

ELGER®

EP S

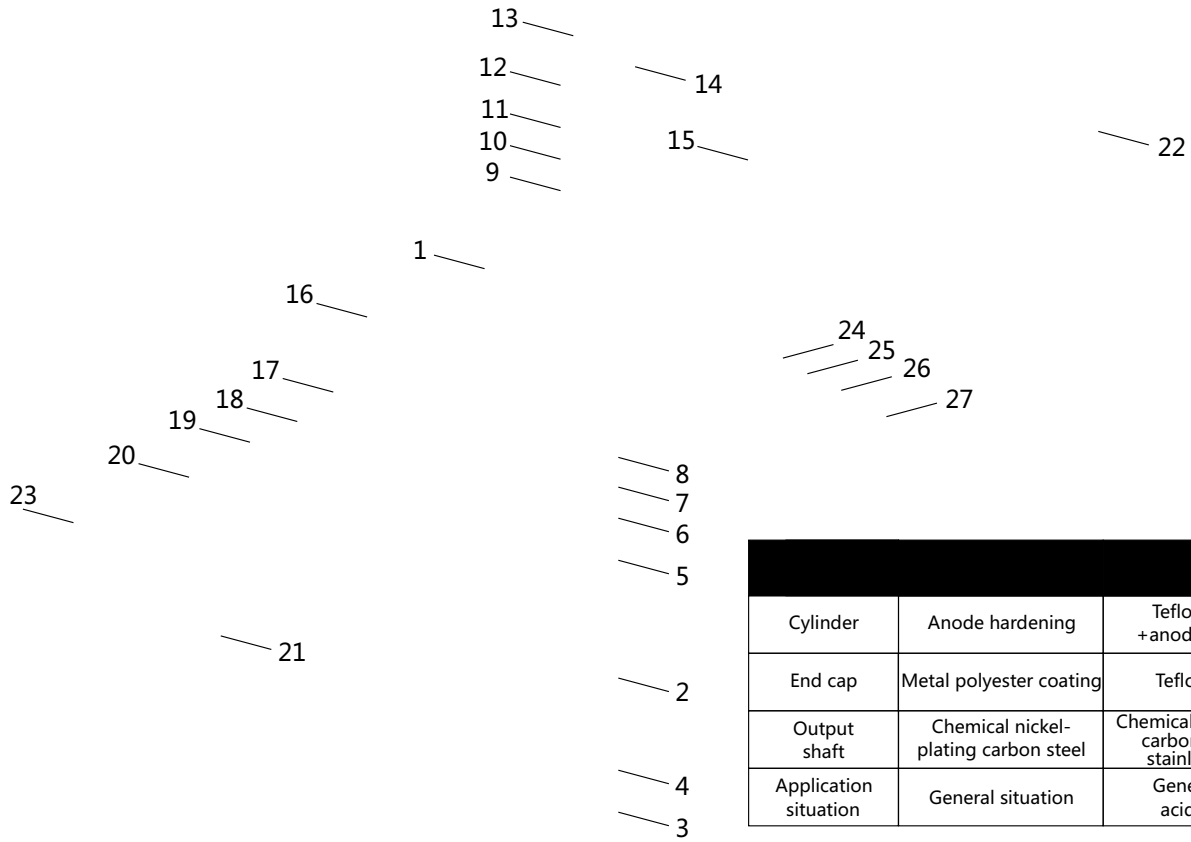
We, at ELGER CONTROLS offer products & solutions to effectively meet the challenges of modern process control, for automation of Final Controls Elements like Valves & Dampers. We are committed to providing robust and reliable ACTUATORS for every type of industry and every type of application.

Pneumatic actuators being the most preferred type of all actuators are simple in construction, easier to operate, maintain and troubleshoot, used extensively in Process Industries for automation of Valves & Dampers. EP series offers pneumatic semi-rotary actuators that are rugged, INDUSTRIAL GRADE products.

Many Process Industry applications are critical which could affect Plant performance are safety related which demands high level of reliability, repeatability and precise control of final elements like valves & dampers. EP series actuators are designed, manufactured and tested to meet International standards.

- RACK & PINION, double piston, symmetrical design generates fast and steady motion with high power output
  - Extruded Aluminium body and Die Cast end caps of modular design enables conversion of Double acting to Single acting or vice versa by changing end caps and or spring set assembly reversal of rotation by interchanging piston positions
  - Allowable ambient temperature of -20 °C to +80 °C standard version and -15 °C to +150°C for high temperature versions
  - Combined pre-stressed spring set assembly provides complete safety during disassembly/assembly and also during normal operation
  - Two independent end stop screws to adjust Open & Close end positions
  - Multi-functional position indicator for onsite visual indication of actuator position, with mounting slot according to VDI/VDE3845 and NAMUR for installing limit switch box, positioner and position sensors
  - Solenoid valve mounting provision conforming to NAMUR standard
  - Mounting base conforming to ISO5211 and DIN3337
  - Composite material rack bushing and piston guide rings for prevention of metal-metal friction and increased lubrication to ensure smooth and long service life
  - SS fasteners and NBR O-Rings

CONSTRUCTION

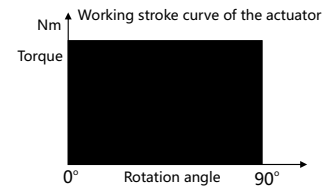
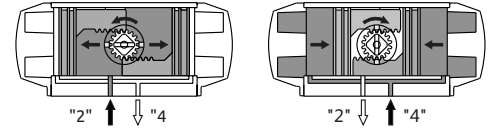


Part No.	Quantity	Part Name	Material	Notes
01	1	Cylinder	Extruded aluminum alloy	Stainless steel
02	1	Output shaft	Carbon steel	Stainless steel
03	1	O-ring	NBR	Fluorine/silicon rubber
04	1	Bearing	Nylon46	-
05	1	Adjusting cam	Stainless steel	-
06	1	Thrust bearing	Nylon46	-
07	1	Bearing	Nylon46	-
08	1	O-ring	NBR	Fluorine/silicon rubber
09	1	Bearing	Nylon46	-
10	1	Gasket	Stainless steel	-
11	1	Elastic damping ring	Stainless steel	-
12	1	Position indicator	PPPP+30%GF	-
13	1	Screw	PPPP+30%GF	-
14	4	Position indicating piece	PPPP+30%GF	-
15	2	Piston	Casting aluminum alloy	-
16	2	Guide bearing	Nylon46	-
17	2	O-ring (piston)	NBR	Fluorine/silicon rubber
18	2	Guide ring (piston)	Fluorine-carbon composite material	-
19	5-12	Spring assembly	Alloy spring steel	-
20	2	O-ring (end cap)	NBR	Fluorine/silicon rubber
21	1(1)	Left end cap	Casting aluminum alloy	Stainless steel
22	1(1)	Right end cap	Casting aluminum alloy	Stainless steel
23	8	End cap bolt	Stainless steel	-
24	2	O-ring (adjusting bolt)	NBR	Fluorine/silicon rubber
25	2	Gasket	Stainless steel	-
26	2	Nut	Stainless steel	-
27	2	Adjusting bolt	Stainless steel	-

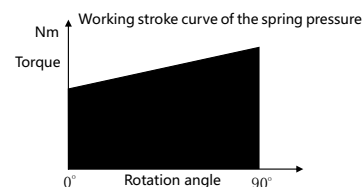
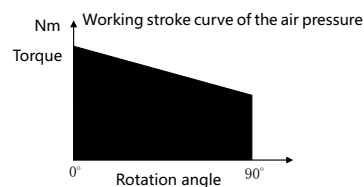
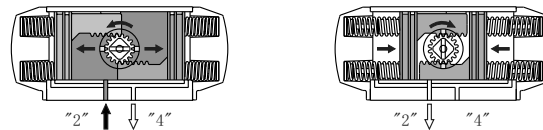
When air is supplied through PORT 2, it enters the center chamber between two pistons driving them apart. The two piston racks rotate the output shaft counterclockwise. Air from both end chambers will be exhausted through PORT 4. When air is supplied through PORT 4, it enters the end chambers from both ends forcing both pistons move towards center. The two piston racks rotate the output shaft clockwise. Air from center chamber will be exhausted through PORT 2.

## Output torque - Double acting (Nm)

EPD 040	4	6	8	10	11	12	14	16
EPD 063	15	23	30	38	41	45	52	60
EPD 083	33	49	65	81	89	97	114	130
EPD 105	70	104	139	173	191	208	243	277
EPD 140	185	277	370	462	508	554	647	739
EPD 190	453	680	907	1134	1248	1361	1587	1814
EPD 240	977	1465	1954	2443	2687	2931	3420	3908
EPD 300	1696	2544	3392	4241	4665	5089	5937	6785
EPD 400	3619	5428	7238	9047	9953	10857	12666	14476



When air is supplied through PORT 2, it enters the center chamber between two pistons driving them apart and the springs get compressed. The two piston racks rotate the output shaft counterclockwise. Air from both end chambers will be exhausted through PORT 4. Actuator remains in this position as long as air supply pressure to PORT 2 is maintained, when PORT 2 is exhausted, the springs retract, forcing both pistons move towards center. The two piston racks rotate the output shaft clockwise. Air from center chamber will be exhausted through PORT 2.



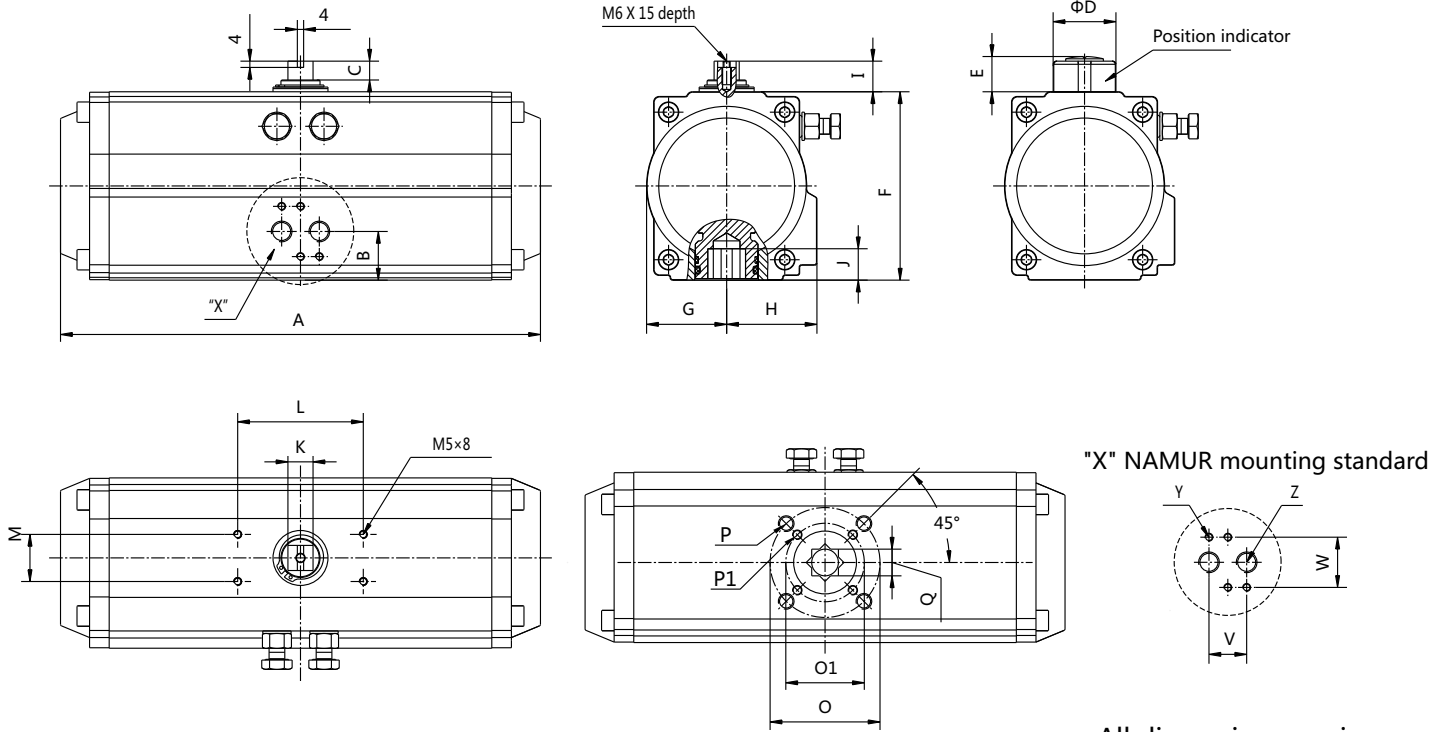
Spring Quantity	Spring installation mode	Spring Quantity	Spring installation mode
5		9	
6		10	
7		11	
8		12	

### Output torque - Single acting (Nm)

5	5	4	9	7	13	12								
7	8	6	7	5	12	9	16	14	20	18				
9	10	7			10	7	14	12	18	16	23	20	27	24
11	12	9					13	9	17	14	21	18	25	22
5	10	7	16	13	23	20								
7	14	10	13	9	20	16	28	24	35	31				
9	18	12			18	12	25	20	33	27	40	35	48	42
11	22	15					23	16	30	23	38	31	45	38
5	16	10	27	22	39	34								
7	22	14	23	16	35	28	48	40	60	53				
9	28	18			31	22	44	34	56	46	68	59	81	71
11	34	22					40	28	52	40	64	53	77	65
5	22	15	34	27	50	43								
7	30	21	28	19	44	35	60	51	77	67				
9	39	27			38	26	54	42	71	59	87	75	103	91
11	47	33					49	34	65	50	81	66	97	83
5	30	22	48	40	71	63								
7	42	31	39	27	63	51	86	74	109	97				
9	55	39			54	39	77	69	100	85	124	108	147	132
11	67	48					68	50	92	73	115	96	138	120
5	46	39	65	58	99	92								
7	65	55	49	39	84	74	118	109	153	143				
9	83	71			68	55	102	90	137	125	172	159	206	194
11	102	87					87	71	121	106	157	141	191	176
5	80	53	131	104	192	166								
7	112	74	110	72	171	134	232	195	294	257				
9	144	96			150	102	211	163	273	225	334	286	395	374
11	175	117					190	131	251	193	313	254	374	315
5	133	89	188	144	280	236								
7	187	125	152	90	245	183	337	275	430	368				
9	240	160			209	129	302	222	394	314	486	407	579	499
11	293	196					266	169	358	261	451	353	543	446

5	201	136	286	222	427	362								
7	281	190	232	141	373	282	513	423	654	564				
9	361	245			318	202	459	222	600	483	741	624	881	765
11	441	299					405	303	545	403	686	544	827	685
5	349	232	448	332	675	559								
7	488	325	356	192	582	419	809	646	1036	873				
9	627	418			490	280	717	507	943	733	1170	960	1397	1187
11	767	510					624	367	951	594	1077	821	1304	1048
5	467	297	638	468	950	780								
7	654	416	519	282	831	593	1143	905	1455	1217				
9	840	535			712	407	1024	718	1336	1030	1647	1342	1959	1653
11	1027	653					905	531	1217	843	1529	1155	1840	1467
5	799	447	963	666	1452	1155								
7	1119	627	762	346	1250	835	1739	1324	2228	1812				
9	1439	806			1049	515	1538	1004	2027	1492	2515	1981	3004	2470
11	1759	985					1337	684	1825	1173	2314	1661	2803	2150
5	1033	539	1431	1028	2118	1715								
7	1446	755	1179	615	1866	1302	2553	1989	3240	2676				
9	1860	971			1614	889	2301	1576	2988	2263	3675	2950	4363	3637
11	2273	1187					2049	1162	2736	1846	3423	2536	4111	3223
5	1272	848	1697	1272	2545	2121								
7	1781	1187	1357	763	2206	1612	3054	2460	3902	3308				
9	2290	1527			1866	1103	2715	1951	3563	2799	4411	3647	5259	4496
11	2799	1866					2375	1442	3224	2290	4072	3139	4920	3987
5	1905	1138	2672	1905	3942	3175								
7	2667	1593	2217	1143	3487	2413	4757	3684	6027	4653				
9	3429	2048			3032	1651	4302	2921	5572	4191	6842	5461	8112	6731
11	4190	2503					3847	2159	5117	3429	6387	4699	7657	5969
5	2714	1809	3619	2715	5429	4524								
7	3800	2533	2896	1629	4705	3439	6515	5248	8324	7058				
9	4885	3257			3981	2353	5791	4163	7600	5972	9410	7782	11220	9591
11	5971	3981					4067	3077	6877	4886	8686	6696	10496	8506

DIMENSIONS



All dimensions are in mm

A	116	145	169	201	209	242	275	332	385	450	507	562	646	722	825	866	1006
C	12	12	12	12	12	12	12	12	12	12	20	20	20	20	20	35	35
E	22	22	22	22	22	22	22	22	22	22	33	33	33	33	33	54	54
G	24	30	36	42	46	51	58	67.5	76	86.5	103	113	129	146	162	190	260
I	20	20	20	20	20	20	20	20	20	20	30	30	30	30	30	50	50
K	9	12	12	12	16	16	16	22	22	22	32	32	32	32	32	45	45
M	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
O2	/	50	70	70	70	70	102	102	125	125	140	140	165	165	165	254	254
P	/	4 X M6	4 X M8	4 X M8	4 X M8	4 X M8	4 X M10	4 X M10	4 X M12	4 X M12	4 X M16	4 X M16	4 X M20	4 X M20	4 X M20	8 X M16	8 X M16
V	20	24	24	24	24	24	24	24	24	24	24	24	40	40	40	40	40
Y	M4X6	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M5X8	M6X10	M6X10	M6X10	M6X10	M6X10



\* Optional - EEx dIIB T6

Enclosure : Weather proof

Ambient Temperature : -20°C to +80°C

Terminal block : 8 Nos of terminal strip

Switch rating : 10A at 250VAC

Standard : NAMUR

Enclosure : Weather proof

Ambient Temperature : -20°C to +60°C

Valve body : Aluminum

Pressure : 1.5 to 9 Bar

Standard : NAMUR