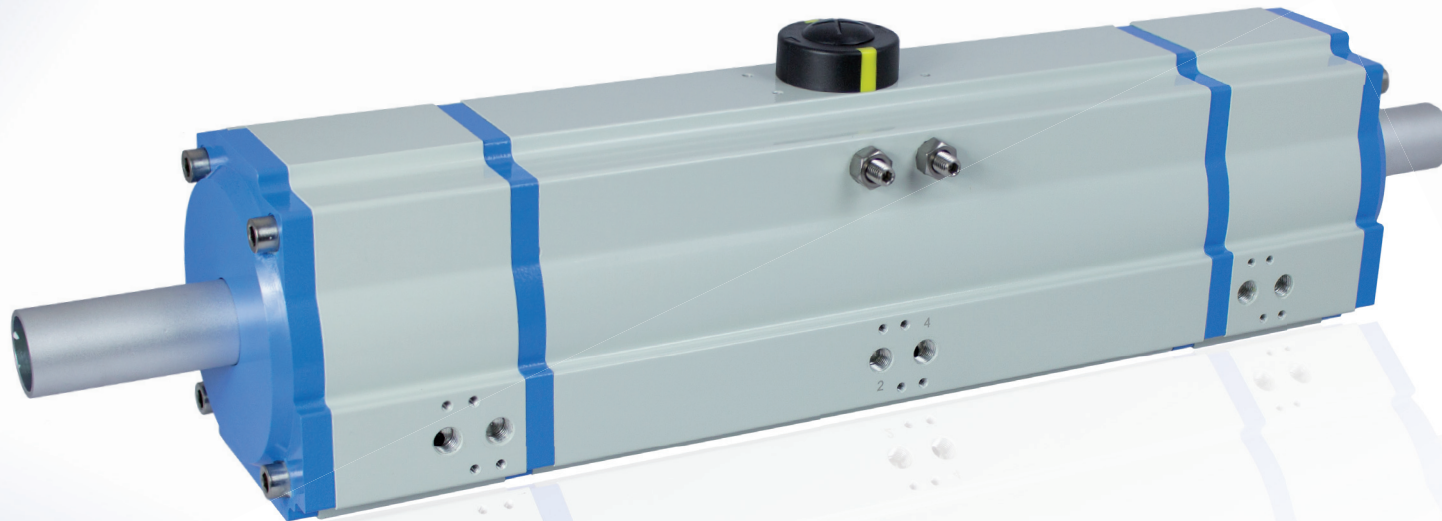


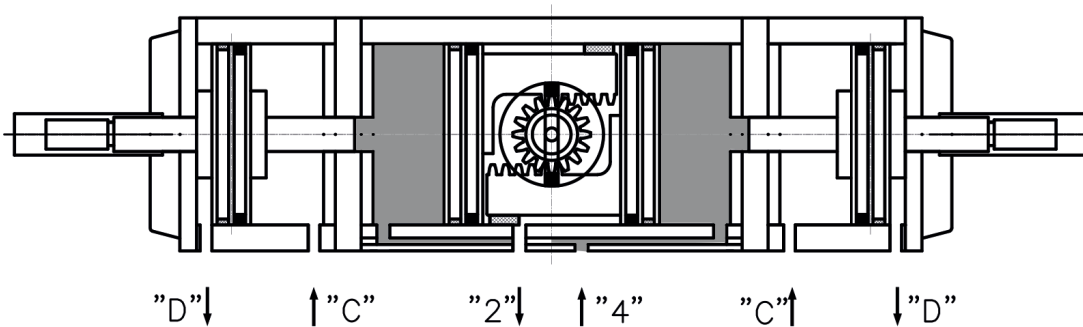


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The three position actuator

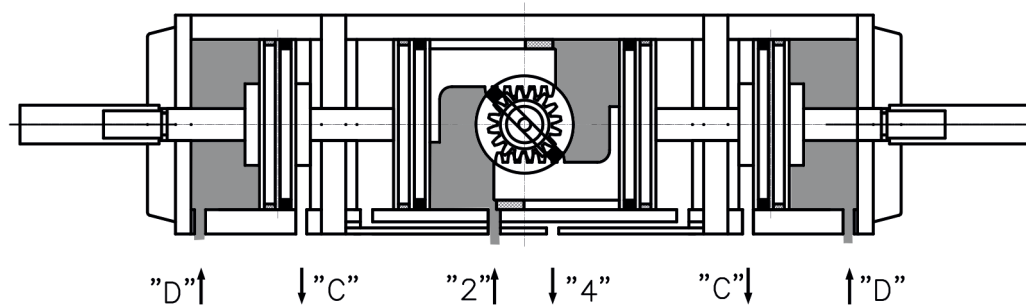
Operating Principle Of Three Position Actuator

Three position actuator provide an operation of 0° , 45° , 90° or 0° , 90° , 180° . The midway position is achieved by a mechanical stop of movement on the 2 auxiliary pistons. This midway stop positions adjustable. Example: 90° actuator can provide 20° , 30° , 40° , 50° , 70° etc. Following is the principle of operation:



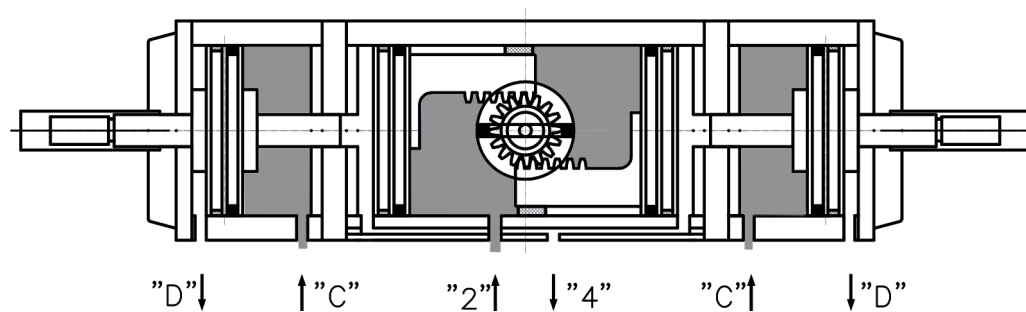
Fully Closed Position

From chart 1 we can see that this position is obtained when air is supplied to port 4 and port 2 is in the state of exhaust air.



Midway Position

From chart 2 we can see that this position is obtained when air is supplied to port 2 and port D, meantime, port 4 and port C are in the state of exhaust air. In fact that the midway position is achieved by a mechanical stop of movement on the two auxiliary pistons.



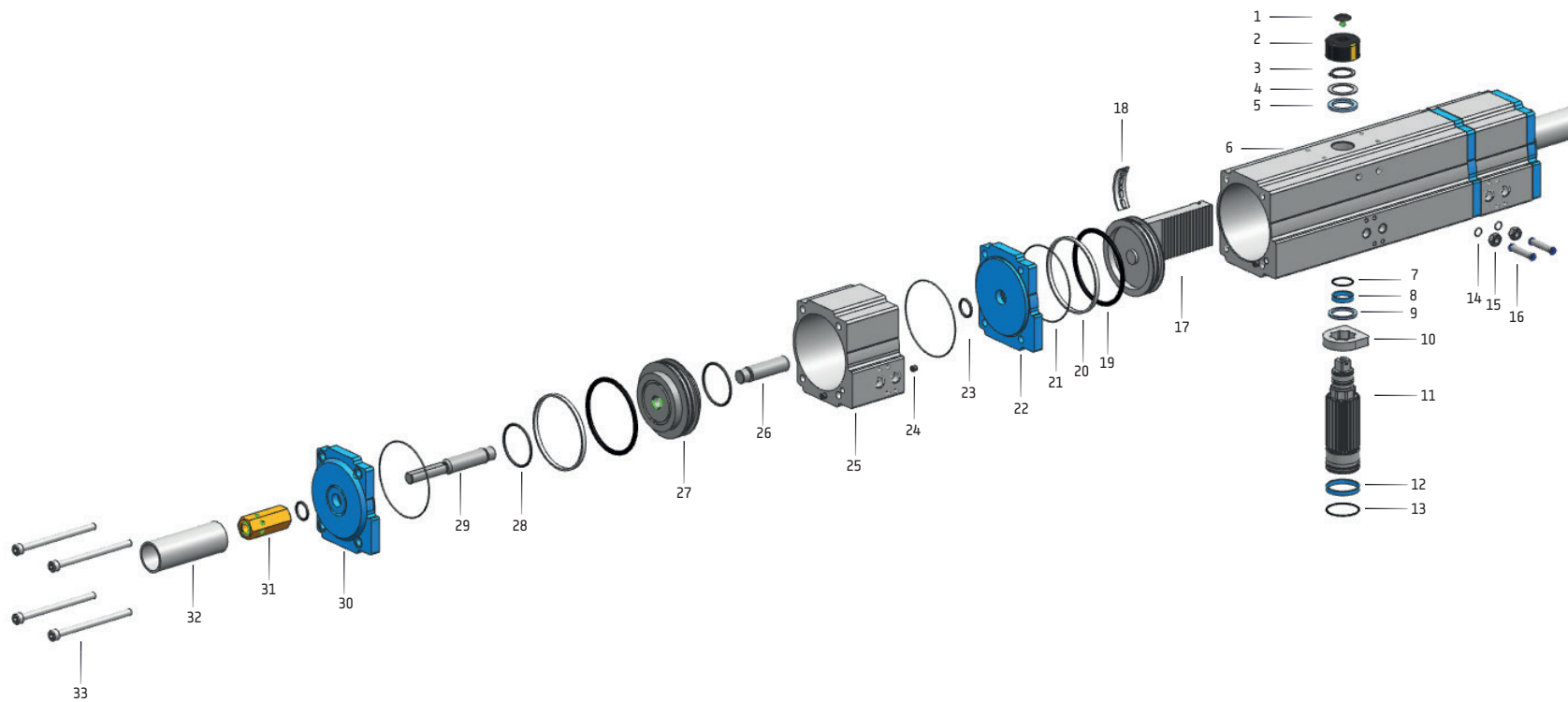
Fully Open Position

From chart 2 we can see that this position is obtained when air is supplied to port 2 and port C, meantime, port 4 and port D are in the state of exhaust air.

Dimension table

Antriebstyp	A	B	C	∅D	E	F	G	H	I	J	K	□	∅L / ISO	I / 4xM	∅M / ISO	m / 4xM	N	P
APCD - 050	446	330	92	14	12	20	72	65,5	14,0	30	41,5	11	∅36 / F03	4xM5	∅50 / F05	4xM6	80	10
APCD - 060	486	376	108	18	12	20	88	81	18,0	36	47	14	∅50 / F05	4xM6	∅70 / F07	4xM8	80	10
APCD - 070	492	378	119,5	18	12	20	99,5	94	18,0	42	53	14	∅50 / F05	4xM6	∅70 / F07	4xM8	80	10
APCD - 080	546	432	129	18	12	20	109	98,5	21,0	46	57	17	∅50 / F05	4xM6	∅70 / F07	4xM8	80	10
APCD - 090	662	500	136,5	25	12	20	116,5	111	21,0	50	58,5	17	∅50 / F05	4xM6	∅70 / F07	4xM8	80	14
APCD - 110	680	520	153	25	12	20	133	122,5	26,0	57,5	64	22	∅70 / F07	4xM8	∅102 / F10	4xM10	80	14
APCD - 130	754	594	175	35	12	20	155	145,5	26,0	67,5	74,5	22	∅70 / F07	4xM8	∅102 / F10	4xM10	80	22
APCD - 140	937	733	192	40	11,1	30	172	161	31,0	75	77	27	∅102 / F10	4xM10	∅125 / F12	4xM12	130	22
APCD - 160	1064	840	217	40	11,1	30	197	184	31,0	87	87	27	∅102 / F10	4xM10	∅125 / F12	4xM12	130	22
APCD - 190	1288	1034	260	50	12	30	230	213	40,0	103	103	36	/	/	∅140 / F14	4xM16	130	32
APCD - 210	1288	1034	285	60	12	30	255	235,5	40,0	113	113	36	/	/	∅140 / F14	4xM16	130	32

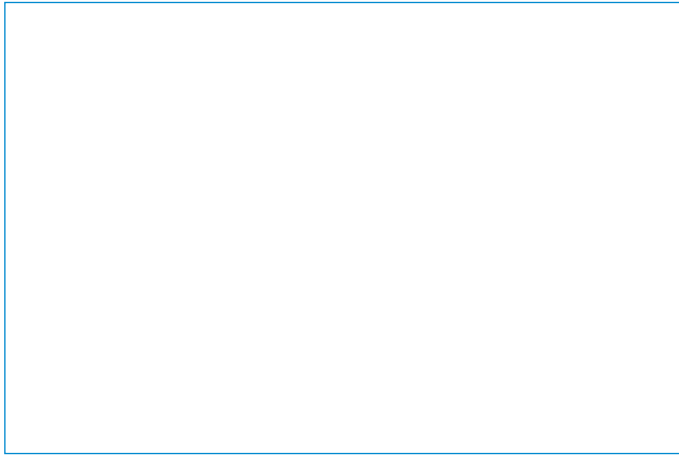
Explosion drawing



Description of explosion drawing

No.	Description	Cty	Standards Material	No.	Description	Cty	Standards Material
1	Indicator screw	1	Plastic (ABS)	17	Piston	2	Diecasting aluminium alloy
2	Indicator	1	Plastic (ABS)	18	Guide (Piston)	2	Nylon 6
3	Circlip	1	Stainless steel (304/316)	19	O-Ring (Piston)	4	Viton/NBR
4	Thrust washer	1	Stainless steel (304/316)	20	Bearing (Piston)	4	Polyoxymethylene
5	Outside washer	1	Polyoxymethylene	21	O-Ring (End-Cap)	6	Viton/NBR
6	Body	1	Extrusion of aluminum alloy	22	Auxiliary cylinder head	2	Aluminum alloy
7	O-Ring (Pinion top)	1	Viton/NBR	23	Cap O-Ring	4	Viton/NBR
8	Bearing (Pinion top)	1	Polyoxymethylene	24	Plug	6	NBR
9	Inside washer	1	Polyoxymethylene	25	Auxiliary body	2	Extrusion of aluminum alloy
10	Cam	1	AISI 1045	26+29	piston rod	4	Stainless steel (304/316)
11	Pinion	1	AISI 1045	27	Auxiliary Piston	2	Diecasting aluminium alloy
12	Bearing (Pinion bottom)	1	Polyoxymethylene	28	O-Ring (Auxiliary Piston)	4	Viton/NBR
13	O-ring (Pinion bottom)	1	Viton/NBR	30	End-Cap	2	Aluminium alloy
14	O-Ring (Adjust Screw)	2	Viton/NBR	31	Adjust nut	2	Brass
15	Nut (Adjust Screw)	2	Stainless steel (304/316)	33	Adjust Screw	8	Stainless steel (304/316)
16	Adjust Screw	2	Stainless steel (304/316)	32	Protective jacket	2	Aluminium alloy

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