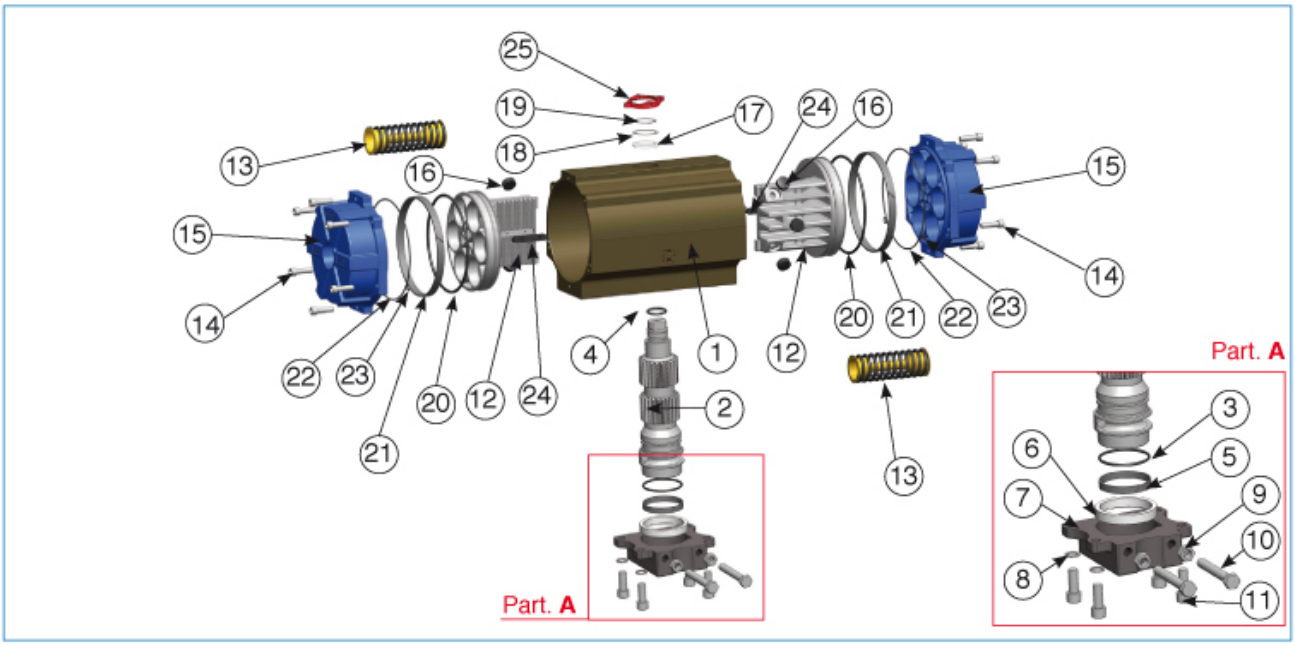
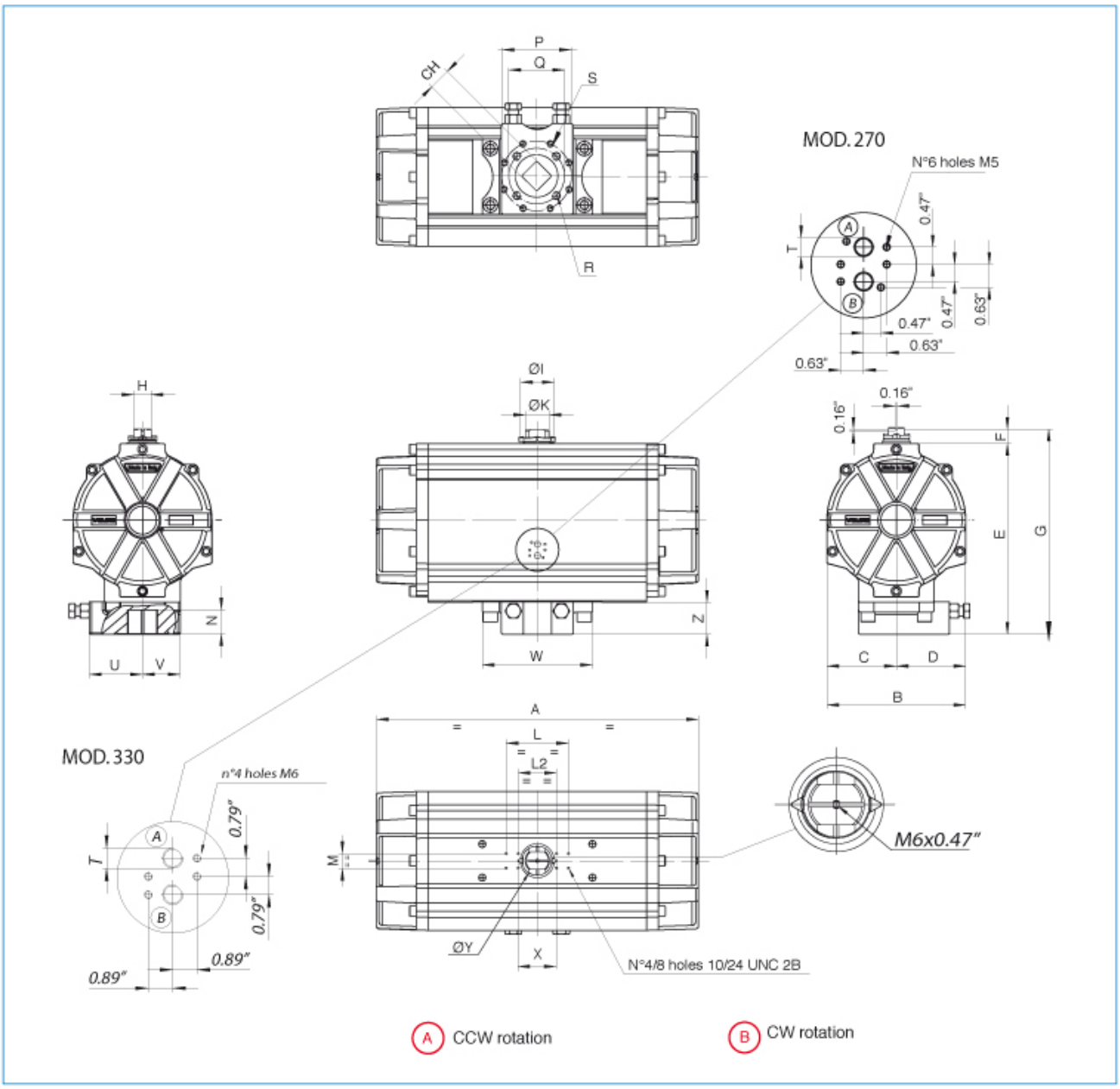


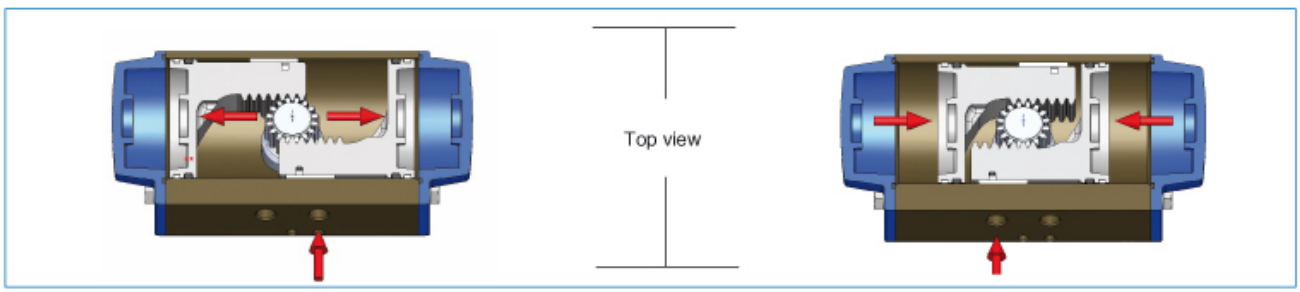
ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TA' DA	Q.TA' SR
1	Body	Extruded aluminium	Hard anodized	1	1
2	Anti-blowout pinion	Steel	Nickel plated	1	1
• 3	O-ring	NBR		1	1
• 4	O-ring	NBR		1	1
• 5	Antifriction ring	PTFE 15% graphite		1	1
• 6	Antifriction ring	PTFE		1	1
7	Plate	mod.270 GGG40 - mod.330 C45	Painted	1	1
8	Washer	Stainless steel		4	8
9	Stop bolt retaining nut	Stainless steel		2	2
10	Stop crew	Steel	Zinc plated	2	2
11	Fixing screws	Stainless steel		4	4
12	Piston	Die cast aluminium		2	2
13	Precompressed spring	Steel	Painted	0	See spring
14	End cap fixing screw	Stainless steel		mod.270 12 mod.330 16	mod.270 12 mod.330 16
15	End cap	Die cast aluminium	Painted	2	2
• 16	Thrust block	POM		mod.270 6 mod.330 8	mod.270 6 mod.330 8
• 17	Spacer ring	POM		1	1
18	Pinion washer	Stainless steel		1	1
19	Snap ring	Steel	Nickel plated	1	1
• 20	O-ring	NBR		2	2
• 21	Antifriction ring	PTFE 15% graphite		2	2
22	O-ring	NBR		2	2
23	O-ring	NBR		mod.270 4 mod.330 2	mod.270 4 mod.330 2
24	Anti blowout key	POM		2	2
25	Position indicator	Thermoplastic rubber TPE		1	1

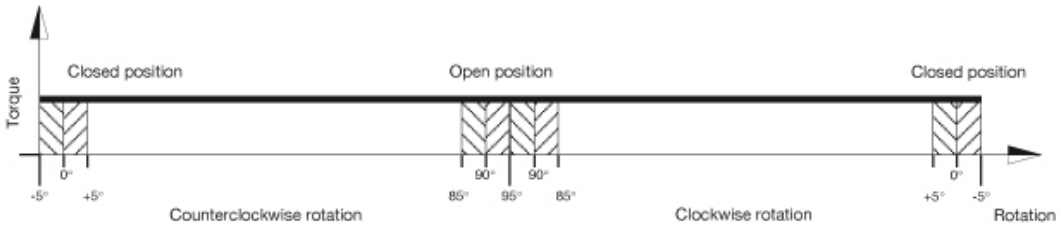
• Parts subject to wear



MOD.	DRILLING ISO 5211	CH	A	B	C	D	E	F	G	H	ØI	ØK	L	L2	M	N	P	Q	R	S	T NPT	U	V	W	Z	X	ØY
330	F16-F25	** 2.17	34.69	15.83	7.91	7.91	19.88	1.97	21.85	1.42	4.29	1.97	5.12	/	1.18	2.44	10	6.50	3/4-10 UNC 2Bx1.18"	5/8-11 UNC 2Bx1.02"	1/2"	5.08	5.32	11.69	3.74	3.17	2.36

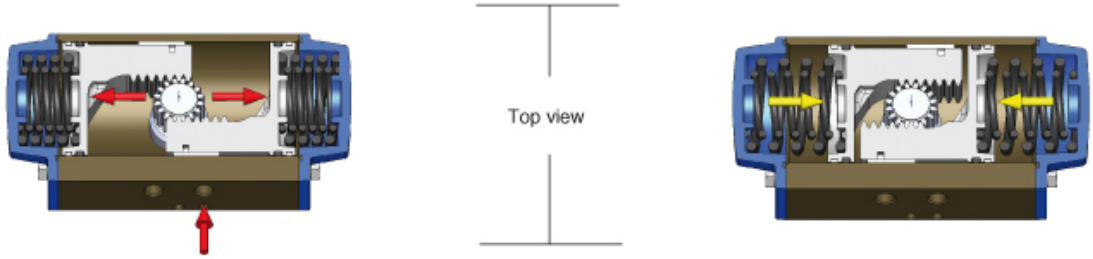
** Only square connection at 45°

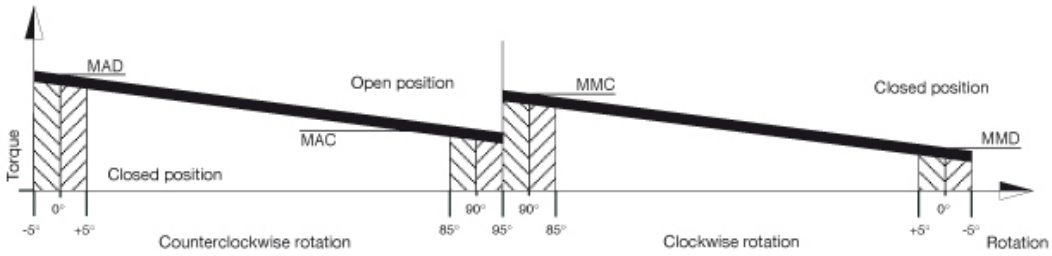




With reference to the above diagram it can be noted that the torque of a double acting actuator remains constant through-out the complete action.
The user can decide on which model to choose according to his/her own specific requirements, using the following guidelines:
1. Define the maximum torque of the valve to automate.
2. To obtain a safety factor increase the torque value chosen by 25-50% (subject to the type of valve and working conditions).
3. Once the torque value suggested is obtained consult the torque chart and in relation to the corresponding air pressure find a torque value exact to or exceeding the one obtained.
4. Once the torque value is determined move horizontally to the column "model" to find the actuator model required.

TYPE	AIR SUPPLY PRESSURE (psi)							
	40	50	60	70	80	90	100	115
	TORQUE OUTPUT DOUBLE ACTING ACTUATORS (in-Lbs)							
DA 330	22464	28083	33702	39321	44939	50476	56086	64555





With reference to the above diagram the torque of a spring return actuator is not constant but decreasing. This is due to the action of the springs that when compressed during air actuation counteract the piston movement and accumulate energy which will be available in a decreasing way during the rotation inversion.
The torque given by the actuator is defined by four fundamental values.

Opening rotation

MAD = Actuator torque with unfolded springs
MAC = Actuator torque with compressed springs.

Closing rotation

MMC = Torque with compressed springs.
MMD = Torque with unfolded springs
The user can decide on which model to chose according to his/her own specific requirements, using the following guidelines:
1. Define the maximum torque of the valve to automate.
2. To obtain a safety factor increase the torque value chosen by 25-50%
(subject to the type of valve and working conditions).
3. Once the torque value suggested is obtained consult the torque chart and in relation to the corresponding air pressure find the torque value exact to or exceeding the one obtained, taking account of the lower value between the MMD and MAC values.
4. Once the torque value is determined move horizontally to the column "model" to find the actuator model required.

SPRING SETTING	
	
PRETENSIONED SPRING	
SET	N° OF SPRINGS FOR EACH SIDE
01	2/3
02	3/3
03	3/4
04	4/4
05	4/5
06	5/5
07	5/6
08	6/6

MOD	SET	SPRING TORQUE (Nm)		AIR SUPPLY PRESSURE (psi)															
				40		50		60		70		80		70		100		115	
				TORQUE OUTPUT SPRING RETURN ACTUATORS (in-Lbs)															
		0° MMD	90° MMC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC	0° MAD	90° MAC
SR330	1	7824	12143	12046	7452	16117	11524	24260	19666										
	2	9382	14577	10382	4868	14453	8939	22596	17082										
	3	10948	17002	8718	2292	12789	6364	20932	14506	29075	22649								
	4	12515	19436			11134	3779	19277	11922	27420	20065	31491	24136						
	5	14082	21861					17613	9346	25756	17489	29827	21560	33898	25632				
	6	15639	24295					15949	6762	24092	14905	28163	18976	32234	23047				
	7	17206	26720					14294	4186	22437	12329	26508	16400	30579	20472	38713	28606		
	8	18772	29154							20773	9745	24844	13816	28915	17887	37049	26021	45192	34164

WORKING TIME (SEC)		
COUNTERCLOCKWISE ROTATION (DA)	CCW	5,50
CLOCKWISE ROTATION (DA)	CW	5,50
COUNTERCLOCKWISE ROTATION (SR)	CCW	6,40
CLOCKWISE ROTATION (SR)	CW	7,40

WEIGHT CHART (Lbs)	
DOUBLE ACTING	370,44
SPRING RETURN	460,85

ACTUATOR AIR CONSUMPTION CHART		Litres: 1 Litre = 1000 cm3
COUNTERCLOCKWISE ROTATION (DA/SR)	CCW	1556,11
CLOCKWISE ROTATION (DA)	CW	2697,25

To obtain the air consumption in Nl/min multiply the value in the chart for the correct parameters. That is to say for the supplied absolute pressure and the number of strokes in a minute.