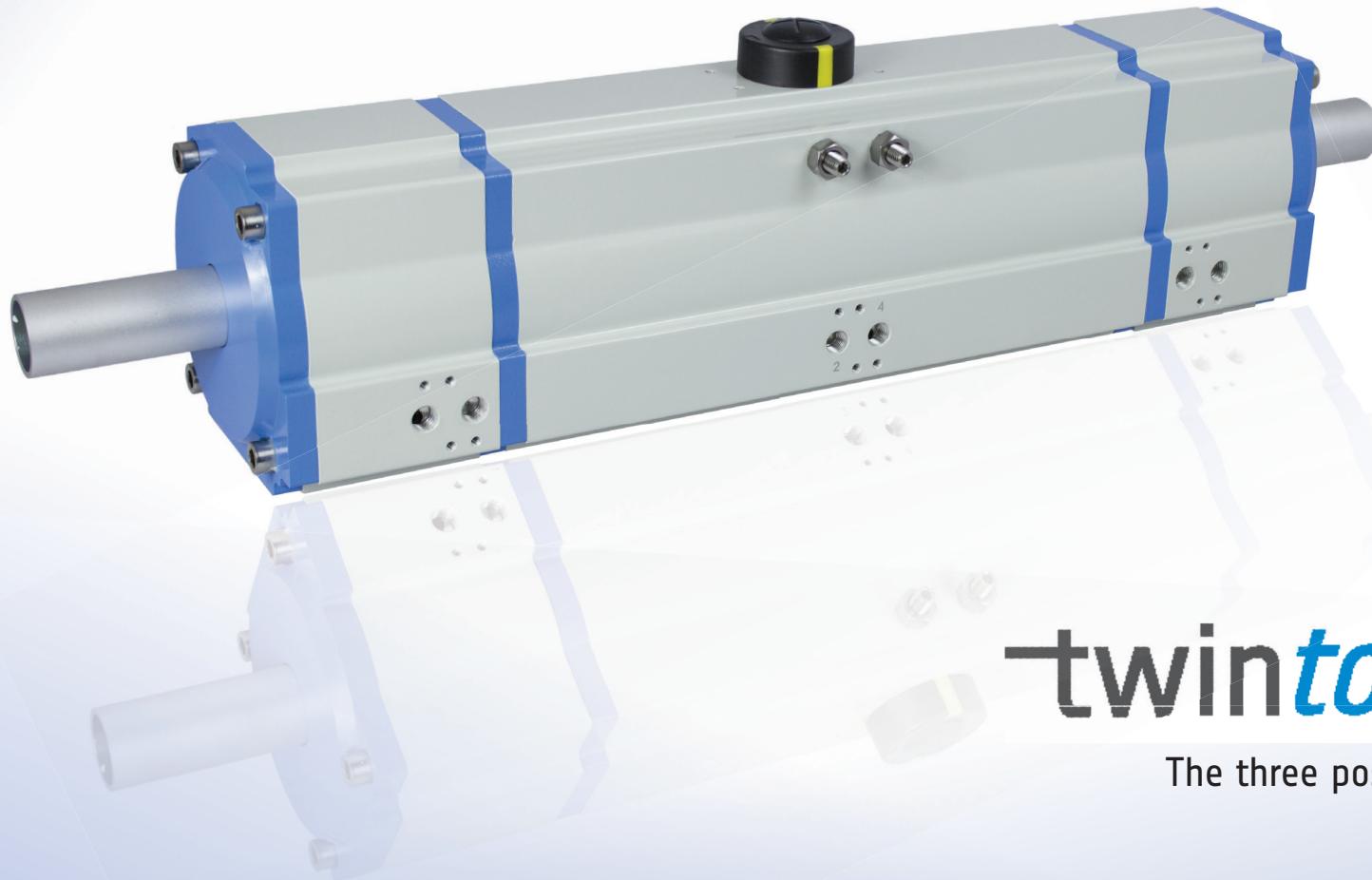


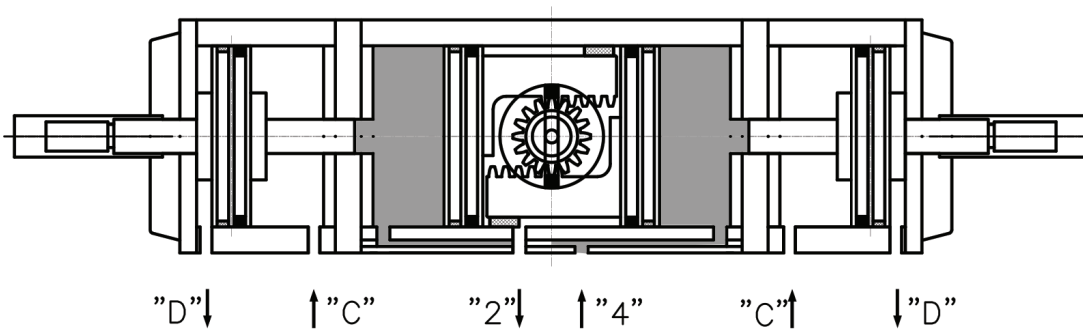


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The three position actuator

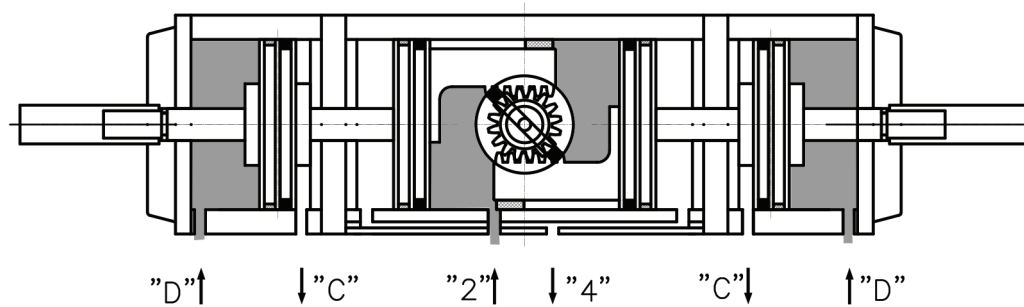
Operating Principle Of Three Position Actuator

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:



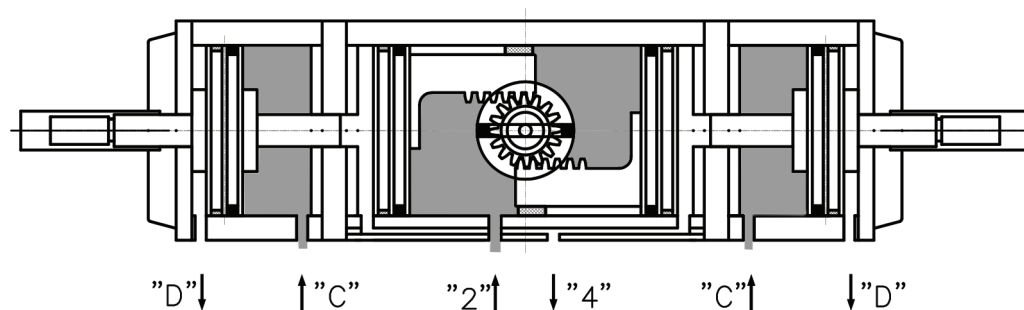
Fully Closed Position

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

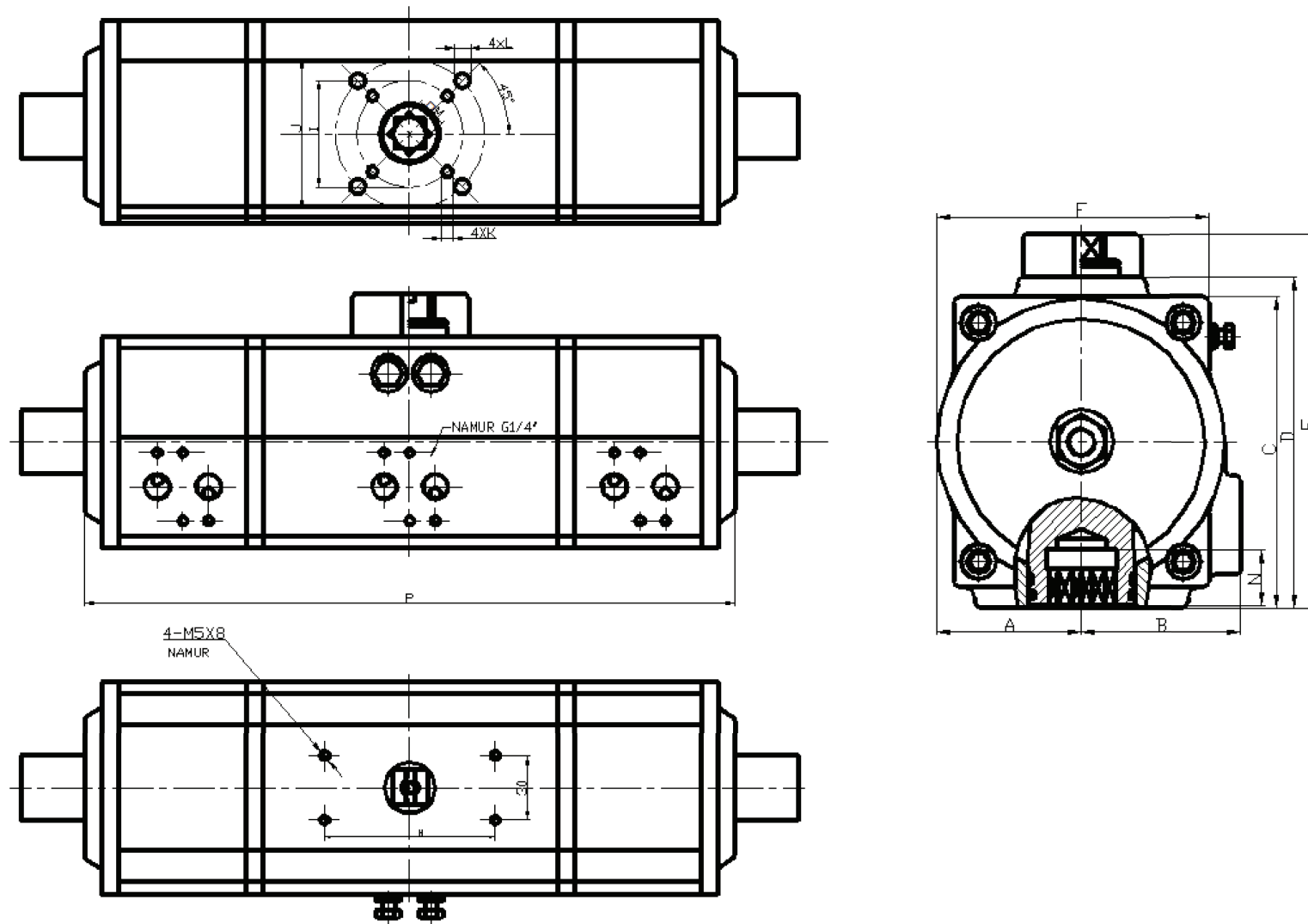
From chart 2 we can see that this position is obtained when air is supplied to port 2 and port D, meantime, port 4 and port C are in the state of exhaust air. In fact that the midway position is achieved by a mechanical stop of movement on the two auxiliary pistons.



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.

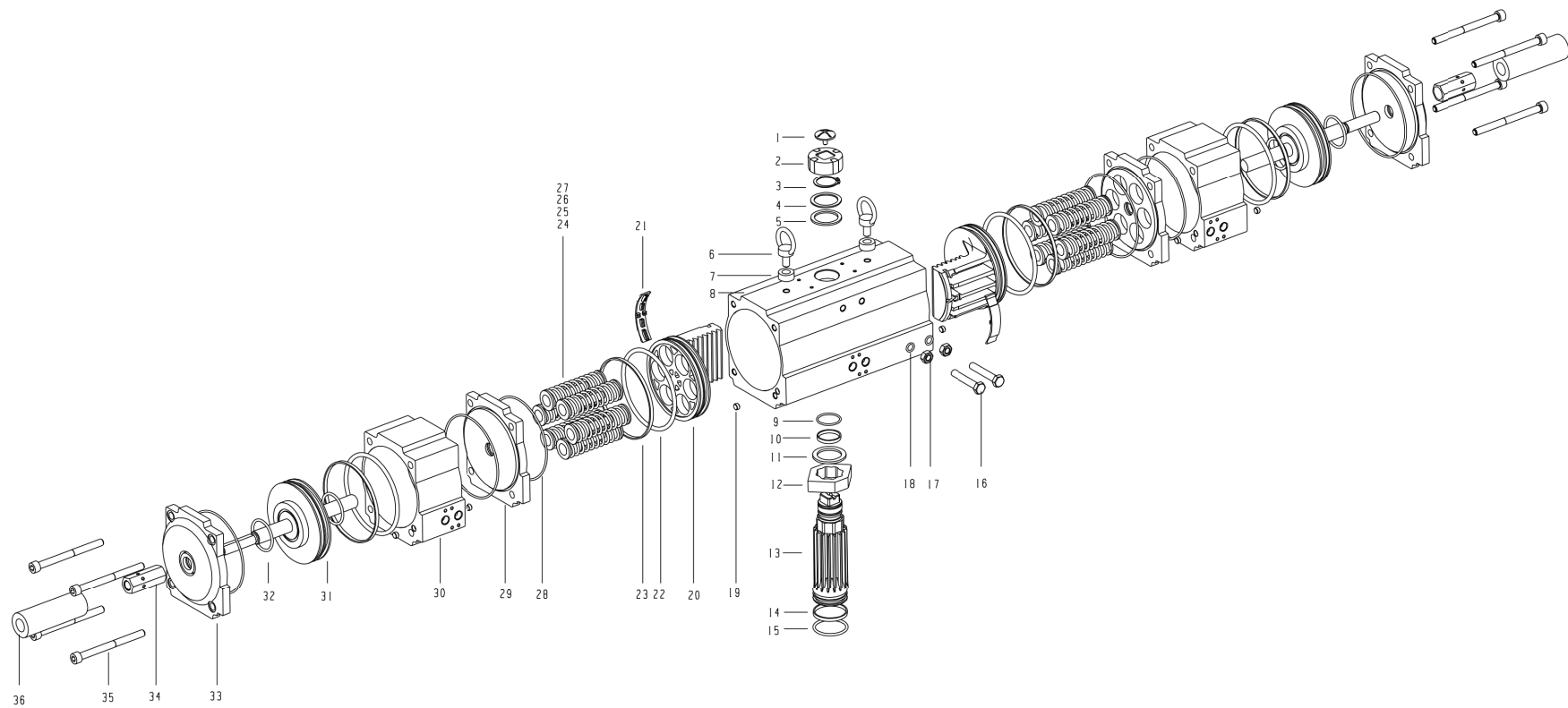
Dimensioned drawing



Dimension table

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Air Connection
APCD-050	30	41,5	65,5	72	92	65	30	80	Ø36	Ø50	M5x8	M6x10	11	14	261	NAMUR G1/4"
APCD-060	36	47	81	88	108	72	30	80	Ø50	Ø70	M6x10	M8x13	14	18	303	NAMUR G1/4"
APCD-070	42	53	93,75	99,5	119,5	81	30	80	Ø50	Ø70	M6x10	M8x13	14	18	306	NAMUR G1/4"
APCD-080	46	57	98,5	109	129	92	30	80	Ø50	Ø70	M6x10	M8x13	17	21	336	NAMUR G1/4"
APCD-090	50	58,5	111	116,5	136,5	98	30	80	Ø50	Ø70	M6x10	M8x13	17	21	394	NAMUR G1/4"
APCD-100	57,5	64	122,5	133	153	109,5	30	80	Ø70	Ø102	M8x13	M10x16	22	26	409	NAMUR G1/4"
APCD-130	67,5	74,5	145,5	155	175	127,5	30	80	Ø70	Ø102	M8x13	M10x16	22	26	456	NAMUR G1/4"
APCD-140	75	77	161	172	192	137,5	30	80	Ø102	Ø125		M12x20	27	31	550	NAMUR G1/4"
APCD-160	87	87	184	197	217	158	30	80	Ø102	Ø125		M12x20	27	31	648	NAMUR G1/4"
APCD-190	103	103	216	230	260	189	30	130		Ø140		M16x25	36	40	788	NAMUR G1/4"
APCD-210	113	113	235,5	255	285	210	30	130		Ø140		M16x25	36	40	708	NAMUR G1/4"

Explosion drawing



Description of explosion drawing

No.	Description	Cty	Standards Material	No.	Description	Cty	Standards Material
1	Indicator screw	1	Plastic (ABS)	19	Plug	6	NBR
2	Indicator	1	Plastic (ABS)	20	Piston	2	Diecasting aluminium alloy
3	Circlip	1	Stainless steel (304/316)	21	Guide (Piston)	2	Nylon 6
4	Thrust washer	1	Stainless steel (304/316)	22	O-Ring (Piston)	4	Viton/NBR
5	Outside washer	1	Polyoxymethylene	23	Bearing (Piston)	4	Polyoxymethylene
6	Rings (with model 140-210)	2	Stainless steel (304/316)	24	Spring	12	Stainless steel (304/316)
7	Rings gasket (with model 140-210)	2	Plastic (ABS)	25	Spring Retainer (L)	24	Nylon 6
8	Body	1	Extrusion of aluminum alloy	26	Spring Retainer (R)	24	Nylon 6
9	O-Ring (Pinion top)	1	Viton/NBR	27	Retainer Connector	12	SS304
10	Bearing (Pinion top)	1	Polyoxymethylene	28	O-Ring (End-Cap)	6	Viton/NBR
11	Inside washer	1	Polyoxymethylene	29	Auxiliary cylinder head	2	Aluminum alloy
12	Cam	1	AISI 1045	30	Auxiliary body	2	Extrusion of aluminum alloy
13	Pinion	1	AISI 1045	31	Auxiliary Piston	2	Diecasting aluminium alloy
14	Bearing (Pinion bottom)	1	Polyoxymethylene	32	O-Ring (Auxiliary Piston)	4	Viton/NBR
15	O-ring (Pinion bottom)	1	Viton/NBR	33	End-Cap	2	Aluminium alloy
16	Adjust Screw	2	Stainless steel (304/316)	34	Adjust nut	2	Brass
17	Nut (Adjust Screw)	2	Stainless steel (304/316)	35	Adjust Screw	8	Stainless steel (304/316)
18	O-Ring (Adjust Screw)	2	Viton/NBR	36	Protective jacket	2	Aluminium alloy

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