



BR 31a · Quarter-turn actuator Edition 2010

Version DAP / SRP · Fast acting actuators



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 -20°C to +80°C



Design: Single acting

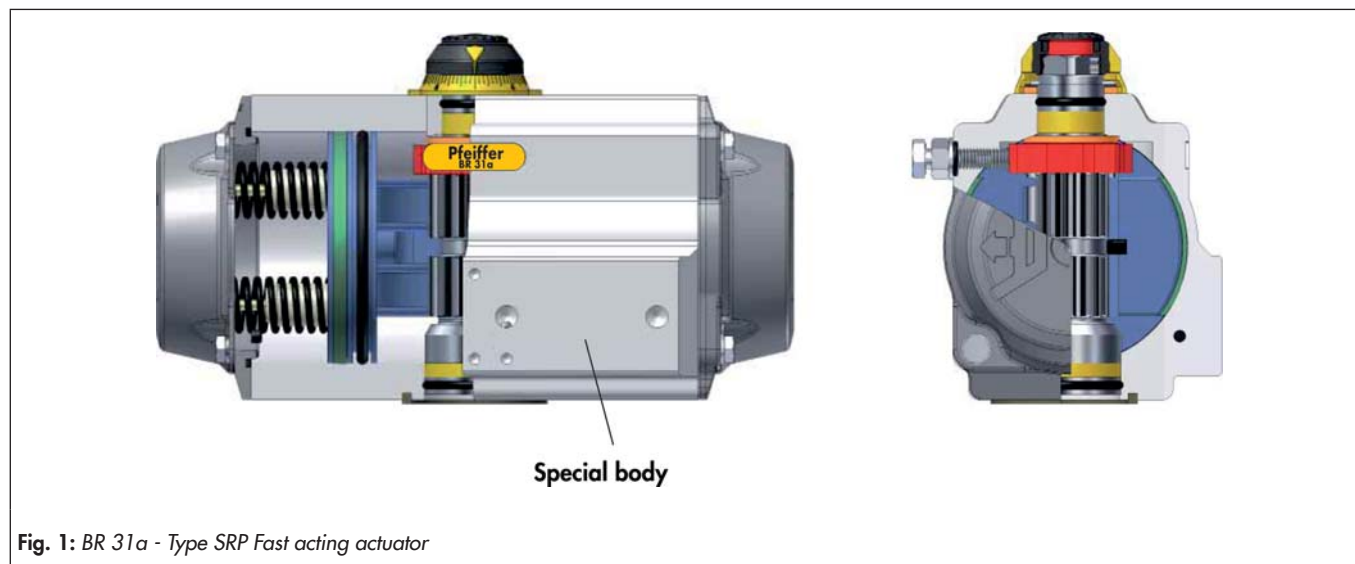


Fig. 1: BR 31a - Type SRP Fast acting actuator

Table 1: BR 31a - Type SRP Technical data and opening times

Actuator Type SRP	Air connection size port 2	Extra Air connection	Air bore (mm)			*min. Operating times (Sek.)	
			Port 2	Port 4	Port EAC	Spring return	
						OPEN	CLOSE
100	G $\frac{1}{8}$ "-ISO228	-	Ø6	Ø4,5	-	0.3	0.25
150	G $\frac{1}{4}$ "-ISO228	-	Ø7	Ø5	-	0.4	0.35
220	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø9	-	Ø8	0.15	0.20
300	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø9	-	Ø8	0.20	0.25
450	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø10	-	Ø10	0.22	0.28
600	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø10	-	Ø10	0.28	0.35
900	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	Ø12	-	Ø12	0.32	0.40
1200	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	Ø12	-	Ø12	0.38	0.45
2000	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø13	-	Ø13	0.46	0.55
3000	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø15	-	Ø15	0.52	0.60
4000	G $\frac{3}{4}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø18	-	Ø16	0.87	0.95
5000	G $\frac{3}{4}$ "-ISO228	-	Ø20	-	-	1.00	1.30

Test Condition:

* The MINIMUM Operating Time is obtained by the following test conditions:

(1) Room Temperature, (2) Spring Return Actuator with max. number of springs, Stroke: 90°, (3) Minimum inside diameter for air supply circuit equal to air bore Port 2, (4) Medium clean air, (5) Air supply pressure: 6bar (87psi), (6) Actuator without external resistance load, (7) Supply circuit without solenoid valve.



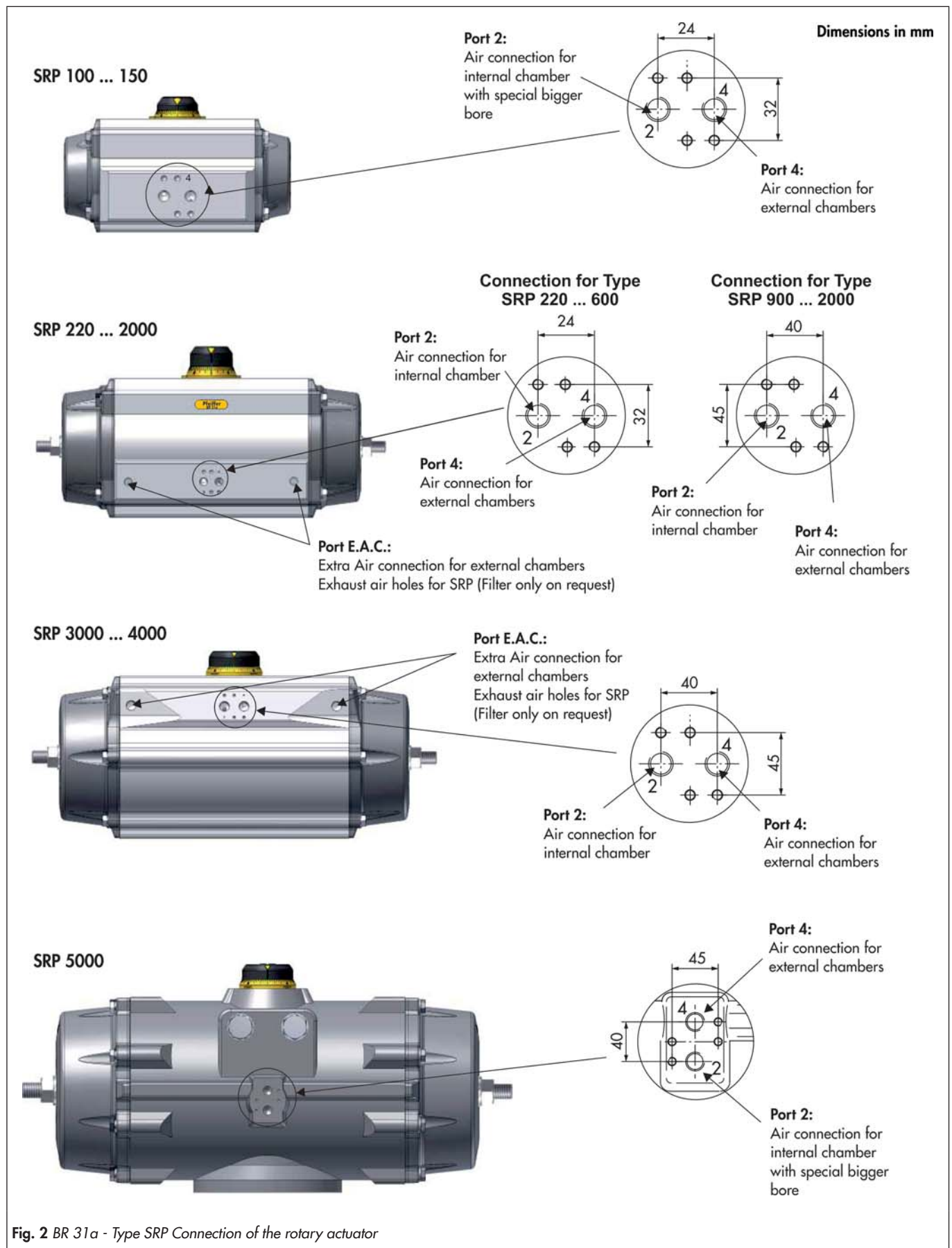
Notice:

The indicated operating times are strictly related to the above specified test conditions. The operating times on the field applications are different depending on the working conditions.



Info:

For other dimensions see catalogue or technical data sheet. For maintenance and installation see manual instruction. The Fast Acting actuator cycle life may result lower than for the standard actuators in relation to the field of working conditions.



Design: Double acting

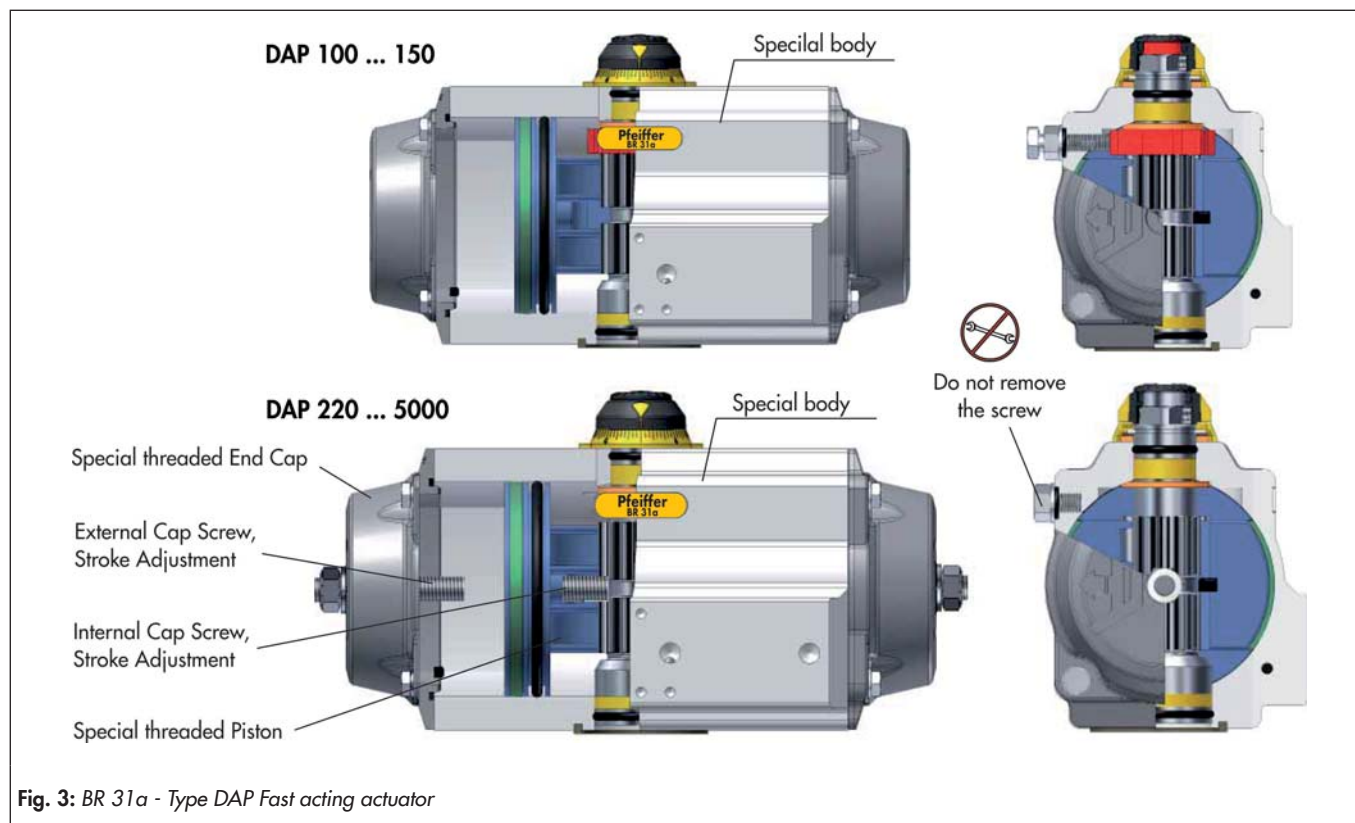


Fig. 3: BR 31a - Type DAP Fast acting actuator

Table 2: BR 31a - Type DAP Technical data and opening times

Actuator Type DAP	Air connection Size port 2	Air connection Size port 4	Extra Air connection	Port 2	Air bore (mm)		Port EAC	*min. Operating times (Sec.) Double acting	
					Port 4			OPEN	CLOSE
100	G $\frac{1}{8}$ "-ISO228	G $\frac{1}{8}$ "-ISO228	-	Ø6	Ø4.5		-	0.09	0.12
150	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	-	Ø7	Ø5		-	0.18	0.23
220	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø9	-		Ø8	0.06	0.09
300	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø9	-		Ø8	0.07	0.10
450	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø10	-		Ø10	0.09	0.12
600	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	G $\frac{1}{4}$ "-ISO228	Ø10	-		Ø10	0.15	0.23
900	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	Ø12	-		Ø12	0.20	0.30
1200	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	G $\frac{3}{8}$ "-ISO228	Ø12	-		Ø12	0.25	0.35
2000	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø13	-		Ø13	0.30	0.40
3000	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø15	-		Ø15	0.35	0.45
4000	G $\frac{3}{4}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	Ø18	-		Ø16	0.37	0.48
5000	G $\frac{3}{4}$ "-ISO228	G $\frac{1}{2}$ "-ISO228	-	Ø20	-		-	0.40	0.50

Test Condition:

* The MINIMUM Operating Time indicated is obtained in the following test conditions:

(1) Room Temperature, (2) Double Acting Actuator, Stroke: 90°, (3) Minimum inside diameter for air supply circuit equal to air bore Port 2, (4) Medium clean air, (5) Air supply pressure: 6bar (87psi), (6) Actuator without external resistance load, (7) Supply circuit without solenoid valve.



Notice:

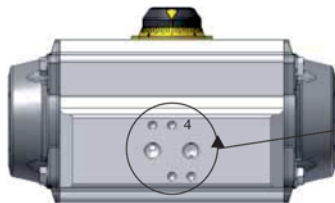
The indicated operating times are strictly related to the above specified test conditions. The operating times on the field applications are different depending on the working conditions.



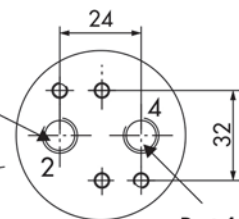
Info:

For other dimensions see catalogue or technical data sheet. For maintenance and installation see manual instruction. The Fast Acting actuator cycle life may result lower than for the standard actuators in relation to the field of working conditions.

DAP 100 ... 150



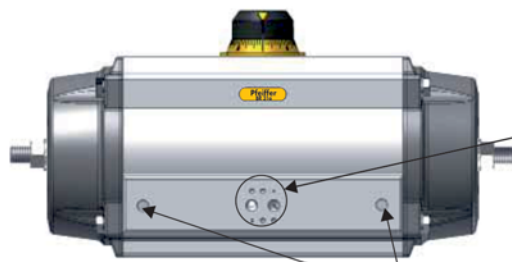
Port 2:
Air connection for
internal chamber
with special bigger
bore



Dimensions in mm

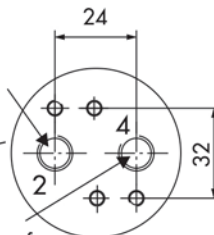
Port 4:
Air connection for
external chambers

DAP 220 ... 2000



Port 2:
Air connection for
internal chambers

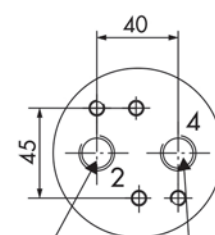
Connection for Type
DAP 220 ... 600



Port 4:
Air connection for
external chambers

Port E.A.C.:
Extra Air connection for external chambers

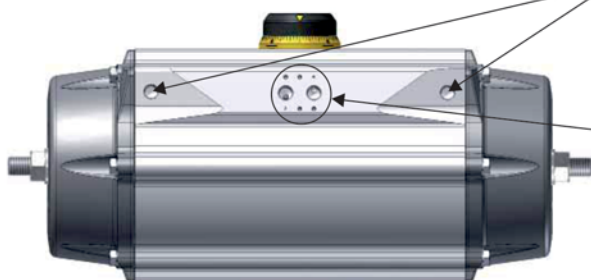
Connection for Type
DAP 900 ... 2000



Port 2:
Air connection for
internal chambers

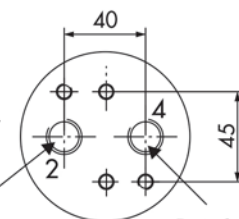
Port 4:
Air connection for
external chambers

DAP 3000 ... 4000



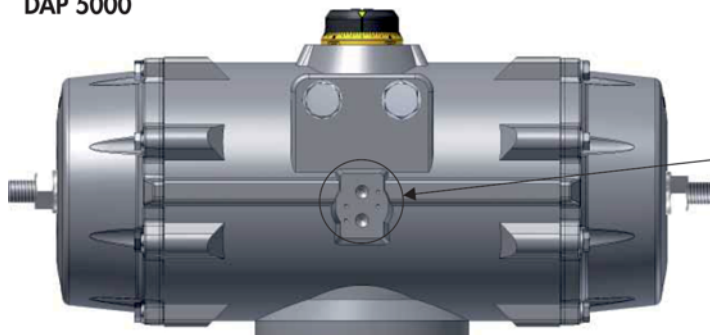
Port E.A.C.:
Extra Air connection for
external chambers

Port 2:
Air connection for
internal chambers

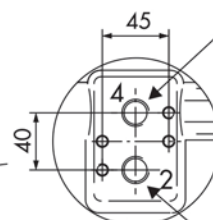


Port 4:
Air connection for
external chambers

DAP 5000



Port 4:
Air connection for
external chambers



Port 2:
Air connection for
internal chamber
with special bigger
bore

Fig. 4 BR 31a - Type DAP Connection of the rotary actuator

Design: Double and single acting

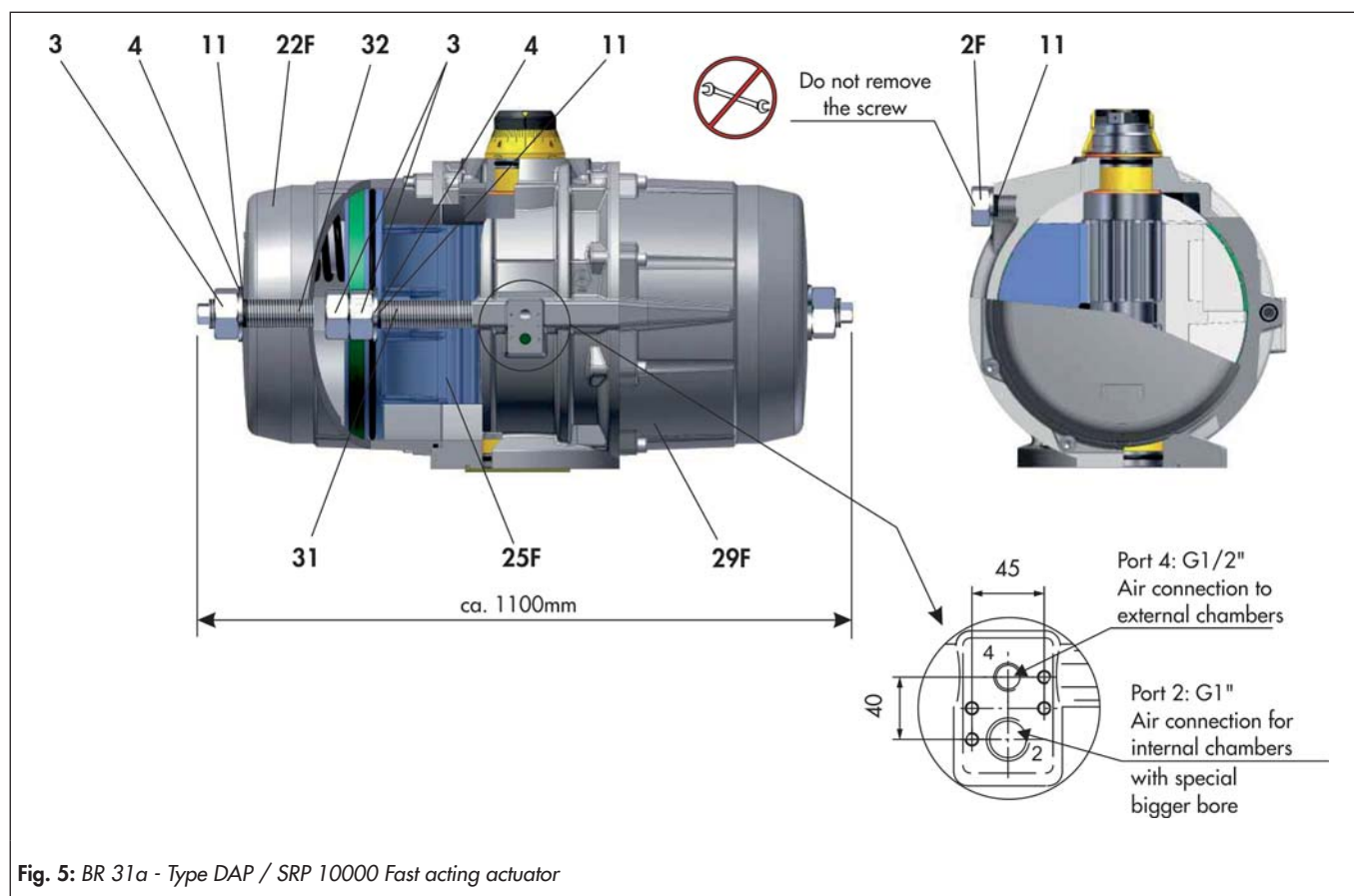


Fig. 5: BR 31a - Type DAP / SRP 10000 Fast acting actuator

Table 3: Parts list

Item	Qty.	Description
2F	2	Cap screw
3	6	Nut
4	4	Washer

Item	Qty.	Description
11	6	O-ring
22F	2	Special threaded end cap
25F	2	Special threaded piston

Item	Qty.	Description
29F	1	Special body
31	2	Internal cap screw
32	22	External cap screw

Tabelle 4: Technical data and opening times:

Actuator Type DAP / SRP	Air connection Size port 2	Extra Air connection	Air bore (mm)		*min. Operating times (Sec.)			
			Port 2	Port 4	Single acting		Double acting	
					OPEN	CLOSE	OPEN	CLOSE
10000	G 1"-ISO228	G1/2"-ISO228	ø21	ø13	1.5	1.4	1.5	1.4

Test Condition:

* The MINIMUM Operating Time indicated is obtained in the following test conditions:

(1) Room Temperature, (2) SC -> Spring Return Actuator with maximum number of springs per side, Stroke: 90°; DR -> Double Acting Actuator, Stroke: 90° (3) Minimum inside diameter for air supply circuit equal to air bore Port 2, (4) Medium clean air, (5) Air supply pressure: 6bar (87psi), (6) Actuator without external resistance load, (7) Supply circuit without solenoid valve.



Notice:

The indicated operating times are strictly related to the above specified test conditions. The operating times on the field applications are different depending on the working conditions.



Info:

For other dimensions see catalogue or technical data sheet. For maintenance and installation see manual instruction. The Fast Acting actuator cycle life may result lower than for the standard actuators in relation to the field of working conditions.