

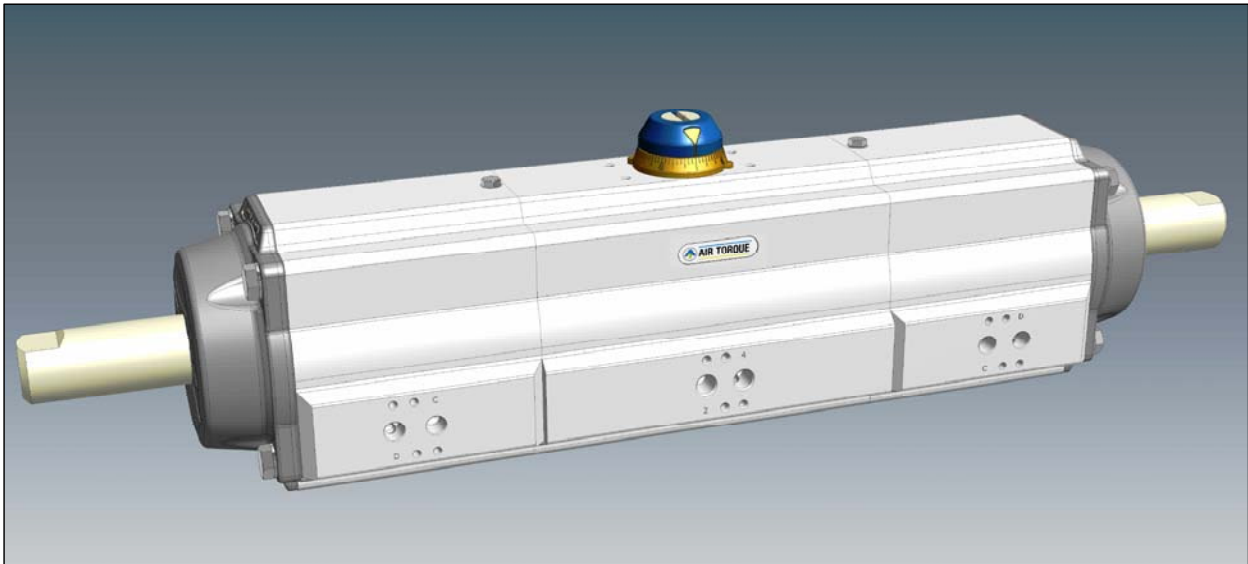


3-POSITION 4thG Upgrade Series Actuators

GENERAL INFORMATION

AIR TORQUE 3-Position pneumatic actuators 90° provide an operation of 0° - 45° - 90° or 0° - 90° - 180° for 180° actuator rotation. The intermediate position is achieved by an external mechanical stop with 2 auxiliary pistons (for spring return actuators it may be only one auxiliary piston). The required adjustable intermediate position may be easily obtained by adjusting the external nuts located outside the two end-caps. Both types, double acting and spring return, are available.

Field of application: for dosing, for exact filling and for any kind of services where on 90° or 180° rotation an intermediate stop position is desired.

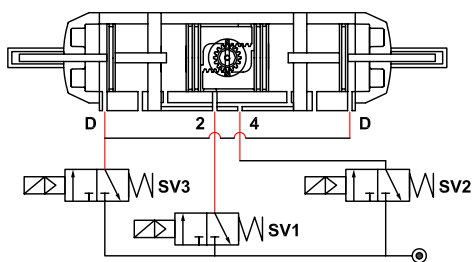


Here below it is described the system of solenoid valves and the sequence of air supply required to control and operate the 3-Position actuators.

OPERATION

3-Position 4thG Upgrade Actuators 90° Rotation Double Acting
 - **Type: 3PD AT..1U D ...**

3-Position 4thG Upgrade Actuators 180° Rotation Double Acting
 - **Type: 3PD AT..8U D ...**



ROTATION (90°)	ROTATION (180°)	SOLENOID VALVE ENERGIZED	PRESSURIZED PORT
0° ⇒ 90°	0° ⇒ 180°	SV1	2
90° ⇒ 0°	180° ⇒ 0°	SV2	4
0° ⇒ X°	0° ⇒ Y°	First SV3 + After SV1	D + 2
X° ⇒ 90°	Y° ⇒ 180°	SV1	2
90° ⇒ X°	180° ⇒ Y°	SV3	D
X° ⇒ 0°	Y° ⇒ 0°	SV2	4

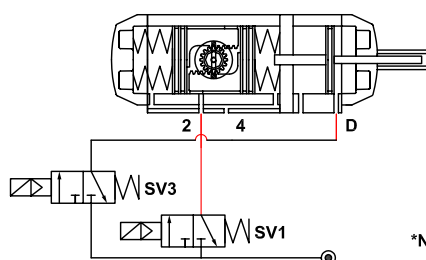
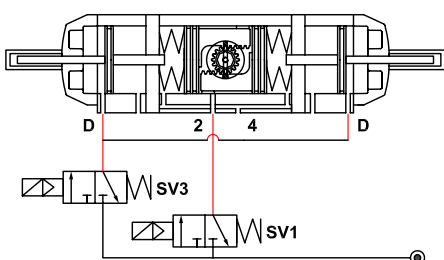
X : INTERMEDIATE POSITION, 0° TO 90°

Y : INTERMEDIATE POSITION, 90° TO 180°

- Note:**
- As an alternative, the solenoid valve SV3 can be replaced by 2 solenoid valves directly applied to Namur connections on the 2 auxiliary bodies.
 - As an alternative, the solenoid valves SV1 and SV2 can be replaced by one 5/3 bistable solenoid valve directly applied to Namur connections on the central body.

3-Position 4thG Upgrade Actuators 90° Rotation Spring Return - **Type: 3PD AT..1U S...**

3-Position 4thG Upgrade Actuators 90° Rotation Spring Return - **Type: 3P AT..1U S...**



ROTATION	SOLENOID VALVE ENERGIZED	PRESSURIZED PORT
0° ⇒ 90°	SV1	2
90° ⇒ 0°	Air Failure at Port 2 - Spring Action	
0° ⇒ X°	First SV3 + After SV1	D + 2
X° ⇒ 90°	SV1	2
*90° ⇒ X°	First SV1 + After SV3	2 + D
X° ⇒ 0°	Air Failure at Port 2 - Spring Action	

X : INTERMEDIATE POSITION, 0° TO 90°

***Note:** This operation is achievable **only** with 3-Position Spring Return actuators with 2 auxiliary pistons (external mechanical stop).

Note: As an alternative for 3PD, the solenoid valve SV3 can be replaced by 2 solenoid valves directly applied to Namur connections on the 2 auxiliary bodies.



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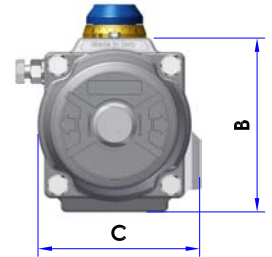
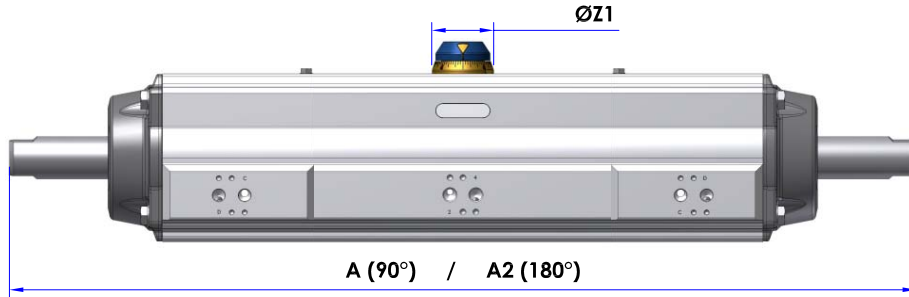
Issued : 05/10

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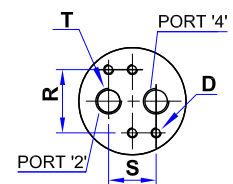
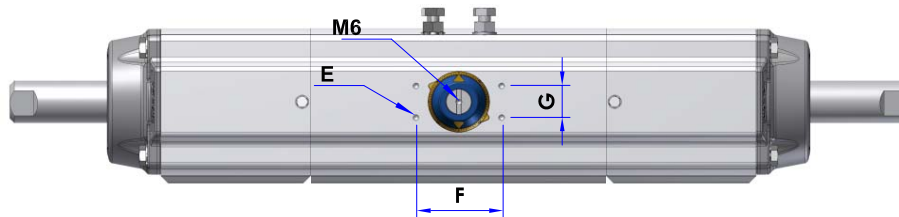
3-POSITION 4thG Upgrade Series Actuators

DIMENSIONS

3PD BOTH FOR SPRING RETURN AND DOUBLE ACTING 90° AND DOUBLE ACTING 180°

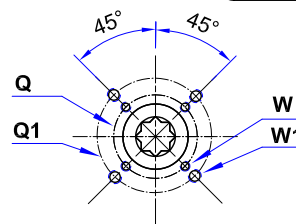


AIR CONNECTION VDI/VDE 3845



BOTTOM VIEW ISO 5211

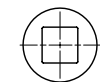
3P ONLY FOR SPRING RETURN 90°



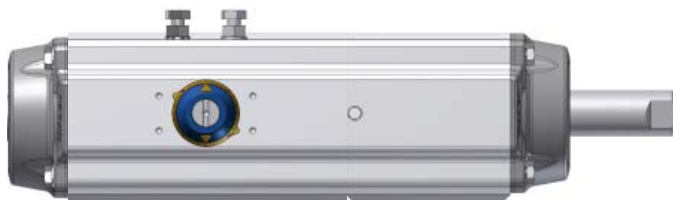
DOUBLE SQUARE

PARALLEL SINGLE SQUARE

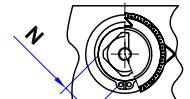
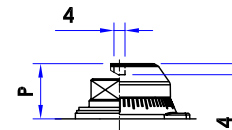
DIAGONAL SINGLE SQUARE



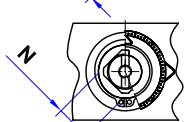
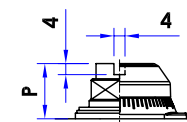
TOP SQUARE DRIVE SHAFT



ONLY FOR MODEL
 3P/3PD AT101U
 3P/3PD AT108U



FOR MODEL
 3P/3PD AT201U + AT701U
 3P/3PD AT208U + AT708U



DIMENSIONS IN mm

**ACTUATOR MODEL	A (90°)	A1 (90°)	A2 (180°)	B	C	D	E	F	G	N	P	R	S	Z1	T - ISO 228	ISO Flange*	Q	Q1	W	W1
3PD / 3P AT101/8U D/S	392	273	454	85	84,5	M5x8	M5x8	80	30	11	20	32	24	42	1/8"	F05 + F07	50	70	M6	M8
3PD / 3P AT201/8U D/S	481	342	568	102	93	M5x8	M5x8	80	30	17	20	32	24	42	1/8"	F05 + F07	50	70	M6	M8
3PD / 3P AT251/8U D/S	578	409	672	115	106	M5x8	M5x8	80	30	17	20	32	24	42	1/4"	F05 + F07	50	70	M6	M8
3PD / 3P AT301/8U D/S	617	438	730	127	118,5	M5x8	M5x8	80	30	17	20	32	24	42	1/4"	F07 + F10	70	102	M8	M10
3PD / 3P AT401/8U D/S	798	565	948	157	146,5	M5x8	M5x8	80	30	27	30	32	24	58	1/4"	F07 + F10	70	102	M8	M10
3PD / 3P AT501/8U D/S	989	705	1177	196	181	M5x8	M5x8	80	30	27	30	32	24	67,5	1/4"	F10 + F12	102	125	M10	M12
3PD / 3P AT601/8U D/S	1290	909	1514	245	221,5	M5x8	M5x8	130	30	36	50	32	24	80	1/4"	F14	140	/	M16	/
3PD / 3P AT701/8U D/S	1725	1218	2030	330	330	M6x10	M5x8	130	30	36	50	45	40	115	1/2"	F16	165	/	M20	/

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

Specifications

Max supply pressure : 8 bar.

Operating Pressure: 2,5 + 8 bar.

For other Dimensions: See data sheet of standard actuator.

Materials : See data sheet of 3-Position 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.