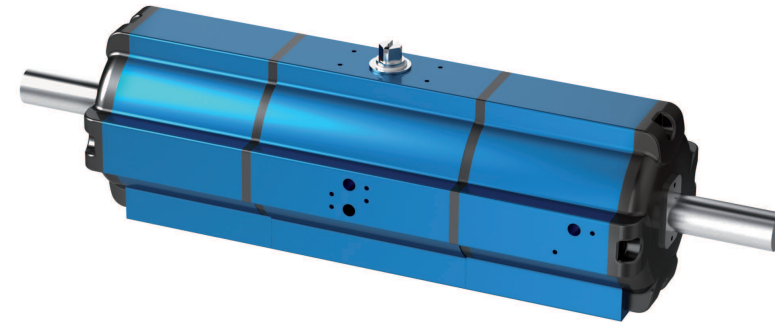


DOUBLE-PISTON QUARTER TURN ACTUATORS

TYPE DAD / DAF 90°

Technical Data

Design :	Pneumatic double-piston quarter turn actuator with dosing mode
Design features :	Rack-and-pinion system, piston guide via guide rods
Angle of rotation :	Fixed rotation angle 0° to 90° (normal operation) Adjustable at any position between 0° and 90° (dosing mode) Also suitable for Partial Stroke application
Air pressure supply :	mind. 2 bar, max. 8 bar
Operating medium :	Dry and filtered compressed air
Ambient temperature :	-25°C to +80°C
Mounting position :	any
Resistance to corrosion :	Industrial atmosphere
Lubrication :	Life time lubrication with grease ISO 51825-K2K-30
Seals :	NBR-O-Rings, 70 Shore
Coatings :	Housing anodized and colour sealed End caps - CED Cathodic electrodeposition
Maintenance and inspection :	AMG actuators are free of maintenance within the life time. Provided that: <ul style="list-style-type: none">• the actuator is properly mounted• the operating medium used is clean and non-aggressive• the actuator is operated under normal ambient conditions• the actuator is used in compliance with the intended use (see assembly and maintenance manual)
Applied standard :	DIN EN ISO 5211, DIN EN 15714-3, VDI / VDE 3845, DIN 79



DAD / DAF

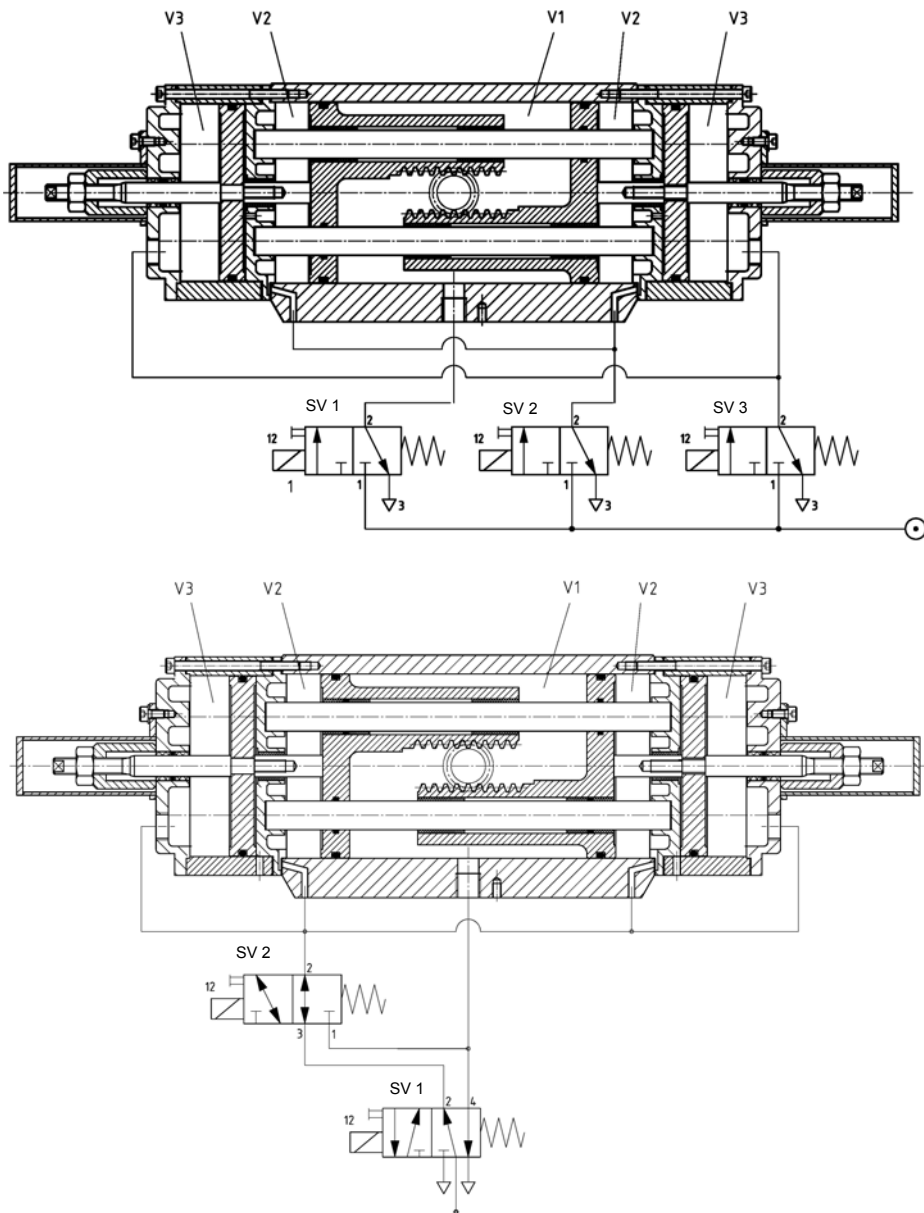
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DOUBLE-PISTON QUARTER TURN ACTUATORS
TYPE DAD / DAF 90°



DAD (3x 3/2 Way)	SV 1	SV 2	SV 3
	12	12	12
0° - Intremediate position	1	0	1
Intremediate position - 90°	1	0	0
90° - Intremediate position	0	0	1
Intremediate position - 0°	0	1	1
0° - 90°	1	0	0
90° - 0°	0	1	1

DAD (1x 3/2 & 1x 5/2 Way)	SV 1	SV 2
	12	12
0° - Intremediate position	1	0
Intremediate position - 90°	1	0
90° - Intremediate position	0	0
Intremediate position - 0°	0	1
0° - 90°	1	0
90° - 0°	0	1

(SV 2 switchen after SV 1)

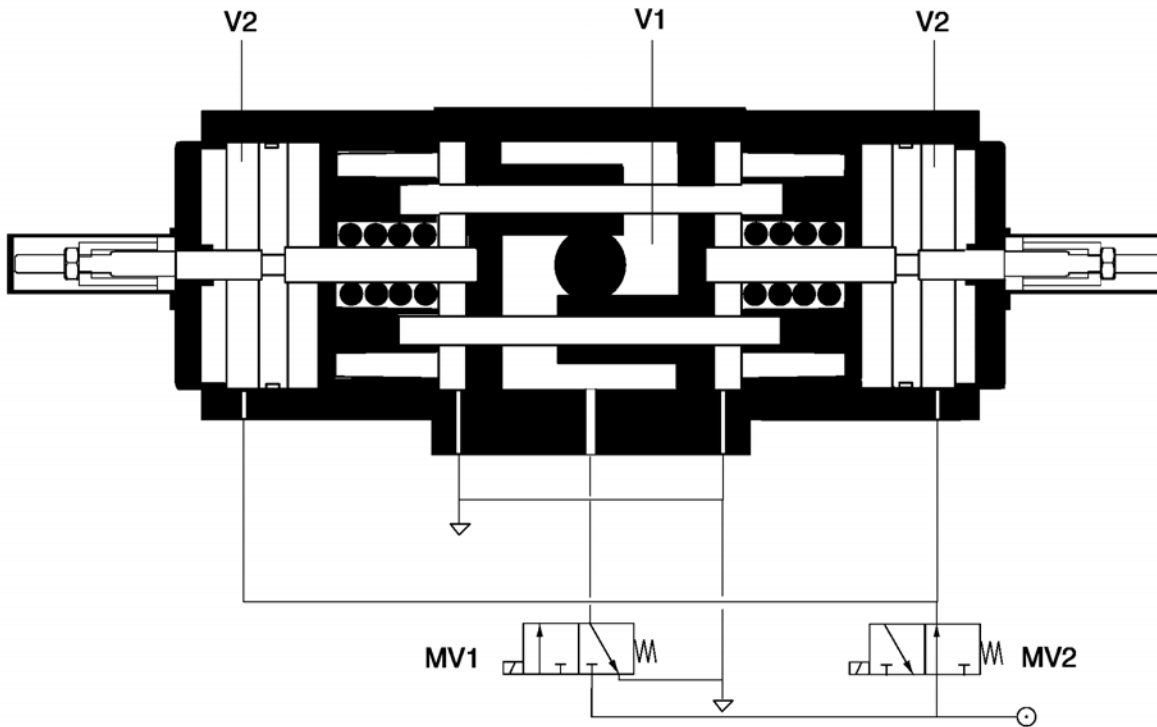
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DOUBLE-PISTON QUARTER TURN ACTUATORS
TYPE DAD / DAF 90°



DAF

The mechanism is actuated using two 3/2 directional valves.

Coarse pulse: MV I switches to Position 1 and aerates V₁. MV II remains in Position 1 and de-aerates V₂. The inner piston opens the fitting by 90° in a counter-clockwise direction.

Fine pulse: MV II switches to Position 1 and aerates V₂. V₁ remains aerated. With the support of spring forces, outer pistons move the inner pistons against the aerated V₁ chamber until the completely reproducible, fixed middle position, which is set using the outer adjusting nuts, has been reached. The fitting is closed in a clockwise direction until it reaches the middle position.

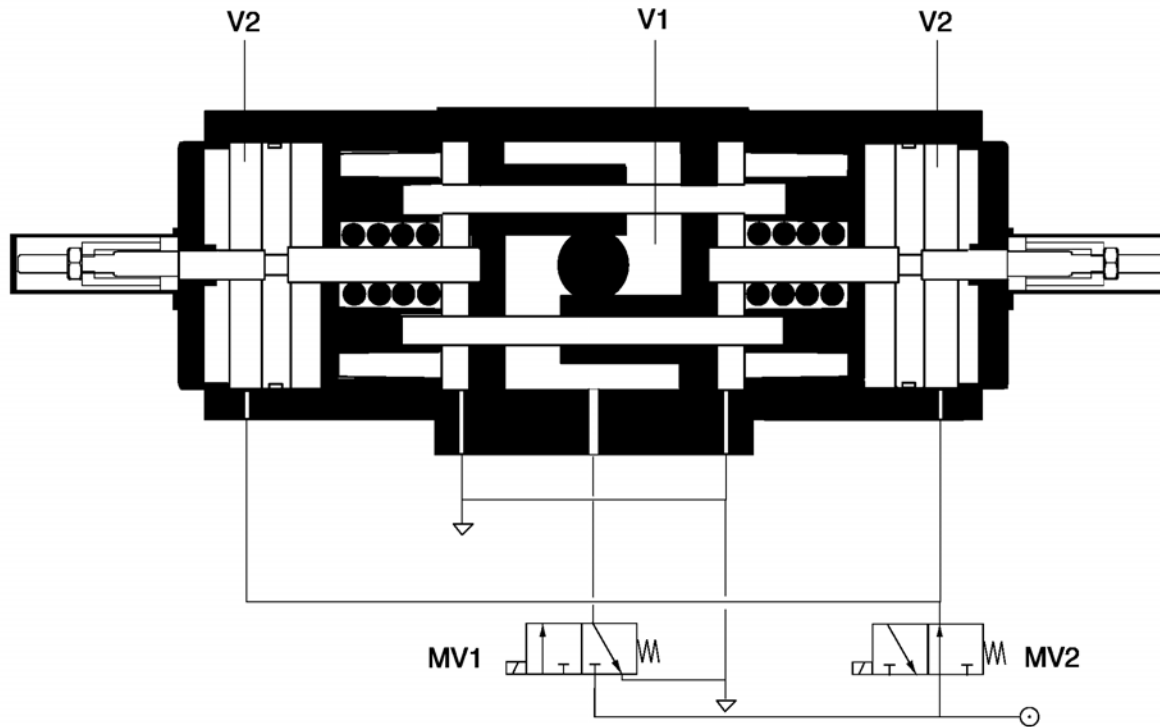
Blocking pulse: MV I and MV II switch to Position 0. V₁ and V₂ are de-aerated. The released spring forces close the fitting.

Note: If V₂ is not de-aerated, it can be moved between the "CLOSED" and "Dosing" positions.



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DOUBLE-PISTON QUARTER TURN ACTUATORS
TYPE DAD / DAF 90°



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Blocking pulse: MV I and MV II switch to Position 0. V₁ and V₂ are de-aerated. The released spring forces close the fitting.

Note: If V₂ is not de-aerated, it can be moved between the "CLOSED" and "Dosing" positions.

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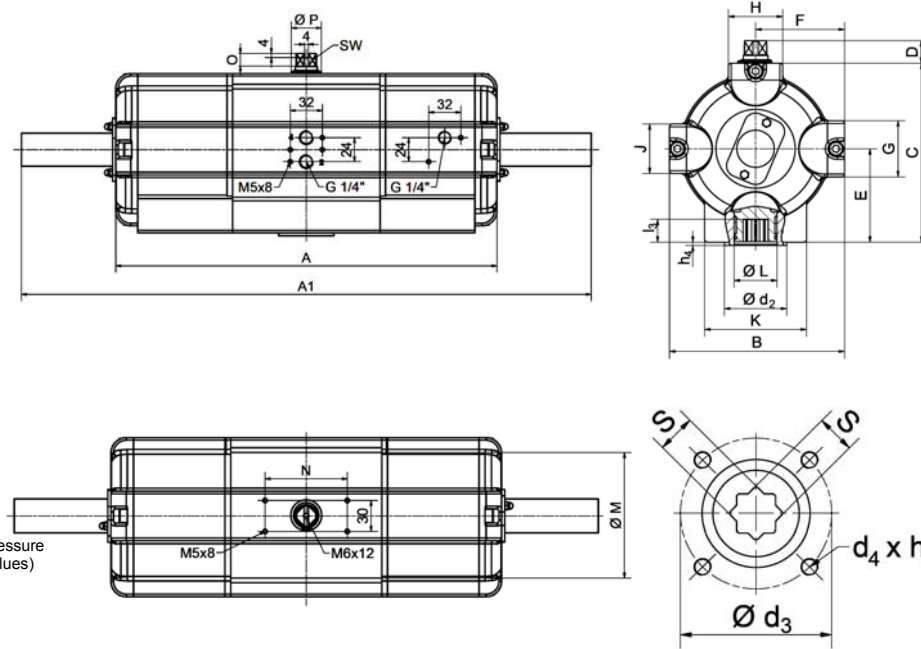


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DOUBLE-PISTON QUARTER TURN ACTUATORS
TYPE DAD / DAF 90°

Size	30	
Weight [kg]		
Type DAD	16,0	
Type DAF	19,0	
Stroke volume [dm³]		
Type DAD	2,8	
Type DAF	1,5	
Operating times [sec.] ¹⁾		
Type DAD OPEN	2,8	
Type DAD CLOSE	1,5	
Type DAF ²⁾ OPEN	0,4	
Type DAF ²⁾ CLOSE	0,2	



1) operating times at 4,5 bar air pressure supply without load (standard values)

2) Type SAF with 9 springs

Type	number of springs n	spring-torque		air torque Ma [Nm] at operating pressure pe [bar]																									
		Ms [Nm]		2 bar		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar		6,5 bar		7 bar		7,5 bar		8 bar	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
DAD 30	-	-		91		117		144		170		196		223		249		276		302		329		355		380		405	
DAF 30	4	36	59	32	55	58	81	85	108	111	134	137	160	164	187	190	213	217	240	243	266	270	293	296	319	321	344	346	369
	5	45	74	17	46	43	72	70	99	96	125	122	151	149	178	175	204	202	231	228	257	255	284	281	310	306	335	331	360
	6	54	89			28	63	55	90	81	116	107	142	134	169	160	195	187	222	213	248	240	275	266	301	291	326	316	351
	7	62	104			13	55	40	82	66	108	92	134	119	161	145	187	172	214	198	240	225	267	251	293	276	318	301	343
	8	71	118					26	73	52	99	78	125	105	152	131	178	158	205	184	231	211	258	237	284	262	309	287	334
	9	80	133					11	64	37	90	63	116	90	143	116	169	143	196	169	222	196	249	222	275	247	300	272	325
	10	89	148							22	81	48	107	75	134	101	160	128	187	154	213	181	240	207	266	232	291	257	316
	11	98	163							7	72	33	98	60	125	86	151	113	178	139	204	166	231	192	257	217	282	242	307
12	107	178									18	89	45	116	71	142	98	169	124	195	151	222	177	248	202	273	227	298	

Design	DAD / DAF
Size	30
A	511
A1	699
B	174
C	174
D	20
E	89
F	87
G	50
H	64
K	90
Ø L	47
J	50
Ø M	145
N	80
O	12
Ø P	36
SW	17
Connection ISO 5211	F10
Ø d ₂	70
Ø d ₃	102
d ₄ x h ₃	M10x16
Number of screws	4
h ₄	3
l ₃	25
s	22

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