PNEUMATIC ACTUATOR EB-SYS, SINGLE-ACTING

EB-SYS single-acting pneumatic actuators are available in either “spring opens” and “spring closes” versions.

TECHNICAL DATA

Torque:	35 - 1368 Nm (based on supply pressure of 6 bar)
Limit of travel:	exactly adjustable between ± 3°.
Limit switches and solenoid valve mounting:	VDI / VDE 3845
Supply pressure:	min. 2,5 bar, max. 8 bar
Supply quality:	clean and dry in accordance with ANSI/ ISA S7.0.01. for cycles ≥ 4 /min please lubricate.
Temperature range:	-20°C to +80°C (standard) -40°C to +80°C (low temperature) -15°C to +140°C (high temperature)
Valve interface:	EN ISO 5211
Actuator cylinder:	high quality marine grade Aluminium alloy, hard anodized. Other coatings upon request.

FEATURES

- Maintenance-free
- Suitable for all ¼ turn valves
- Blow-out proof shaft
- Torques in agreement with EN ISO 5211
- High visibility position indicator
- All fasteners made of stainless steel

KEY BENEFITS

- High opening- and closing- torques produced by scotch-yoke mechanism
- Ideal sliding properties provided by low friction mulitple piston guides
- Operational safety and long service life assured by precise machining of parts
- Spring cartridges ensure safe and easy maintenance without special tools

EB-SYS fitted to a valve for fail safe operations in gas applications.

PNEUMATIC ACTUTATOR EB-SYS, SINGLE-ACTING

ACTUATOR TORQUE (SINGLE-ACTING) EFF. AIR TORQUE IN NM AT CONTROL PRESSURE

Type	Spring -package	Spring Md in Nm		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
EB 5.1 SYS25	VI	12	20	20	12	26	18	39	31	51	43	58	50	64	56	77	69	89	81
EB 5.1 SYS30	V	17	27			21	11	34	24	46	36	53	43	59	49	72	62	84	74
EB 5.1 SYS40	IV	22	35					29	16	41	28	48	35	54	41	67	54	79	66
EB 5.1 SYS50	III	27	44							36	19	43	26	49	32	62	45	74	57
EB 5.1 SYS55	II	30	49									40	21	46	27	59	40	71	52
EB 5.1 SYS60	I	35	58											41	18	54	31	66	43
EB 6.1 SYS25	VI	27	45	38	20	51	33	77	59	103	85	116	98	129	111	155	137	181	163
EB 6.1 SYS30	V	35	57			43	21	69	47	95	73	108	86	121	99	147	125	173	151
EB 6.1 SYS40	IV	45	74					59	30	85	56	98	69	111	82	137	108	163	134
EB 6.1 SYS50	III	55	90							75	40	88	53	101	66	127	92	153	118
EB 6.1 SYS55	II	63	102									80	41	93	54	119	80	145	106
EB 6.1 SYS60	I	73	119											83	37	109	63	135	89
EB 8.1 SYS25	VI	40	67	64	37	85	58	127	100	168	141	189	162	210	183	252	225	293	266
EB 8.1 SYS30	V	48	82			77	43	119	85	160	126	181	147	202	168	244	210	285	251
EB 8.1 SYS40	IV	65	111					102	56	143	97	164	118	185	139	227	181	268	222
EB 8.1 SYS50	III	82	140							126	68	147	89	168	110	210	152	251	193
EB 8.1 SYS55	II	90	152									139	77	160	98	202	140	243	181
EB 8.1 SYS60	I	107	181											143	69	188	111	226	152
EB 10.1 SYS25	VI	89	151	132	70	176	114	264	202	353	291	397	335	441	379	529	467	618	556
EB 10.1 SYS30	V	107	182			158	83	246	171	335	260	379	304	423	348	511	436	600	525
EB 10.1 SYS40	IV	145	231					208	122	297	211	341	255	385	299	473	387	562	476
EB 10.1 SYS50	III	182	279							260	163	304	207	348	251	436	339	525	428
EB 10.1 SYS55	II	198	322									258	164	332	208	420	296	509	385
EB 10.1 SYS60	I	236	370											294	160	382	248	471	337
EB 12.1 SYS25	VI	155	224	208	139	280	211	425	356	570	501	643	574	715	646	860	791	1005	936
EB 12.1 SYS30	V	185	309			250	126	395	271	540	416	613	489	685	561	830	706	975	851
EB 12.1 SYS40	IV	241	392					339	188	484	333	557	406	629	478	774	623	919	768
EB 12.1 SYS50	III	296	475							429	250	502	323	574	395	719	540	864	685
EB 12.1 SYS55	II	333	546									465	252	537	324	682	469	827	614
EB 12.1 SYS60	I	389	630											481	240	626	385	771	530
EB 265	-	211	302	-	-	436	345	652	561	868	777	-	-	1084	993	1299	1208	-	-
	-	316	453					459	236	763	626	-	-	979	842	1194	1057	-	-
	-	422	603							538	263	-	-	836	639	1088	907	-	-
	-	459	656									-	-	709	373	1051	854	-	-
	-	527	754													838	445	-	-
EB 270	-	385	564	-	-	498	233	937	626	1267	1088	-	-	1598	1419	1928	1749	-	-
	-	461	676					733	376	1191	976	-	-	1522	1307	1852	1637	-	-
	-	541	790							964	517	-	-	1442	1193	1772	1523	-	-
	-	678	1003									-	-	1119	573	1635	1310	-	-
	-	772	1128													1331	705	-	-
EB 280	-	777	1138	-	-	1006	470	1890	1529	2557	2196	-	-	3224	2863	3891	3530	-	-
	-	931	1364					1480	759	2403	1970	-	-	3070	2637	3737	3304	-	-
	-	1087	1592							1952	1046	-	-	2914	2409	3581	3076	-	-
	-	1368	2025									-	-	2258	1156	3300	2643	-	-
	-	1558	2277													2686	1423	-	-

CLOSING TIME* AND AIR CONSUMPTION

Typ	EB 5	EB 6	EB 8	EB 10	EB 12	EB 265	EB 270	EB 280
Closing time EB-SYS in sec.	0,15	0,20	0,45	0,50	0,70	<2,0	<5,0	<4,0
Filling volume NL/Hub at 1 atm:	0,19	0,36	0,60	1,30	2,26	2,70	9,00	11,20

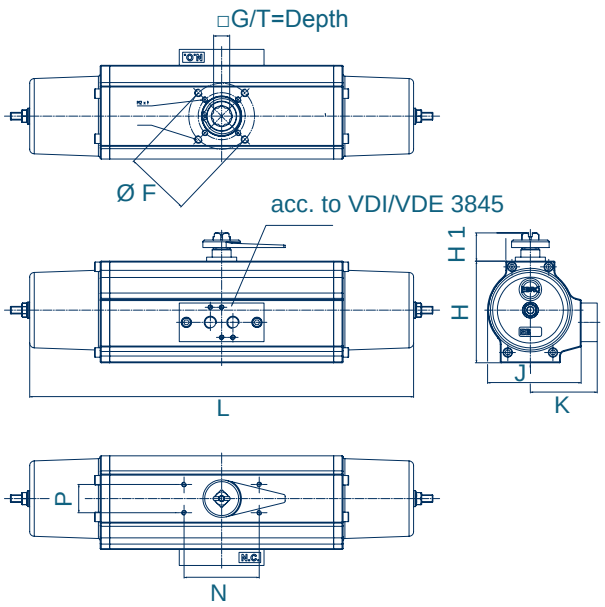
* = closing times with unthrotted air exhaust and air supply, 6 bar control pressure and 75% load
air consumption = filling volume x control pressure

Subject to change without notice

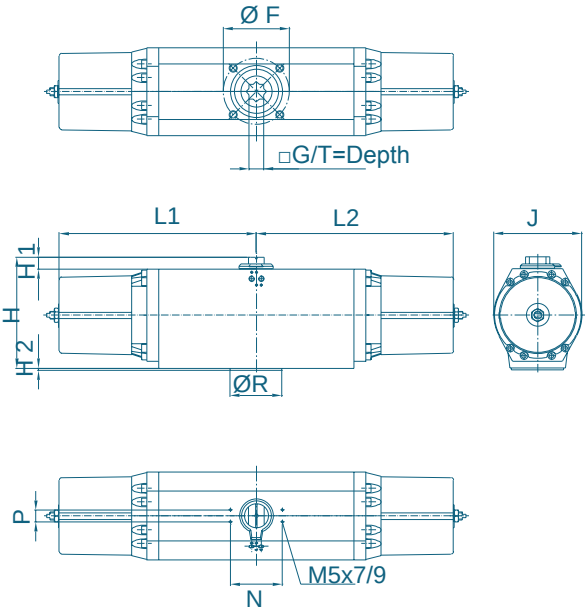
Closing times can be adjusted from 30 sec. up to 300 sec. by using the EBRO speed control block (depending on type of actuator).

PNEUMATIC ACTUATOR EB-SYS, SINGLE-ACTING

EB5.1-SYS - EB12.1-SYS



EB265 - EB280 SR



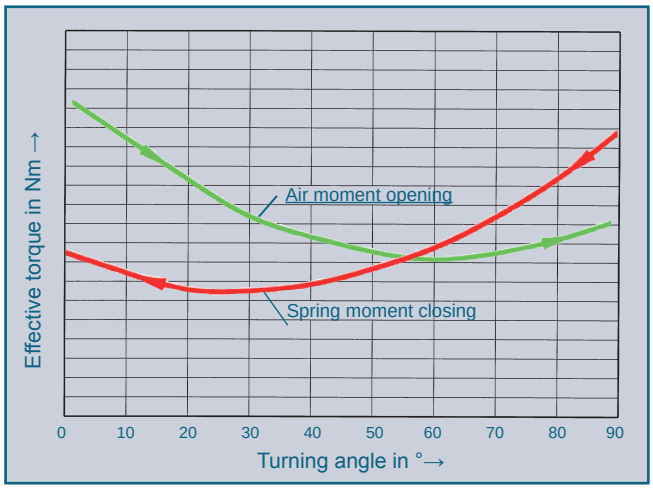
Typ	Dimensions [mm]														Weight
	ØF	G	H	H1	H2	J	K	L	L1	L2	N	P	ØR	T	[kg]
EB 5.1	F04/05	11/14	77	30	-	72	57	280	-	-	80	30	-	13/16	2,4
EB 6.1	F05/07	17	91	30	-	88	65	351	-	-	80	30	-	19	4,3
EB 8.1	F05/07	17	108	30	-	99	71	408	-	-	80	30	-	19	6,3
EB 10.1	F07/10	22	128	30	-	122	82	557	-	-	80	30	-	24	12,5
EB 12.1	F10/12	27	156	30	-	145	93	661	-	-	80	30	-	29	21,1
EB 265	F12/16	32/36	232	30	3	152	-	-	317	317	80	30	85	60	26,0
EB 270	F12/16/25*	32/36/46	278	30	4	220	-	-	145	510	130	30	100	60	45,0
EB 280	F12/16/25	32/36/46	278	30	5	220	-	-	510	510	130	30	130	60	68,0

* flange connection F25 with intermediate flange

Subject to change without notice

The torques shown in the diagram are measured values. The required size of the actuator can be established by comparing the values of the actuator with the required torque of the valve.

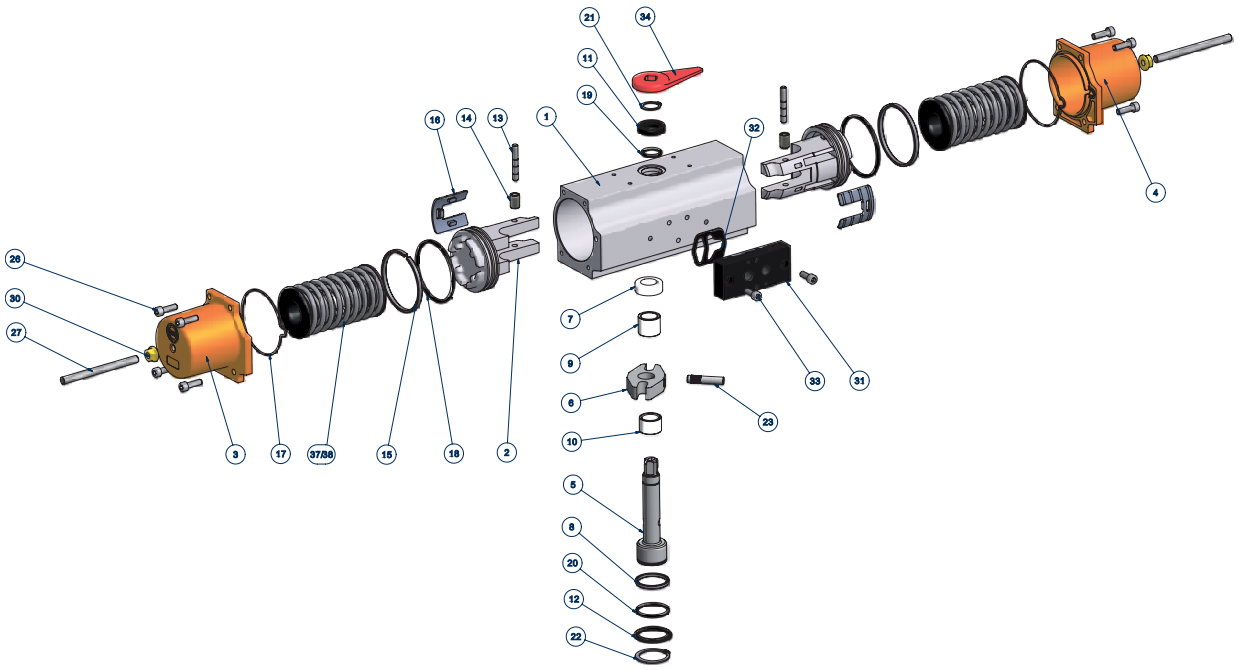
Especially non-lubricant media (e.g. bulk goods and dry gases) may cause an increasement of the actuator torque. This is why we recommend to consider a safety of 12%. Choosing an actuator in critical limits, please contact our engineers.



Typical torque curve of a scotch-yoke actuator.

PNEUMATIC ACTUATOR EB-SYS
SINGLE-ACTING

MATERIAL SPECIFICATION AND PARTS LIST



Only for EB-SYS (5.1 - 12.1)

COMPONENT PARTS

Pt.	Description	Qty.	Material	Pt.	Description	Qty.	Material
1	Actuator cylinder	1	EN AW 6063-T6	17D	End cover sealing	2	70 NBR
2	Piston	2	EN AC 46000	18D	Piston O-Ring	2	70 NBR
3	End cover L	1	EN AC 46000	19D	O-Ring, upper shaft	1	70 NBR
4	End cover R	1	EN AC 46000	20D	O-Ring, lower shaft	1	70 NBR
5	Drive shaft	1	16 Mn Cr 5	21D	Upper safety ring	1	C 75
6	Yoke	1	16 Mn Cr 5 / Sint D30	22D	Lower safety ring	1	C 75
7	Upper shaft bearing	1	Polymer blend	23	Bolt	1	42 Cr Mo 4 V
8	Lower shaft bearing	1	Polymer blend	26	Hex. socket screw	8	A2-70
9	Upper piston bearing	1	Polymer blend	27	Stroke adjusting screw	2	A2-70
10	Lower piston bearing	1	Polymer blend	30	Seal nut	2	St
11	Upper washer bearing	1	Polymer blend	31	Valve connection plate	1	EN AC 46000
12	Lower washer bearing	1	Polymer blend	32D	Shaped gasket	1	70 NBR
13	Piston bolt	2	16 Mn Cr S 5	33	Hex. socket screw	2	A2-70
14	Roller	2	100 Cr 6	34	Position indicator	1	EPDM
15	Guide band	2	Polymer blend	37	Spring package	1	FD Si Cr
16	Slidepad	2	Polymer blend	38	Spring package	1	FD Si Cr

The spare parts marked with D are integrated in the standard seal set.

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