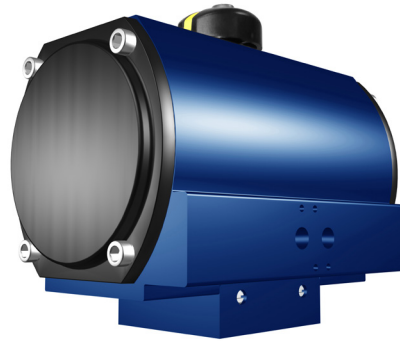


## Actuator Type 2 - Technical Data, Summary



WireMatic actuators are pneumatic quarter turn actuators based on double rack and pinion design.

The Type 2 actuator is generally recommended to “large” Butterfly valves.

### Material, standard (outside)

- Anodized Aluminum, Black
- CNI, Chemically Nickel/PTFE Impregnated for increased corrosion resistance
- Other treatments upon request

### Movement

- 0° to 90°

### End Stop Adjustment

Double End Stop Adjustments, Open and Closed position, located outside the pressurized zone at the BAK (Body Adaptor Kit)

### Over travel

- Open: 3°
- Closed, size 8 and 12: 2°
- Closed, size 20 to 150: 3°

### Sizes

- 35, 55, 70, 100 and 150

### Torque

Linear torque, ie a Double Acting (DA) Actuator has the same torque over the entire movement

### Torque Output, Double Acting (DA) at 6 bar/80 psi

- 374 to 1655 Nm
- 3055 to 13425 in.lbs

### Torque Output, Spring Return (SR) at 6 bar/80 psi

- 133 to 586 Nm
- 1676 to 4758 in.lbs

### Operating Pressure

- DA: 2-10 bar / 30-145 psi
- SR: 2-10 bar / 30-145 psi. When the Actuators will be used at Operating pressures below 5.5 bar / 79.8 psi, we recommend that you contact your WM distributor.

## Actuator Type 2 - Technical Data, Summary

### Drive Medium

- Standard: Air (Dry or Lubricated) or inert gases (non-dangerous fluids)
- Options (require rebuilding): Oxygen, Hydraulic Oil or Water

### Temperature Range, Standard execution (Buna Nitrile, NBR O-seals)

- - 30° to + 80°C
- - 22° to + 175°F

### Temperature Range, High temperature (Viton O-seals)

- - 20° to + 140°C
- - 4° to + 284°F

### Temperature Range, Low temperature

- -45° to +60°C
- -49° to +140°F

### Temperature Range, Arctic temperature

- -50° to +60°C
- -58° to +140°F

### Stroke, Double Acting (DA)

Looking at the front of the Actuator, Port A is on the left side and Port B is on the right

Port A: Air to Open (Anti-clockwise)

Port B: Air to Close (Clockwise)

### Stroke, Spring Return (SR)

Port A: Air to Open (Anti-clockwise, compressing springs)

Port B: Exhaust Port

Setting from factory: Fail Close (FC), clockwise closing. To change to Fail Open (FO): see separate instructions

### Max number of springs

A Spring Kit consists of 4 outer + 4 inner springs located inside the piston racks. To adjust for different Air Pressure; reduce the number of springs.

### Drive shaft

Body Adaptor Kit (BAK): standard square drive – ISO 5211

Common Options: Double D (D-D) or Key drive.

### Standard Connections

Solenoid valves – Namur

Fitting accessories – ISO 5211, DIN 3337, Namur

Body Adaptor Kit (BAK) according to agreed execution

### Lubricants, recommended

Springs and piston rack segments: Statoil Molyway LI 712 or similar

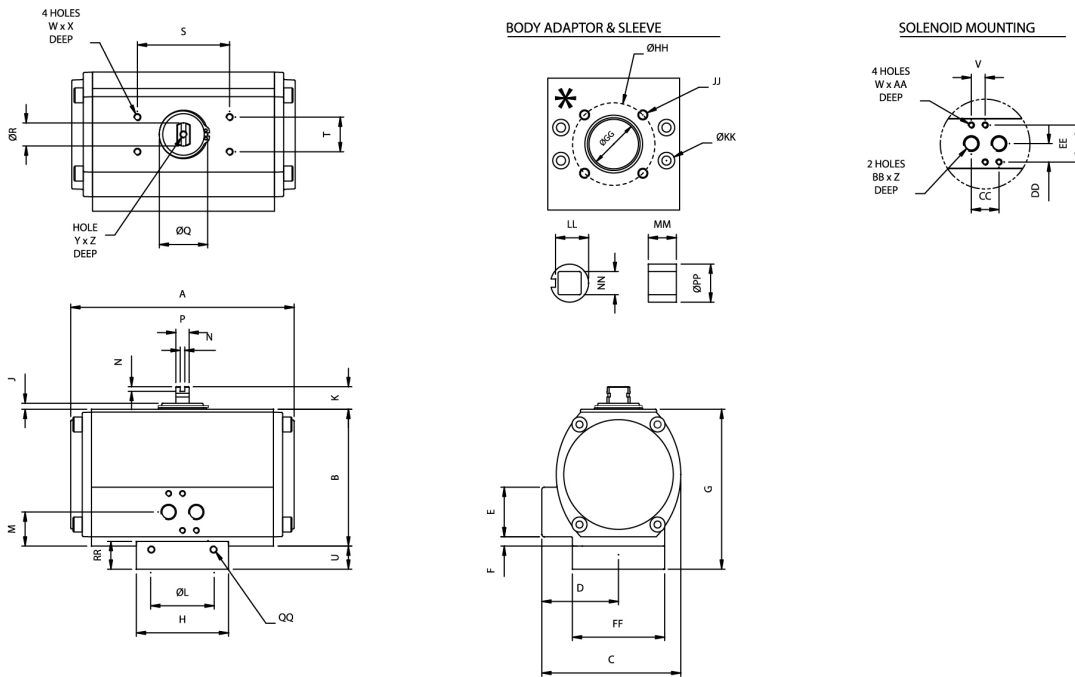
O-rings and plastic parts: Statoil Uniway LIX 42PA or similar

### Standards and Certificates

The Actuators are designed to and in compliance with several different standards. They also have different types of certificates, see separate information.

## Pneumatic Actuator Type 2, Metric Size 35, 55, 70, 100 and 150

- Double acting (DA) and Spring Return (SR)
- Double End Stop Adjustment, open and closed position
- Body Adaptor Kit with Square (Double D or Key) Insert



### DIMENSIONS, METRIC (mm)

Actuator size	ISO	A	B	C	D	E	F	G	H	J	K	ØL	M	N	P	ØQ	ØR	S	T	U	V
WM 35	F07/F10	266,0	166,5	156,0	78,0	43,0	8,5	196,7	120,0	7,0	30,0	55,0	30,0	4,0	19,0	61,0	32,0	80,0	30,0	30,2	12,0
WM 35	F10/F12	266,0	166,5	156,0	78,0	43,0	8,5	196,7	120,0	7,0	30,0	55,0	30,0	4,0	19,0	61,0	32,0	80,0	30,0	30,2	12,0
WM 55	F10/F12	312,0	207,5	191,0	95,5	43,0	20,5	242,5	140,0	7,5	30,0	85,0	42,0	4,0	25,4	61,0	40,0	130,0	30,0	35,0	12,0
WM 70	F10/F12	340,0	211,0	191,0	95,5	43,0	20,5	247,0	140,0	7,0	30,0	85,0	42,0	4,0	25,4	72,0	40,0	130,0	30,0	36,0	12,0
WM 100	F14	361,0	253,3	227,0	113,5	43,0	39,5	303,0	160,0	7,0	30,0	100,1	61,0	4,0	25,4	78,0	40,0	130,0	30,0	49,8	12,0
WM 150	F14	390,0	302,0	280,0	140,0	43,0	56,5	351,0	160,0	7,0	30,0	100,1	78,0	4,0	25,4	78,0	40,0	130,0	30,0	49,0	12,0

Actuator size	ISO	W	X	Y	Z	AA	BB	CC	DD	EE	FF	ØGG	ØHH	JJ	ØKK	LL	MM	NN	ØPP	QQ	RR
WM 35	F07/F10	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	119,9	46,0	70,0	M8	9,0	29,5	20,0	22,0	33,0	M10	34,0
WM 35	F10/F12	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	119,9	61,0	102,0	M10	9,0	39,0	25,0	22,0	44,0	M10	34,0
WM 55	F10/F12	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	139,9	75,0	125,0	M12	11,0	50,0	25,0	27,0	55,0	M10	40,0
WM 70	F10/F12	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	139,9	75,0	125,0	M12	11,0	50,0	25,0	27,0	55,0	M10	40,0
WM 100	F14	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	159,9	88,0	140,0	M16	14,0	62,5	35,0	36,0	68,0	M14	57,0
WM 150	F14	M5	5,0	M6	12,0	8,0	G1/4"	24,0	16,0	32,0	159,9	88,0	140,0	M16	14,0	62,5	35,0	36,0	68,0	M14	57,0



## Pneumatic Actuator Type 2, Metric Size 35, 55, 70, 100 and 150

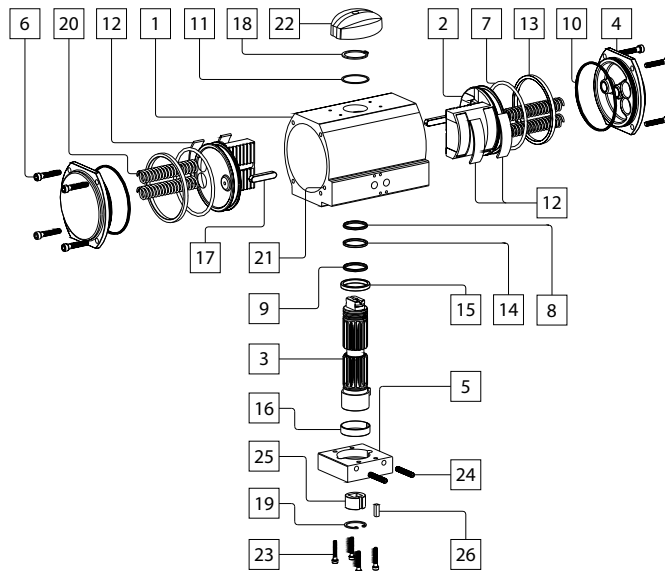
### TORQUE

Actuator Size	Air Supply	DA Torque	SR Torque (Nm)				
	BAR	Nm	Air - Start	Air - End	Spring - Start	Spring - End	Spring Qty
WM 35	6	374	241	133	241	132	4+4
WM 55	6	597	385	212	384	211	4+4
WM 70	6	824	533	294	531	292	4+4
WM 100	6	1122	725	399	723	398	4+4
WM 150	6	1655	1069	589	1066	586	4+4

### OPERATING DETAILS

Actuator Size	Operating time (sec)				Air consumption (litre)		Overall weight (kg)	
	DA Open	DA Close	SR Open	SR Close	Open	Close	DA	SR
WM 35	2,5	2,5	2,5	2,0	1,69	1,90	12,9	14,6
WM 55	3,5	3,5	3,5	3,0	2,80	3,40	19,1	22,2
WM 70	4	4	4	3	3,05	3,7	24,4	28,0
WM 100	4,5	4,5	5,5	3,0	5,52	5,90	31,2	35,8
WM 150	5	5	7	4	7,60	9,60	44,5	53,0

## Part List for Pneumatic Actuator Type 2



Ref.no.	Description	Quantity	Material	
			Standard	CNI
1	Body	1	Alum. Anodized	Alum. CNI treated
2	Piston	2	Alum.	Alum. Anodized
3	Driveshaft	1	Ni Plated Steel + Teflon	Ni Plated Steel + Teflon
4	End Cap	2	Alum. Polyester Coated	Alum. CNI treated
5	Body Adaptor	1	Alum. Anodized	CNI treated
6	End Cap Bolt	8	Stainless Steel	Stainless Steel
7	Piston O-ring	2	Buna Nitril	Buna Nitril
8	Driveshaft upper O-ring	1	Buna Nitril	Buna Nitril
9	Driveshaft lower O-ring	1	Buna Nitril	Buna Nitril
10	End Cap O-ring	2	Buna Nitril	Buna Nitril
11	Washer	1	POM	POM
12	Wear Pads	4	POM	POM
13	Backup Bearing	2	POM	POM
14	Driveshaft upper Bearing	1	POM	POM
15	Driveshaft lower Bearing	1	POM	POM
16	Body Adaptor Bearing	1	POM	POM
17	Guide Bar	2	Steel	Steel
18	Circlip upper	1	Ni plated Steel	Ni plated Steel
19	Body Adaptor Circlip	1	Ni plated Steel	Ni plated Steel
20	Spring	4	SiCr	SiCr
21	Ball Bearing	2	NBR	NBR
22	Position Indicator	1	POM	POM
23	Body Adaptor Bolts	4	Stainless Steel	Stainless Steel
24	Stop Adjustment Screws	2	Stainless Steel	Stainless Steel
25	Insert	1	Stainless Steel	Stainless Steel
26	Insert Sleeve Key	1	Stainless Steel	Stainless Steel