HEARKEN® FLOW CONTROL

BROCHURE

Welcome to HEARKEN

—— Actuators and Controls

WECHAT

WEB

Hearken Here We Can

The Trusted, Passionate and focused Partner in Valve Automation

At HEARKEN FLOW,The founding principle of Hearkenflow is simple: to Listen our customers needs first, to develop the innovative valve actuators solutions , to meet the unique needs of our customers, Along the way, To help our customers to solve the problems in Valve Automation. We are growing our brand in Pneumatic and Electric Actuators, Accessories..

- Experienced team
- Large inventory
- Convenient consultation

WHY WE ARE DIFFERENT

We offer a complete valve automation solution by the applications experience and customization capabilites, with an experienced support team to guide you in selection, installation, and project support.In addition we maintain an extensive supply of product inventory on hand so that we can quickly fulfill orders and reduce wait times. Our sales and support staff are readily available and accessible so that customers get the answers they need quickly.

THE TARGET WE ARE PURSUING

High-quality — low cost — Reliable solution

- To built A strong Reputation in Providing Quality, Cost Effective , Reliable And Robust Performance Solutions for Valve Automation,
- Inclued Pneumatic Actuators, Electrically Actuators,Actuated Valves.

COMMITMENT TO QUALITY

At HEARKEN FLOW means performance, All products manufactured by HEARKEN FLOW are warranted against defects in material and workmanship for a period of 18months from the day of startup. Each of our products are tested at the factory. we are confident that our products meet or exceed all applicable standards before they ever leave our facility. We are an ISO 9001-2008 certified company. Our Valve Actuators Has Applied for SIL3 Certificate, ATEX Certificate ,CE,Explosion-proof Certificate, IP68 Weather proof etc....

As we are continually developing our products,their design is subect to change without notice, Latest information is available on

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HPA Series Pneumatic Actuator
Rack Pinion Design

Description

The three-stage pneumatic actuator is a special type of actuator, which can provide three-position operation modes of 0°, 45°, 90°, and 180°. The intermediate position is achieved by the mechanical brake produced by the movement of the two auxiliary pistons. The intermediate position is adjustable. For example, the actuator with 90° stroke can provide intermediate positions of 20°, 30°, 50°, 70° and so on.

Standard Specification

- Travel adjustment:±5° for the rotation at 0°and 90°
- Application:Indoor or outdoor
- Air supply pressure:Working pressure: 2-8 Bar
  Maximum supply: 10 Bar
- Torque Range:Double acting: From 20Nm@5bar to 1923Nm@5bar
  Spring return: From 8.5Nm@5bar to 827Nm@5bar
- Operating media:Dry or lubricated air, or the non-corrosive gases.
  The maximum particle diameter must less than 30um

Working Pressure

- Standard Temperature:-20~+80 Degree
- Low Temperature: -35~+80 Degree
- High Temperature: -15~+150 Degree

Testing For All Actuators

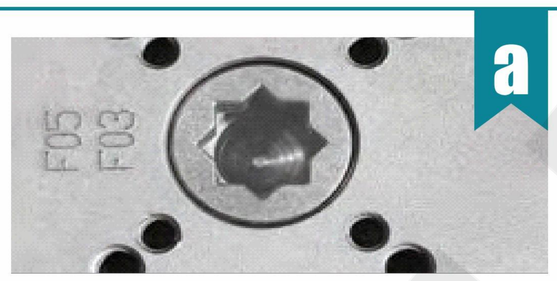
All actuators manufactured by HEARKEN are individually tested, Testing is carried out to check the leakage in both internal and external,The angle of rotation and Torque values.All bodies are stamped with year,month of production,size and serial number.

Range of Standard Accessories are Avaliable for Direct Mounting

1. Solenoid Valve
2. Limit Switchboxes
3. Electro-pneumatic Positioner
4. Declutchable Manual Override Gearbox
5. High Visibility Indicator

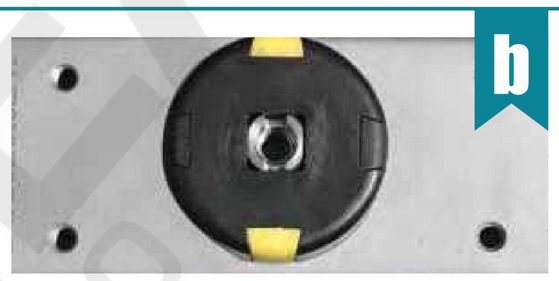
Interface Specification

a



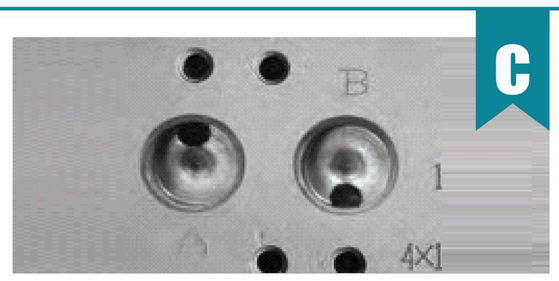
Drive and Flange to ISO5211 configuration for easy direct mount onto a valve or connection w ith standardized mounting hardw are.

b



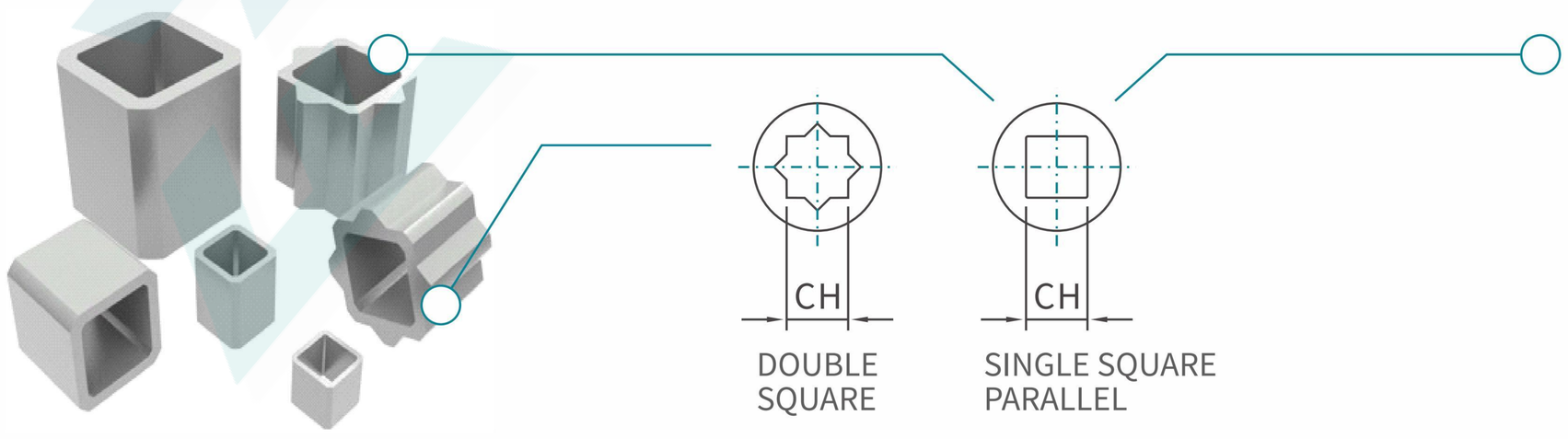
The N AMU R Drive Pinion and NAMU R top mounting connection for direct installation of accessories such as Limit Sw itch and Positioner.

c



Air supply connection is designed in accordance w ith NAMU R Standard to install solenoid valve.

Bottom View Iso5211



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-Market Leading

HEARKEN® FLOW CONTROL

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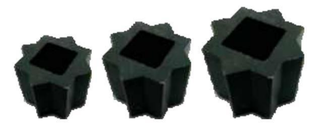
- Square Adapter



- Star Adapter

No	Part Name	Material	Protection	Qty
1	Body	Alu Extrusion	Anodising	1
2	Pinion	Alloy Steel	ENP Coating	1
3	Piston	Die Cast Alu	Cr+3 Coating	2
4	Body Mid Part	Aluminum	Polyester Coating	2
5	Body Ext. Part	Alu Extrusion	Anodising	2
6	Cap	Die Cast Alu	Cr+3 & Polyester	2
7	Piston	Die Cast Alu	Cr+3 Coating	2
8	Piston Shaft	Stainless Steel		2
9	Nut	Stainless Steel		2
10	Lower Stem Bushing	Engineered Plastics		1
11	Lower Stem O-Ring	NBR		1
12	Upper Stem Bushing	Engineered Plastics		1
13	Upper Stem O-Ring	NBR		1
14	Slide Guide	Engineered Plastics		4
15	Piston O-Ring	NBR		4
16	Piston Shaft O-Ring	NBR		2
17	Body O-Ring	NBR		4
18	Cap O-Ring	NBR		2
19	Piston Shaft O-Ring	NBR		2
20	Shaft Cap O-Ring	NBR		2

No	Part Name	Material	Protection	Qty
21	Cam	Alloy Steel	Galvanizing	1
22	Inner Washer	Engineered Plastics		1
23	Washer	Engineered Plastics		1
24	Metal Washer	Stainless Steel		1
25	Circlip	Stainless Steel		1
26	Indicator Body	Plastic		1
27	Indicator Part	Plastic		4
28	Indicator Screw	Alloy Steel	Galvanizing	1
29	Adjustment Screw O-Ring	NBR		2
30	Adjustment Screw Washer	Stainless Steel		2
31	Nut	Stainless Steel		2
32	Hexagon Bolt	Stainless Steel		2
33	Outer Nut	Stainless Steel		2
34	Cap Bolt	Stainless Steel		8
35	O-Ring	NBR		4
36	Washer	Stainless Steel		8
37	Bolt	Stainless Steel		4
38	Nut	Stainless Steel		8
39	Cap	Die Cast Alu	Cr+3 & Polyester	2
40	Sealant	NBR		1
41	Slide Piston	Engineered Plastics		1

Output Torque Of Double Acting Actuators (Unit:N.m)

Model	Air Supply Pressure(Unit:bar)									
	2	2.5	3	4	4.5	5	5.5	6	7	8
HPA063	15	18	22	29	33	36	40	44	51	58
HPA075	20	25	30	40	45	50	55	60	70	80
HPA088	31	39	47	63	70	78	86	94	110	125
HPA100	45	56	68	90	102	113	124	135	158	181
HPA115	66	83	99	132	149	165	182	198	231	264
HPA125	100	125	150	200	226	251	276	301	351	401
HPA145	171	214	256	342	385	427	470	513	598	684
HPA160	266	332	399	532	598	665	731	798	931	1064
HPA180	426	532	638	851	958	1064	1170	1277	1490	1702
HPA200	426	532	638	851	958	1064	1170	1277	1490	1702

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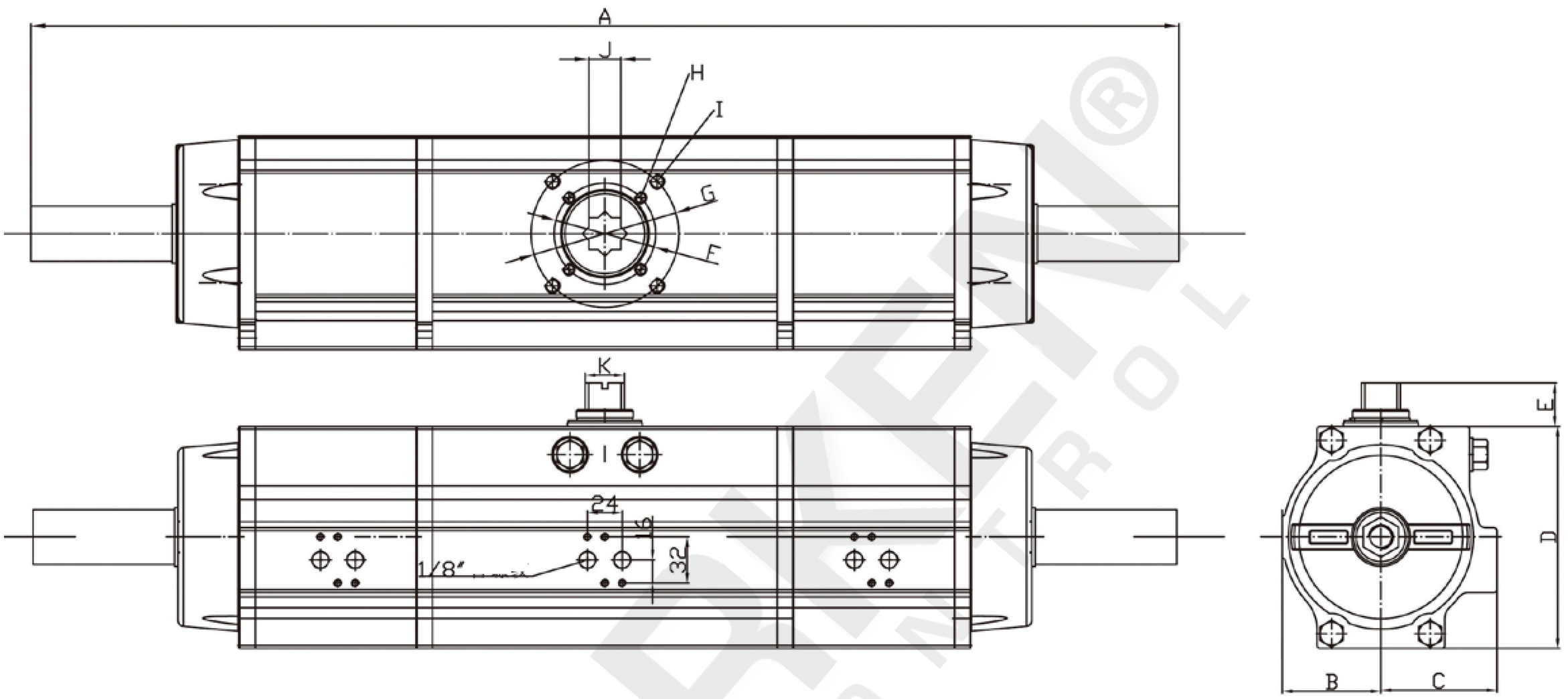
Output torque of air springs																Spring's output	
Air pressure		2.5BAR		3BAR		4BAR		5BAR		6BAR		7BAR		8BAR			
Model	Spring Qty.	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
HPA063SR	5	11.4	7.7	15	11.4	22.3	14.9	/	/	/	/	/	/	/	/	10.4	6.8
	6	10.1	5.7	13.6	9.3	20.9	16.6	28.3	23.9	/	/	/	/	/	/	12.5	8.2
	7	8.6	3.6	12.5	7.2	19.5	14.5	26.8	21.9	/	/	/	/	/	/	14.6	9.6
	8	/	/	10.9	5.1	18.2	12.4	25.5	19.8	32.8	27	40.1	34.3	/	/	16.7	10.9
	9	/	/	/	/	16.8	10.4	24.1	17.7	31.4	24.9	38.7	32.2	/	/	18.8	12.3
	10	/	/	/	/	1.4	8.2	22.8	15.6	30	22.8	37.3	30.1	44.7	37.4	20.9	13.7
	11	/	/	/	/	/	/	21.5	13.5	28.7	20.7	36	28	43.3	35.3	22.9	15
	12	/	/	/	/	/	/	20	11.4	27.3	18.6	34.6	25.9	41.9	33.3	25	16.4
HPA075SR	5	14.5	10.5	19.4	15.5	29.5	25.7	/	/	/	/	/	/	/	/	14.5	10.5
	6	12.4	7.6	17.3	12.6	27.4	22.7	37.5	32.8	/	/	/	/	/	/	17.4	12.7
	7	10.4	4.8	15.2	9.7	25.3	19.9	35.4	29.9	/	/	/	/	/	/	20.3	14.8
	8	/	/	31.1	6.8	23.1	16.9	33.3	27	43.2	37	53.3	47	/	/	23.2	16.9
	9	/	/	/	/	21	14.1	31.2	24.1	41.1	34.1	51.2	44.2	/	/	26.1	19
	10	/	/	/	/	19	11.1	28.8	21.2	39	31.2	49.1	41.2	59.1	51.2	29	21.1
	11	/	/	/	/	/	/	27	18.3	37	28.3	47	38.4	57	48.4	31.9	23.2
	12	/	/	/	/	/	/	24.9	15.4	34.9	25.4	44.9	35.4	54.9	45.4	34.7	25.3
HPA088SR	5	23.3	16.1	31.1	24	46.8	39.7	/	/	/	/	/	/	/	/	23	15.8
	6	20.1	11.5	28	19.3	43.7	35.1	59.4	50.7	/	/	/	/	/	/	27.6	19
	7	17	6.9	24.8	14.8	40.5	30.5	56.2	46.2	/	/	/	/	/	/	32.2	22.1
	8	/	/	21.7	10.1	37.4	25.8	53.1	41.5	68.8	57.2	84.5	72.9	/	/	36.8	23.2
	9	/	/	/	/	34.2	21.3	49.9	37	65.6	52.6	81.2	68.3	/	/	41.4	28.5
	10	/	/	/	/	31	16.6	46.7	32.3	62.4	48	78.1	63.7	93.8	79.3	46	31.6
	11	/	/	/	/	/	/	43.6	27.7	59.3	43.4	75	59.1	90.6	74.8	50.6	34.8
	12	/	/	/	/	/	/	40.4	23.2	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38
HPA100SR	5	33.1	22	44.2	33.2	66.8	55.9	/	/	/	/	/	/	/	/	34.4	23.3
	6	28.4	15.2	39.6	26.4	62.2	49	84.8	71.6	/	/	/	/	/	/	41.2	28
	7	23.8	8.2	34.9	19.4	57.5	42.1	80.2	64.7	/	/	/	/	/	/	48.1	32.7
	8	/	/	31.3	12.6	52.9	35.2	75.5	57.9	98.1	80.5	120.7	103	/	/	55	37.3
	9	/	/	/	/	48.2	28.4	709	51	93.5	73.6	116	96.1	/	/	61.9	42
	10	/	/	/	/	43.6	21.5	66.2	44.1	88.8	66.7	111.3	89.2	134	111.8	68.7	46.7
	11	/	/	/	/	/	/	61.5	37.2	84.1	59.9	106.6	82.4	129.2	105	75.6	51.4
	12	/		/	/	/	/	56.8	30.4	79.4	53	101.9	75.5	124.5	98.1	82.5	56
HPA115SR	5	51	33.4	67.5	49.9	100.6	83	/	/	/	/	/	/	124.5	/	49.2	31.6
	6	44.7	23.5	61.1	40	94.2	73.2	127.3	106.2	/	/	/	/	/	/	59.1	38
	7	38.4	13.7	54.9	30.3	87.9	63.4	121	96.4	/	/	/	/	/	/	68.9	44.3
	8	/	/	48.5	20.4	81.6	53.5	114.7	86.5	147.7	119.6	180.8	152.7	/	/	78.7	50.6
	9	/	/	/	/	75.3	43.7	108.4	76.8	141.5	109.8	174.5	142.9	/	/	88.6	56.9
	10	/	/	/	/	68.9	33.4	102	66.5	135.1	99.6	168.2	132.6	201.2	165.7	98.4	63.3
	11	/	/	/	/	/	/	95.7	57	127.7	90.1	161.8	123.1	194.8	156.2	108.3	69.6
	12	/		/	/	/	/	89.4	47.5	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9
HPA125SR	5	73	47	98	72	148	122	/	/	/	/	/	/	/	/	79	52
	6	63	31	88	56	138	107	188	157	/	/	/	/	/	/	94	63
	7	52	15	77	40	127	90	178	141	/	/	/	/	/	/	110	73
	8	/	/	67	25	117	75	167	125	217	176	268	226	/	/	125	84
	9	/	/	/	/	107	59	157	109	207	159	257	210	/	/	141	94
	10	/	/	/	/	96	44	146	94	196	144	247	194	297	245	157	105
	11	/	/	/	/	/	/	136	78	186	128	236	178	286	228	173	115
	12	/	/		/	/	/	125	63	176	113	226	163	276	213	188	125
HPA145SR	5	128	85	171	127	256	213	/	/	/	/	/	/	/	/	129	86
	6	111	59	154	102	239	187	325	273	/	/	/	/	/	/	155	103
	7	94	33	137	76	222	162	308	247	/	/	/	/	/	/	181	120
	8	/	/	120	50	205	136	291	221	376	307	462	392	/	/	206	137
	9	/	/	/	/	187	110	273	196	358	281	444	367	/	/	232	155
	10	/	/	/	/	170	84	256	169	341	255	427	340	512	426	258	172
	11	/	/	/	/	/	/	238	143	324	229	409	314	495	400	284	189
	12	/	/	/	/	/	/	221	118	307	203	392	289	478	374	310	206
HPA160SR	5	193	124	259	191	392	324	/	/	/	/	/	/	/	/	208	140
	6	165	83	232	149	365	282	498	415	/	/	/	/	/	/	250	168
	7	137	41	203	107	336	240	469	373	/	/	/	/	/	/	292	196
	8	/	/	176	66	309	199	442	237	575	465	708	598	/	/	333	223
	9	/	/	/	/	280	157	413	290	546	423	679	556	/	/	375	251
	10	/	/	/	/	253	115	386	248	519	381	652	514	785	647	417	279
	11	/	/	/	/	/	/	358	207	491	340	624	473	757	606	458	307
	12	/	/	/	/	/	/	330	165	463	298	596	431	729	564	500	335
HPA180SR	5	332	222	438	329	651	542	/	/	/	/	/	/	/	/	309	200
	6	292	161	398	267	611	480	824	693	/	/	/	/	/	/	371	240
	7	252	99	358	205	571	418	784	631	/	/	/	/	/	/	433	280
	8	/	/	318	143	531	356	744	569	957	782	1169	995	/	/	495	320
	9	/	/	/	/	491	295	704	507	917	720	1130	933	/	/	557	360
	10	/	/	/	/	451	233	664	446	877	658	1090	871	1302	1084	618	400
	11	/	/	/	/	/	/	624	384	837	597	1050	809	1263	1022	680	440
	12	/	/	/	/	/	/	584	322	797	535	1010	748	1223	960	742	480
HPA200SR	5	390	285	523	418	789	684	/	/	/	/	/	/	/	/	380	275
	6	335	209	468	342	734	608	1000	874	/	/	/	/	/	/	456	385
	7	280	133	413	266	679	532	945	798	/	/	/	/	/	/	532	385
	8	/	/	358	190	624	456	890	722	1156	988	1422	1254	/	/	608	440
	9	/	/	/	/	569	380	835	646	1101	912	1367	1178	/	/	684	495
	10	/	/	/	/	514	304	780	570	1046	836	1312	1102	1578	1368	760	550
	11	/	/	/	/	/	/	725	494	991	760	1257	1026	1523	1292	836	605
	12	/	/	/	/	/	/	670	418	936	684	1202	950	1468	1216	912	660

Dimension in mm

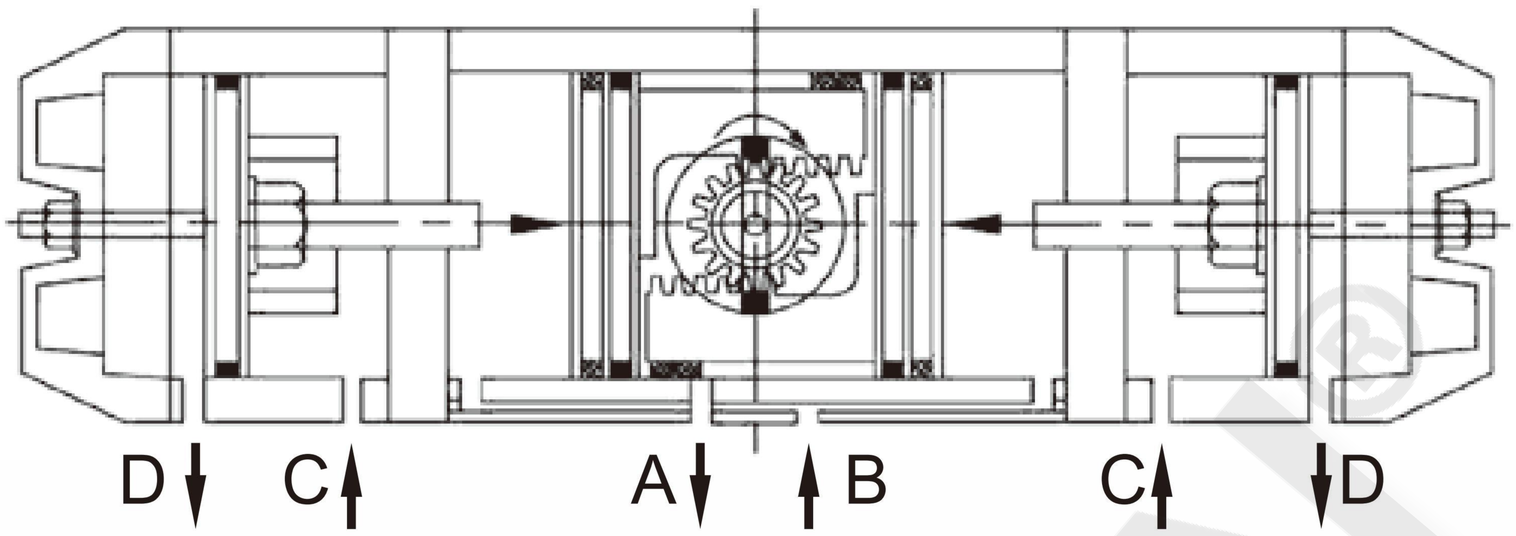


Model	ISO5211	A	B	C	D	E	F	G	H	I	J	K
HPA063	F05/F07	378	36	45	81	20	50	70	M6*8	M8*12	14	11
HPA075	F05/F07	468	42	45	97	20	50	70	M6*8	M8*12	17	17
HPA088	F05/F07	537	48	59	109	20	50	70	M6*8	M8*12	17	17
HPA100	F07/F10	566	55	68	121.5	20	70	102	M8*8	M10*14	17	17
HPA115	F07/F10	731	64	73	142	30	70	102	M8*12	M10*14	22	27
HPA125	F07/F10	791	68	80	153.5	30	70	102	M8*12	M10*14	22	27
HPA145	F10/F12	898	78.5	90	179	30	102	125	M10*15	M12*18	27	27
HPA160	F10/12	986	98	100	192	30	102	125	M10*15	M12*18	27	27
HPA180	F14	1050	102	102	222	30	/	140	/	M16*25	36	36
HPA200	F14	1101	112	112	244	30	/	140	/	M16*25	36	36

Principle Of Control

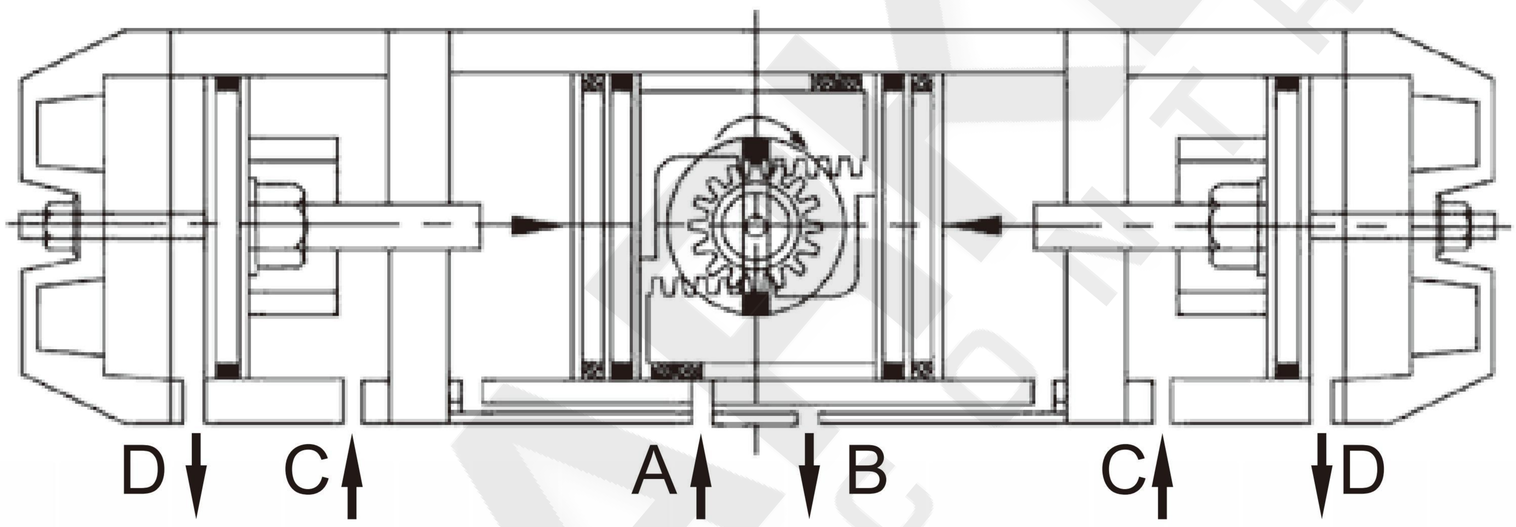
1. Full close position

Air drawn in from port B, exhausted from port A.



2. Full open position

Air drawn in port A and C, exhausted from port B and D.



3. Middle position

Air drawn in from port A and D, exhausted from port B and C. The air pressure of port D forces the auxiliary piston to move to middle position until arrival of the limit position set by adjusting bolt.