EDITION 2010

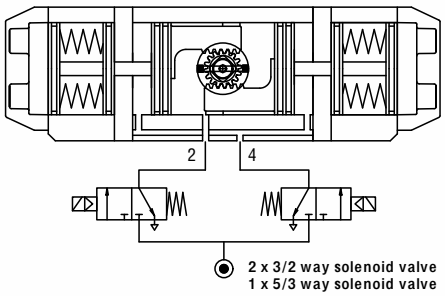
Actuator (180°) with
Fail Safety Position

AIR TORQUE
PNEUMATISCHE STELLANTRIEBE

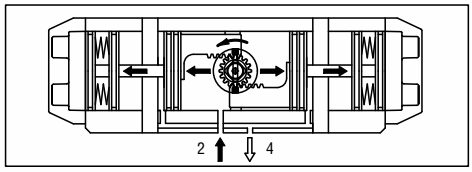
General Information:

The 180° spring return actuators with 90° fail safety position are used for 0°-90°-180° operations where in case of air failure the actuator has to return to the 90° position.
At both ends of the actuator a spring set is mounted and the springs can be compressed in two directions: toward end caps or inward. Pressure supplied at port 4 forces the pistons toward actuator end caps and rotate the actuator drive shaft from 0° or 180° compressing the springs, while pressure supplied at port 4 forces the pistons inward and rotate the actuator drive shaft from 90° to 0°.
From fully close position (0°) or fully open position (180°) the fail safe operation is achieved in case of air or electrical failure by extension of the compressed springs. They push the pistons to rotate the actuator drive shaft from 0° or 180° position to 90° position.

Operation: (For Standard Assembly ST)

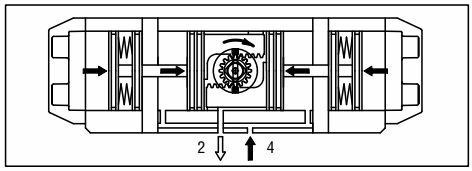


A system of solenoid valves that control the sequence of air supplies is required in order to operate correctly the 180° spring return actuator with 90° Fail Safety position.



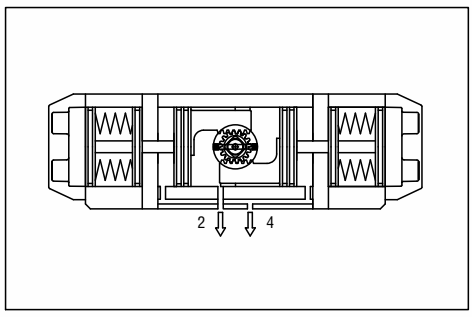
from 90° to 180°:

When compressed air is supplied at the port 2, air forces the pistons toward actuator end caps and compresses the springs from the center to the outside ends. A counterclockwise rotation is obtained.



from 90° to 0°:

When compressed air is supplied at the port 4, air forces the pistons inward and compresses the springs from their outside ends to the center. A clockwise rotation is obtained.



Air fail operation:

From 180° position: the air pressure loss (air or electric failure) at port 2 allows the springs to force the pistons inward (until 90° position) with the exhaust air exiting at port 2, a clockwise rotation is achieved.

From 0° position: the air pressure loss (air or electric failure) at port 4 allows the springs to force the pistons toward the actuator (until 90° position) with the exhaust air exiting at port 4, a counterclockwise rotation is achieved.

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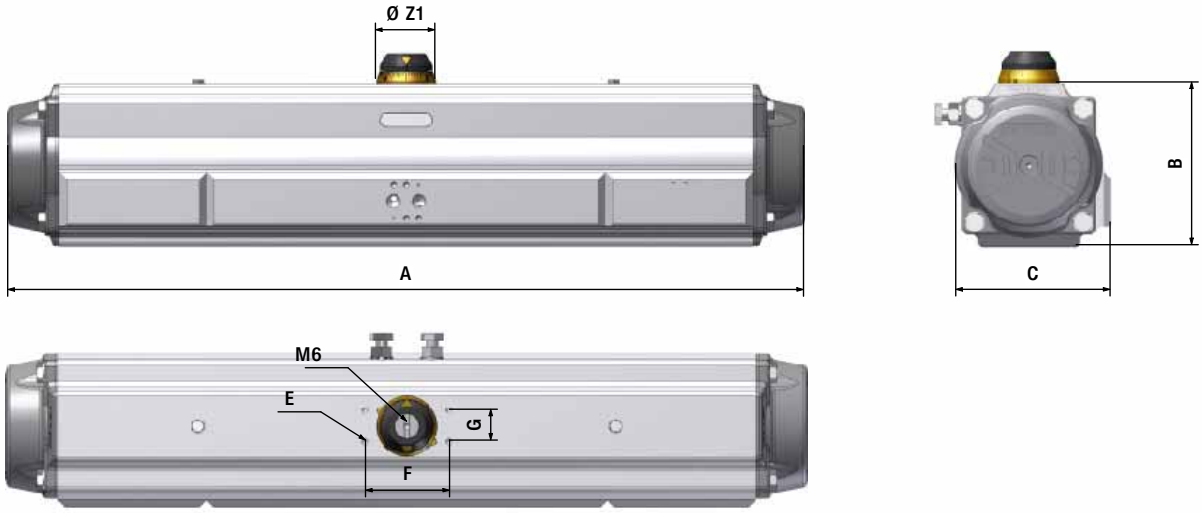
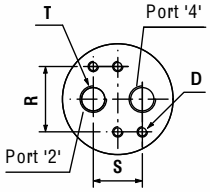
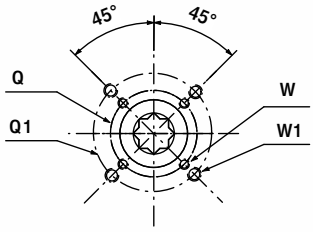


Air Connection VDI/VDE 3845

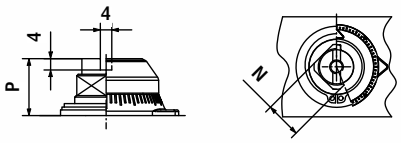


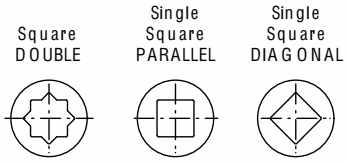
Bottom View ISO 5211



Top Square Drive Shaft

For type
FM SC00158
->
FM SC01208





Actuator** Type	A	B	C	D	E	F	G	N	P	R	S	Z1	T - ISO 228	ISO* Flange	Q	Q1	W	W1
FM SC00158U	581	127	118,5	M5x8	M5x8	80	30	17	20	32	24	42	1/4"	F07 + F10	70	102	M8	M10
FM SC00308U	749	157	146,5	M5x8	M5x8	80	30	27	30	32	24	58	1/4"	F07 + F10	70	102	M8	M10
FM SC00608U	951	196	181	M5x8	M5x8	80	30	27	30	32	24	67,5	1/4"	F10 + F12	102	125	M10	M12
FM SC01208U	1180	245	221,5	M5x8	M5x8	130	30	36	50	32	24	80	1/4"	F14	140	/	M16	/

*Note: Other connections on request; ** Other models on request; Dimensions in mm

Specification:

Max. supply pressure: 8 bar
Operating pressure: 2,5 - 8 bar
Other dimensions: see std. data sheet
Material: see data sheet Fail-Mid

Output torque: With the same operating pressure and/or the same number of springs, the torque is equivalent to the standard actuator. See data sheet of standard actuator.
Operating media: Refer to AIR TORQUE manual instruction.
Temperature: -20°C to +80°C

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