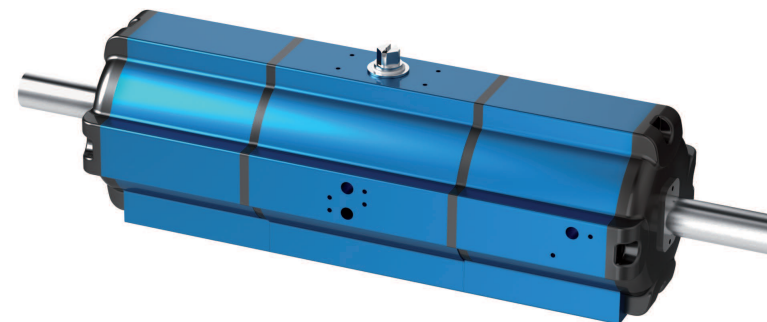


## DOUBLE-PISTON QUARTER TURN ACTUATORS

### TYPE DAD / DAF 90°

#### Technical Data

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



DAD / DAF

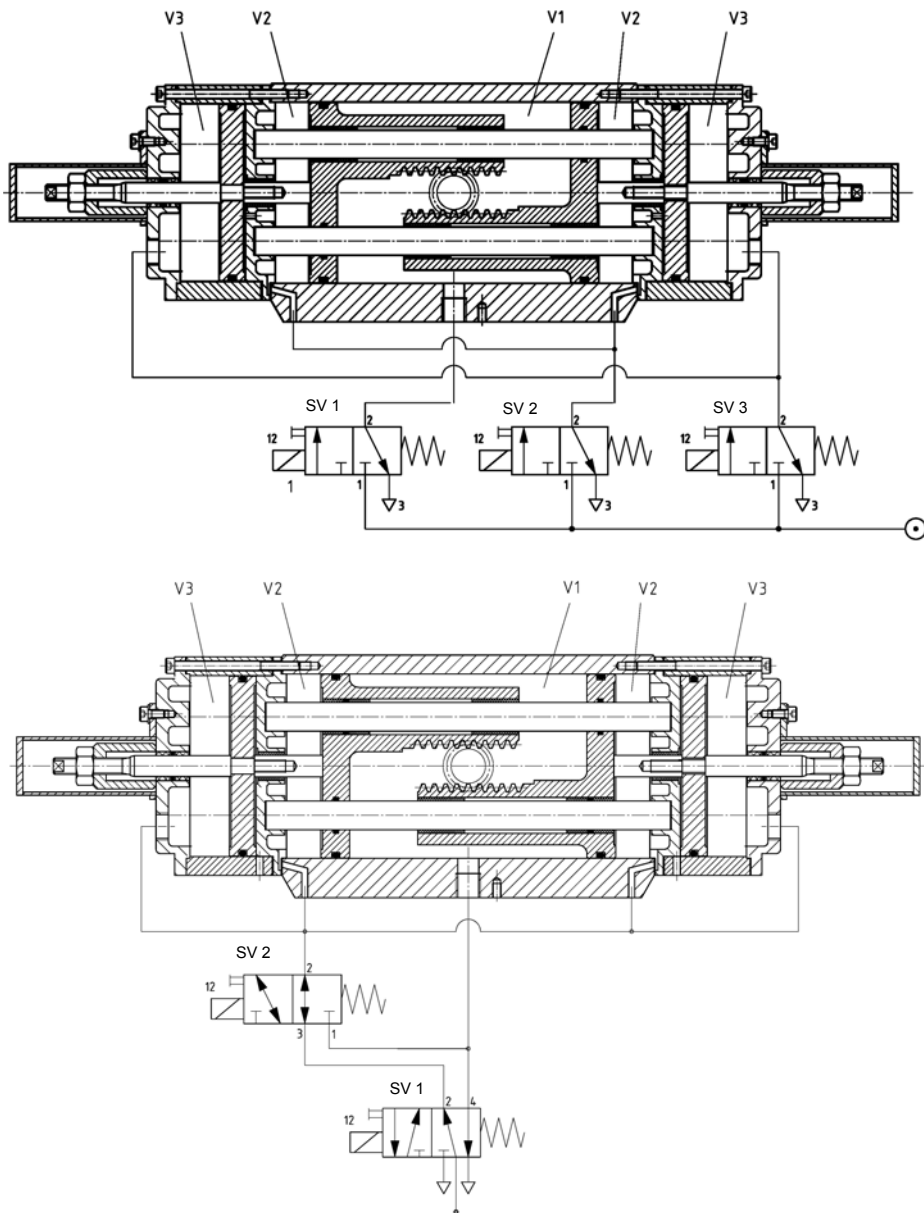
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**DOUBLE-PISTON QUARTER TURN ACTUATORS**  
**TYPE DAD / DAF 90°**



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 )

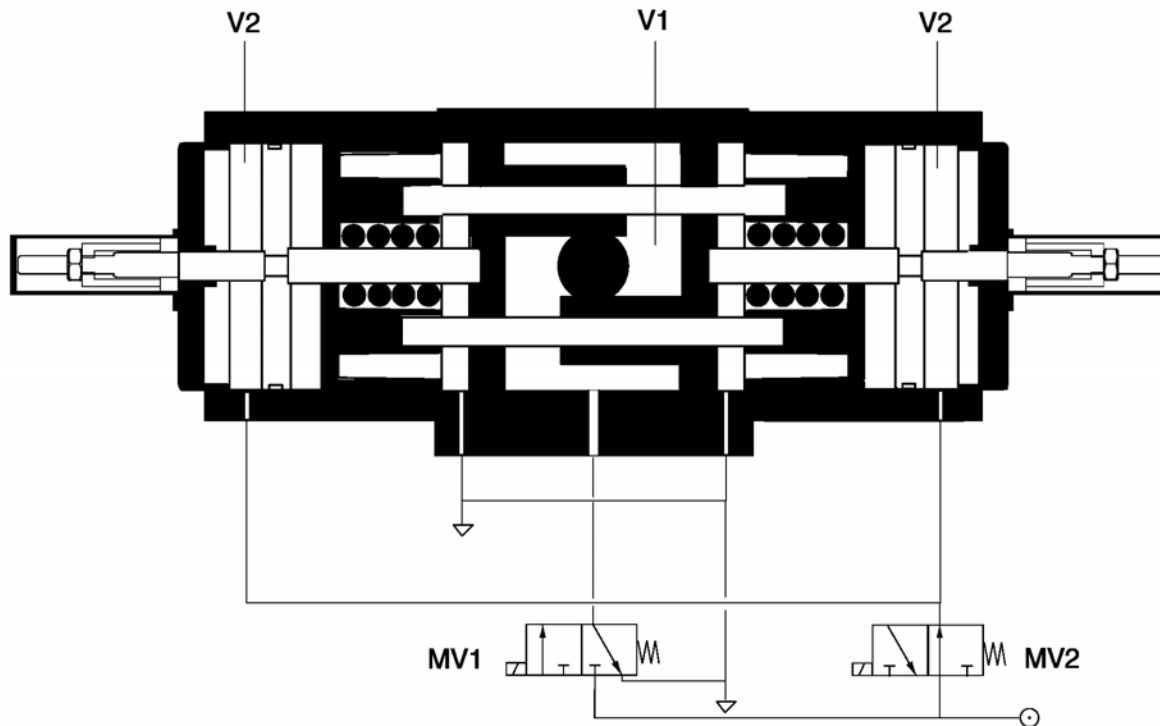
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**DOUBLE-PISTON QUARTER TURN ACTUATORS**  
**TYPE DAD / DAF 90°**



**DAF**

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

**Coarse pulse:** MV I switches to Position 1 and aerates V<sub>1</sub>. MV II remains in Position 1 and de-aerates V<sub>2</sub>. The inner piston opens the fitting by 90° in a counter-clockwise direction.

**Fine pulse:** MV II switches to Position 1 and aerates V<sub>2</sub>. V<sub>1</sub> remains aerated. With the support of spring forces, outer pistons move the inner pistons against the aerated V<sub>1</sub> 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. V<sub>1</sub> and V<sub>2</sub> are de-aerated. The released spring forces close the fitting.

**Note:** If V<sub>2</sub> is not de-aerated, it can be moved between the "CLOSED" and "Dosing" positions.

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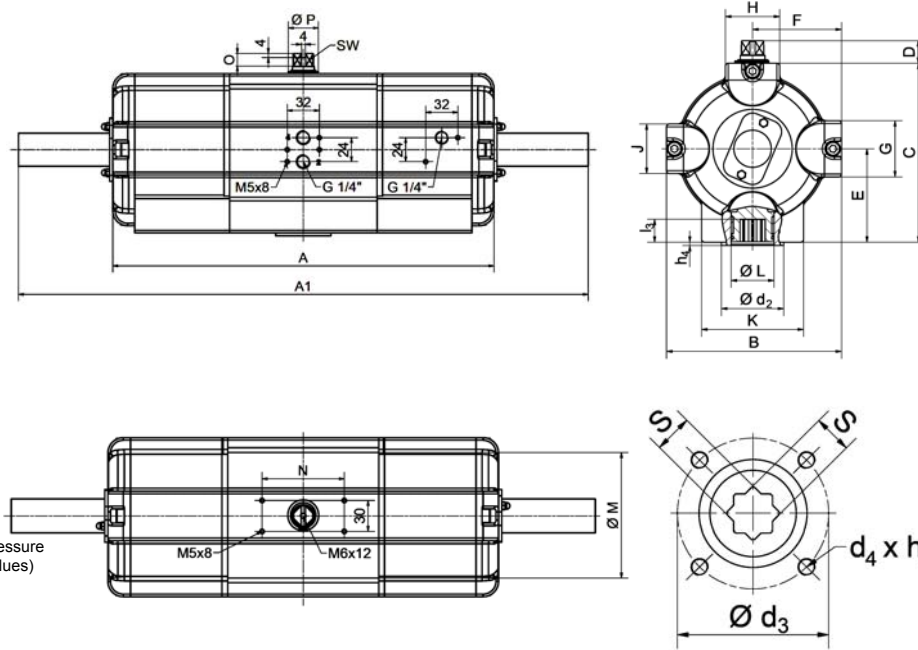


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**DOUBLE-PISTON QUARTER TURN ACTUATORS**  
**TYPE DAD / DAF 90°**

Size	15	
Weight [kg]		
Type DAD	5,5	
Type DAF	6,2	
Stroke volume [dm <sup>3</sup> ]		
Type DAD	0,7	
Type DAF	0,4	
Operating times [sec.] <sup>1)</sup>		
Type DAD OPEN	0,2	
Type DAD CLOSE	0,2	
Type DAF <sup>2)</sup> OPEN	0,2	
Type DAF <sup>2)</sup> CLOSE	0,1	



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

2) Type DAF 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 15	-	-	-	23	29	36	42	49	55	62	68	75	82	88	94	101															
DAF 15	4	8,8	14,7	8,3	14,2	14,3	20,2	21,3	27,2	27,3	33,2	34,3	40,2	40,3	46,2	47,3	53,2	53,3	59,2	60,3	66,2	67,3	73,2	73,3	79,2	79,3	85,2	86,3	92,2		
	5	11,0	18,4	4,6	12,0	10,6	18,0	17,6	25,0	23,6	31,0	30,6	38,0	36,6	44,0	43,6	51,0	49,6	57,0	56,6	64,0	63,6	71,0	69,6	77,0	75,6	83,0	82,6	90,0		
	6	13,3	22,0	1,0	9,7	7,0	15,7	14,0	22,7	20,0	28,7	27,0	35,7	33,0	41,7	40,0	48,7	46,0	54,7	53,0	61,7	60,0	68,7	66,0	74,7	72,0	80,7	79,0	87,7		
	7	15,5	25,7			3,3	13,5	10,3	20,5	16,3	26,5	23,3	33,5	29,3	39,5	36,3	46,5	42,3	52,5	49,3	59,5	56,3	66,5	62,3	72,5	68,3	78,5	75,3	85,5		
	8	17,7	29,4					6,6	18,3	12,6	24,3	19,6	31,3	25,6	37,3	32,6	44,3	38,6	50,3	45,6	57,3	52,6	64,3	58,6	70,3	64,6	76,3	71,6	83,3		
	9	19,9	33,0					3,0	16,1	9,0	22,1	16,0	29,1	22,0	35,1	29,0	42,1	35,0	48,1	42,0	55,1	49,0	62,1	55,0	68,1	61,0	74,1	68,0	81,1		
	10	22,1	36,7							5,3	19,9	12,3	26,9	18,3	32,9	25,3	39,9	31,3	45,9	38,3	52,9	45,3	59,9	51,3	65,9	57,3	71,9	64,3	78,9		
	11	24,3	40,4							1,6	17,7	8,6	24,7	14,6	30,7	21,6	37,7	27,6	43,7	34,6	50,7	41,6	57,7	47,6	63,7	53,6	69,7	60,6	76,7		
12	26,5	44,0									5,0	22,5	11,0	28,5	18,0	35,5	24,0	41,5	31,0	48,5	38,0	55,5	44,0	61,5	50,0	67,5	57,0	74,5			

Design	DAD / DAF
Size	15
A	327
A1	461
B	116
C	111
D	20
E	56
F	61
G	50
H	40
K	64
Ø L	28
J	44
Ø M	93
N	80
O	12
Ø P	22
SW	12
Connection ISO 5211	F05
Ø d <sub>2</sub>	35
Ø d <sub>3</sub>	50
d <sub>4</sub> x h <sub>3</sub>	M6x10
Number of screws	4
h <sub>4</sub>	3
l <sub>3</sub>	16
s	14

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