**1 - BODY MANUFACTURED FROM EXTRUDED ALUMINIUM UNI 6060**

- Hard-coat anodized as standard finish 45-50 (micron).
- Good wear resistance.
- High corrosion resistance.
- Special finishes nickel-plating or PTFE coated for corrosive environments upon request.
- Bore finished to high standard to ensure low friction and long life.

2 - CONCENTRIC SPRING SETS

- Standard coating painted.
- High resistance and reliability.
- Spring sets to suit different air pressure/torque requirements.
- Long securing screws to allow safe dismantling for maintenance.
- Same body dimensions for DA/SR versions.

3 - DIE CAST ALUMINIUM END CAPS

- Standard polyester powder coated.
- Special finishes nickel-plating or PTFE coated for corrosive environments upon request.

4 - ASSEMBLING SCREWS

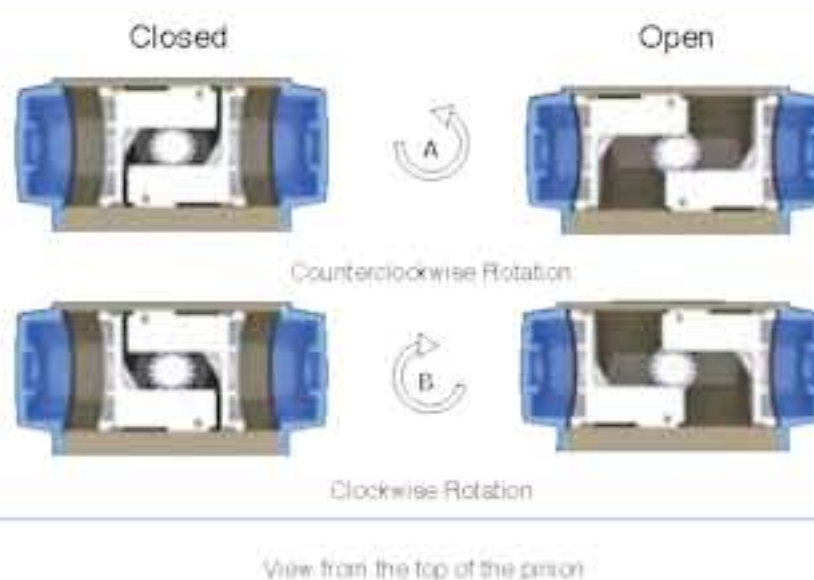
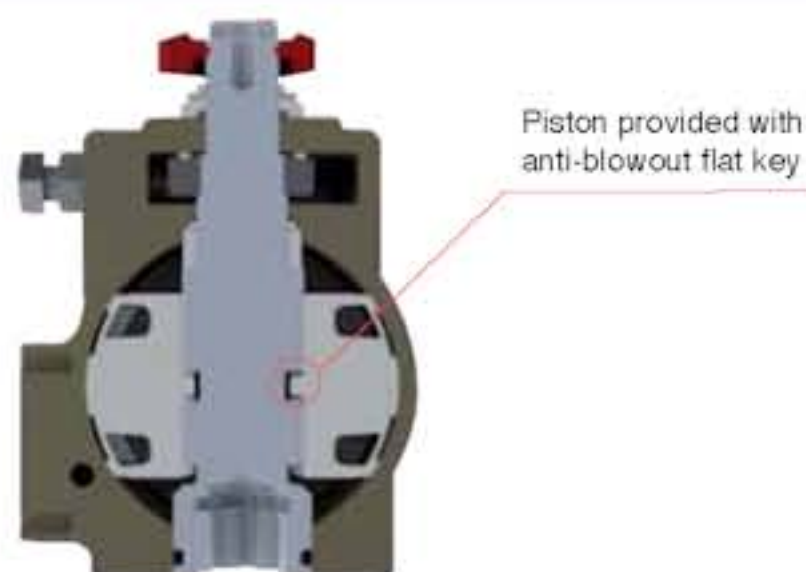
- Stainless steel as standard.

EXTERNAL CONNECTION

- Top of pinion according to Namur norm.
- Solenoid valve connection according to Namur norm.
- Bottom of pinion according to ISO 5211-DIN 3337.

NOMINAL VALUES

- Pressure rating max 8 bar.
- Working temperature: standard (-20°C; +85°C), high (-20°C; +150°C), low (-40°C; +85°C).
- Lubrication guaranteed for the entire actuator lifetime.
- 100% fully tested on manufacture.

MOUNTING VARIATIONS**ANTI-BLOWOUT SYSTEM****5 - PINION MADE IN STEEL**

- Nickel-plated against internal and external corrosion for standard version.
- Stainless steel upon request.
- Anti-blowout design.

6 - CAM FOR LIMIT POSITION ADJUSTMENT 0°-90°

- Stainless steel.
- Adjustment for open and close position $\pm 5^\circ$.

7 - 0-90° ADJUSTMENT SCREWS

- Stainless steel.

8 - PISTON GUIDES IN POM

- Large contact area.
- Low friction for self lubricating material.
- Long life.

9 - PISTONS MADE FROM DIE CAST ALUMINIUM

- Chemical nickel-plating upon request.

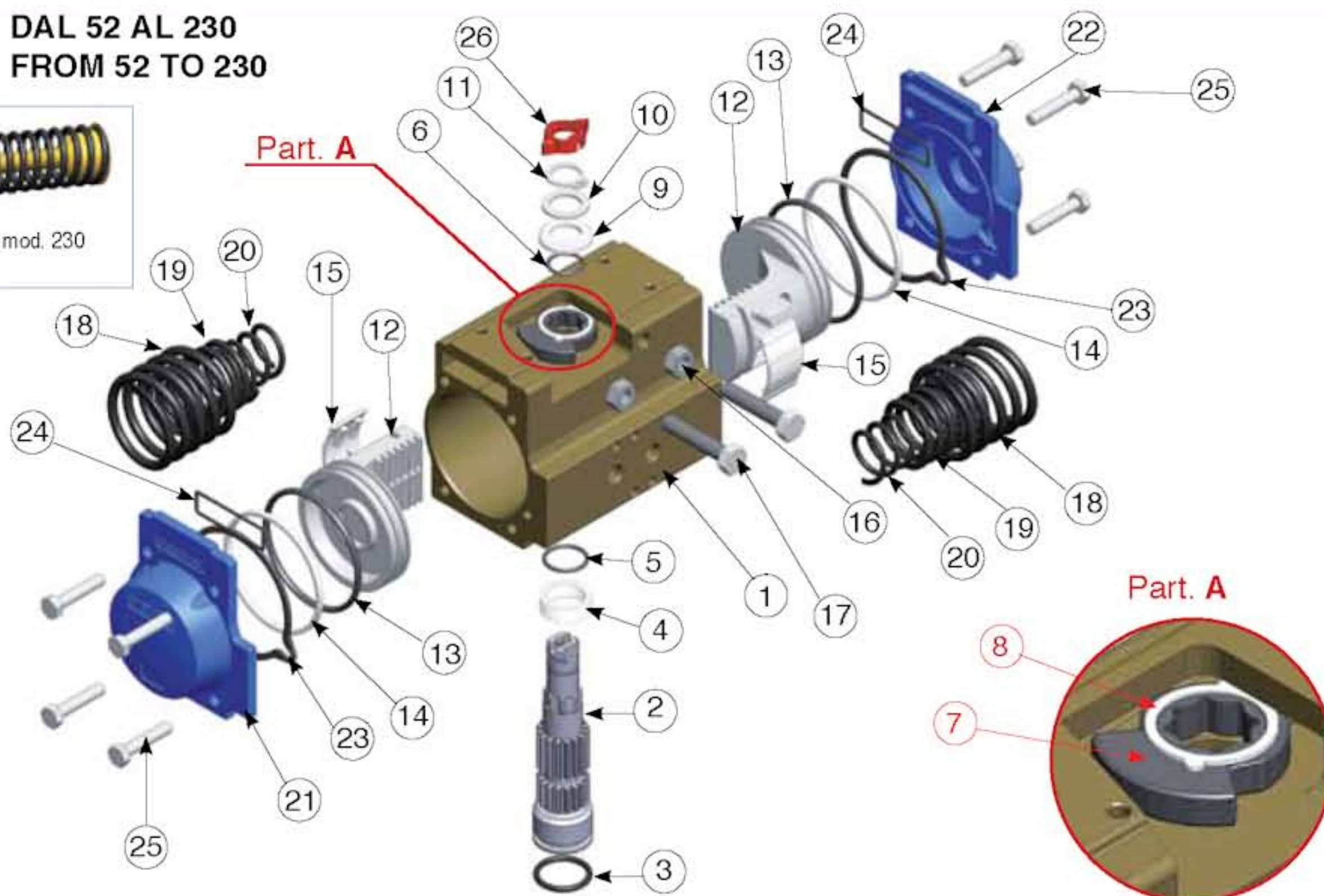
10 - SEALS

- Standard version: NBR.
- High temperature version: Viton.
- Low temperature version: silicone.

TWIN RACK AND PINION DESIGN

- Constant torque output.
- Compact design.
- Balanced internal forces.
- Robust design to ensure long life.

MOD. DAL 52 AL 230
MOD. FROM 52 TO 230



ITEM	DESCRIPTION	MATERIAL	TREATMENT	Q.TA' DA	Q.TA' SR
1	Body	Extruded aluminium	Ossidato duro - Hard anodized	1	1
2	Anti-blowout pinion	Steel	Nickel plated	1	1
• 3	O-ring	NBR		1	1
• 4	Spacer ring	POM		1	1
• 5	O-ring	NBR		1	1
• 6	O-ring	NBR		1	1
7	Cam	Stainless steel		1	1
8	Spacer	POM		1	1
• 9	Spacer	POM		1	1
10	washer	Stainless steel		1	1
** 11	Snap ring	Steel	Nickel plated	1	1
12	Piston	Die cast aluminium		2	2
• 13	O-ring	NBR		2	2
• 14	Antifriction ring	POM		2	2
• 15	Thrust block	POM		2 [4]	2 [4]
16	Stop bolt retaining nut	Stainless steel		2	2
17	Stop bolt	Stainless steel		2	2
18	External spring	Acciaio - Steel	Painted	0	See spring setting at page 19
*** 19	central spring	Acciaio - Steel	Painted	0	
20	internal spring	Acciaio - Steel	Painted	0	
21	Left end cap	Die cast aluminium	Painted	1	1
22	Right end cap	Die cast aluminium	Painted	1	1
23	End cap seats	NBR		2	2
24	O-ring	NBR		2	2
25	End cap fixing screw	Stainless steel		8	8
26	Position indicator	Thermoplastic rubber TPE		1	1

• Parts subject to wear ** Reinforced series DIN 471 - UNI 7436

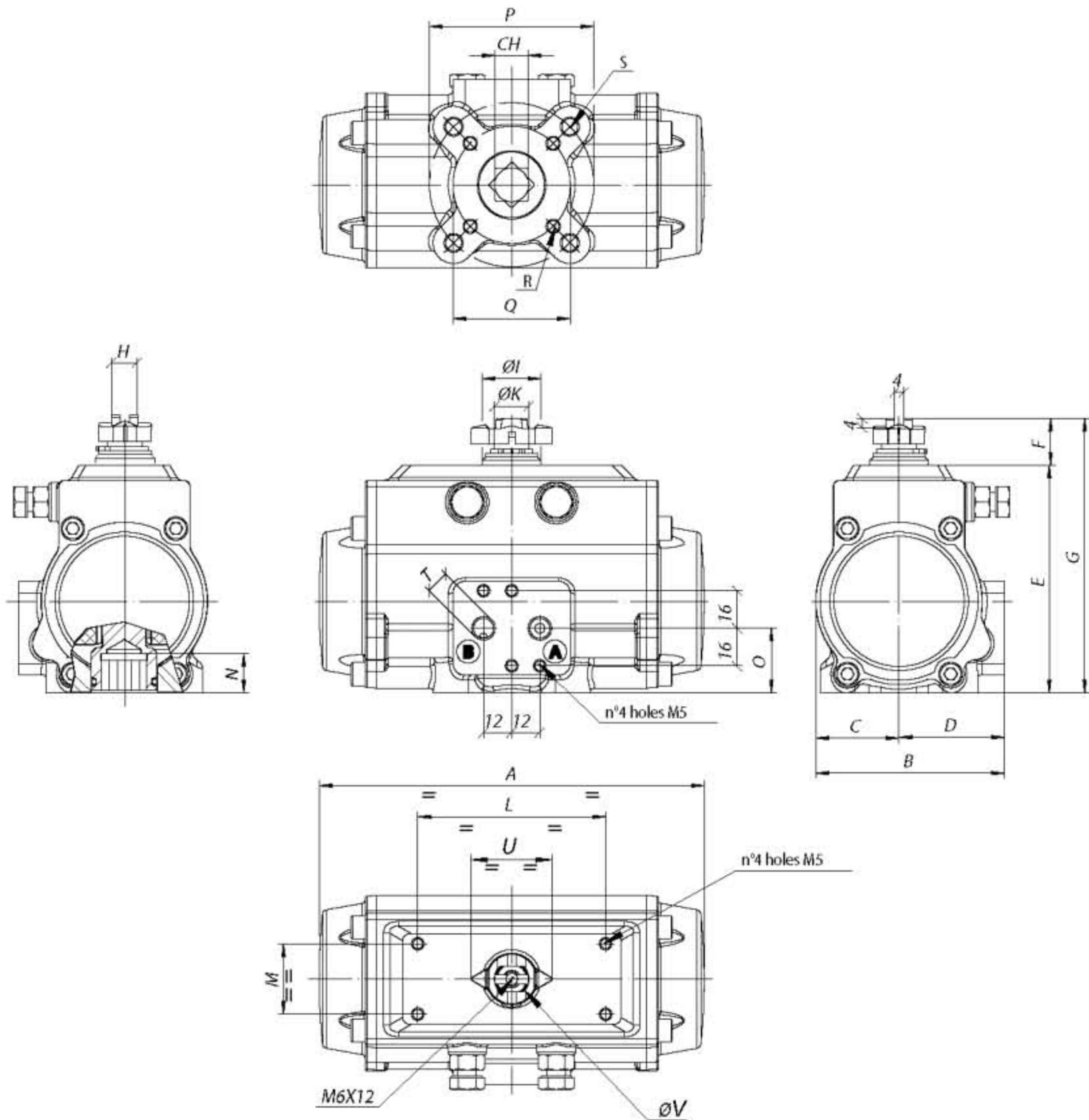
[4] Valid for mod. 140-160-180-200-230 only.

*** Solo per mod. 160-180- 200 - Only for mod. 160-180-200.

STAINLESS STEEL ACTUATOR

STAINLESS STEEL ACTUATOR DIMENSIONS FROM MOD.52 TO 100

NEW

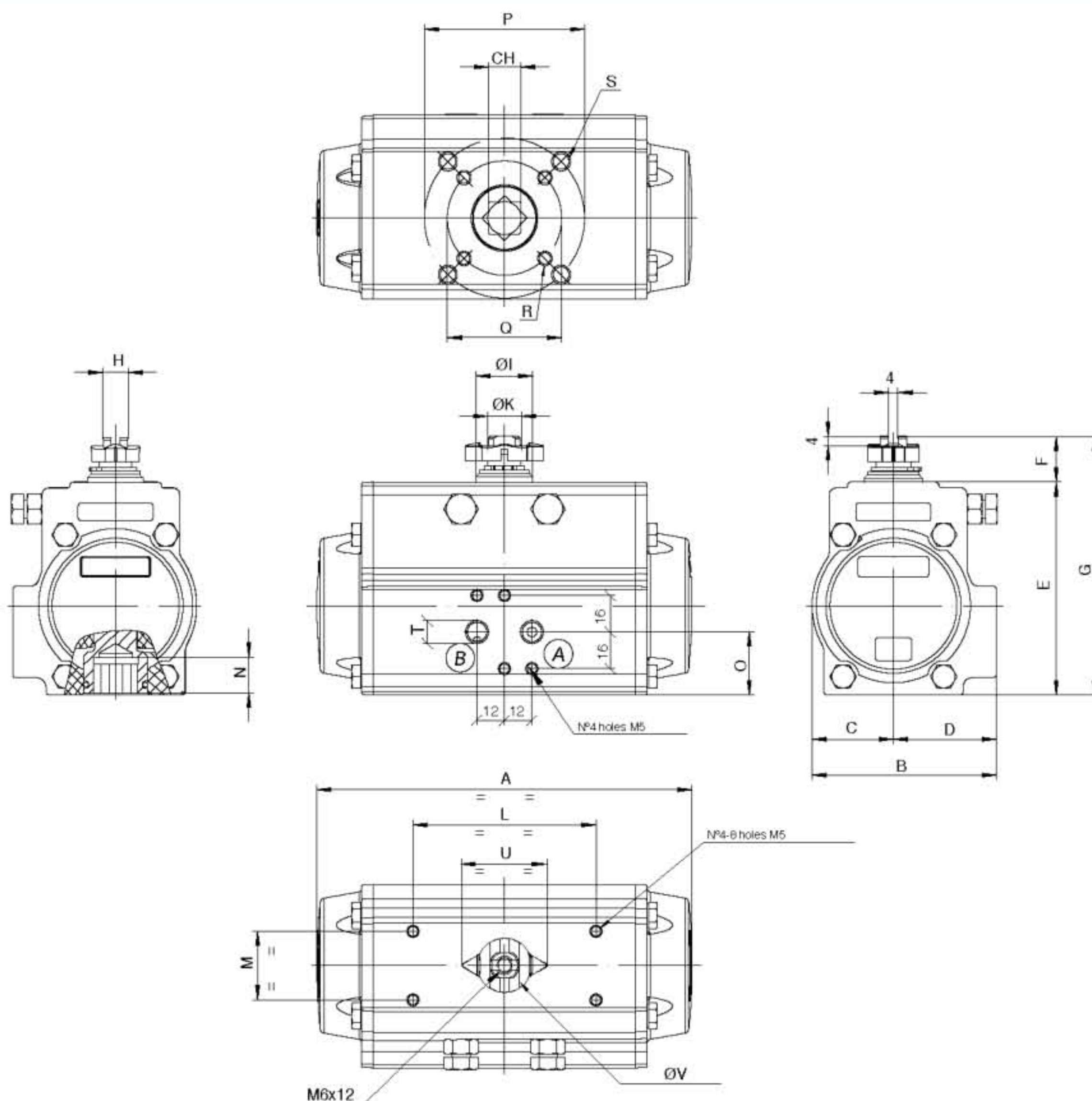


* UPON REQUEST F04

(A) CCW ROTATION

(B) CW ROTATION

MOD.	DRILLING ISO 5211	CH	A	B	C	D	E	F	G	H	$\emptyset I$	$\emptyset K$	L	M	N	O	P	Q	R	S	T ISO 7/1	U	$\emptyset V$
52	F03-F05	11	141	71	30	41	85,5	20	105,5	10	21	12	80	30	12	26,5	50	36	M5X7,5	M6X9	1/8"	34,5	22
63	F05-F07	14	164	80,5	35,5	45	97	20	117	11	25	15	80	30	16	27,5	70	50	M6X8	M8X12	1/8"	34,5	22
75	F05-F07	17	210	94,5	42	52,5	115,1	20	135,1	13	29	19	80	30	19	35	70	50	M6X8	M8X12	1/8"	42	29
85	F05-F07	17	240,5	106	47,5	58,5	129	20	149	15	35	22	80	30	19	42	70	50	M6X8	M8X12	1/8"	42	29
100	F07-F10	17	275	123	55	68	143,8	20	163,8	15	35	22	80	30	20,5	52,5	102	70	M8X9	M10X14	1/4"	42	29



* F04 upon request

(A) CCW rotation

(B) CW rotation

MOD.	DRILLING ISO 5211	CH	A	B	C	D	E	F	G	H	ØI	ØK	L	M	N	O	P	Q	R	S	T ISO 7/1	U	øV
52	F03-F05 *	11	141	71	30	41	81,5	20	101,5	10	21	12	80	30	12	26,5	50	36	M5X7,5	M6X9	1/8"	34,5	22
63	F05 - F07	14	164	80,5	35,5	45	93	20	113	11	25	15	80	30	16	27,5	70	50	M6X8	M8X12	1/8"	34,5	22
75	F05 - F07	17	210	94,5	42	52,5	111,1	20	131	13	29	19	80	30	19	35	70	50	M6X8	M8X12	1/8"	42	29
85	F05 - F07	17	240,5	106	47,5	58,5	125	20	145	15	35	22	80	30	19	42	70	50	M6X8	M8X12	1/8"	42	29
100	F07 - F10	17	275	123	55	68	137,8	20	157,8	15	35	22	80	30	20,5	50	102	70	M8X8	M10X14	1/4"	42	29
115	F07 - F10	22	333	137	64	73	162,4	30	192,4	22	49	32	80/130	30	24	50	102	70	M8X12	M10X15	1/4"	64	44
125	F07 - F10	22	372	148	68	80	174,4	30	204,4	22	49	32	80/130	30	24	61	102	70	M8X12	M10X15	1/4"	64	44
140	F10 - F12	27	435	164	76,5	87,5	197	30	227	24	49	35	80/130	30	29	71	125	102	M10X15	M12X18	1/4"	64	44
160	F10 - F12	27	500	186	87	99	221	30	251	30	57	40	80/130	30	32	80	125	102	M10X14	M12X17	1/4"	80,5	60
180	F10 - F14	36	493	213	98	115	253	30	283	36	62	45	80/130	30	43	99	140	102	M10X15	M16X25	1/4"	80,5	60
200	F14	36	578,5	217	108	109	278	30	308	36	67	50	80/130	30	37	78	140	/	/	M16X24	1/4"	80,5	60
230	F16	** 46	690	248,5	124	124,5	325	30	355	36	67	50	80/130	30	50	92	165	/	/	M20X29	1/4"	80,8	60

** ONLY SQUARE CONNECTION AT 45°

Description:

The HQ-004 & HQ-006 electric actuators are specially designed for quarter turn applications such as small ball, butterfly, plug valves and dampers.

Small, light and compact design with high output torques. Various control options and a wide range of voltages are available to meet your specific requirements.

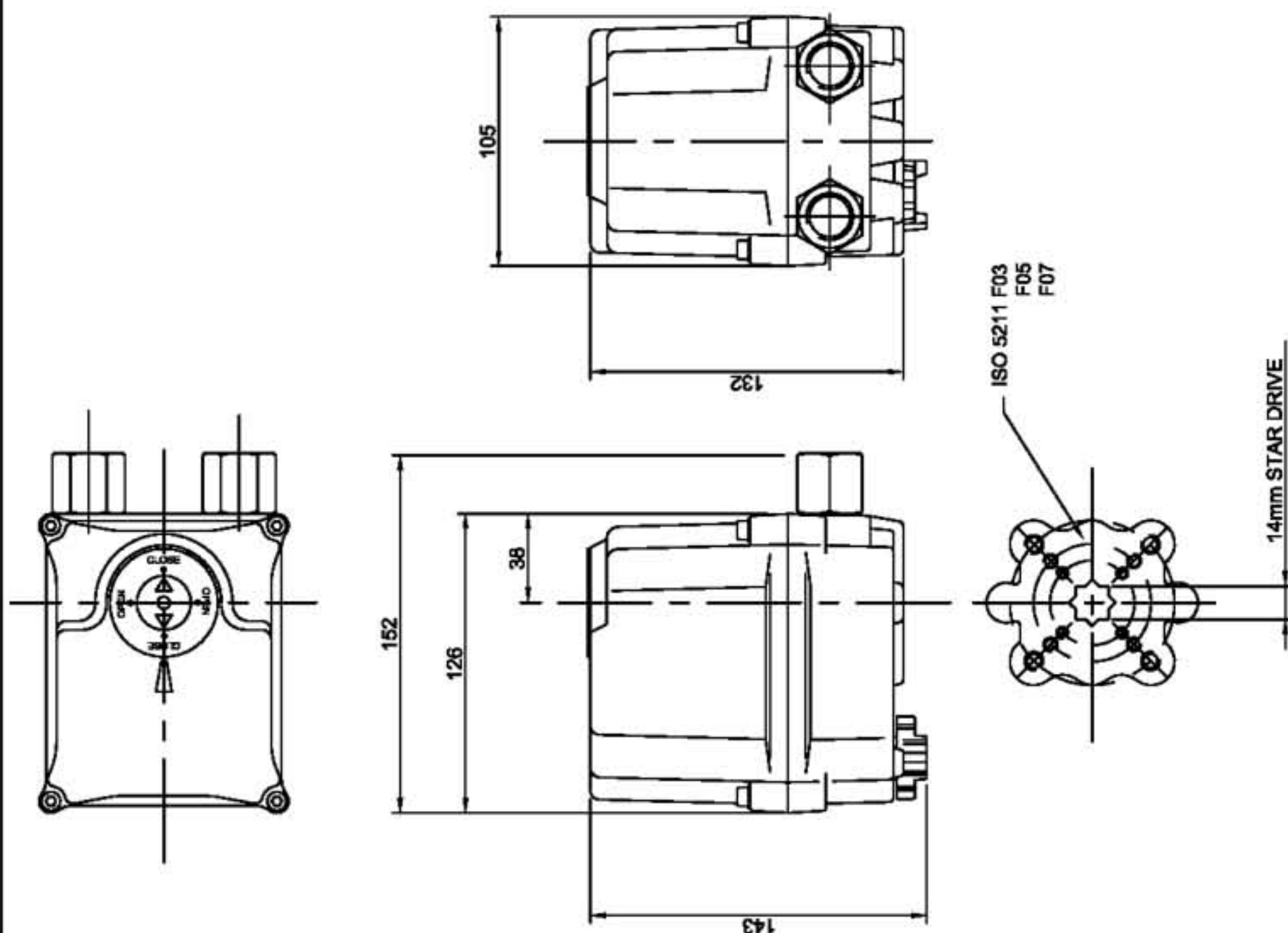
High quality electrical components and alloy gearing ensure reliability and extended life span.

Standard Specification:

Enclosure	:	Weatherproof IP67
Power Supply	:	110/220v 50/60Hz, 24vAC/DC
Duty Cycle (On/Off Duty)	:	S2 35%
Motor	:	Reversible Motor
Limit Switches	:	2 x SPDT, 250V AC 3A
Additional Limit Switches	:	2 x SPDT, 250V AC 3A
Space Heater	:	2W (110/220V AC)
Manual Override	:	Hexagon
Conduit Entries	:	2 x M20
Movement Angle	:	320° ± 10° (0° to 320°)
Ambient Temperature	:	-20°C to 70°C
External Coating	:	Dry Powder, Polyester

Option Specification:

Enclosure	:	Waterproof IP68
Conduit Entries	:	2 x PG 13.5, 1/2" NPT
PIU	:	Potentiometer Unit (1K - 10K)
PCU	:	Proportional Control Unit (In/Out:0-10V,4-20mA)
CPT	:	Current Position Transmitter (Output 4-20mA DC)
LCU	:	Local Control Unit (Remote/Open/Stop/Close s/w)



Performance

TYPE (MODEL)	MAXIMUM OUTPUT TORQUE	OPERATING TIME 50/60Hz	MOTOR CLASSE FRAME SIZE	RATED CURRENT (A)				WEIGHT
				AC 1PH . 50/60Hz			DC	
				24V	110V	220V		
HQ-004	40Nm	90°	W * F	24V	110V	220V	24V	Kg
HQ-006	60Nm	14/12 SECS	6 * 70	0.3	0.39/0.4	0.19/0.2	0.2	
								3

GC SUPPLIES UK LTD

DATA SHEET No.
3.01

DATE:
JAN 2005

Description:

The HQ008 to HQ120 electric actuators are specially designed for quarter turn applications such as ball, butterfly, plug valves and dampers. With a wide range of output torques and control options the HQ series electric actuator can be configured to meet the demands of any site specification.

High quality electrical components, alloy gearing and a high pressure die cast aluminium housing ensure reliability and extended life span.

Standard Specification:

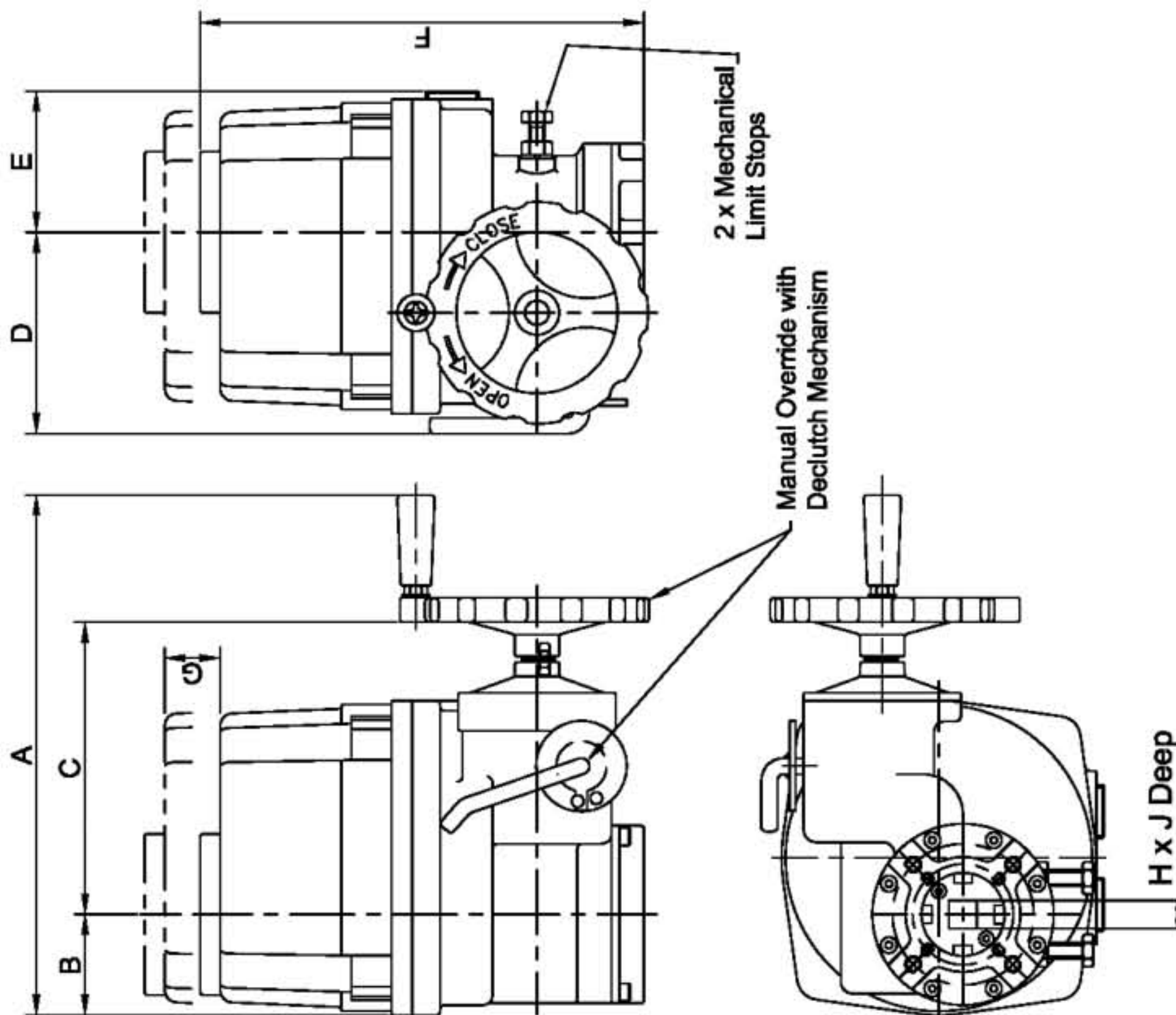
Enclosure	: Weatherproof IP67 (IP68 Option)
Power Supply	: 110/220v 50/60Hz, 24vAC/DC, 380/440V 3Phase
Duty Cycle (On/Off Duty)	: S2, 20 - 50% Max 10 - 30 Min
Motor	: Squirrel Caged Induction Motor
Limit Switches	: 4 x SPDT, 250V AC 10A
Torque Switches	: 2 x SPDT, 250vAC 10A (HQ015-HQ120)
Space Heater	: 20W(110/220VAC) Anti Condensation
Conduit Entries	: 2 x M25 (PG13.5 OR 1/2"NPT OPTION)
Travel Angle	: 90° ± 5°
Ambient Temperature	: -20°C to +70°C
External Coating	: Anodised before Dry Powder Polyester Coating

Option Specification:

PIU	: Potentiometer Unit (1K - 10K)
PCU	: Proportional Control Unit (In/Out: 0-10VDC, 4-20mA)
CPT	: Current Position Transmitter (Output 4-20mA)
LCU	: Local Control Unit (Remote/Open/Stop/Close switch)
EXA	: Explosion Proof Enclosure. ATEX II 2G Eexd IIB T4
FPA	: Fire Proof Actuator. 250°C/150 min

Performance:

MODEL	HQ008	HQ015	HQ020	HQ030	HQ050	HQ060	HQ080	HQ120
TORQUE (Nm)	80	150	200	300	500	600	800	1200
SPEED 90° 50/60Hz	16/13	25/21	25/21	31/26	31/26	31/26	34/28	34/28
CURRENT 110/1/50	1.10	1.65	1.67	1.86	3.62	3.62	4.10	4.20
(A) 220/1/50	0.55	0.88	0.89	0.92	1.58	1.62	2.20	2.35
MAX 380/3/50	N/A	0.31	0.31	0.35	0.59	0.60	0.85	0.87
WEIGHT (Kg)	7.4	16.6	16.6	22	23	23	29	29
MAX. SQ. DRIVE	17	19	19	30	30	30	40	40

**Dimensions:**

MODEL	BASE	A	B	C	D	E	F	G	H*	J
HQ008	F07	258	50	157	100	70	235	120	14	35
HQ015	F07/F10	338	73	200	142	87	268	160	17	45
HQ020	F07/F10	338	73	200	142	87	268	160	17	45
HQ030	F10/F12	368	82	221	160	99	290	180	22	52
HQ050	F10/F12	368	82	221	160	99	304	180	22	52
HQ060	F10/F12	368	82	221	160	99	304	180	27	52
HQ080	F12/F14	410	103	242	186	111	330	210	27	60
HQ120	F12/F14	410	103	242	186	111	330	210	36	60

* CAN BE MACHINED TO SUIT MOST VALVE STEMS (ON REQUEST)