



ACTUATOR

A component for angular movements

*Rotation:
90° - 120° - 180°*

*Pneumatic
Hydraulic*



PREMISE

There are different solutions for making angular movements; the piston-rack system, the oscillating glyph, the cylinder with mechanical transmission, etc.

They are, in any case, solutions with many moving parts with a corresponding greater possibility of failure, a lower capacity for number of maneuvers and with dimensions of a certain importance

Our company has designed and built, by patenting it, an innovative component, reducing the overall dimensions and moving parts to the essentials.

An angular actuator is thus available, designed to operate butterfly and ball valves but which has proved to be suitable for use wherever a rotary movement up to 90, 120, 180 and 270 degrees is required

FEATURES

The actuator consists of two half-bodies and a paddle resistant to corrosive agents. It can be powered by: compressed air; water; aqueous solutions or emulsions hydraulic oils.

The maximum permissible pressure is 20 bar and can be included in a temperature range between -20 ° C and + 60 ° C in the standard model, and up to 120 ° C in the HT model (high temperature).

The actuators can be set with: rotation angles of 90 ° - 120 ° -180 °; a series of accessories such as end-of-run, manual, emergency, electro-solenoid actuators mounted on the actuator body, external mechanical limit switches, hydraulic pump mounted on the actuator, pneumatic positioners, pneumatic return, special shaft valves.

The absence of intermediate kinematics makes it practically free of maintenance. Assembly can take place in any position.

DESCRIPTION

The functional concept is the very simple one of the T-lever, on which the thrust of the supply fluid is applied directly, without dispersive transformations of motion.

This made it possible to achieve constant torques throughout the entire rotation arc while maintaining extremely compact characteristics.

The basic element that has allowed this type of realization is the sealing system (patented), consisting of a resilient statistical gasket directly cured in the die-cast body of the actuator, able to offer a total absence of drainage and the possibility of being powered both with air and with liquids.



RULES FOR INSTALLATION

FLUIDS:

- Filtered air lubricated with oil mist
- Mineral oil with viscosity between 16 and 160 cSt a 40°C
- Aqueous solution or emulsions
- Water

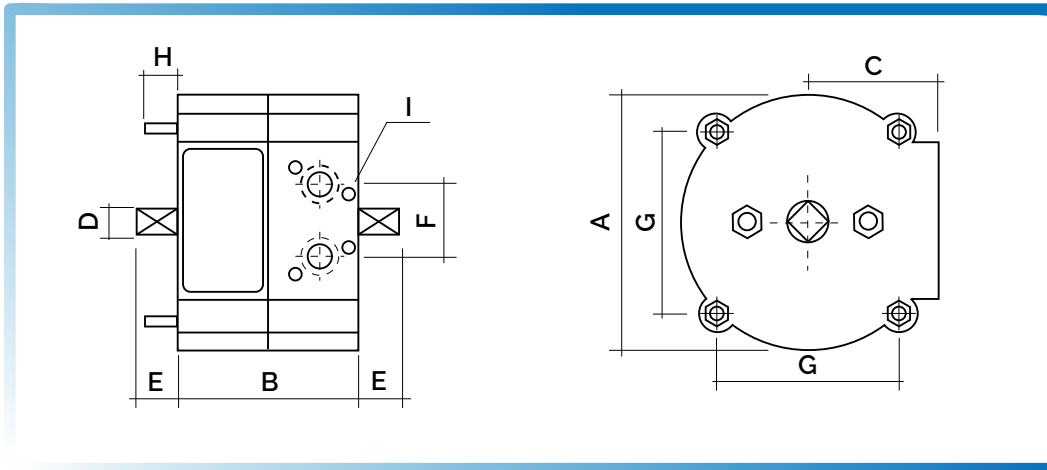
TEMPERATURES:

- 20°C +60°C
- Up to 120°C for mod. HT (request)
- No load is allowed as a pure torque generator axial and/or radial
- It's advisable to use external mechanical limit switches

ANGLE	MOD.	COUPLE INdaNm (Kgm) a:								DISPLACEM. Cc/angle	WT. Kg	MAX PRESS	
		2 Bar	4 Bar	6 Bar	8 Bar	10 Bar	12 Bar	15 Bar	20 Bar			Air	Liq.
90°	5.2	0,8	1,7	2,6	3,5	4,4	5,3	6,6	8,9	70	0,9	10 bar S MODELS	20 bar T MODELS
	5.4	1,9	3,9	5,9	7,8	9,8	11,8	14	19	155	2,0		
	5.8	3	6	9	12	15	18	23	31	245	2,4		
	5.18	7	14	21	28	35	43	53	71	565	4,7		
	5.32	12	25	37	50	63	75	94	126	990	6,5		
	5.60	26	51	78	105	131	157	-	-	2250	16,5		
	5.120	48	96	144	192	240	-	-	-	4500	35	-	-

ANGLE	MOD.	COUPLE INdaNm (Kgm) a:								DISPLACEM. Cc/angolo	WT. Kg	MAX PRESS	
		2 Bar	4 Bar	6 Bar	8 Bar	10 Bar	12 Bar	15 Bar	20 Bar			Aria	Liq.
120°	7.2	0,8	1,7	2,6	3,5	4,4	5,3	6,6	8,9	70	0,9	10 bar S MODELS	20 bar T MODELS
	7.4	1,9	3,9	5,9	7,8	9,8	11,8	14	19	155	2,0		
	7.8	3	6	9	12	15	18	23	31	245	2,4		
	7.18	7	14	21	28	35	43	53	71	565	4,7		
	7.32	12	25	37	50	63	75	94	126	990	6,5		
	7.60	26	51	78	105	131	157	-	-	2250	16,5		

ANGLE	MOD.	COUPLE INdaNm (Kgm) a:								DISPLACEM. Cc/angle	WT. Kg	MAX PRESS	
		2 Bar	4 Bar	6 Bar	8 Bar	10 Bar	12 Bar	15 Bar	20 Bar			Air	Liq.
180°	10.2	0,9	1,9	2,8	3,8	4,7	5,7	7,2	9,5	155	2,0	10 bar S MOD.	20 bar T MOD.
	10.4	1,5	3	4,5	6	7,5	9	11,5	15,5	245	2,4		
	10.8	3,5	7	10	14	17	21	26	35	565	4,7		
	10.18	6	12	18	25	31	37	47	63	990	6,5		

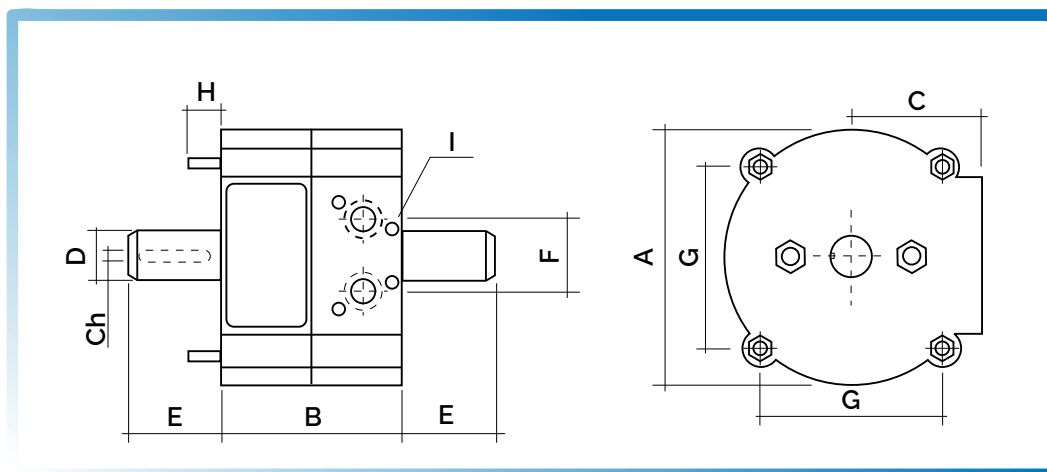


S = Pneumatic, 10 BAR

MODEL	A	B	C	D	E	F	G	H	I	WEIGHT		
	mm	mm	mm	∅mm	mm	mm	∅Gas	mm	∅M	mm	mm	Kg
5.2 S - 7.2 S	82,5	72	40	**	**	28	1/8"	*	*	20	Dripping ISO 5599/1	0,9
5.4 S - 7.4 S - 10.2 S	125	70	65	14	18	40	1/4"	90	M6	20		2,0
5.8 S - 7.8 S - 10.4 S	125	90	65	14	18	40	1/4"	90	M6	20		2,4
5.18 S - 7.18 S - 10.8 S	166	108	87	16	20	40	1/4"	120	M8	25		4,7
5.32 S - 7.32 S - 10.18 S	166	166	87	16	20	44	1/4"	120	M8	25		6,5
5.60 S - 7.60 S	220	200	115	24	30	80	1/4"	165	M10	30		16,5
5.120 S	280	230	145	24	30	110	1/4"	310	M10	30		35

* = fixing with 2 holes 6MA, depth 20mm, center distance 60mm

** = 10mm hexagon, upper part male, 12mm projection; female lower part, depth 12mm



T = Hidraulic 20 BAR

MODEL	A	B	C	D	E	Ch	F	G	H	I	WT.		
	mm	mm	mm	mm	∅mm	mm	mm	∅Gas	mm	∅M	mm	mm	Kg
5.2 T - 7.2 T	82,5	72	40	16	27	5	28	1/8"	*	*	20	Dripping ISO 5599/1	0,9
5.4 T - 7.4 T - 10.2 T	125	70	65	25	35,5	8	40	1/4"	90	M6	20		2,0
5.8 T - 7.8 T - 10.4 T	125	90	65	25	45,5	8	40	1/4"	90	M6	20		2,4
5.18 T - 7.18 T - 10.8 T	166	108	87	32	51,5	10	40	1/4"	120	M8	25		4,7
5.32 T - 7.32 T - 10.18 T	166	166	87	32	56,5	10	44	1/4"	120	M8	25		6,5
5.60 T - 7.60 T	220	200	115	44	63	14	80	1/4"	165	M10	30		16,5

* = fixing with 2 holes 6MA, depth 20mm, center distance 60mm

TECHNICAL DATA

A little actuator able to solve big problems. The constructive principle, together with innovating materials permit to warrant higher performance such as:

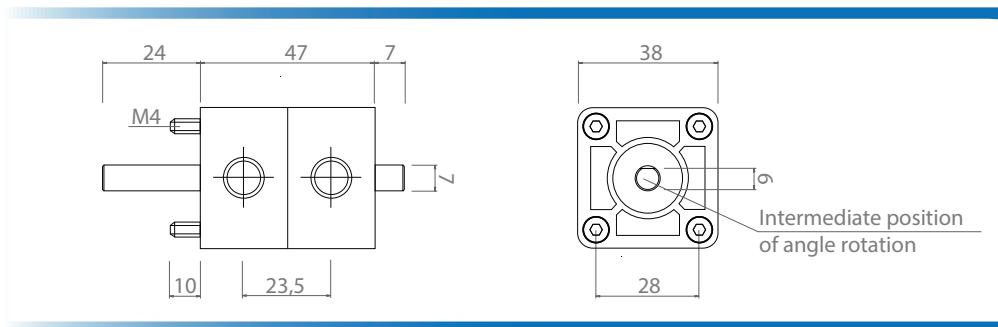
- high frequencies running
- precise actuation
- constant torque all the actuation long
- high accelerations
- plenty of strokes

MODEL 5.0



Rotation angle : 90°
 Operation pressure : min 0,8 bar / max 8,0 bar
 Fluids : compressed air; liquids (water, solutions or emulsions)
 Materials : body - strengthened plastic material
 shaft - stainless steel
 gasket - elastomer

Net Weight : 100 gr
 Fitting positions : everyone
 Temperatures : from -10°C to 60° C
 Maximum loads : radial 80 N
 axial 5 N
 Maximum frequency : 3 stroke/second
 Displacement : 9 cc/angle

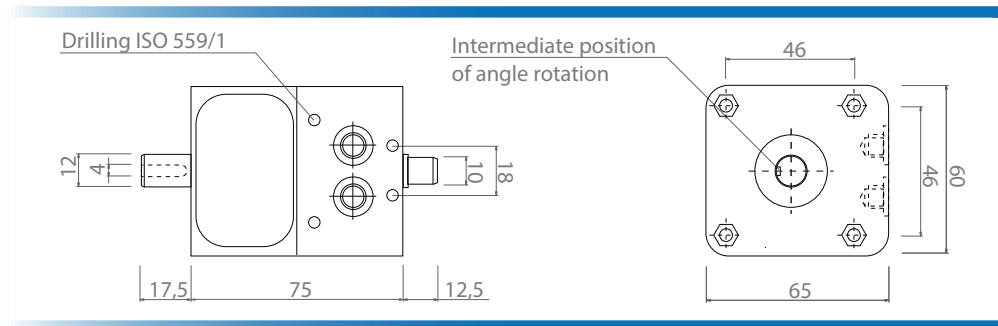


MODELS 5.1 - 14.1



Rotation angle : 90° (mod. 5.1) - 270° (mod. 14.1)
 Operation pressure : min 0,8 bar / max 20 bar
 Fluids : compressed air; liquids (water, solutions or emulsions)
 Materials : body - alluminium
 shaft - stainless steel
 gasket - elastomer

Net Weight : 700 gr
 Fitting positions : everyone
 Temperatures : da -10°C a 60° C
 Maximum loads : radial 210 N
 axial 80 N
 Maximum frequency : 2 stroke/second (mod. 5.1) - 1 stroke/second (mod. 14.1)
 Displacement : 38 cc/angle (mod. 5.1)



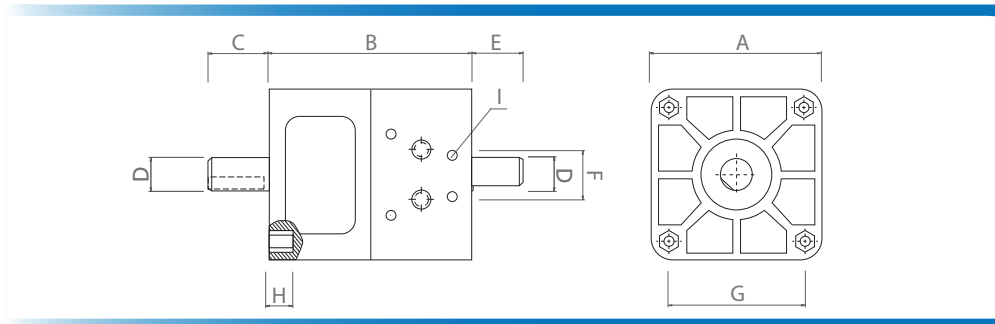
ANGLE	MOD.	COUPLE IN Nm :											
		2 Bar	3 Bar	4 Bar	5 Bar	6 Bar	8 Bar	10 Bar	12 Bar	14 Bar	16 Bar	18 Bar	20 Bar
90°	5.0	1,1	1,7	2,3	2,8	3,4	4,5	-	-	-	-	-	-
	5.1	4	6	8	11	13	17	22	26	30	35	39	44
270°	14.1	2	3	4	5,4	6,5	8,5	11	13	15	17,5	18,5	22



TECHNICAL DATA

Developed to be installed in environments with the possibility of chemical aggression, the "PL" series actuators are made with reinforced plastic body. The patented system of a shaft with direct elastomer cured on it, is a total seal between the pressurized chambers.

Different sizes are available, able to operate up to a maximum of 2" and butterfly valves up to DN50.



MODEL	A	B	C	D	E	F	G	H	I	WEIGHT		
	mm	mm	mm	∅mm	mm	mm	∅Gas	mm	∅M	mm	Kg	
5.0	38	47	25	7	7	22	1/8"	28	M4	20	Dripping ISO	0,1
5.3	76	92	28	15	23	18	1/8"	60	M5	8	5599/1	0,7

ANGLE	MOD.	COUPLE IN Nm :							DISPLACEM.	WT.	MAX PRESS	
		2 Bar	3 Bar	4 Bar	5 Bar	6 Bar	8 Bar	10 Bar			Cc/angle	Kg
90°	5.0	1,1	1,7	2,3	2,8	3,4	4,5	-	9	0,1	10 bar	
	5.3	12	18	24	30	36	48	60	101	0,7		

The main features can be:

- supply with air or any other non-fluid
- aggressive with pressure up to 10 bar
- 90 degree rotation angle
- operation with temperatures between -20 and + 60 degrees C.
- constant torque for the entire rotation range



BALL VALVES WITH PNEUMATIC CONTROL

They form an integrated valve / actuator system and therefore include the coupling kit.

The valves can be in OT58 brass, in AISI 316 stainless steel or in PVC anti-corrosion material. They can be supplied in two or three ways, and can be used for general blocking and fluid distribution uses.

MAIN FEATURES

- pneumatic actuator: double effect
- operating pressure: min. 4 bar, max 8 bar
- valves: two total passage ways, threaded connection

OT SERIES

- nickel-plated OT body
- chrome-plated brass sphere
- PTFE sealing gaskets
- aluminum or plastic actuator

IX SERIES

- AISI 316 or 304 stainless steel body
- AISI 316 stainless steel ball
- PTFE seals - glass
- aluminum or plastic actuator

PVC SERIES

- rigid PVC body
- PVC or PE ball
- PTFE sealing gasket
- threaded connections to be glued
- aluminum actuator

Ø INCH	DN VALVE	RECOMMENDED ACTUATOR
3/8"	10	5.0
1/2"	15	5.0
3/4"	20	5.1
1"	25	5.1
1" 1/4	32	5.2 S
1" 1/2	40	5.2 S
1" 1/2**	40	5.3
2"	50	5.3
2"***	50	5.4 S
2" 1/2	65	5.4 S
2" 1/2**	65	5.8 S
3"	80	5.8 S
4"	100	5.18 S
5"	125	5.32 S

** = recommended coupling for valves operating in heavy duty and with high load losses.

Data related to actuator actuation with air at 5bar pressure.

The tables are indicative. Walton is the only guarantor of the torque supplied by the actuator. It is possible to realize an "assembly service" of actuators on valves supplied by the customer.



BUTTERFLY VALVES WITH AUTOMATIC CONTROL

They form an integrated valve / actuator system and are supplied assembled and tested.

The valves can be with cast iron body and throttle, or cast iron body and stainless steel butterfly.

They are valves with wide installation possibilities, low pressure drops, watertightness, absence of maintenance and with reduced dimensions and weights.

MAIN FEATURES

- pneumatic actuator: double effect
- operating pressure: min. 4 bar, max 8 bar
- valves: from DN 25 to DN 400

GG SERIES

- cast iron body
- spheroidal cast iron butterfly
- gasket in compound
- aluminum or plastic actuator

GS SERIES

- cast iron body
- AISI 304 stainless steel butterfly
- gasket in compound
- aluminum or plastic actuator

Ø VALVE

INCH	DN
1"	25
1" 1/4	32
1" 1/2	40
2"	50
2" 1/2	65
3"	80
4"	100
5"	125
6"	150
8"	200
10"	250
12"	300
14"	350
16"	400
18"	450
20"	500

RECOMMENDED ACTUATOR

DP = 10	DP = 3,5
5.2 S	5.2 S
5.2 S	5.2 S
5.2 S	5.2 S
5.3	5.3
5.4 S	5.4 S
5.4 S	5.4 S
5.8 S	5.8 S
5.8 S	5.8 S
5.18 S	5.18 S
5.32 S	5.32 S
5.32 S	5.32 S
5.60 S	5.60 S
5.60S	5.60S
5.120 S	5.120 S
5.120S	5.120S
-	-

DN = DP nominal diameter = Pressure loss assumed in the valve

Data related to actuator actuation with air to the press. of 5 bar

The tables are indicative. Walton is the only guarantor of the torque supplied by the actuator. It is possible to realize an "assembly service" of actuators on valves supplied by the customer



STROKE END SWITCH IN A TIN BOX

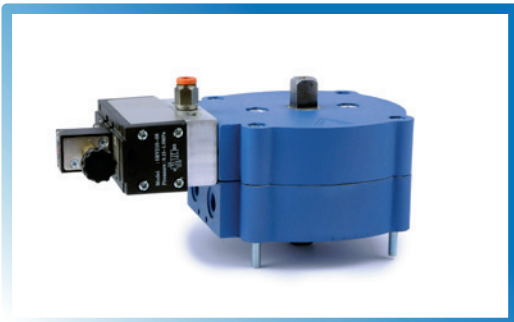
Used for position or end of travel indication, and can be of different types:

M2A = Electric

M2A / P = Total protection IP54

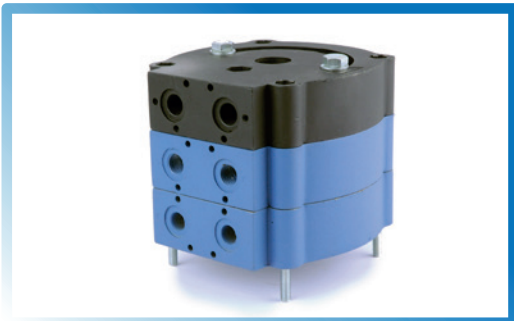
M2B = Tire

M2M = Magnetic



SOLENOID VALVE FOR DIRECT MOUNTING ON THE BODY

Particularly suitable for those installations with remote control and for which the fewest possible number of pipes is required.



STROKE END SWITCH MECANIC

Used in cases where you want to be sure of reaching a positive reference stop.

Available for models:

5.1 - 5.3 - 5.2 - 5.4 - 5.8 - 5.18 - 5.32 - 7.2 - 7.4 - 7.8 - 7.18 - 7.32 - 10.2 - 10.4 -



MANUAL ROTATION CONTROL

Used for emergency maneuvers in cases of lack of fluid under pressure.



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