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Head office and Works:

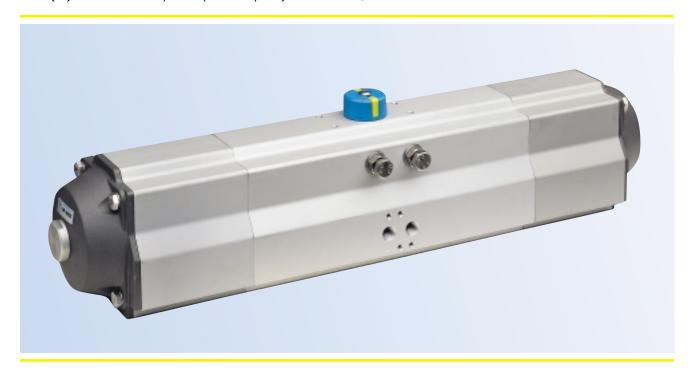


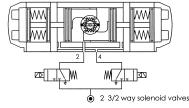


180° SPRING RETURN ACTUATOR 4thG WITH 90° FAIL SAFETY POSITION

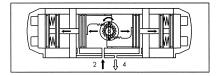
The 180° spring return actuator 4thGeneration with 90° fail safety position is used for 0°-90°-180° operations where in case of air failure the actuator has to return to the 90° position. At both ends of the actuator a spring set is mounted and the compression on both sides of the springs is caused by the rotation from the 90° position. The fail-safe operation is achieved by the extension of the compressed springs that bring the actuator from 0° or 180° position to 90° position.

The external travel stop is available as a standard in fully open position (180°) and in fully close position (0°) , and it is easily and precisely adjustable of +/- 4° in both directions.

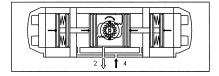




In order to control the operation of AIR TORQUE 180° with 90° Fail Safety Position a system of solenoid valves controlling a sequence of air supplies to the actuator is required as described besides: The actuator may be controlled by two 3/2 way solenoid valve or by one 5/3 way solenoid valve.

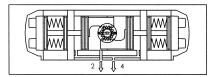


When compressed air is supplied at the Port 2, air forces the pistons apart and compresses the springs from their inside ends to the end side. A counterclockwise rotation is obtained.



From 90° to 0°

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



Air fail operations

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

From 0° position: on loss of air pressure (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.

When ordering 180° Spring Return Actuator with 90° Fail Safety Position, add "FM" (Ex. FM AT 308 S11 A F07 17) to the standard 180° rotation Spring Return actuator code.



AIR TORQUE

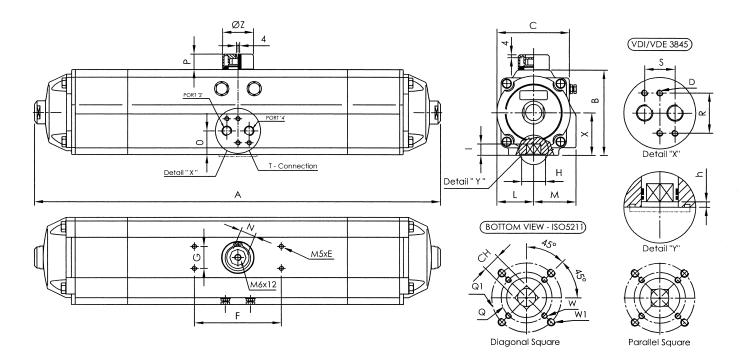
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DIMENSIONS IN mm

ACTUATOR MODEL	А	В	С	D	E	F	G	н	I min.	L	M	N	0	P	Q	Q1	R	s	w	wı	T - ISO 228	ISO Flange*	CH*	h min.	x	Z	Approx. Weight (Kg)
FM AT050 S																											
FM AT100 S																											
FM AT200 S																											
FM AT300 S	605	127	111	M5x8	8	80	30	55	19	56	67	19	37,5	20	70	-	32	24	M8	-	1/4"	F07	17	1,5	63,5	40	14,4
FM AT400 S	780	157	136	M5x8	8	80	30	70	24	69,5	82	27	45	30	102	5-	32	24	M10	-	1/4"	F10	22	1,5	78,5	56/65	27,5
FM AT500 S	993	196	169	M5x8	8	80	30	85	29	88	99	27	52	30	125	-	32	24	M12	-	1/4"	F12	27	1,5	98	65	50
FM AT600 S																											

^{*}Notes: Other connections available.

METRIC TORQUE RATINGS

								SPRIN	NG RET	URN TO	ORQUE	RATIN	GS IN	Nm										Spring		
Supply Pressure:		2,5	Bar	3 Bar		3,5 Bar		4 Bar		4,2 Bar		4,5 Bar		5 Bar		5,5 Bar		6 Bar		7 Bar		8 Bar		stro	oke	
Actuator Model	Spring Set*	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	90°	0° and 180°	0° and 180°	90°	
FM AT050	S 06					<u> </u>		-																		
	S 08																				***************************************					
	S 10					-																				
	S 12																									
FM AT100	\$ 06																									
	S 08																									
	S.10																									
	S 12			-																						
FM AT200	S 06																									
	8 0 8																									
	S 10 S 12																									
	S 06	36.1	10.0	49.4	32,5	10.7	45.0	7/	FO 1	01.2	/ / /	00.2	70.4	100	05.7	117								47.2		
FM AT300	S 08	36,1	19,2	49,4	32,5	62,7 52.5	45,8 30	76 65.8	59,1 43.3	81,3 71,1	64,4 48.7	89,3 79,1	72,4 56,6		85,7 69,9	116 106	99 83,2	119	96,5	146	123			47,3 63	30, 40,	
	S 10					32,3	30	03,6	43,3	/ 1, 1	40,7	69	40,9		54,2	95.6	67,5	109	80.8	135	107	162	134	78.8	50,	
	S 12					†						07	40,7	02,0	J7,2	85,4	51.7	98,7	65	125	92	152	118	94.5	60,	
	\$ 06	75.5	39,6	103.2	67.3	131	95	159	123	170	134	186	150	214	178	242	206	70,7		123	12	132	110	99	63	
FM AT 400	S 08	, 0,0	07,0	.00,=	0.,0	110	62	137,6		149	101	165	117	193	145	221	173	248	201	304	256			132	84	
	S 10					1.1.2						144	84,5	172	112	200	140	227	168	283	223	338	278	165	10	
	S 12															179	107	206	135	262	190	317	245	198	12	
	S 06	149,0	84,3	205,7	141,1	262	198	319	255	342	277	376	311	433	368	489	425							199	13	
M AT 500	S 08					218	131	274,3	188,1	297	211	331	245	388	302	444	358	501	415	615	528			266	18	
	S 10				_							286	178,4	343	235	400	292	456	349	570	462	683	575	332	22	
	S 12															355	225	411	282	525	396	638	509	399	26	
	S 06																									
M AT 600	S 08					-																				
	S 10			-		-		-																		
	S 12			L														L		L						
	N° of				The	above	value a	re the o	ut-put to	rque th	at rema	in avail	able to	operate	the val	ve whe	n the po	ort "2" is	pressuriz	ed.]		
	Springs																		Out-put	toraue	availab	le wher	air su	oply fail:	s	

^{*}Notes: It is possible to obtain different torque values by interpolation of spring number (ex. S07)