



**BR 31a · Quarter-turn actuator**

Version DAP / SRP 600 · 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

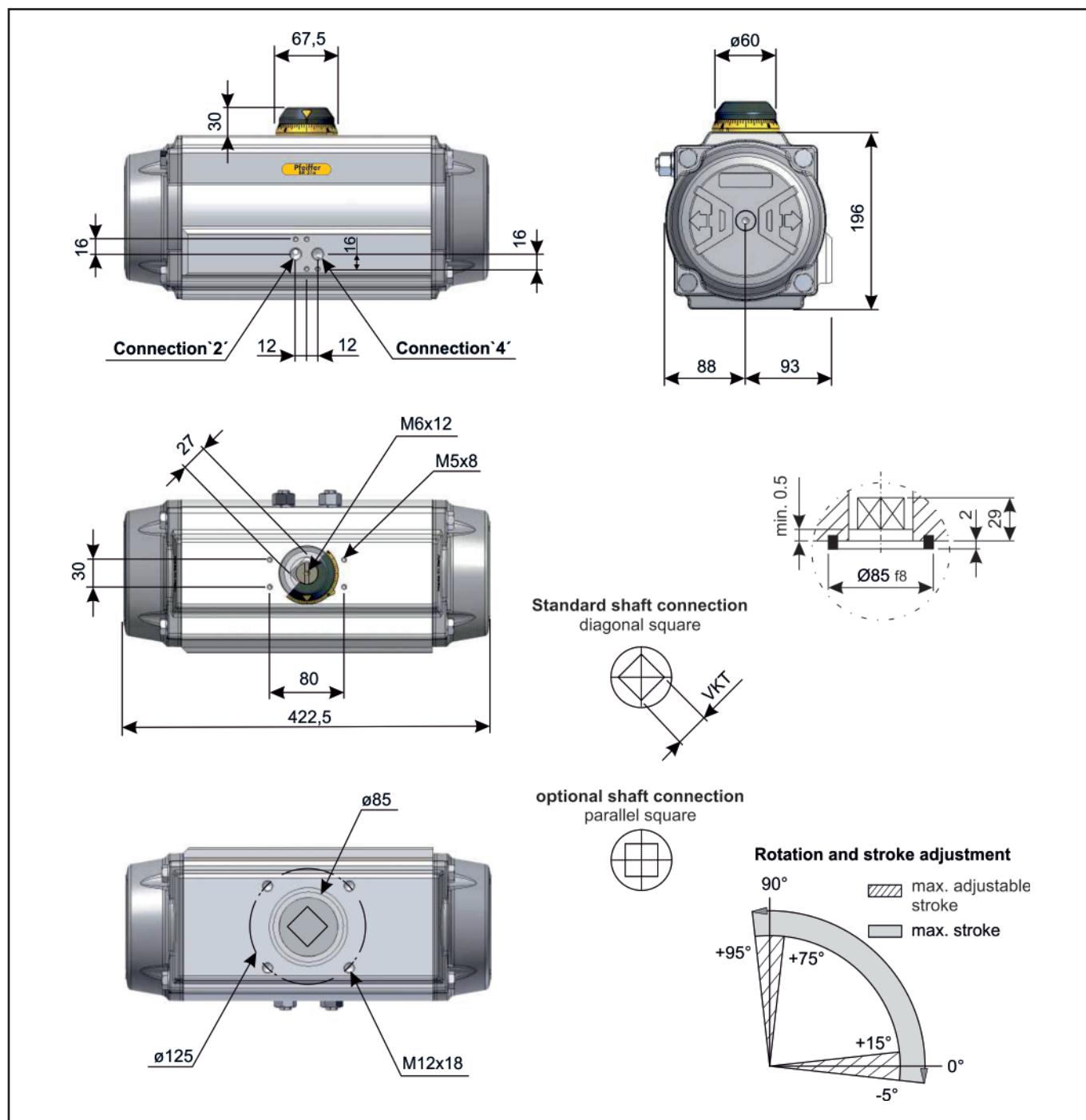


Fig. 2: Dimensional drawing

Table 1: Connection dimensions / Connections

ISO 5211	Flange	F12
	Square (diagonal)	27mm
VDI/VDE 3845	Air connection	24x32mm + 2x G $\frac{1}{4}$ "
	Fixing level 1	AA2 (80x30x30mm)

## 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	284	340	397	454	477	511	567	624	681	794	908	-	-	17.8											
																						Start	End		
SRP 2,5	171	118	228	174	285	231	342	288	364	310	398	344	455	401	512	458	569	515	682	629	796	742	166	112	19.3
SRP 3	149	84.3	206	141	262	198	319	255	342	277	376	311	433	368	489	425	546	482	660	596	773	709	199	135	19.6
SRP 3,5	127	50.8	183	108	240	165	297	221	319	244	353	278	410	335	467	391	524	448	638	562	751	675	233	157	19.9
SRP 4	104	17.8	161	74.5	218	131	274	188	297	211	331	245	388	302	444	358	501	415	615	528	728	642	266	180	20.2
SRP 4,5	81.8		139	41.5	195	98.3	252	155	275	178	309	212	365	268	422	325	479	382	592	495	706	609	299	202	20.5
SRP 5	59.8		117	8.5	173	65.3	230	122	253	145	286	178	343	235	400	292	456	349	570	462	683	575	332	224	20.8
SRP 5,5	36.8		93.5		150	32.3	207	89.0	230	112	264	146	320	202	377	259	434	315	547	429	661	542	365	247	21.1
SRP 6	14.8		71.5		128		185	55.0	208	77.7	242	112	299	169	355	225	411	282	525	396	638	509	399	269	21.4

**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	160	3.14	4.92	1.50	1.70	-40 bis +80	-15 bis +150	-55 bis +80
SRP							1.80	2.10			

<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 Ø4mm and flow capacity Qn 400 L/min., (4) inside pipe Ø8mm, (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	28.21	32.24	36.27	40.30	44.33	48.36	52.39	56.42	64.48	72.54
SRP	10.99	12.56	14.13	15.70	17.27	18.84	20.41	21.98	25.12	28.26

<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 600

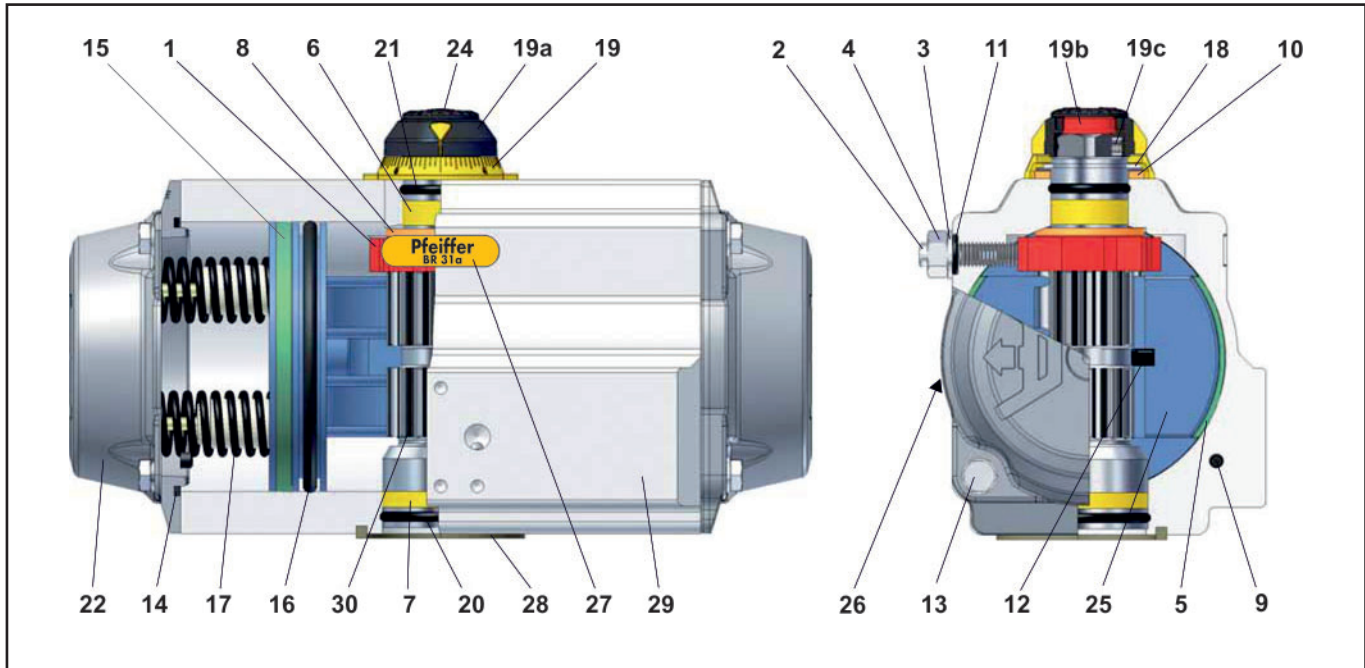


Fig. 3: Quarter-turn actuator BR 31a, Type SRP 600

Table 5: Parts and spare parts list

Item	Qty.	Description	Material	Abrasion package for SRP/DAP 600
1	1	Octi-cam	Carbon steel, zinc coated	STD = 43726v HT = 45440v SLT = 48029v
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)