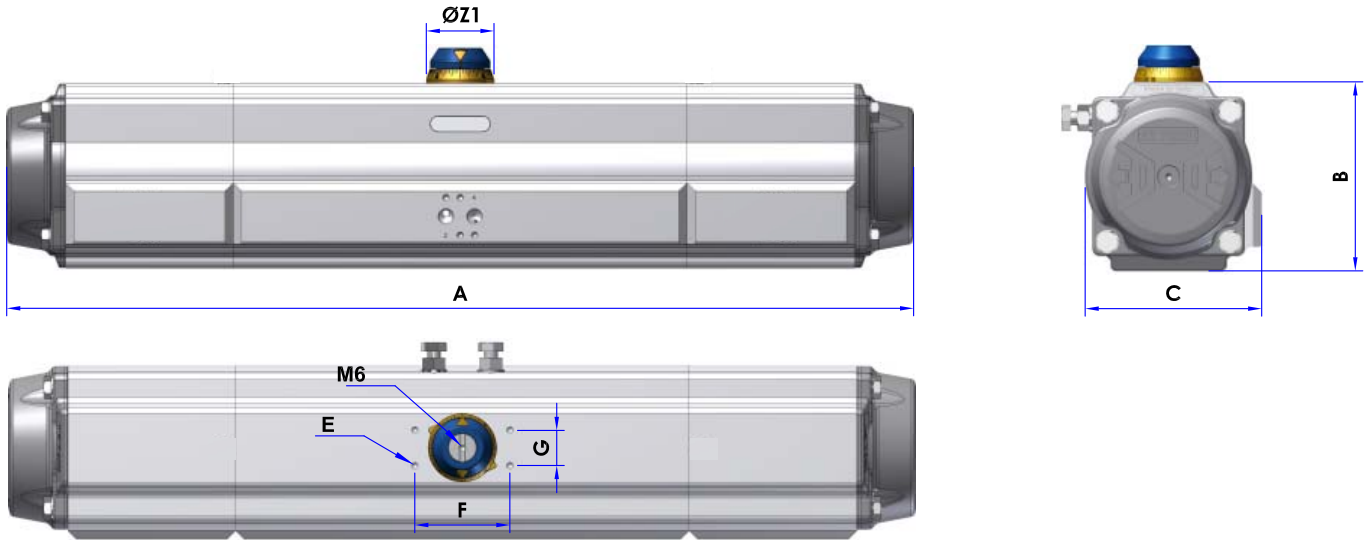




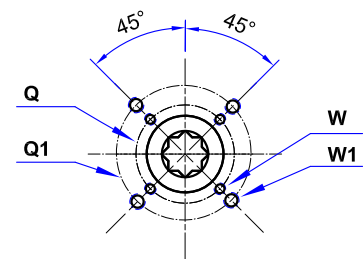
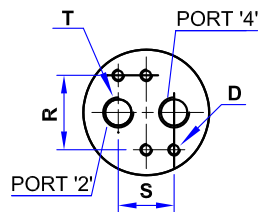
180° Spring Return Actuator 4thG Upgrade Series With 90° Fail Safety Position

DIMENSIONS

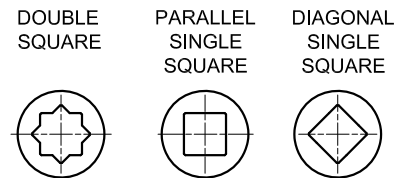


AIR CONNECTION VDI/VDE 3845

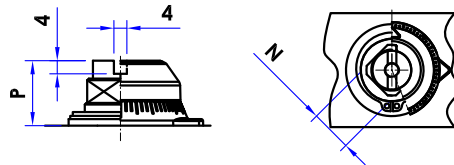
BOTTOM VIEW ISO 5211



TOP SQUARE DRIVE SHAFT



FOR MODEL
 FM AT208U + FM AT658U



DIMENSIONS IN mm

**ACTUATOR MODEL	A	B	C	D	E	F	G	N	P	R	S	Z1	T - ISO 228	ISO Flange*	Q	Q1	W	W1
FM AT208U	459	102	93	M5x8	M5x8	80	30	17	20	32	24	42	1/8"	F05+F07	50	70	M6	M8
FM AT308U	581	127	118,5	M5x8	M5x8	80	30	17	20	32	24	42	1/4"	F07+F10	70	102	M8	M10
FM AT408U	749	157	146,5	M5x8	M5x8	80	30	27	30	32	24	58	1/4"	F07 + F10	70	102	M8	M10
FM AT508U	951	196	181	M5x8	M5x8	80	30	27	30	32	24	67,5	1/4"	F10+F12	102	125	M10	M12
FM AT608U	1180	245	221,5	M5x8	M5x8	130	30	36	50	32	24	80	1/4"	F14	140	/	M16	/
FM AT658U	1353	298,5	262	M6x10	M5x8	130	30	36	50	45	40	115	3/8"	F16	165	/	M20	/

Specifications

* Notes : Other connections available.
 ** Further models to be defined when placing the order.

Max supply pressure: 8 bar.
 Operating Pressure: 2.5 + 8 bar.
 For other Dimensions: See data sheet of standard actuator.
 Material Actuator: See data sheet of Fail Mid Actuator.
 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 + +80°C Max.



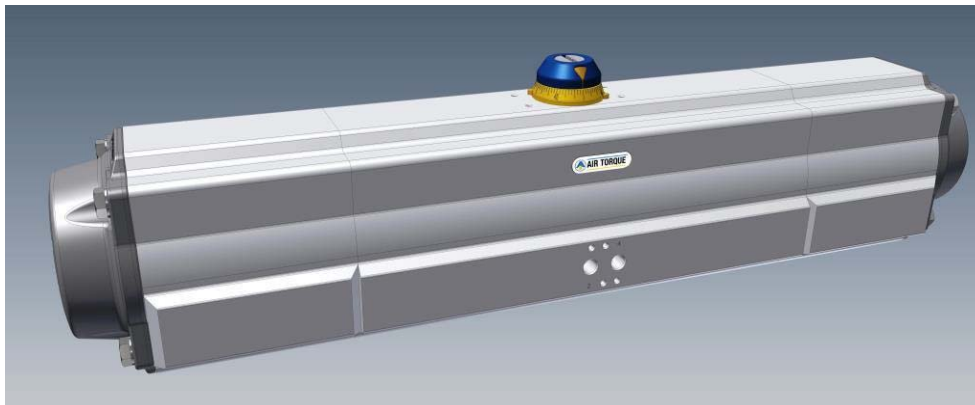
180° Spring Return Actuator 4thG Upgrade Series With 90° Fail Safety Position

GENERAL INFORMATION

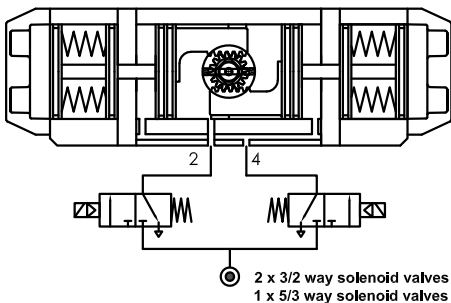
The 180° spring return actuator 4thG Upgrade Series with 90° fail safety position is used for 0°-90°-180° operations where, in case of air failure, the actuator has to return to the 90° position.

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 2 forces the pistons toward actuator end caps and rotate from 90° to 180° compressing the springs, while pressure supplied at port 4 forces the pistons inward and actuator rotate from 90° to 0°.

From both 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 from 0° or 180° position to 90° position.

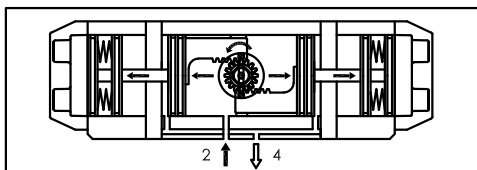


OPERATION (For Standard Assembly ST)



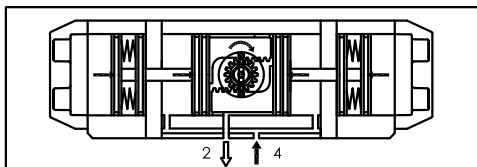
A system of solenoid valves that control the sequence of air supplies is required in order to operate correctly the 180° spring return actuator with 90° Fail safety position.

The intermediate position at 90° has an innate fault, due to the tolerances, of approximately +/- 1°



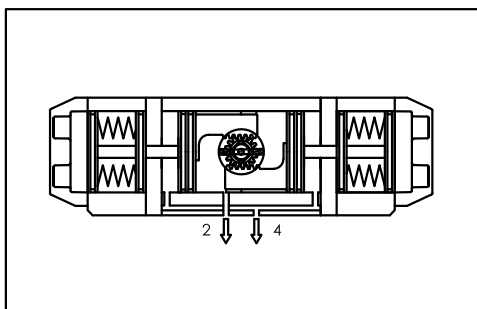
From 90° to 180°

When compressed air is supplied at 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 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 from 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.