



**BR 31a · Quarter-turn actuator**

Version DAP / SRP 3000 · 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

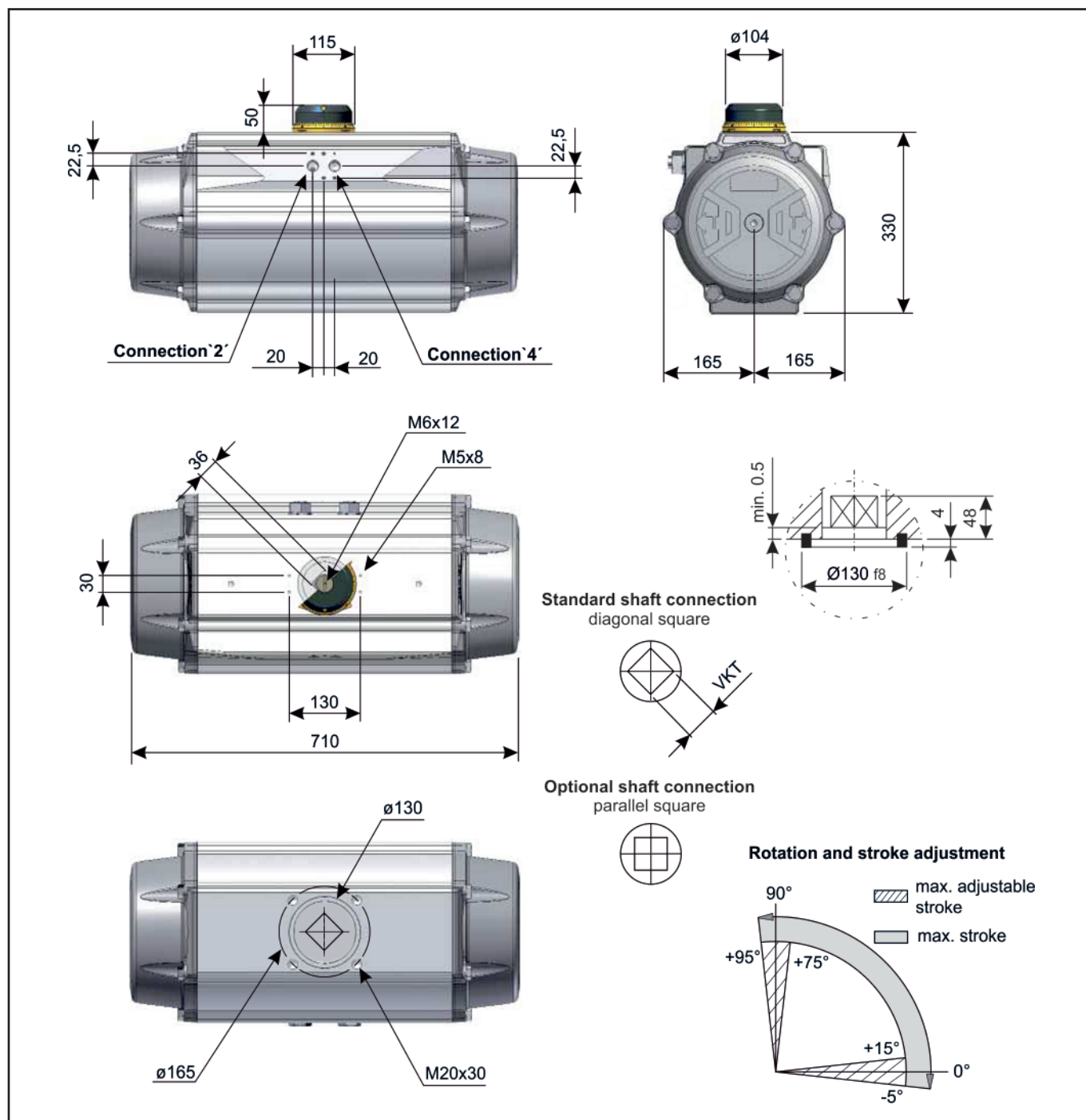


Fig. 2: Dimensional drawing

Table 1: Connection dimensions / Connections

ISO 5211	Flange	F16
	Square (diagonal)	46mm
VDI/VDE 3845	Air connection	40x45mm + 2x G $\frac{1}{2}$ "
	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			90°	0°
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°					
DAP	1297	1556	1815	2075	2179	2334	2594	2853	3112	3631	4150	-	-	76.3											
																						Start	End		
SRP 2,5	751	496	1011	755	1270	1015	1529	1274	1633	1378	1789	1533	2048	1793	2307	2052	2566	2311	3085	2830	3603	3348	801	546	84.3
SRP 3	642	336	902	595	1161	854	1420	1114	1524	1217	1680	1373	1939	1632	2198	1892	2457	2151	2976	2670	3494	3188	961	655	85.9
SRP 3,5	533	176	792	435	1052	694	1311	954	1415	1057	1570	1213	1830	1472	2089	1732	2349	1991	2867	2510	3385	3028	1121	764	87.5
SRP 4	424	15.7	683	275	943	534	1202	793	1306	897	1461	1053	1721	1312	1980	1571	2239	1831	2758	2350	3276	2868	1281	873	89.1
SRP 4,5	315		574	114	833	373	1093	633	1197	737	1352	893	1612	1152	1871	1411	2130	1671	2649	2189	3168	2708	1442	982	90.7
SRP 5	206		465		724	213	984	473	1087	576	1243	732	1503	992	1762	1251	2021	1510	2540	2029	3059	2548	1602	1091	92.3
SRP 5,5	96.7		356		615	53.3	875	313	978	416	1134	572	1393	832	1653	1091	1912	1350	2431	1869	2950	2388	1762	1200	93.9
SRP 6			247		506		766	153	869	256	1025	412	1284	671	1544	931	1803	1190	2322	1709	2840	2228	1922	1309	95.5

**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	265	15.5	21.4	4.00	4.50	-40 bis +80	-15 bis +150	-55 bis +80
SRP							4.50	5.00			

<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. Please contact PFEIFFER.

**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	125.58	143.52	161.46	179.40	197.34	215.28	233.22	251.16	287.04	322.92
SRP	50.75	58.00	65.25	72.50	79.75	87.00	94.25	101.50	116.00	130.50

<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 3000

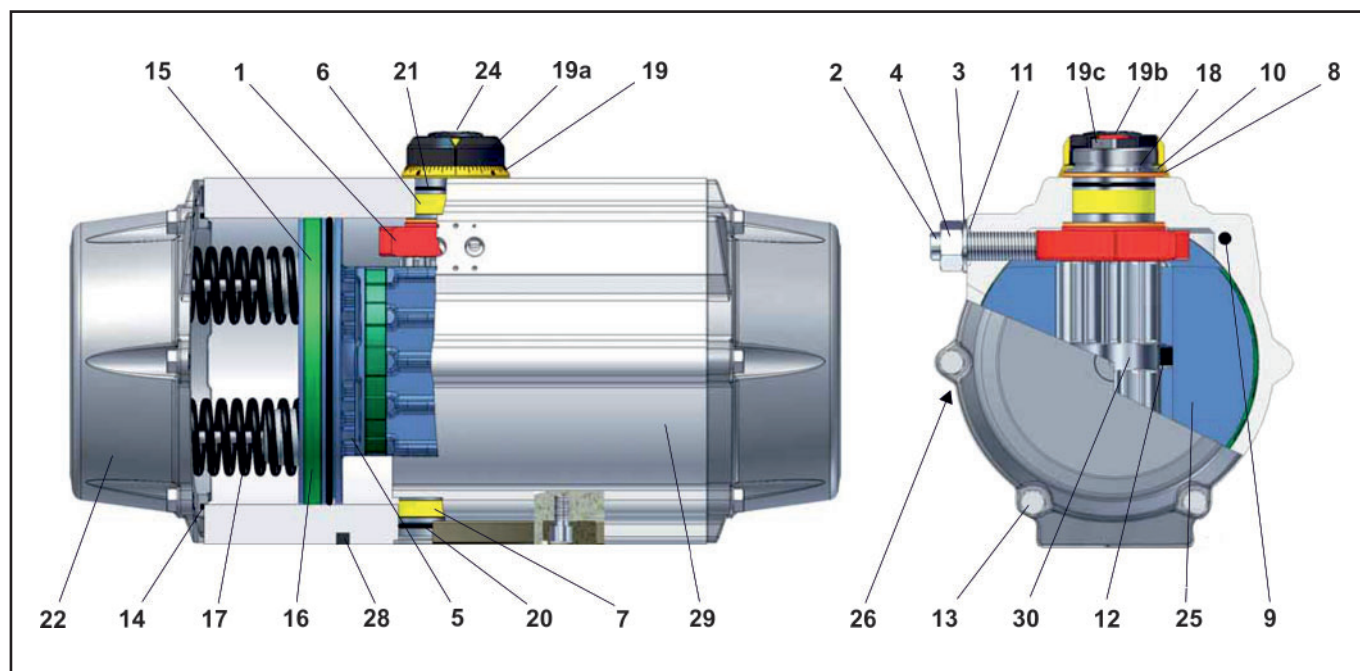


Fig. 3: Quarter-turn actuator BR 31a, Type SRP 3000

Table 5: Parts and spare parts list

Item	Qty.	Description	Material	Abrasion package for SRP/DAP 3000
1	1	Octi-cam	Carbon steel, zinc coated	STD = 43729v HT = 44181v SLT = 48033v
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)