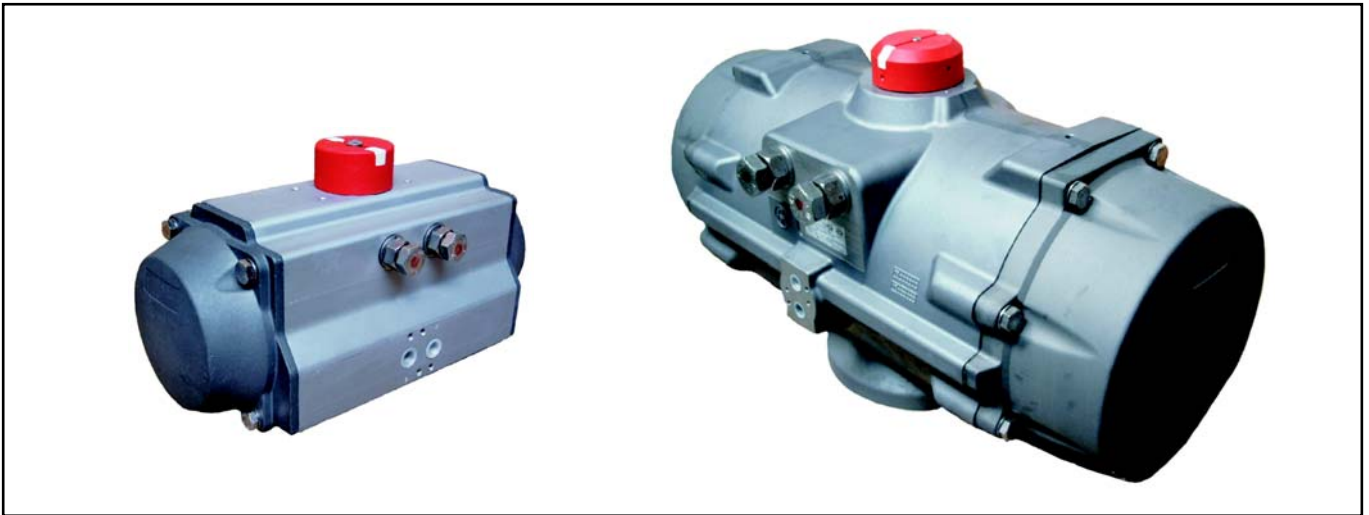


Pfeiffer AT - Quarter-Turn Actuator Series 31a

Data Sheet for double- and single-acting actuators (Type DAP and SRP)



Technical Data

- max. pressure: 10 bar
- Control medium: filtered, dry compressed air, non-corrosive medium
- Temperature range: 248K (-25°C) to 353K (80°C), higher temperatures on request
- Angle of rotation: 90° (+/- 4°) adjustable in both directions



Note:

Breakaway torques for Δp 10 bar on request.

Operating torques for double-acting actuators (Type DAP)

Type	Air-torque (Nm) at 2,5 to 8 bar									
	2.5 bar	3 bar	3.5 bar	4 bar	4.2 bar	4.5 bar	5 bar	5.5 bar	6 bar	8 bar
DAP 6	3	3.6	4.2	4.8	5.1	5.4	6.1	6.7	7.3	9.7
DAP 15	8.3	10	11.6	13.3	14	15	16.6	18.3	19.9	26.6
DAP 30	14.7	18	20.5	23.5	25	26	29.3	32	35.2	46.9
DAP 60	29.1	35	40.7	46.5	49	52	58.2	64	69.8	93.1
DAP 100	46	55	64	73	77	82	92	101	110	146
DAP 150	66.5	80	93.1	106	112	120	133	146	160	213
DAP 220	107	129	150	172	181	193	215	236	258	344
DAP 300	138	166	194	222	233	249	277	305	332	443
DAP 450	217	261	304	348	365	391	435	478	522	696
DAP 600	284	340	397	454	477	511	567	624	681	908
DAP 900	383	459	536	613	643	689	766	842	919	1225
DAP 1200	532	638	745	851	893	957	1064	1170	1276	1702
DAP 2000	893	1072	1251	1430	1501	1608	1787	1966	2144	2859
DAP 3000	1297	1556	1815	2075	2179	2334	2594	2853	3112	4150
DAP 5000	2252	2703	3153	3604	3784	4054	4504	4955	5405	6306 ^(*)
DAP 10000	4169	5003	5837	6671	7005	7505	8339	9173	10007	11674 ^(*)

Table 1 - Operating torques

^(*) Torques at max. 7 bar

Pfeiffer AT-Actuator Series 31a

Operating torques for single-acting actuators (Type SRP)

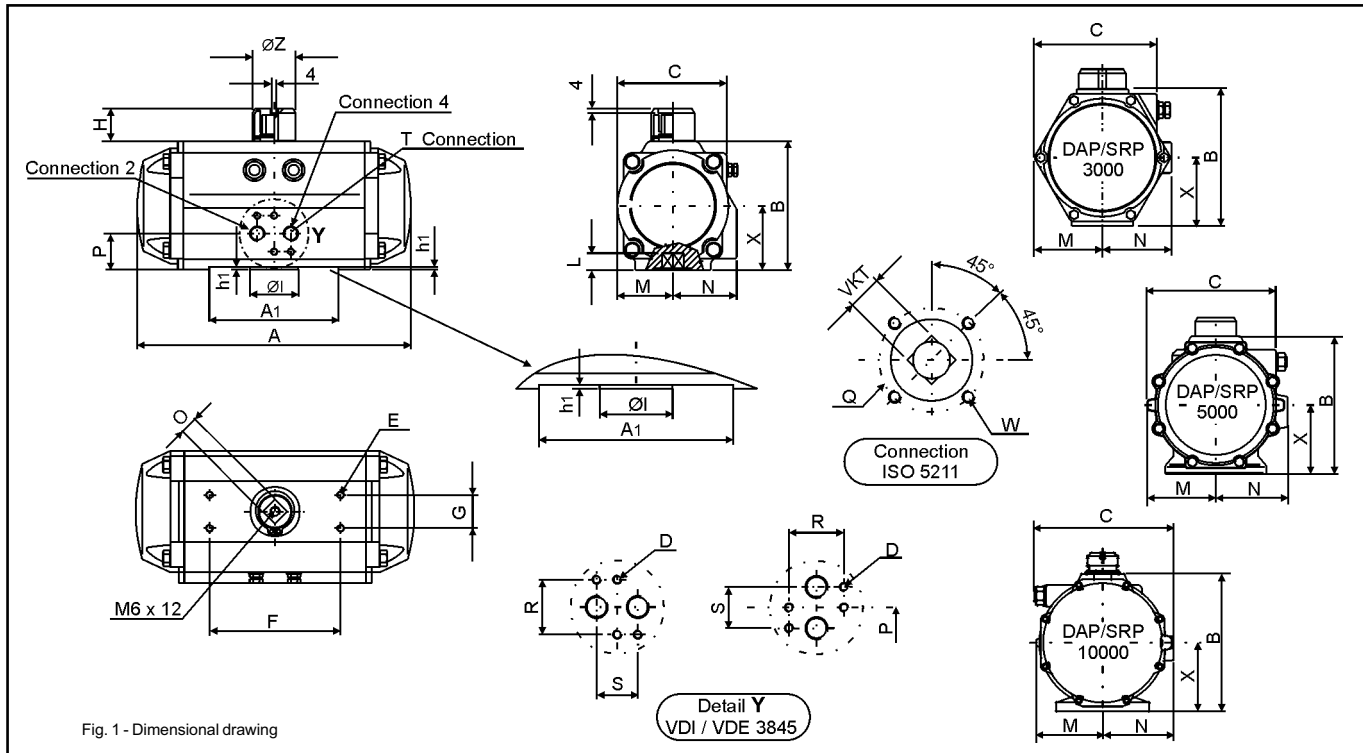
Type	Spring no.	Air-torque (Nm) at 2.5 to 4.2 bar										Spring-torque	
		2.5 bar		3 bar		3.5 bar		4 bar		4.2 bar		Start	End
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
SRP 15	2/3	4.9	3.4	6.6	5.1	8.3	6.8	9.9	8.4	10.6	9.1	4.9	3.4
	3	4.3	2.5	5.9	4.1	7.6	5.8	9.3	7.4	9.9	8.1	5.8	4
	3/4			5.3	3.1	6.9	4.8	8.6	6.5	9.2	7.1	6.8	4.7
	4					6.2	3.8	7.9	5.5	8.6	6.2	7.8	5.4
	4/5					7.2	4.5	7.9	5.2			8.8	6.1
SRP 30	2/3	9.1	6.2	12	9.2	15	12.1	17.9	15	19.1	16.2	8.4	5.5
	3	8	4.5	10.9	7.5	13.9	10.4	16.8	13.3	18	14.5	10.1	7
	3/4			9.8	5.8	12.8	8.7	15.7	11.6	16.9	12.8	11.8	7.8
	4					11.6	7	14.6	10	15.7	11.1	13.5	8.9
	4/5					13.5	8.3	14.6	9.4			15.2	10
SRP 60	2/3	18	11.8	23.8	17.6	29.7	23.4	35.5	29.2	37.8	31.6	17.3	11.1
	3	15.8	8.3	21.6	14.1	27.5	19.9	33.3	25.8	35.6	28.1	20.8	13
	3/4			19.4	10.7	25.2	16.5	31.1	22.3	33.4	24.6	24.2	15.5
	4					23	13	28.8	18.8	31.2	21.2	27.7	17.7
	4/5					26.6	15.4	29	17.7			31.2	19.9
SRP 100	2/3	27.4	16.9	36.6	26	45.7	35.2	54.9	44.3	58.5	48	28.9	18.3
	3	23.8	11.1	32.9	20.3	42.1	29.4	51.2	38.6	54.9	42.2	34.7	22
	3/4			29.2	14.5	38.4	23.6	47.5	32.8	51.2	36.4	40.4	25.7
	4					34.7	17.9	43.9	27	47.5	30.7	46.2	29.3
	4/5					40.2	21.2	43.9	24.9			52	33
SRP 150	2/3	41.1	27.1	54.4	40.4	67.7	53.7	81	67	86.3	72.3	39.4	25.3
	3	36.1	19.2	49.4	32.5	62.7	45.8	76	59.1	81.3	64.4	47.3	30
	3/4			44.3	24.6	57.6	37.9	70.9	51.2	76.2	56.5	55.1	35.5
	4					52.5	30	65.8	43.3	71.1	48.7	63	40.5
	4/5					60.8	35.5	66.1	40.8			70.9	45.6
SRP 220	2/3	66.5	41.9	87.9	63.4	109.4	84.9	131	106.4	140	115	65.5	41
	3	58.3	28.8	79.7	50.3	101.2	71.8	123	93.3	131	101.9	78.6	49.2
	3/4			71.5	37.2	93	58.7	115	80.2	123	88.8	91.7	57.4
	4					84.8	45.6	106	67.1	115	75.7	105	65.6
	4/5					98	54	107	62.6			118	73.8
SRP 300	2/3	86	56	114	84	141	111	169	139	180	150	82	53
	3	75	40	103	67	131	95	159	123	170	134	99	63
	3/4			93	51	120	79	148	106	159	117	115	74
	4					110	62	138	90	149	101	132	84
	4/5					127	73	138	84			148	95
SRP 450	2/3	135	89	179	132	222	176	265	219	283	236	129	82
	3	119	63	162	106	206	150	249	193	266	211	155	99
	3/4			146	80	189	124	233	167	250	185	180	115
	4					173	98	216	142	233	159	206	132
	4/5					200	116	217	133			232	148
SRP 600	2/3	171	118	228	174	285	231	342	288	364	310	166	112
	3	149	84	206	141	262	198	319	255	342	277	199	135
	3/4			183	108	240	165	297	221	319	244	233	157
	4					218	131	274	188	297	211	266	180
	4/5					252	155	275	178			299	202
SRP 900	2/3	225	146	301	223	378	299	455	376	485	406	237	158
	3	193	99	270	175	346	252	423	329	454	359	284	190
	3/4			238	128	315	205	391	281	422	312	332	221
	4					283	157	360	234	390	264	379	253
	4/5					328	186	359	217			426	285
SRP 1200	2/3	319	217	426	323	532	430	638	536	681	578	315	213
	3	277	154	383	260	489	367	596	473	638	515	378	255
	3/4			341	197	447	304	553	410	596	453	441	298
	4					404	241	511	347	553	390	504	340
	4/5					468	284	511	327			567	383
SRP 2000	2/3	533	372	712	551	890	730	1069	908	1141	980	521	360
	3	461	268	640	447	818	625	997	804	1068	876	625	433
	3/4			568	343	746	521	925	700	996	771	730	505
	4					674	417	853	596	924	667	834	577
	4/5					781	491	852	563			938	649
SRP 3000	2/3	751	496	1011	755	1270	1015	1529	1274	1633	1378	801	546
	3	642	336	902	595	1161	854	1420	1114	1524	1217	961	655
	3/4			792	435	1052	694	1311	954	1415	1057	1121	764
	4					943	534	1202	793	1306	897	1281	873
	4/5					1093	633	1197	737			1442	982
SRP 5000	2/3	1332	1014	1783	1465	2233	1915	2684	2365	2864	2546	1238	920
	3	1149	767	1599	1217	2049	1667	2500	2118	2680	2298	1486	1104
	3/4			1415	969	1865	1420	2316	1870	2496	2050	1733	1288
	4					1682	1172	2132	1623	2312	1803	1981	1472
	4/5					1948	1375	2128	1555			2229	1656
SRP 10000	2/3	2474	1695	3308	2529	4142	3362	4976	4196	5310	4530	2475	1695
	3	2135	1200	2969	2034	3803	2867	4637	3701	4971	4035	2970	2034
	3/4			2630	1539	3464	2373	4298	3206	4632	3540	3465	2373
	4					3125	1878	3959	2711	4292	3045	3960	2712
	4/5					3620	2217	3953	2550			4455	3051

Tables 2a and 2b - Operating torques

Type	Spring no.	Air-torque (Nm) at 4.5 bis 8 bar										Spring-torque	
		4.5 bar		5 bar		5.5 bar		6 bar		8 bar		Start	End
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
SRP 15	4	9.6	7.2	11.2	8.8	12.9	10.5	14.6	12.1			7.8	5.4
	4/5	8.9	6.2	10.6	7.8	12.2	9.5	13.9	11.2	20.5	17.8	8.8	6.1
	5	8.2	5.2	9.9	6.9	11.5	8.5	13.2	10.2	19.8	16.8	9.7	6.7
	5/6			9.2	5.9	10.9	7.6	12.5	9.2	19.2	15.9	10.7	7.4
	6					10.2	6.6	11.9	8.2	18.5	14.9	11.7	8.1
SRP 30	4	17.5	12.9	20.4	15.8	23.4	18.7	26.3	21.7			13.5	8.9
	4/5	16.4	11.2	19.3	14.1	22.3	17.1	25.2	20	36.9	31.7	15.2	10
	5	15.3	9.5	18.2	12.4	21.1	15.4	24.1	18.3	35.8	30	16.9	11.1
	5/6			17.1	10.8	20	13.7	23	16.6	34.7	28.3	18.6	12.2
	6					18.9	12	21.9	14.9	33.6	26.7	20.2	13.3
SRP 60	4	34.7	24.7	40.5	30.5	46.3	36.3	52.1	42.1			27.7	17.7
	4/5	32.5	21.2	38.3	27	44.1	32.8	49.9	38.6	73.2	61.9	31.2	19.9
	5	30.2	17.7	36.1	23.6	41.9	29.4	47.7	35.2	71	58.5	34.6	22.1
	5/6			33.8	20.1	39.7	25.9	45.5	31.7	68.7	55	38.1	24.3
	6					37.5	22.4	43.3	28.3	66.5	51.5	41.5	26.5
SRP 100	4	53	36.2	62.2	45.3	71.3	54.5	80.5	63.6			46.2	29.3
	4/5	49.4	30.4	58.5	39.5	67.7	48.7	76.8	57.8	113.4	94.5	52	33
	5	45.7	24.6	54.8	33.8	64	42.9	73.1	52.1	109.8	88.7	57.8	36.7
	5/6			51.2	28	60.3	37.1	69.5	46.3	106.1	82.9	63.5	40.3
	6					56.7	31.4	65.8	40.5	102.4	77.1	69.3	44
SRP 150	4	79.1	56.6	92.4	69.9	105.7	83.2	119	96.5			63	40.5
	4/5	74	48.8	87.3	62.1	100.6	75.3	113.9	88.6	167.1	141.8	70.9	45.6
	5	69	40.9	82.3	54.2	95.6	67.5	108.9	80.8	162	133.9	78.8	50.7
	5/6			77.2	46.3	90.5	59.6	103.8	72.9	157	126.1	86.7	55.7
	6					85.4	51.7	98.7	65	151.9	118.2	94.5	60.8
SRP 220	4	128	88.6	149	110.1	171	131.6	192	153.1			105	65.6
	4/5	120	75.5	141	97	163	118.5	184	140	270.1	225.9	118	73.8
	5	111	62.4	133	83.9	154	105.4	176	126.9	261.9	212.8	131	82
	5/6			125	70.8	146	92.3	168	113.8	253.7	199.7	144	90.2
	6					138	79.2	159	100.7	245.5	186.6	157	98.4
SRP 300	4	165	117	193	145	221	173	248	201			132	84
	4/5	155	101	182	129	210	156	238	184	349	295	148	95
	5	144	84	172	112	200	140	227	168	338	278	165	105
	5/6			161	96	189	123	217	151	328	262	181	116
	6					179	107	206	135	317	245	198	126
SRP 450	4	260	185	303	229	347	272	390	316			206	132
	4/5	243	159	287	203	330	246	374	290	547	464	232	148
	5	227	134	270	177	314	221	357	264	531	438	258	165
	5/6			254	151	297	195	341	238	515	412	283	181
	6					281	169	324	213	498	386	309	198
SRP 600	4	331	245	388	302	444	358	501	415			266	180
	4/5	309	212	365	268	422	325	479	382	706	609	299	202
	5	286	178	343	235	400	292	456	349	683	575	332	224
	5/6			320	202	377	259	434	315	661	542	365	247
	6					355	225	411	282	638	509	399	269
SRP 900	4	436	310	513	387	589	464	666	540			379	253
	4/5	405	263	481	340	558	416	634	493	941	799	426	285
	5	373	216	450	292	526	369	603	445	909	752	474	316
	5/6			418	245	495	321	571	398	877	704	521	348
	6					463	274	540	351	846	657	568	379
SRP 1200	4	617	453	723	560	830	666	936	772			504	340
	4/5	575	390	681	497	787	603	894	709	1319	1135	567	383
	5	532	327	638	434	745	540	851	646	1277	1072	630	425
	5/6			596	371	702	477	809	583	1234	1009	693	468
	6					660	414	766	520	1192	946	756	510
SRP 2000	4	1032	774	1210	953	1389	1132	1568	1310			834	577
	4/5	959	670	1138	849	1317	1028	1495	1206	2210	1921	938	649
	5	887	566	1066	745	1245	923	1423	1102	2138	1817	1042	721
	5/6			994	640	1173	819	1351	998	2066	1713	1146	793
	6					1101	715	1279	894	1994	1608	1251	865
SRP 3000	4	1461	1053	1721	1312	1980	1571	2239	1831			1281	873
	4/5	1352	893	1612	1152	1871	1411	2130	1671	3168	2708	1442	982
	5	1243	732	1503	992	1762	1251	2021	1510	3059	2548	1602	1091
	5/6			1393	832	1653	1091	1912	1350	2950	2388	1762	1200
	6					1544	931	1803	1190	2840	2228	1922	1309
SRP 5000	4	2582	2073	3033	2524	3483	2974	3934	3424	4837 ^(*)	3993 ^(*)	1981	1472
	4/5	2398	1825	2849	2276	3299	2726	3750	3177	4648 ^(*)	3698 ^(*)	2229	1656
	5	2215	1578	2665	2028	3115	2479	3566	2929	4458 ^(*)	3403 ^(*)	2476	1839
	5/6			2481	1781	2931	2231	3382	2682	4269 ^(*)	3107 ^(*)	2724	2023
	6					2748	1983	3198	2734	4079 ^(*)	2812 ^(*)	2971	2207
SRP 10000	4	4793	3545	5627	4379	6461	5213	7294	6047	8962 ^(*)	7715 ^(*)	3960	2712
	4/5	4454	3050	5288	3884	6122	4718	6955	5552	8623 ^(*)	7220 ^(*)	4455	3051
	5	4115	2555	4949	3389	5783	4223	6616	5057	8284 ^(*)	6725 ^(*)	4949	3390
	5/6			4610	2894	5444	3728	6277	4562	7945 ^(*)	6230 ^(*)	5444	3729
	6					5105	3233	5938	4067	7606 ^(*)	5735 ^(*)	5939	4068

(*) Torque at max. 7 bar

Dimensions and Weights



Type DAP/SRP	6	15	30	60	100	150	220	300	450	600	900	1200	2000	3000	5000	10000
Flange ISO 5211	F03	F04	F05	F05	F07	F07	F10	F10	F12	F12	F14	F14	F16	F16	F25	F30
VKT	11	11	14	14	17	17	22	22	27	27	36	36	46	46	55	75
A	115	140.5	158.5	210.5	247.5	268.5	315	345	408.5	437.5	487	543	621	728	876	950
A1	-	-	-	115	140	150	180	190	230	250	208	208	230	310	-	-
B	45	69	85	102	115	127	145	157	177	196	220.5	245	298.5	330	410	600
C	45	59	72	84.5	97.5	111	127	136	156.5	169	190.7	213	251	298.5	383	560
D	M5x4.5	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M6x10	M6x10	M6x10	M6x10
E	M5x7	M5x4	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M6x10
F	50	80	80	80	80	80	80	80	80	80	130	130	130	130	130	200
G	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30	50
H	20	20	20	20	20	20	30	30	30	30	50	50	50	50	50	80
L min.	10	12	16	16	19	19	24	24	29	29	38	38	48	48	57	77
M	22.5	29	36	42.5	49.5	56	64	69.5	80	88	99	110	131	163.5	204	275
N	22.5	41.5	47	52	56.8	67	77	82	91.5	99	105	112	131	166	214	250
O	11	11	11	17	17	17	27	27	27	27	36	36	36	36	36	36
P	22.5	26.5	30	30.5	32.5	37.5	42.5	45	47	52	58	62	78.5	165	202.5	237
ØQ	36	42	50	50	70	70	102	102	125	125	140	140	165	165	254	298
R	32	32	32	32	32	32	32	32	32	32	32	32	45	45	45	45
S	24	24	24	24	24	24	24	24	24	24	24	24	40	40	40	40
T (ISO228)	G1/2"	G1/8"	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G3/8"	G1/2"	G1/2"	G 1/2"
W	M5	M5	M6	M6	M8	M8	M10	M10	M12	M12	M16	M16	M20	M20	8xM16	8xM20
X	22.5	34.5	42.5	51	57.5	63.5	72.5	78.5	88.5	98	111.5	122	150.5	165	205	258
ØZ	40	40	40	40	40	40	65	65	65	65	115	115	115	115	115	115
ht	-	1.5	2	1	1	1	1.2	1.2	1.2	1.2	1.7	1.7	2	2	2	4
Øl	20	30	35	35	55	55	70	70	85	85	100	100	130	130	200	230
Weight DAP	0.45	1.0	1.6	2.7	3.8	5.4	8.4	10.2	14.5	19.8	25	35.5	53	83	134	171
Weight SRP with 6 Springs	-	1.1	1.7	3.2	4.4	6.5	9.8	12.6	18.1	24	31.6	45.1	64.2	102.2	169	251

Table 3 - Dimensions in mm and weights in kg

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Specifications subject to change without notice