



BR 31a · Quarter-turn actuator

Version DAP / SRP 10000 · 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

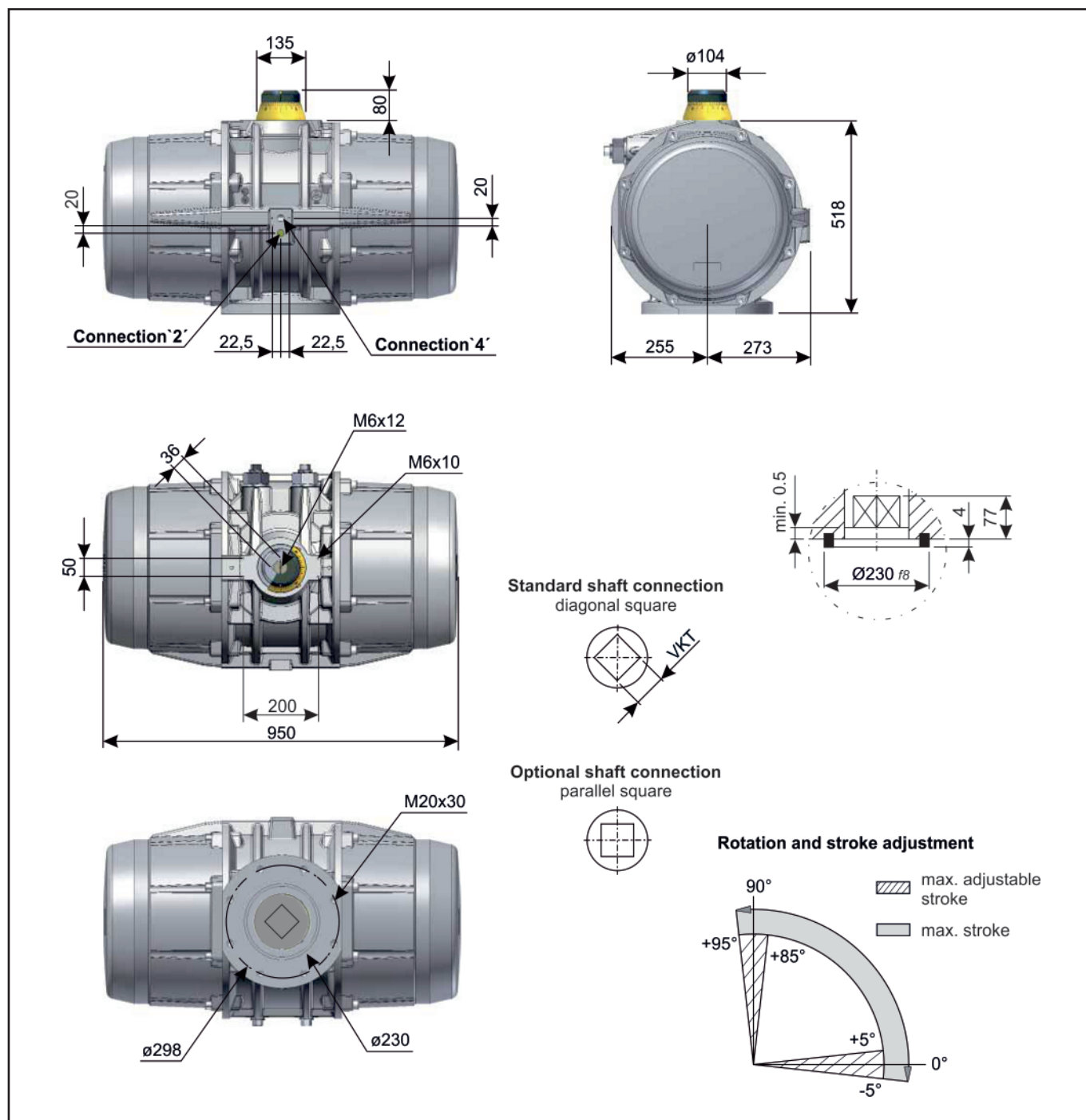


Fig. 2: Dimensional drawing

Table 1: Connection dimensions / Connections

ISO 5211	Flange	F30
	Square (diagonal)	75mm
VDI/VDE 3845	Air connection	40x45mm + 2x G1/2"
	Fixing level 1	AA5 (200x50x80mm)

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	4169	5003	5837	6671	7005	7505	8339	9173	10007	11674	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170
SRP 2,5	2474	1695	3308	2529	4142	3362	4976	4196	5310	4530	5810	5030	6644	5864	7478	6698	8312	7532	9980	9200	11648	10868	2475	1695	199
SRP 3	2135	1200	2969	2034	3803	2867	4637	3701	4971	4035	5471	4535	6305	5369	7139	6203	7973	7037	9641	8705	11309	10373	2970	2034	204
SRP 3,5	1797	705	2630	1539	3464	2373	4298	3206	4632	3540	5132	4040	5966	4874	6800	5708	7633	6542	9302	8210	10970	9878	3465	2373	210
SRP 4	1458	210	2292	1044	3125	1878	3959	2711	4292	3045	4793	3545	5627	4379	6461	5213	7294	6047	8962	7715	10631	9383	3960	2712	216
SRP 4,5	1119		1953	549	2786	1382	3620	2217	3953	2550	4454	3050	5288	3884	6122	4718	6955	5552	8623	7220	10291	8887	4455	3051	221
SRP 5	780		1614	54.5	2447	888	3281	1722	3615	2056	4115	2555	4949	3389	5783	4223	6616	5057	8284	6725	9952	8393	4949	3390	227
SRP 5,5	441		1275		2108	393	2942	1227	3276	1561	3776	2061	4610	2894	5444	3728	6277	4562	7945	6230	9613	7898	5444	3729	233
SRP 6	102		936		1769		2603	732	2937	1066	3437	1566	4271	2400	5105	3233	5938	4067	7606	5735	9274	7403	5939	4068	238

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. ¹⁾		Operating temperature in °C ²⁾		
					Open	Close	Open	Close	STD (Standard)	HT (High temp.)	SLT (Low temp.)
DAP	7	90° -5°/+15°	for 1° 1/4 rotation	420	49	84	8.00	9.00	-40 bis +80	-15 bis +150	-55 bis +80
SRP	8						10.00	11.00			

¹⁾ 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.

²⁾ 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 ³⁾									
Pressure	2.5	3	3.5	4	4.5	5	5.5	6	7	8
DAP	465.50	532.00	598.50	665.00	731.50	798.00	864.50	931.00	1064.00	1197.00
SRP	171.50	196.00	220.50	245.00	269.50	294.00	318.50	343.00	392.00	441.00

³⁾ 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 10000

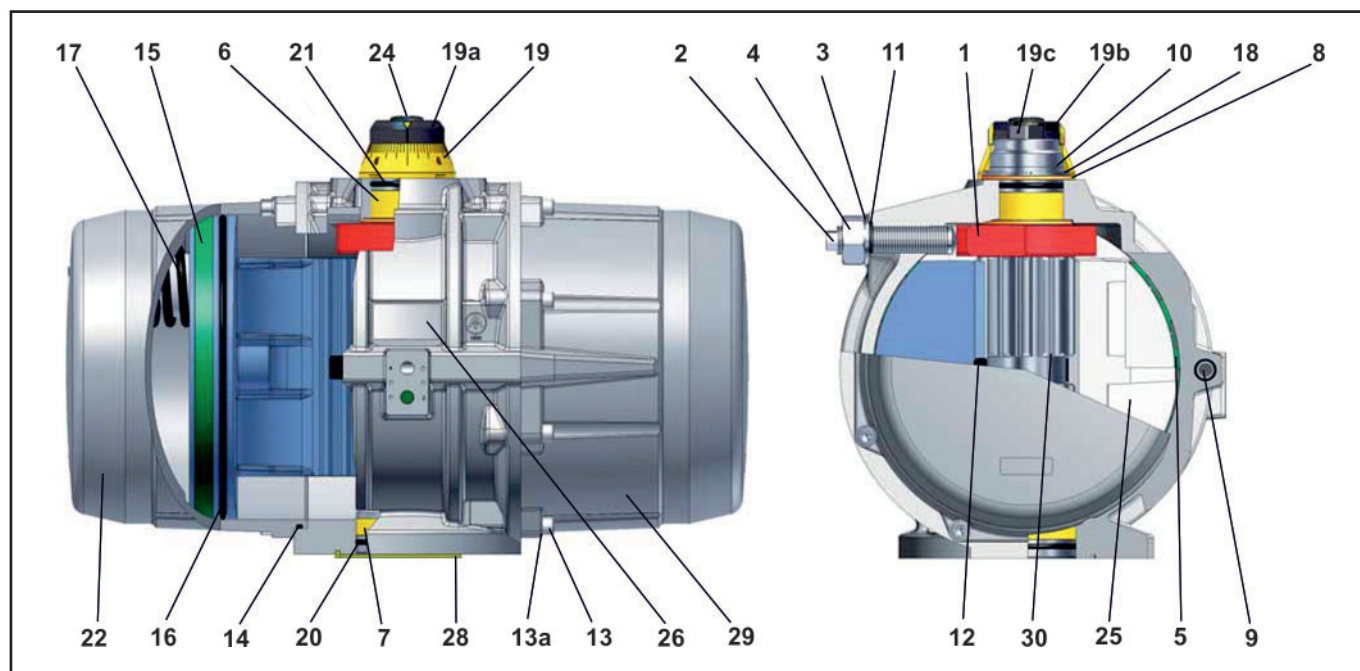


Fig. 3: Quarter-turn actuator BR 31a, Type SRP 10000

Table 5: Parts and spare parts list

Item	Qty.	Description	Material	Abrasion package for SRP/DAP 10000
1	1	Octi-cam	Nodular cast iron, zinc coated	STD = 43731v HT = 45859v SLT = 48036v
2	2	Stop cap screw	Stainless steel	
3	2	Washer	Stainless steel	
4	2	Stop screw	Stainless steel	
5 ¹⁾	2	Piston guide bearing	PA46	
6 ¹⁾	1	Pinion top bearing	High-grade polymers	
7 ¹⁾	1	Pinion bottom bearing	High-grade polymers	
8 ¹⁾	2	Pinion thrust bearing	PA46	
9 ^{1) 2) 3)}	2	Plug	M-NBR	
10	1	Thrust washer	Stainless steel	
11 ^{1) 2) 3)}	2	O-ring	M-NBR	
12	2	Piston guide	PA66+GF	
13	16	Cap Screw	Stainless steel	
13.1	16	Washer	Stainless steel	
14 ^{1) 2) 3)}	2	O-ring	M-NBR	
15 ^{1) 2)}	2	Piston head bearing	POM	
16 ^{1) 2) 3)}	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 ^{1) 2) 3)}	1	O-ring	M-NBR	
21 ^{1) 2) 3)}	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	

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