,2							33,0	23,0
	6	40,0	28,1	62,5	50,6							39,5	27,6
	7			57,9	44,0	80,4	66,5					46,1	32,2
	8			53,3	37,4	75,8	59,9					52,7	36,8
	9			48,7	30,8	71,2	53,3	93,8	75,9			59,3	41,4
	10			44,1	24,2	66,6	46,7	89,2	69,3	111,7	91,8	65,9	46,0
	11					62,0	40,1	84,6	62,7	107,1	85,2	72,5	50,6
	12					57,4	33,5	80,0	56,1	102,5	78,6	79,1	55,2
105	5	66,0	48,4	98,6	81,0							49,3	31,8
	6	59,6	38,5	92,2	71,1							59,2	38,1
	7			85,9	61,3	118,5	93,9					69,0	44,5
	8			79,5	51,4	112,1	84,0					78,9	50,8
	9			73,2	41,6	105,8	74,2	138,4	106,8			88,7	57,2
	10			66,8	31,7	99,4	64,3	132,0	96,9	164,5	129,4	98,6	63,5
	11					93,1	54,4	125,7	87,0	158,2	119,5	108,5	69,9
	12					86,7	44,6	119,3	77,2	151,8	109,7	118,3	76,2
125	5	100,0	72,0	150,0	122,0							78,0	50,0
	6	90,0	56,0	140,0	106,0							93,6	60,0
	7			130,0	91,0	181,0	142,0					109,2	70,0
	8			120,0	75,0	171,0	126,0					124,8	80,0
	9			110,0	60,0	161,0	110,0	211,0	161,0			140,4	90,0
	10			100,0	44,0	151,0	95,0	201,0	145,0	251,0	195,0	156,0	100,0
	11					141,0	79,0	191,0	129,0	241,0	179,0	171,6	110,0
	12					131,0	64,0	181,0	114,0	231,0	164,9	187,2	120,0
140	5	174,0	131,0	261,0	218,0							129,0	86,0
	6	157,0	105,0	244,0	192,0							154,8	103,2
	7			227,0	166,0	314,0	253,0					180,6	120,4
	8			209,0	141,0	296,0	228,0					206,4	137,6
	9			192,0	115,0	279,0	202,0	366,0	289,0			232,2	154,8
	10			175,0	89,0	262,0	176,0	349,0	263,0	436,0	350,0	258,0	172,0
	11					245,0	150,0	332,0	237,0	585,0	324,0	283,8	189,2
	12					228,0	124,0	315,0	211,0	402,0	298,0	309,6	206,4
160	5	258,0	205,0	390,0	337,0							192,5	139,5
	6	230,0	166,0	362,0	298,0							231,0	167,4
	7			334,0	260,0	467,0	393,0					269,5	195,3
	8			306,0	221,0	439,0	354,0					308,0	223,2
	9			278,0	183,0	411,0	316,0	543,0	448,0			346,5	251,1
	10			250,0	144,0	383,0	277,0	515,0	409,0	647,0	541,0	385,0	279,0
	11					355,0	239,0	487,0	371,0	619,0	503,0	423,5	306,9
	12					327,0	200,0	459,0	332,0	591,0	464,0	462,0	334,8

Momenti torcenti degli attuatori semplice effetto (Nm)
Output torque of spring return actuators (Nm)

Ø Attuatore *Actuator Ø*	Molle *Springs*	Pressione (bar) / *Pressure (bar)*										Forza della molla *Springs' output*	
		3		4		5		6		7			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
190	5	451,0	320,0	664,0	533,0							320,0	190,0
	6	413,0	256,0	626,0	469,0							384,0	227,0
	7			588,0	405,0	802,0	619,0					448,0	265,0
	8			550,0	341,0	764,0	555,0					512,0	303,0
	9			512,0	277,0	726,0	491,0	939,0	704,0			576,0	341,0
	10			474,0	213,0	688,0	427,0	901,0	640,0	1114,0	853,0	640,0	379,0
	11					650,0	363,0	863,0	576,0	1076,0	789,0	704,0	417,0
	12					612,0	299,0	825,0	512,0	1038,0	725,0	768,0	455,0
210	5	619,0	439,0	912,0	732,0							440,0	261,0
	6	566,0	351,0	859,0	644,0							528,0	313,0
	7			807,0	556,0	1.101,0	850,0					616,0	365,0
	8			755,0	468,0	1.049,0	762,0					704,0	417,0
	9			703,0	380,0	997,0	674,0	1.290,0	967,0			792,0	469,0
	10			651,0	292,0	945,0	586,0	1.238,0	879,0	1.531,0	1.172,0	880,0	521,0
	11					893,0	498,0	1.186,0	791,0	1.479,0	1.084,0	968,0	573,0
	12					841,0	410,0	1.134,0	703,0	1.427,0	996,0	1.056,0	625,0
240	5	766,0	572,0	1.151,0	957,0							583,0	389,0
	6	688,0	455,0	1.073,0	840,0							700,0	467,0
	7			995,0	724,0	1.379,0	1.108,0					816,0	545,0
	8			918,0	607,0	1.302,0	991,0					933,0	622,0
	9			840,0	491,0	1.224,0	875,0	1.610,0	1.261,0			1.049,0	700,0
	10			762,0	374,0	1.146,0	758,0	1.532,0	1.144,0	1.916,0	1.528,0	1.166,0	778,0
	11					1.068,0	641,0	1.454,0	1.027,0	1.838,0	1.411,0	1.283,0	856,0
	12					990,0	525,0	1.376,0	911,0	1.760,0	1.295,0	1.399,0	934,0
270	5	1.434,0	979,0	2.080,0	1.625,0							960,0	505,0
	6	1.333,0	787,0	1.979,0	1.433,0							1.152,0	606,0
	7			1.878,0	1.241,0	2.523,0	1.886,0					1.344,0	707,0
	8			1.777,0	1.049,0	2.422,0	1.694,0					1.536,0	808,0
	9			1.676,0	857,0	2.321,0	1.502,0	2.967,0	2.148,0			1.728,0	909,0
	10			1.575,0	665,0	2.220,0	1.310,0	2.866,0	1.956,0	3.513,0	2.603,0	1.920,0	1.010,0
	11					2.119,0	1.118,0	2.765,0	1.764,0	3.412,0	2.411,0	2.112,0	1.111,0
	12					2.018,0	926,0	2.664,0	1.572,0	3.311,0	2.219,0	2.304,0	1212,0
300	5	1.522,0	1.102,0	2.271,0	1.851,0							1.145,0	725,0
	6	1.377,0	873,0	2.126,0	1.622,0							1.374,0	870,0
	7			1.981,0	1.393,0	2.730,0	2.142,0					1.603,0	1.015,0
	8			1.836,0	1.164,0	2.585,0	1.913,0					1.832,0	1.160,0
	9			1.691,0	935,0	2.440,0	1.684,0	3.189,0	2.433,0			2.061,0	1.305,0
	10			1.546,0	706,0	2.295,0	1.455,0	3.044,0	2.204,0	3.793,0	2.953,0	2.290,0	1.450,0
	11					2.150,0	1.226,0	2.899,0	1.975,0	3.648,0	2.724,0	2.519,0	1.595,0
	12					2.005,0	997,0	2.754,0	1.746,0	3.503,0	2.495,0	2.748,0	1.740,0

Momento torcente aria in decremento da 90° - 0° / *Output torque air decreasing 90° - 0°*
Momento torcente molle in decremento da 90° - 0° / *Output torque springs decreasing 90° - 0°*