



**BR 31a · Quarter-turn actuator**

Version DAP / SRP 900 · Technical data and spare parts



**Applications**

Single-acting or double-acting piston actuators for butterfly valves, ball valves and other final control elements with rotary closure members. Particularly suitable for high process requirements in chemical plants:

- **Opening angle 90°**
- **Temperatures -40°C to +80°C**



## Dimensions of quarter-turn actuator

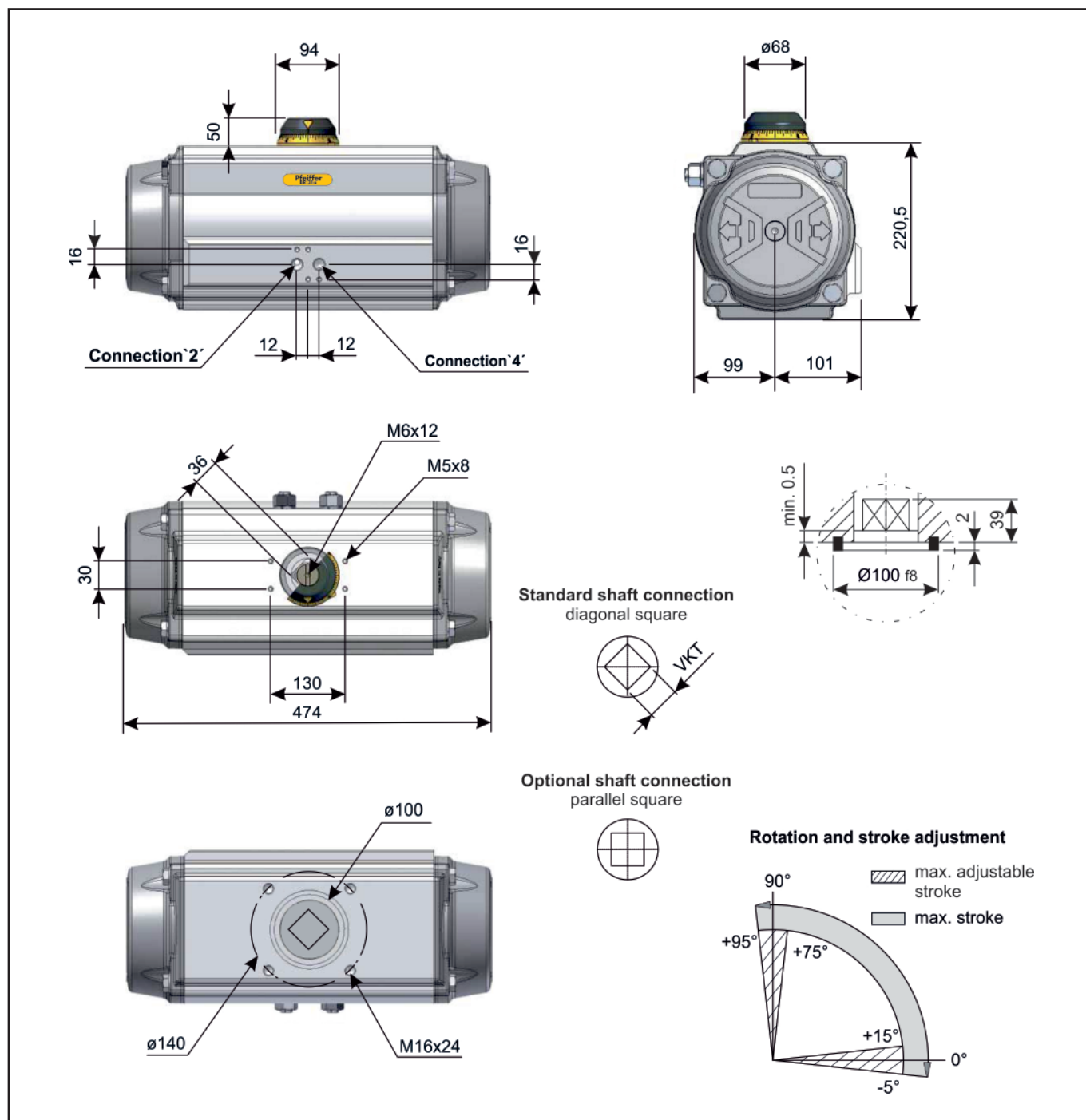


Fig. 2: Dimensional drawing

Table 1: Connection dimensions / Connections

ISO 5211	Flange	F14
	Square (diagonal)	36mm
VDI/VDE 3845	Air connection	24x32mm + 2x G1/4"
	Fixing level 1	AA4 (130x30x50mm)

## Technical Data

**Table 2:** Torques for double and single acting quarter-turn actuators

Type	Torque double and single acting in Nm																				Spring stroke		Weight in kg		
	2.5		3		3.5		4		4.2		4.5		5		5.5		6		7					8	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		90°	0°
DAP	383		459		536		613		643		689		766		842		919		1072		1225		-	-	24.3
																							Start	End	
SRP 2,5	225	146	301	223	378	299	455	376	485	406	531	452	608	529	684	605	761	682	914	835	1067	988	237	158	27.8
SRP 3	193	99	270	175	346	252	423	329	454	359	500	405	576	482	653	558	729	635	882	788	1035	941	284	190	28.5
SRP 3,5	162	50.9	238	128	315	205	391	281	422	312	468	358	544	434	621	511	698	587	851	740	1004	893	332	221	29.2
SRP 4	130	3.9	207	80.5	283	157	360	234	390	264	436	310	513	387	589	464	666	540	819	693	972	846	379	253	29.9
SRP 4,5	97.9		175	33.5	251	110	328	186	359	217	405	263	481	340	558	416	634	493	788	646	941	799	426	285	30.6
SRP 5	66.9		145		220	62.1	297	139	327	169	373	216	450	292	526	369	603	445	756	599	909	752	474	316	31.3
SRP 5,5	34.9		112		188	15.1	265	91.7	295	122	341	168	418	245	495	321	571	398	724	551	877	704	521	348	32.0
SRP 6	3.9		80.5		157		234	44.7	264	75.3	310	121	387	198	463	274	540	351	693	504	846	657	568	379	32.7

**Table 3:** Specially technical data

Type	Pressure max. in bar	Rotation	Screw stroke adjustment	Chamber Ø in mm	Air volume in Litre		Moving time in Sec. <sup>1)</sup>		Operating temperature in °C <sup>2)</sup>		
					Open	Close	Open	Close	STD (Standard)	HT (High temp.)	SLT (Low temp.)
DAP	8	90° -5°/+15°	for 1° 1/4 rotation	180	4.26	6.89	2.00	2.20	-40 bis +80	-15 bis +150	-55 bis +80
SRP							2.40	2.80			

<sup>1)</sup> The above indicated moving time of the actuator is obtained under the following test conditions: (1) room temperature, (2) actuator stroke 90°, (3) solenoid valve with Ø11 mm and flow capacity Qn 6000 L/min., (4) inside pipe Ø11 mm, (5) medium clean air, (6) air supply pressure 5,5 bar (79,75 Psi), (7) actuator without external resistance load.

**It has to be expected, e.g. for field applications, when one or more of the above parameters are different, the moving time will be different.**

<sup>2)</sup> For HT (high temperature) and SLT (low temperature) applications a special grease is needed.

**Table 4:** Air consumption

Type	Air consumption in Litre / Switching cycle <sup>3)</sup>									
Pressure	2.5	3	3.5	4	4.5	5	5.5	6	7	8
DAP	39.03	44.60	50.18	55.75	61.33	66.90	72.48	78.05	89.20	100.35
SRP	14.91	17.04	19.17	21.30	23.43	25.56	27.69	29.82	34.08	38.34

<sup>3)</sup> A switching cycle is the movement from 0° to 90° + 90° to 0°

## Operating Medium:

The operating medium must be free of dust and oil. The maximum particle size must not exceed 30µ. (ISO 8573 Part1, Class5). In order to prevent water condensation and/or solidification (ice when actuator works below 0°C), the operating medium must have a dew point equal to -20°C or at least 10°C below the ambient temperature (ISO 8573 Part1, Class3).

## Parts list for actuator DAP/SRP 900

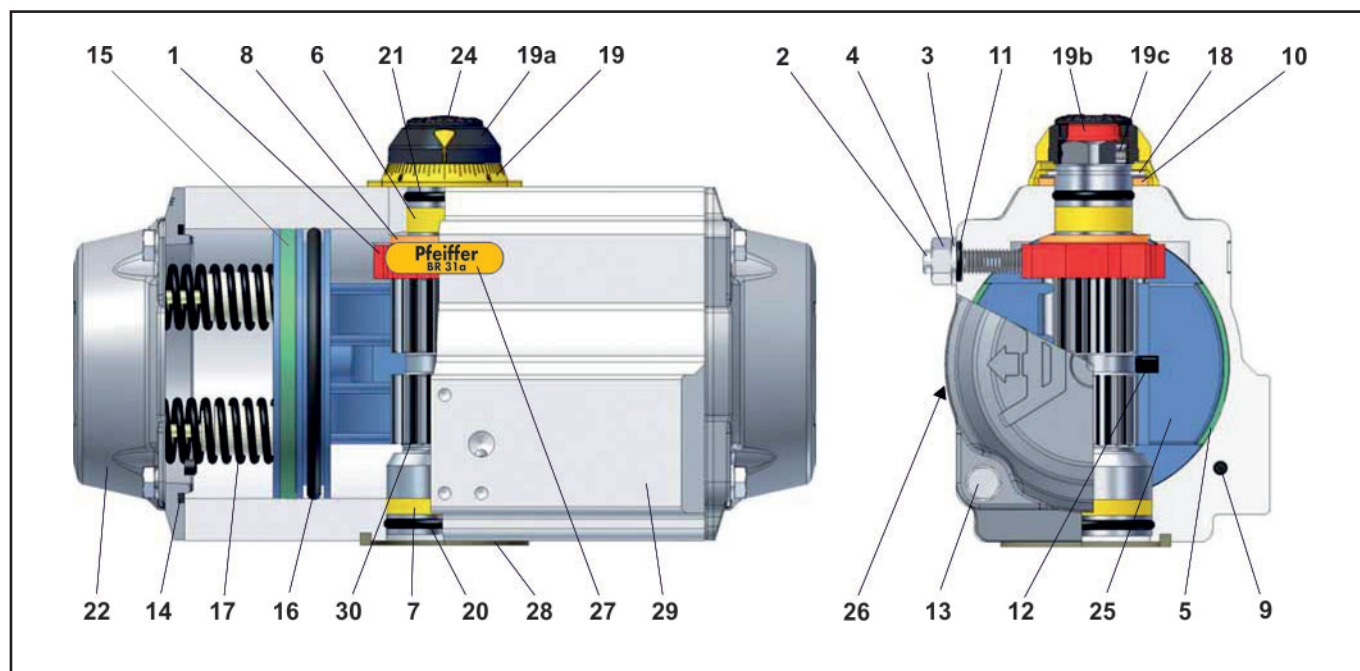


Fig. 3: Quarter-turn actuator BR 31a, Type SRP 900

Table 5: Parts and spare parts list

Item	Qty.	Description	Material	Abrasion package for SRP/DAP 900
1	1	Octi-cam	Carbon steel, zinc coated	STD = 43356v HT = 45441v SLT = 48030v
2	2	Stop cap screw	Stainless steel	
3	2	Washer	Stainless steel	
4	2	Stop screw	Stainless steel	
5 <sup>1)</sup>	2	Piston guide bearing	PA46	
6 <sup>1)</sup>	1	Pinion top bearing	High-grade polymers	
7 <sup>1)</sup>	1	Pinion bottom bearing	High-grade polymers	
8 <sup>1)</sup>	2	Pinion thrust bearing	PA46	
9 <sup>1) 2) 3)</sup>	2	Plug	Silicone	
10	1	Thrust washer	Stainless steel	
11 <sup>1) 2) 3)</sup>	2	O-ring	M-NBR	
12	2	Piston guide	PA66+GF	
13	16	Cap Screw	Stainless steel	
14 <sup>1) 2) 3)</sup>	2	O-ring	M-NBR	
15 <sup>1) 2)</sup>	2	Piston head bearing	POM	
16 <sup>1) 2) 3)</sup>	2	O-ring	M-NBR	
17	5 to 12	Spring pressure cartridge	SiCr Spring alloy Steel epoxy coated	
18	1	Spring clip	Spring steel, ENP	
19	1	Graduated ring	PA66+GF(+CB)	
19a	1	Position indicator	PA66+GF+CB	
19b	1	Top adaptor	Extruded aluminium alloy, anodized	
19c		Hex. socket screw	Stainless steel	
20 <sup>1) 2) 3)</sup>	1	O-ring	M-NBR	
21 <sup>1) 2) 3)</sup>	1	O-ring	M-NBR	
22	1	End cap	Pressure die cast aluminium alloy, anodized and coated	
24	1	Cap screw	PA66+GF+CB	
25	2	Piston	Pressure die cast aluminium alloy, anodized	
26	1	Identification label	Polyester-Silver	
27	1	Plate	Polyester	
28	1	Spigot	Extruded aluminium alloy, anodized	
29	1	Body	Extruded aluminium alloy, coated	
30	1	Drive shaft	Steel, ENP	

<sup>1)</sup> Included in the abrasion package (STD), <sup>2)</sup> Included in the high temperature kit (HT), <sup>3)</sup> Included in the low temperature set (SLT)