

pneumatic actuators

General applications

These actuators are manufactured in two types of double and single act. In double act ones a pneumatic cylinder is used for both rotational directions whereas on single act one the pneumatic cylinder rotates the actuator on one direction while the opposite rotational direction is carried out by the force of a spring. Generally,

the main application of Pneumatic actuators is in refineries and petrochemical plants. Their major characteristic is producing high torques in low supply pressure and can be used for both on-off and modulation applications.

Technical Specifications

Output torque

- For double act ones up to 300000 N.m
- For spring return (single act):
- Spring starting torques: 100000 N.m
- Spring Ending Torque: 60000 N.m
- (higher torques can be produced on customer's request)

Supply Medium

- Air, Nitrogen, Sweet Gas
- other mediums can be used on request)

Design pressure

- Up to 12 Bar

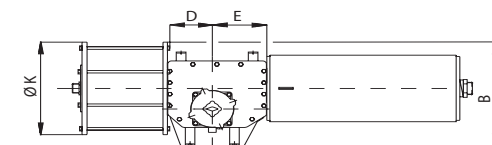
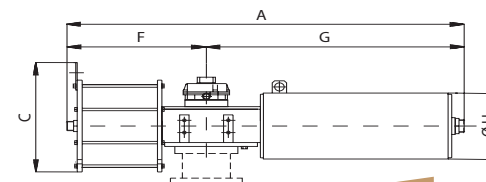
Design Temperature

- 30°C up to +100°C
- Extended range can be manufactured on request



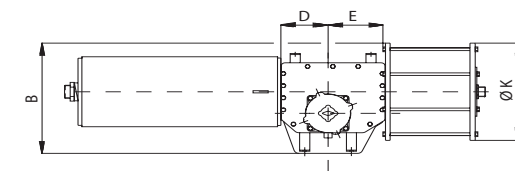
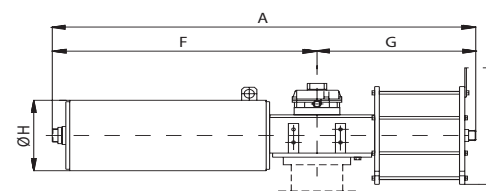
PAS-SPRING TO OPEN DIMENSIONS

Model	PAS Dimension (mm)								
	A	B	C	D	E	F	G	H	K
PAS-70S-100-100	1239	319	200	136	151	730	510	150	120
PAS-70S-100-150	1239	319	200	136	151	730	510	150	120
PAS-70S-135-100	1239	319	222	136	151	730	510	150	154
PAS-70S-135-150	1239	319	222	136	151	730	510	150	154
PAS-80S-235-200	1456	413	301	160	190	887	569	280	260
PAS-80S-235-250	1388	413	301	160	190	816	572	280	260
PAS-80S-280-200	1396	423	361	160	190	816	579	280	345
PAS-80S-280-250	1520	423	387	160	190	940	580	350	345
PAS-100S-385-300	1691	510	536	187	227	1048	643	400	450
PAS-100S-385-350	1760	510	536	187	227	1117	643	322	450
PAS-100S-435-300	1691	535	579	187	227	1048	643	400	500
PAS-100S-435-350	1760	535	579	187	227	1117	643	322	500
PAS-160S-385-400	2354	600	536	285	330	1474	880	415	450
PAS-185S-485-500	2974	740	640	327	379	1958	1016	383	560



PAS-SPRING TO CLOSE DIMENSIONS

Model	PAS Dimension (mm)								
	A	B	C	D	E	F	G	H	K
PAS-70S-100-100	1239	319	200	136	151	730	510	150	120
PAS-70S-100-150	1239	319	200	136	151	730	510	150	120
PAS-70S-135-100	1239	319	222	136	151	730	510	150	154
PAS-70S-135-150	1239	319	222	136	151	730	510	150	154
PAS-80S-235-200	1456	413	301	160	190	887	569	280	260
PAS-80S-235-250	1388	413	301	160	190	816	572	280	260
PAS-80S-280-200	1396	423	361	160	190	816	579	280	345
PAS-80S-280-250	1520	423	387	160	190	940	580	350	345
PAS-100S-385-300	1691	510	536	187	227	1048	643	400	450
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PAS-100S-435-300	1691	535	579	187	227	1048	643	400	500
PAS-100S-435-350	1760	535	579	187	227	1117	643	322	500
PAS-160S-385-400	2354	600	536	285	330	1474	880	415	450
PAS-185S-485-500	2974	740	640	327	379	1958	1016	383	560



Output Torques

SPRING RETURN PNEUMATIC ACTUATOR SPRING TO OPEN

Model				operating supply pressure (bar g)														
	SSO	SRO	SEO	4			6			7			10			12		
				BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC
PAS-70S-100-100	220	101	115	185	25	25	300	141	187	428	193	281	606	330	517	764	424	682
PAS-70S-100-150	264	106	106	-	-	-	300	60	60	371	132	132	600	285	379	754	380	544
PAS-70S-135-100	211	94	106	394	201	293	672	375	591	815	465	749	1235	715	1193	1511	892	1494
PAS-70S-135-150	329	101	101	394	152	153	681	331	452	809	421	611	1232	675	1056	1510	845	1363
PAS-80S-235-200	1033	476	574	1241	551	730	2181	1157	1754	2670	1457	2281	4136	2355	3861	5122	3012	5042
PAS-80S-235-250	1063	624	832	801	173	133	1954	1000	1590	2412	1299	2003	3878	2197	3583	4888	3098	4680
PAS-80S-280-200	1015	464	553	2016	1055	1571	3412	1910	3070	4092	2331	3816	6175	3604	6066	7562	4451	7560
PAS-80S-280-250	1249	612	809	1463	901	1295	3142	1451	2785	3835	2172	3540	5922	3448	5481	7310	4291	7275
PAS-100S-385-300	6789	2593	2856	-	-	-	5638	2621	2914	7156	3678	4853	11711	6747	10671	14747	8774	14550
PAS-100S-385-350	7933	3324	3997	-	-	-	4492	1490	1490	6010	2897	3429	10565	5991	9247	13601	8019	13126
PAS-100S-435-300	6770	2583	2839	4279	1175	1175	8151	4359	6120	7162	3687	4863	-	-	-	-	-	-
PAS-100S-435-350	7914	3310	3979	-	-	-	7001	3591	4698	8942	4899	7173	14766	8792	14605	-	-	-
PAS-160S-385-400	11473	5094	6426	-	-	-	7959	3708	4278	10511	5444	7446	18170	10513	16951	23270	13866	23287
PAS-185S-485-500	16320	7430	9595	8120	2416	2540	17588	9603	14262	22332	12731	20129	36674	22066	37731	46052	28287	49466

SPRING RETURN PNEUMATIC ACTUATOR SPRING TO CLOSE

Model				operating supply pressure (bar g)														
	SSC	SRC	SEC	4			6			7			10			12		
				BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO
PAS-70S-100-100	251	111	135	140	15	15	283	141	185	366	193	271	580	333	521	725	420	689
PAS-70S-100-150	393	151	151	-	-	-	270	33	33	342	118	118	566	281	371	710	375	541
PAS-70S-135-100	242	110	132	371	198	286	645	641	592	772	450	748	1170	704	1200	1445	885	1515
PAS-70S-135-150	281	142	142	357	134	134	628	320	441	758	409	595	1157	659	1051	1431	835	1366
PAS-80S-235-200	1199	563	694	1090	511	638	2025	1115	1710	2499	1420	2250	3911	2170	3869	5041	3011	4931
PAS-80S-235-250	1439	701	951	844	352	351	1778	963	1450	2256	1266	1972	3663	2158	3580	4590	2761	4658
PAS-80S-280-200	1182	544	672	1861	1012	1519	3195	1865	3042	3559	2283	3810	5868	3554	6097	7198	4401	4629
PAS-80S-280-250	1413	691	934	1611	854	1239	2954	1703	2779	2940	1703	2769	5615	3397	5820	6954	4260	7352
PAS-100S-385-300	6212	3038	3659	-	-	-	6490	2420	2589	8230	3490	4256	13420	6587	9310	-	-	-
PAS-100S-385-350	7224	3736	4976	-	-	-	5193	1362	1366	6360	2685	3025	12115	6010	8050	-	-	-
PAS-100S-435-300	6203	3022	3637	4956	1081	1081	9163	4175	5349	11573	5491	7474	-	-	-	-	-	-
PAS-100S-435-350	7015	3728	4961	-	-	-	8056	3392	4110	10268	4717	6246	-	-	-	-	-	-
PAS-160S-385-400	10867	5674	7873	-	-	-	8745	3390	3750	11568	5142	6510	20043	10245	15958	25679	13715	20580
PAS-185S-485-500	15586	8252	11749	8750	2050	2040	20200	9170	12475	24535	12310	17786	40150	21685	33350	50700	27920	43780

NOTES

BTC	Air break to close	SSC	Spring starting to close
RTC	Air run to close	SRC	Spring running to close
ETC	Air End to close	SEC	Spring ending to close
BTO	Air break to open	SSO	Spring starting to open
RTO	Air run to open	SRO	Spring running to open
ETO	Air end to open	SEO	Spring ending to open



Features

- Canted or symmetric Scotch yoke for different applications. It is recommended to use canted for larger valves.
- Travel stops for angular stroke adjustment between 85° and 95°
- Polished guide bar and piston rod for lowering the friction
- ENP cylinder for corrosion resistance and lowering friction
- Different manual operation like Jack screw, hand wheel and hand pump
- Solenoid valve for remote operation
- Limit Switch for monitoring the valve position from control room
- Pressure regulator, flow control and quick exhaust valve
- Storage tank according to ASME Section VIII, Div1.

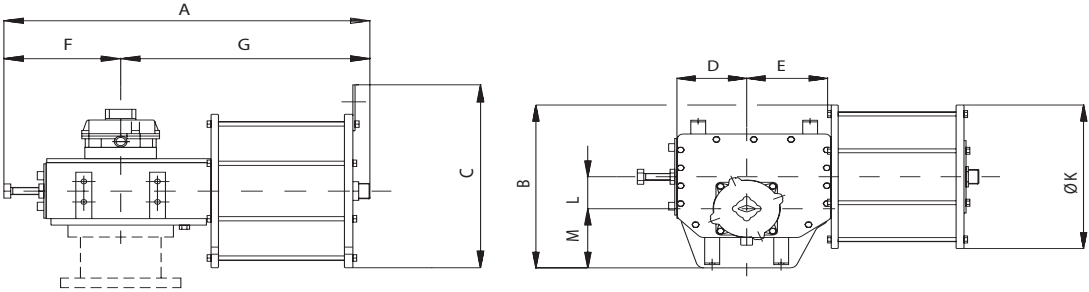


Output Torques

DOUBLE ACTING PNEUMATIC ACTUATOR SYMMETRIC YOKE DESIGN

operating supply pressure (bar g)											
Model	position	4		6		8		10		12	
		op	cl	op	cl	op	cl	op	cl	op	cl
PAD-70S-100	0°	278	291	425	445	572	600	719	755	866	909
	45°	176	164	269	252	363	340	456	427	549	515
	90°	318	270	486	413	654	557	823	700	991	844
PAD-80S-235	0°	1823	2019	2763	3061	3703	4102	4643	5144	5582	6185
	45°	1156	1144	1752	1734	2348	2324	2944	2914	3540	3504
	90°	2085	1874	3160	2840	4235	3807	5310	4774	6385	5740
PAD-100S-335	0°	5109	5642	7729	8537	10349	11432	12970	14327	-	-
	45°	2989	2938	4521	4445	6054	5952	7587	7459	-	-
	90°	4929	4417	7457	6683	9985	8949	12513	11216	-	-
PAD-160S-385	0°	11080	12282	16734	18550	22387	24818	-	-	-	-
	45°	6570	6486	9923	9797	13275	13107	-	-	-	-
	90°	10999	9892	16611	14941	22222	19989	-	-	-	-
PAD-185S-485	0°	20625	22958	31095	34613	41566	46268	52036	57923	-	-
	45°	12253	12148	18473	18316	24693	24483	30913	30650	-	-
	90°	20553	18562	30986	27985	41419	37409	51852	46832	-	-
PAD-200S-635	0°	57752	63513	86994	95676	-	-	-	-	-	-
	45°	22574	22386	34005	33722	-	-	-	-	-	-
	90°	32551	31010	49033	46713	-	-	-	-	-	-

PAD- Dimensions



PAD- DOUBLE ACTING PNEUMATIC ACTUATOR										
Model	A	B	C	D	E	F	G	ØK	L	M
PAD-70S-100	743	319	179	136	151	221	522	120	70	119
PAD-80S-235	846	413	302	160	190	245	602	260	80	170
PAD-100S-335	989	485	477	187	227	310	680	400	100	185
PAD-160S-385	1316	600	536	285	330	391	924	450	160	215
PAD-185S-485	1497	740	639	327	379	430	1067	560	185	260
PAD-200S-635	1676	855	809	376	435	497	1179	720	200	295