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规格

设计
双活塞执行器，免维修
双作用或单作用

旋转
90°(调节±5°)

连接
连接符合ISO5211

气源介质
过滤后气体(除油、灰和水)

温度范围
NBR: - 20°C - + 80°C
HNBR: - 40°C - + 80°C
FKM: - 20°C - + 150°C

材料
壳体：铝合金(阳极氧化)
盖： 铸铝/不锈钢
齿轮： 不锈钢
导向：润滑塑料
密封：NBR/FKM/HNBR
紧固件：不锈钢

气源压力
双作用：4-8bar
单作用：5-8bar
注：低气源压力可联系，根据需要定制。

扭矩范围
根据图表

选项
直接单独安装两位三通和两位五通阀，电子或物理指示器，定位器与NAMUR-接口

以上信息仅供参考，埃克美迅公司保留修改的权利，恕不另行通知

Specification

DESIGN
Double-piston actuator, maintenance free, double-acting / single-acting

ROTATORY
90°(adjustment ±5°)

CONNECTION
The connection complies with ISO5211

PILOT MEDIA
Filtered gases (oil, ash and water removal)

TEMPERATURE RANGE
NBR: - 20°C - + 80°C
HNBR: - 40°C - + 80°C
FKM: - 20°C - + 150°C

MATERIALS
Body: Aluminium alloy(anodized)
Cap: Aluminium/stainless steel
Gears: Stainless steel
Guides: Lubricated plastic
Seal: NBR/FKM/HNBR
Fasteners: Stainless steel

PILOT PRESSURE
Double action: 4-8bar
Single action: 5-8bar
Note: Low air source pressure can be contacted, customized according to needs.

TORQUE RANGE
According to diagram

OPTIONS
Directly separately mounted 3/2-ways and 5/2-ways valve,,electronic or physicandicator, positioner with NAMUR-Interface

The above information is for reference only and Eicmation reserves the right to alter without prior notice

型号:
PA

气动高频小拨叉式执行器
8Nm-8100Nm

双作用
单作用



Type:
PA

Pneumatic high frequency small fork actuator
8Nm-8100Nm

Double-acting
Single-acting

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举例说明： 比如PA1113120
=气动高频小拨叉式执行器，双作用，铝合金，活塞Ø40mm，NBR，拨叉，0-90°

执行器

1.字符 产品	2+3.字符 功能	4.字符 材质	5 + 6.字符 规格	7.字符 密封	8.字符 结构	9.字符 行程
PA=气动高频小拨叉式执行器	1=双作用 2=单作用常闭 3=单作用常开	1=铝合金 2=不锈钢	13=Ø40 20=Ø140 14=Ø60 21=Ø160 15=Ø70 22=Ø180 16=Ø80 23=Ø220 17=Ø90 25=Ø260 18=Ø100 19=Ø125	1=NBR 2=HNBR 3=FKM	2=拨叉	0=0-90°

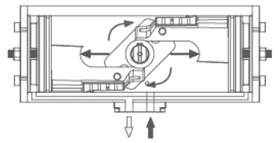
Ordering example: e.g. PA1113120
= Pneumatic high frequency small fork actuator, double action, aluminum alloy, piston Ø40mm, NBR, fork, 0-90°

Actuator

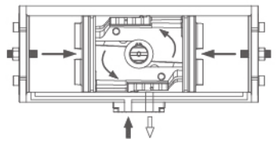
A Type	B+C Function	D Material	E+F Specifications	G Seal	H Structure	I Trip
PA=Pneumatic high frequency small fork actuator	1=Double acting 2=Single acting-close 3=Single acting-open	1=Aluminium alloy 2=Stainless steel	13=Ø40 20=Ø140 14=Ø60 21=Ø160 15=Ø70 22=Ø180 16=Ø80 23=Ø220 17=Ø90 25=Ø260 18=Ø100 19=Ø125	1=NBR 2=HNBR 3=FKM	2=Scotch yoke	0=0-90°

开关示意图/Switch diagram

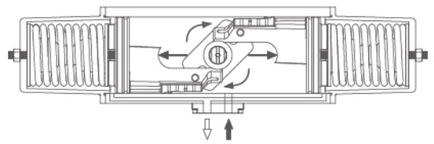
DA close



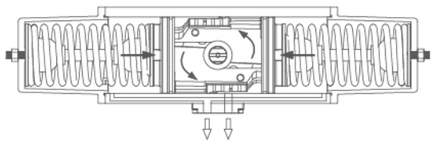
DA open



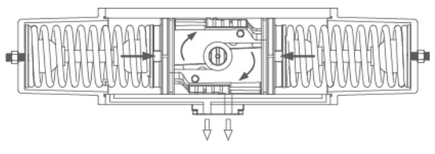
FO close



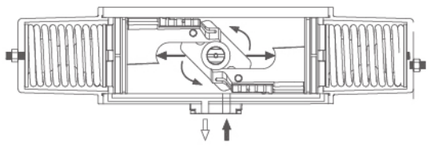
FO open



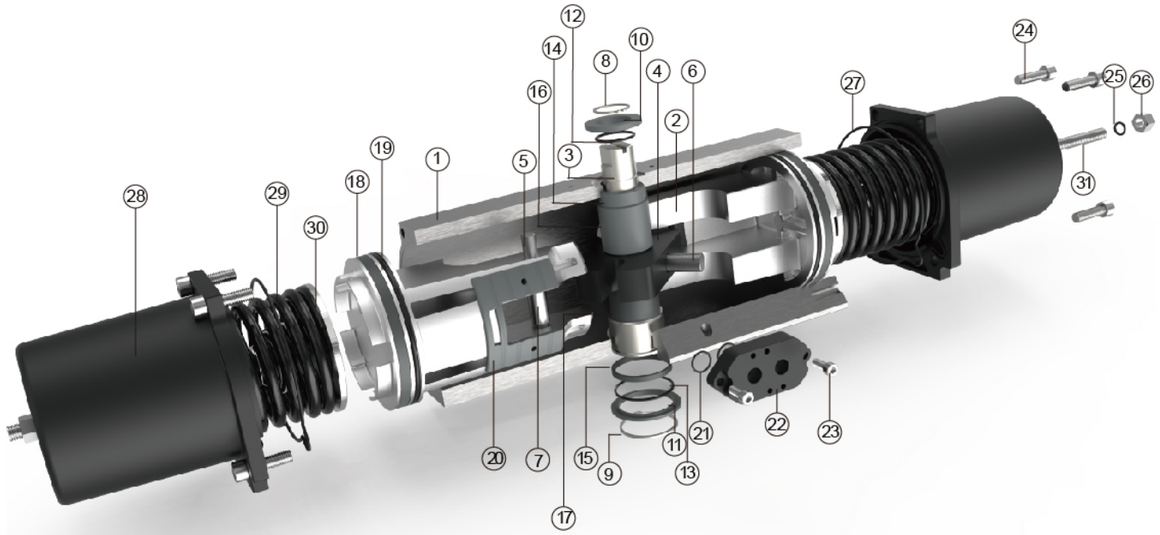
FC close



FC open



零件清单/Parts list

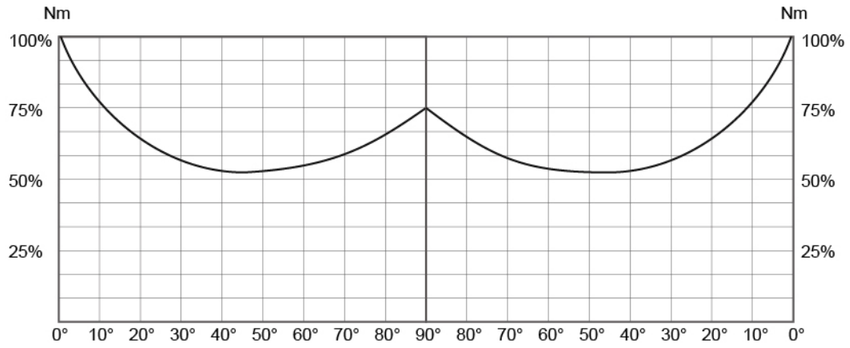


序号	名称	材料
1	壳体	铝合金
2	活塞	铝合金
3	轴	合金钢
4	拨叉	合金钢
5	活塞销	合金钢
6	拨叉销	合金钢
7	滚珠	合金钢
8	上卡簧	不锈钢
9	下卡簧	不锈钢
10	上垫片	工程塑料
11	下垫片	工程塑料
12	上轴密型圈	丁晴橡胶
13	下轴密型圈	丁晴橡胶
14	上轴套	聚甲醛/石墨铜套
15	下轴套	聚甲醛/石墨铜套
16	上滚套	工程塑料
17	下滚套	工程塑料
18	活塞导向环	工程塑料
19	活塞密封圈	丁晴橡胶
20	活塞导向片	工程塑料
21	连接块密封圈	丁晴橡胶
22	连接块	铝合金
23	连接块紧固螺栓	不锈钢
24	端盖紧固螺栓	不锈钢
25	密封螺母密封圈	丁晴橡胶
26	密封螺母	不锈钢
27	端盖密封圈	丁晴橡胶
28	单作用端盖	铝合金
29	弹簧	弹簧钢
30	弹簧座	铝合金
31	弹簧轴	不锈钢

NO	Description	Materials
1	Shell	Aluminium alloy
2	Piston	Aluminium alloy
3	Shaft	Alloy steel
4	Shift fork	Alloy steel
5	Piston pin	Alloy steel
6	Shift fork pin	Alloy steel
7	Ball	Alloy steel
8	Top circlip	Stainless steel
9	Lower circlip	Stainless steel
10	Upper gasket	Engineering plastics
11	Lower gasket	Engineering plastics
12	Upper shaft tight ring	NBR
13	Lower shaft tight ring	NBR
14	Upper shaft sleeve	Polyformaldehyde/graphite copper jacket
15	Lower shaft sleeve	Polyformaldehyde/graphite copper jacket
16	Top sleeve	Engineering plastics
17	Bottom sleeve	Engineering plastics
18	Piston guide ring	Engineering plastics
19	Piston seal ring	NBR
20	Piston guide plate	Engineering plastics
21	Connecting block seal ring	NBR
22	Link block	Aluminium alloy
23	Connecting block fastening bolt	Stainless steel
24	End cover fastening bolt	Stainless steel
25	Seal nut seal ring	NBR
26	Sealing nut	Stainless steel
27	End cap seal ring	NBR
28	Single acting end cap	Aluminium alloy
29	Spring	Spring steel
30	Spring seat	Aluminium alloy
31	Spring shaft	Stainless steel

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双作用扭矩参数表
Double acting torque parameter table

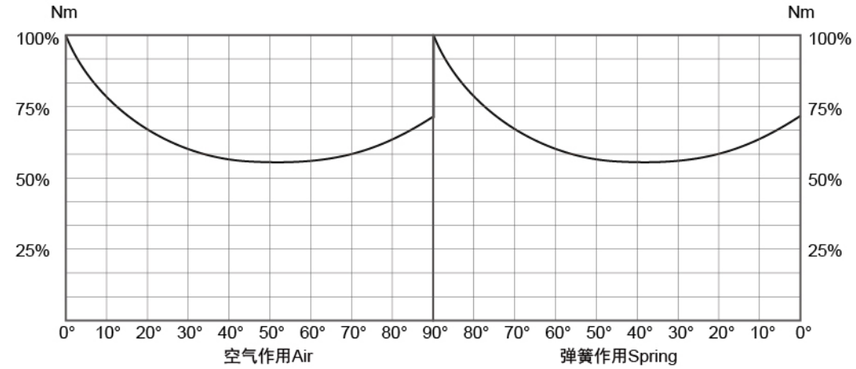


气源压力bar		3bar			4bar			5bar			5.6bar			6bar			7bar			8bar		
产品型号 Model	规格 Ø	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°
PA1113120	Ø40	15	8	12	20	10	16	25	13	20	28	14	22	30	15	24	35	18	28	40	20	32
PA1114120	Ø60	43	21	34	57	28	46	71	35	57	78	39	63	85	42	68	99	50	80	113	57	91
PA1115120	Ø70	87	44	70	116	58	94	146	73	117	160	80	129	175	86	140	204	102	164	233	117	187
PA1116120	Ø80	140	76	119	187	101	158	233	126	198	257	139	218	280	149	238	327	176	277	373	202	317
PA1117120	Ø90	204	110	180	272	147	239	340	184	299	374	202	329	408	216	359	476	257	419	544	294	479
PA1118120	Ø100	276	152	244	367	204	325	459	253	406	505	278	447	551	298	488	643	354	569	735	404	650
PA1119120	Ø125	521	277	425	695	369	567	869	461	709	956	508	780	1066	555	870	1216	646	992	1391	738	1135
PA1120120	Ø140	701	365	581	936	486	775	1170	608	969	1286	669	1066	1404	730	1163	1637	851	1356	1871	973	1550
PA1121120	Ø160	1062	541	859	1415	722	1146	1769	902	1432	1947	993	1576	2123	1083	1719	2477	1264	2005	2831	1444	2292
PA1122120	Ø180	1462	774	1093	1949	1032	1457	2436	1290	1822	2681	1419	2004	2924	1548	2186	3411	1806	2551	3898	2064	2915
PA1123120	Ø220	2703	1403	2168	3604	1870	2890	4505	2338	3613	4956	2571	3974	5406	2805	4335	6307	3273	4293	7208	3740	5780
PA1124120	Ø260	5333	2796	4051	7111	3728	5402	8889	4660	6752	9778	5126	7427	10667	5592	8103	12444	6524	9453	14222	7456	10803

单作用扭矩参数表
Single acting torque parameter table

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注:单作用选型时首先确定气源压力，气开选型时参考弹簧作用下0°的扭矩，气关选型时参考空气作用下90°的扭矩。
Note: When selecting a single action, the air source pressure is determined first. The torque of 0° under the action of the spring is referred to in the selection of the gas open, and the torque of 90° under the action of the air is referred to in the selection of the gas close.



产品型号 Model	规格 Ø	弹簧代号 spring	弹簧扭矩 Spring torque			空气扭矩Air torque																										
						2.5bar			3bar			4bar			5bar			5.6bar			6bar			7bar			8bar					
			0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°			
PA2113120	Ø60	K11	13	10	18	21	7	11	27	11	17	41	17	28	54	24	40	61	28	46	67	31	52	81	38	63	94	45	70			
		K12	18	13	25	-	-	-	22	7	12	35	14	22	49	21	33	55	25	39	62	28	45	75	35	57	89	42	68			
		K22	24	16	32	-	-	-	-	-	-	30	11	18	43	18	26	50	21	32	57	25	38	70	32	49	83	39	61			
		K13	29	18	40	-	-	-	-	-	-	-	-	-	38	16	21	45	20	27	51	23	31	65	30	41	78	37	53			
		K23	32	22	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	16	22	48	20	27	62	27	37	75	34	48
		K33	37	27	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	15	23	56	23	31	70	29	42
PA2114120	Ø70	K11	29	19	41	42	17	22	56	24	31	85	39	54	113	60	78	128	61	90	142	68	102	171	78	126	199	97	150			
		K12	37	25	52	-	-	-	47	18	27	76	33	43	105	47	67	119	55	79	133	62	91	162	76	115	190	91	139			
		K22	48	31	68	-	-	-	-	-	-	65	26	36	94	41	52	108	48	63	122	56	75	151	70	99	179	85	123			
		K13	59	35	83	-	-	-	-	-	-	-	-	-	83	37	47	97	45	58	111	52	61	140	67	85	168	81	109			
		K23	67	41	94	-	-	-	-	-	-	-	-	-	-	-	-	88	38	47	102	46	53	131	60	79	160	75	98			
		K33	78	51	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	39	45	120	51	68	149	65	86			
PA2115120	Ø80	K11	44	30	65	58	25	35	77	35	54	115	56	93	153	77	131	172	88	151	201	103	170	229	120	209	267	141	248			
		K12	53	41	80	-	-	-	70	26	44	108	47	76	146	68	117	165	79	137	194	94	156	222	110	195	260	131	234			
		K22	72	51	108	-	-	-	-	-	-	93	38	60	130	59	90	149	69	110	178	88	129	206	101	168	244	122	207			
		K13	90	56	136	-	-	-	-	-	-	-	-	-	115	54	71	134	65	91	163	79	112	191	96	141	229	117	180			
		K23	99	66	147	-	-	-	-	-	-	-	-	-	-	-	-	127	55	80	156	71	98	184	87	130	221	108	169			
		K33	118	81	176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	62	89	171	73	103	206	94	142			
PA2116120	Ø90	K11	59	37	95	97	46	52	127	63	82	187	96	140	247	128	198	276	144	226	307	161	256	367	193	314	427	226	373			
		K12	75	46	121	-	-	-	114	50	63	174	87	115	234	119	173	263	135	201	294	152	231	353	184	289	413	217	347			
		K22	96	60	145	-	-	-	-	-	-	155	74	91	215	107	149	244	123	178	275	139	207	334	172	265	394	204	323			
		K13	105	65	169	-	-	-	-	-	-	-	-	-	207	102	126	237	118	155	267	134	184	327	167	242	387	199	300			
		K23	122	76	196	-	-	-	-	-	-	-	-	-	-	-	-	221	108	129	252	124	158	312	157	216	371	189	274			
		K33	154	96	248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223	105	128	283	138	166	343	170	224			
PA2117120	Ø100	K11	98	67	139	128	52	72	171	75	105	256	120	174	342	166	250	385	189	288	428	212	326	513	257	402	599	303	478			
		K12	118	88	167	-	-	-	153	64	83	239	100	147	325	145	223	367	168	261	410	191	299	496	237	375	582	282	451			
		K22	160	110	213	-	-	-	-	-	-	202	79	125	288	125	181	331	148	219	373	171	257	459	216	333	545	262	409			
		K13	200	122	257	-	-	-	-	-	-	-	-	-	252	114	150	295	137	188	338	160	216	423	205	292	509	244	368			

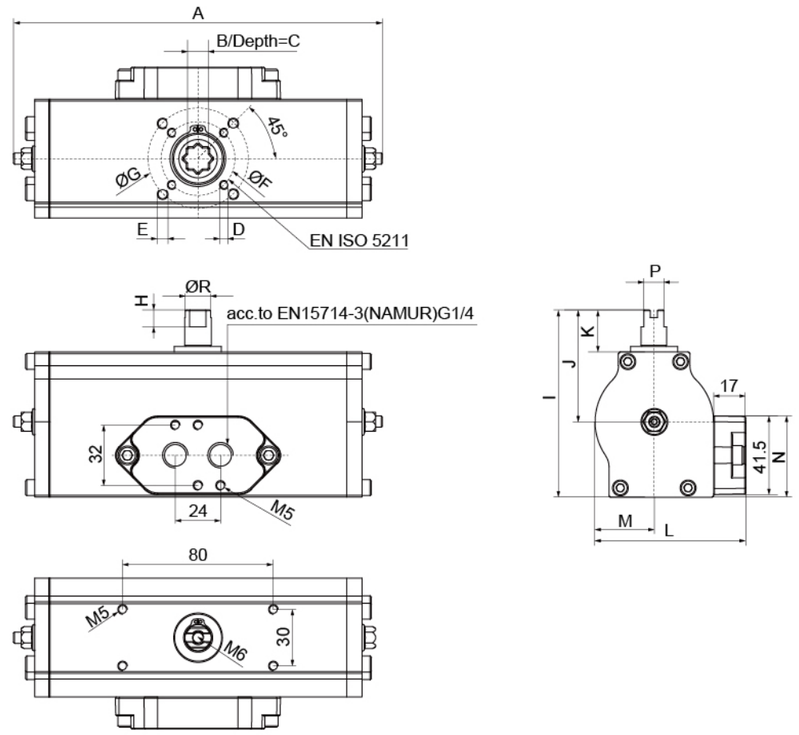
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单作用扭矩参数表
Single acting torque parameter table

产品型号 Model	规格 Ø	弹簧代号 spring	弹簧扭矩 Spring torque			2.5bar			3bar			4bar			5bar			5.6bar			6bar			7bar			8bar		
			0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°	0°	49°	90°
PA2118120	Ø100	K23	218	143	296	-	-	-	-	-	-	-	-	-	-	-	-	250	117	164	322	139	179	408	185	255	493	231	331
		K33	260	177	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	285	108	147	371	154	214	457	199	290
PA2119120	Ø125	K11	166	114	206	221	91	126	296	130	212	446	210	351	595	290	490	670	330	560	745	370	629	894	448	767	1044	529	890
		K12	198	150	284	-	-	-	267	96	135	417	176	274	565	255	412	641	296	482	715	335	551	864	415	690	1014	495	829
		K22	258	186	361	-	-	-	-	-	-	362	142	198	511	221	337	586	262	407	661	301	476	809	381	614	959	461	753
		K13	317	207	437	-	-	-	-	-	-	-	-	-	457	201	261	532	242	331	607	281	400	756	361	539	906	441	678
		K23	356	243	502	-	-	-	-	-	-	-	-	-	-	-	-	496	207	267	570	247	356	719	326	474	869	406	613
		K33	416	300	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	515	193	312	664	272	398	814	352	537
PA2120120	Ø140	K11	209	134	271	337	145	198	441	190	288	650	280	469	860	370	650	964	415	740	1070	461	830	1279	551	1011	1488	641	1191
		K12	270	173	349	-	-	-	389	166	216	596	257	397	806	347	578	910	392	667	1015	437	758	1225	527	939	1434	617	1119
		K22	350	211	427	-	-	-	-	-	-	543	234	324	752	324	505	856	369	595	962	414	685	1171	504	866	1380	594	1046
		K13	412	249	485	-	-	-	-	-	-	-	-	-	713	307	451	817	352	541	922	397	632	1132	487	812	1340	577	992
		K23	459	278	563	-	-	-	-	-	-	-	-	-	-	-	-	763	329	468	869	374	559	1078	464	740	1287	554	919
		K33	542	347	694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	772	332	437	981	423	617	1190	513	797
PA2121120	Ø160	K11	346	206	452	438	222	273	581	295	408	875	444	684	1168	593	961	1315	668	1099	1461	742	1237	1754	894	1513	2047	1040	1790
		K12	437	260	570	-	-	-	503	256	327	769	405	574	1089	553	851	1236	628	989	1383	702	1127	1676	851	1403	1969	1000	1680
		K22	528	314	688	-	-	-	-	-	-	718	365	464	1011	514	740	1158	588	879	1304	663	1017	1597	812	1293	1891	961	1569
		K13	610	363	796	-	-	-	-	-	-	-	-	-	940	478	641	1087	552	779	1233	627	917	1527	776	1193	1820	925	1469
		K23	701	417	914	-	-	-	-	-	-	-	-	-	-	-	-	1009	513	669	1155	587	806	1448	736	1083	1742	885	1359
		K33	878	521	1112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1003	510	622	1296	659	898	1589	808	1175
PA2122120	Ø180	K11	386	275	586	654	277	342	851	360	500	1247	527	816	1642	694	1132	1840	778	1290	2037	862	1448	2432	1029	1724	2827	1196	2080
		K12	495	352	755	-	-	-	757	320	370	1152	487	686	1547	654	1002	1745	738	1161	1942	822	1318	2337	989	1634	2732	1156	1950
		K22	604	430	920	-	-	-	-	-	-	1058	447	559	1543	614	876	1651	698	1034	1848	782	1192	2243	949	1508	2638	1116	1824
		K13	687	489	1045	-	-	-	-	-	-	-	-	-	1381	584	780	1579	668	938	1776	751	1096	2171	918	1412	2566	1085	1728
		K23	797	567	1213	-	-	-	-	-	-	-	-	-	-	-	-	1484	628	810	1681	711	968	2076	878	1284	2471	1045	1600
		K33	989	704	1506	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1515	641	843	1910	808	1059	2305	975	1375
PA2123120	Ø220	K11	733	513	1051	1243	540	734	1617	702	1040	2365	1027	1652	3113	1352	2264	3487	1515	2570	3861	1677	2876	4609	2002	3488	5357	2327	4100
		K12	979	684	1403	-	-	-	1408	612	773	2156	936	1385	2904	1261	1997	3278	1424	2303	3652	1586	2609	4400	1911	3221	5148	2236	3833
		K22	1224	855	1757	-	-	-	-	-	-	1947	875	1117	2695	1170	1729	3069	1333	2035	3443	1495	2341	4191	1820	2953	4939	2145	3565
		K13	1345	940	1929	-	-	-	-	-	-	-	-	-	2591	1125	1598	2965	1288	1904	3339	1450	2210	4087	1775	2822	4835	2100	3434
		K23	1590	1112	2282	-	-	-	-	-	-	-	-	-	-	-	-	2755	1197	1637	3129	1359	1943	3877	1684	2555	4625	2009	3167
		K33	1957	1368	2807	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2816	1223	1544	3564	1548	2156	4312	1873	2768
PA2124120	Ø240	K11	1493	1064	2323	2462	1219	1316	3236	1662	2064	4782	2550	3562	6329	3438	5060	7102	3881	5809	7876	4325	6558	9422	5213	8056	10969	6100	9553
		K12	1813	1292	2788	-	-	-	2935	1448	1579	4481	2336	3076	6028	3223	4574	6801	3667	5323	7574	4111	6072	9121	4988	7570	10668	5886	9068
		K22	2233	1521	3252	-	-	-	-	-	-	4180	2121	2591	5727	3009	4088	6500	3452	4837	7273	3896	5586	8820	4784	7084	10366	5671	8582
		K13	2759	1825	3949	-	-	-	-	-	-	-	-	-	5326	2723	3360	6099	3167	4109	6872	3610	4858	8419	4498	6355	9966	5386	7853
		K23	3080	2053	4414	-	-	-	-	-	-	-	-	-	-	-	-	5798	2952	3623	6571	3396	4372	8118	4284	5870	9664	5171	7367
		K33	3626	2585	5576	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5869	2896	3157	7416	3783	4655	8962	4671	6153

尺寸/Dimensions
双作用Double acting(Ø40-Ø125)

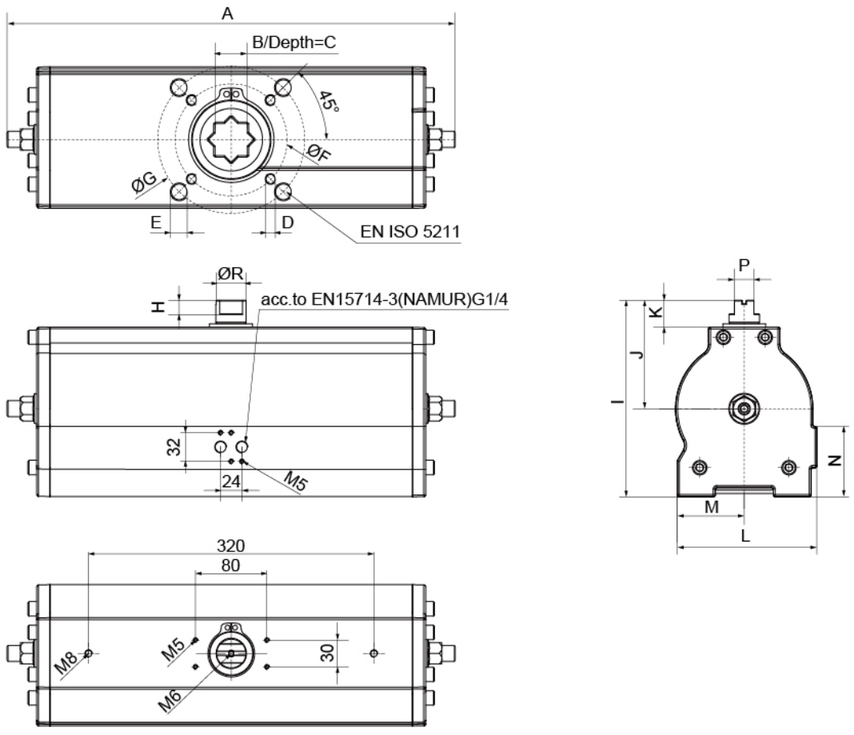


型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA1113120	Ø40	180	11	16	M5*8	M6*9	36	50	13	10	8	20	58	86	25	69	45
PA1114120	Ø60	208	14	16	M6*9	38*12	50	70	13	14	11	20	57	97	31.5	80	43
PA1115120	Ø70	271	17	18	M6*9	M8*12	50	70	13	18	13	20	65	111	40	96	46
PA1116120	Ø80	295	17	22	M6*9	M8*12	50	70	13	20	14	20	72	128	45.4	108	53
PA1117120	Ø90	341	17	22	M8*12	M10*15	70	102	13	20	14	20	76	140	51	121	54.5
PA1118120	Ø100	389	22	26	M8*12	M10*15	70	102	13	26	19	20	83	149	57	131	59
PA1119120	Ø125	445	27	30	M10*15	M12*18	102	125	15	30	22	30	106	186	70	156	60

Art.PA-Seite

尺寸/Dimensions

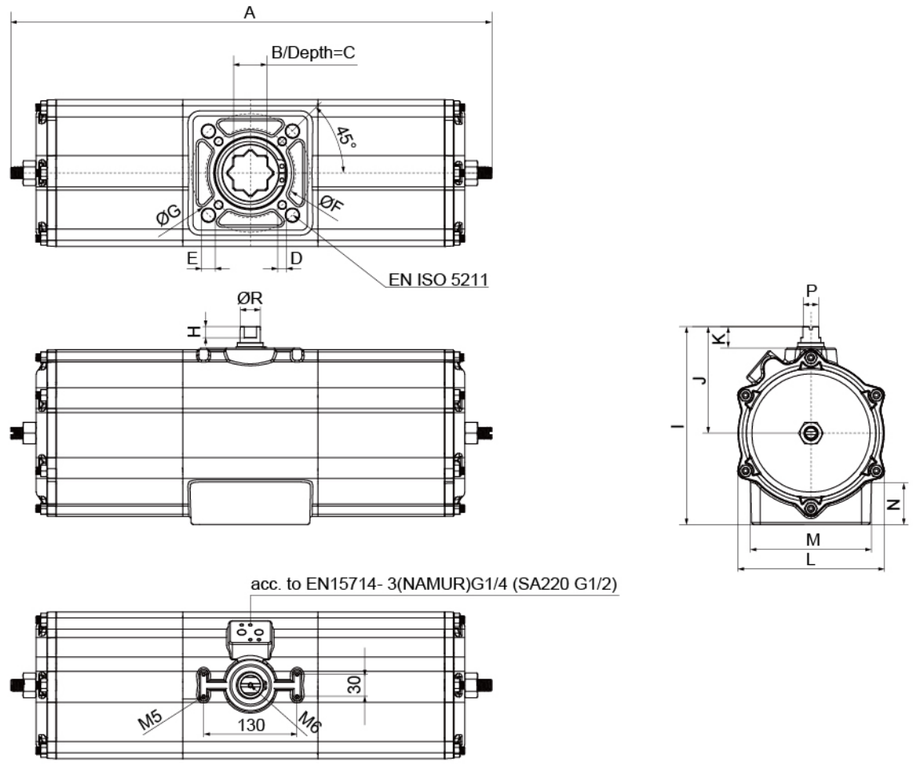
双作用Double acting(Ø140-Ø160)



型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA1120120	Ø140	520	36	40	M12*20	M20*30	125	165	15	34	22	30	122	220	75	156.5	79
PA1121201	Ø160	575	46	46	M12*20	M20*30	125	165	15	34	22	30	129	242.5	85	175	93.5

备注：Ø140-Ø160可选F14平台
Note: Ø140-Ø160 F14 platform is optional

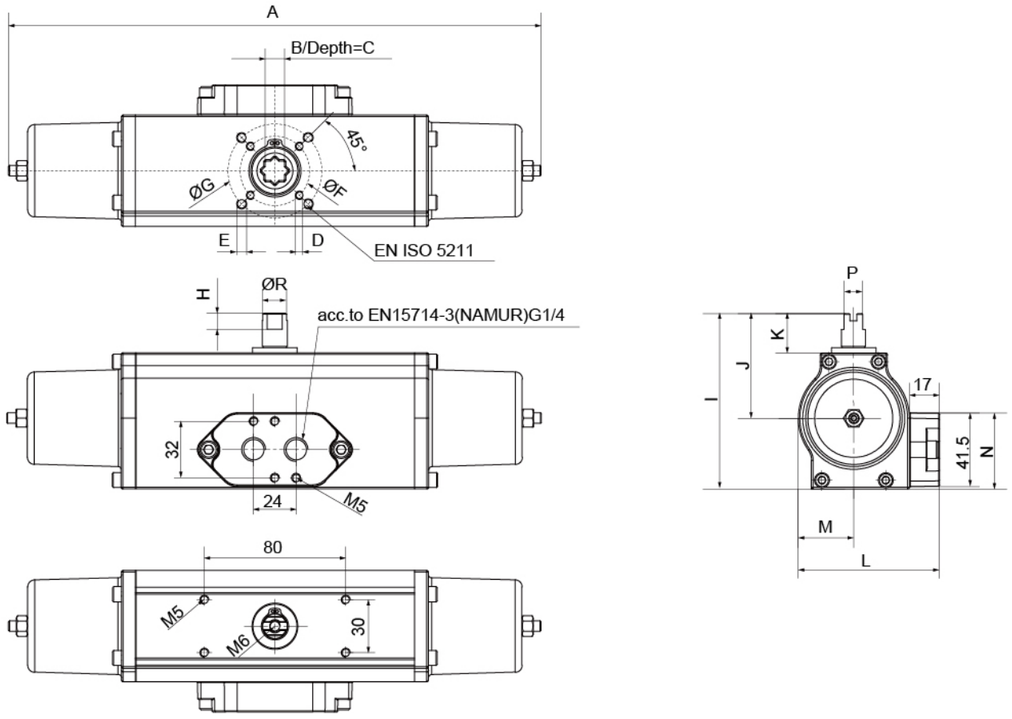
双作用Double acting（Ø180-Ø260）



型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA1122120	Ø180	669	46	50	M12*18	M20*36	125	165	15	28	22	30	148	275	168	206	62
PA1123201	Ø220	810	55	57	M20*36	-	165	-	15	36	22	30	171	314	200	271	71
PA1124201	Ø260	1005	55	57	M20*36	-	165	-	15	28	22	30	202	380	200	342	66

备注：Ø180可选F14平台
Note: Ø180 F14 platform is optional

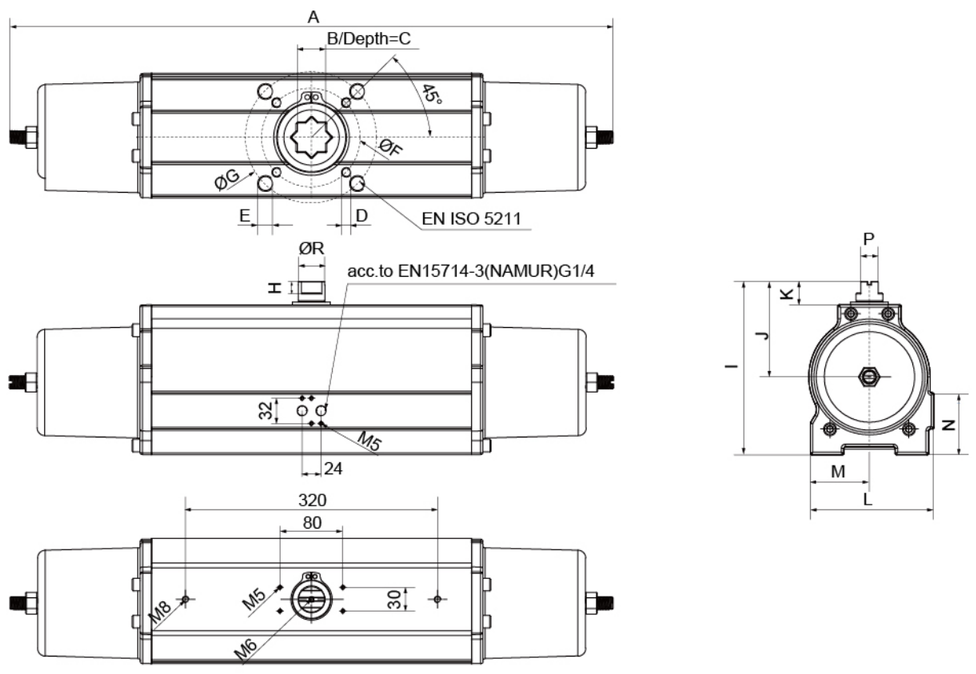
单作用Single acting（Ø60-Ø125）



型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA2114120	Ø60	310	14	16	M6*9	-	50	-	13	14	11	20	57	97	31.5	80	43
PA2115120	Ø70	410	17	18	M6*9	M8*12	50	70	13	18	13	20	65	111	40	96	46
PA2116120	Ø80	457	17	22	M6*9	M8*12	50	70	13	20	14	20	72	128	45.5	108	53
PA2117120	Ø90	497	17	22	M8*12	M10*15	70	102	13	20	14	20	76	140	51	121	54.5
PA2118120	Ø100	596	22	26	M8*12	M10*15	70	102	13	26	19	20	83	149	57	131	59
PA2119120	Ø125	720	27	30	M10*15	M12*18	102	125	15	30	22	30	106	186	70	156	60

尺寸/Dimensions

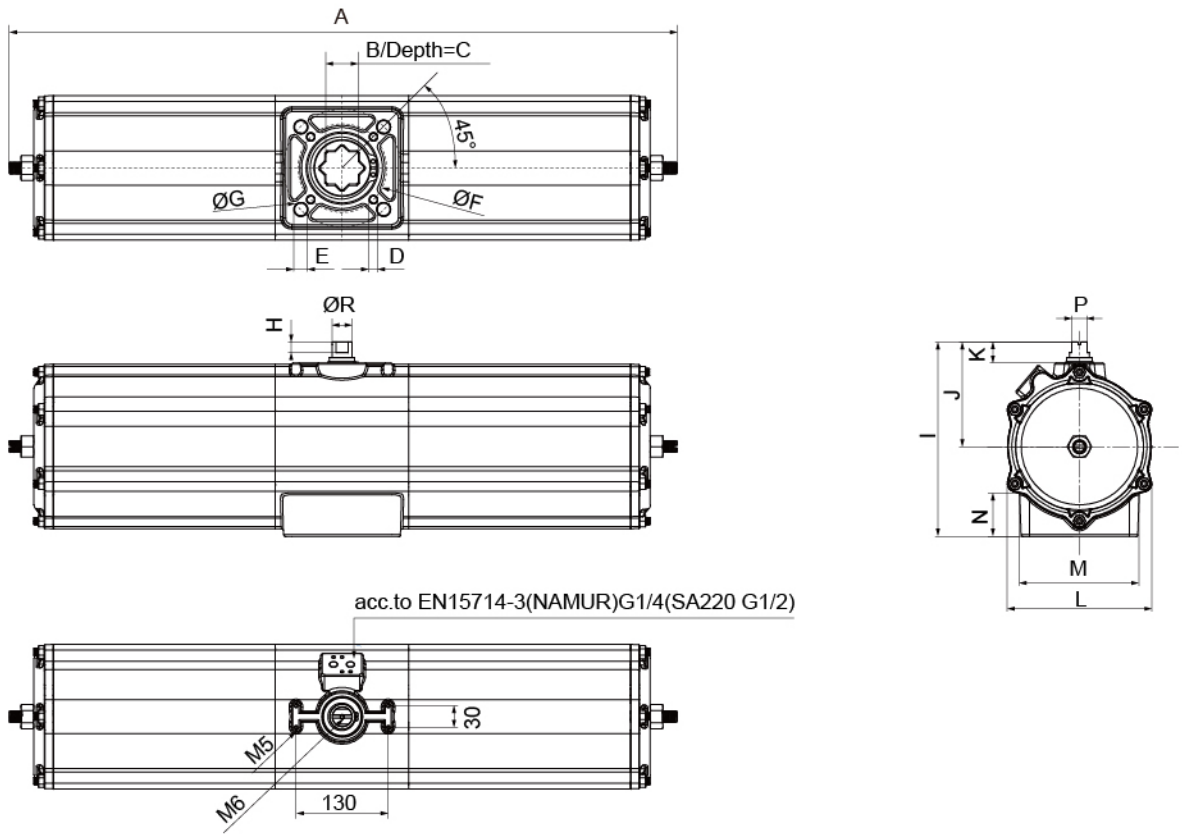
单作用Single acting（Ø140-Ø160）



型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA2120120	Ø140	780	36	40	M12*20	M20*30	125	165	15	34	22	30	122	220	75	156.5	79
PA2121201	Ø160	948	46	46	M12*20	M20*30	125	165	15	34	22	30	129	242.5	85	175	93.5

备注：Ø140-Ø160可选F14平台
Note: Ø140-Ø160 F14 platform is optional

单作用Single acting（Ø180-Ø260）



型号Model	规格Specifications	A	B	C	D	E	ØF	ØG	H	ØR	P	K	J	I	M	L	N
PA2122120	Ø180	965	46	50	M12*18	M20*36	125	165	15	28	22	30	148	275	168	206	62
PA2123201	Ø220	1199	55	57	M20*36	-	165	-	15	36	22	30	171	314	206	271	71
PA2124201	Ø260	1543	55	57	M20*36	-	165	-	15	28	22	30	202	380	200	342	66

备注：Ø180可选F14平台
Note: Ø180 F14 platform is optional