

PNEUMATIC ACTUATOR EB-SYS, SINGLE-ACTING



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

TECHNICAL DATA

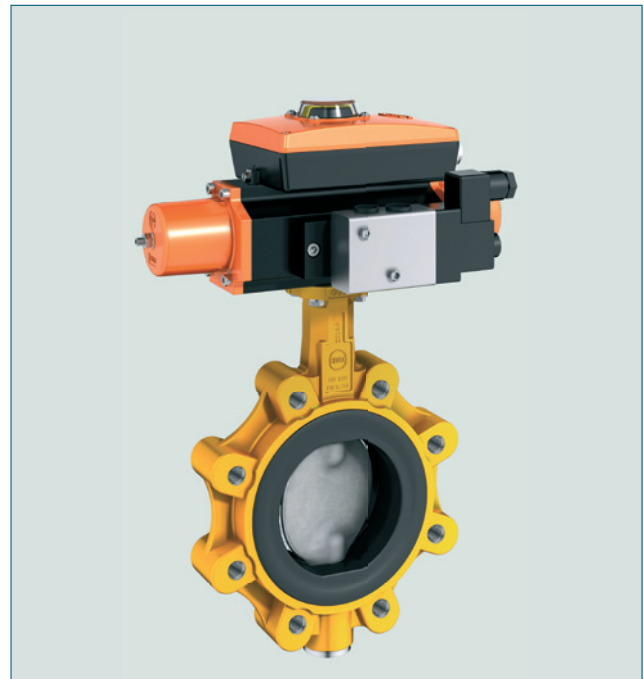
Torque:	35 - 1470 Nm (based on supply pressure of 6 bar)
Limit of travel:	exactly adjustable between $\pm 3^\circ$.
Limit switches and solenoid valve mounting:	VDI / VDE 3845
Supply pressure:	min. 2,5 bar, max. 10 bar
Supply quality:	Filtered compressed air dry or lubricated. The pressure condensation point in accordance with (ISO 8573-1:2010, Class3) has to be $\geq -20^\circ\text{C}$ or 10°C under ambient temperature. The maximum particle size in accordance with (ISO 8573-1:2010, Class 5) should not exceed $40\ \mu\text{m}$. For cycles ≥ 4 /min please lubricate.
Temperature range:	-20°C to $+80^\circ\text{C}$ (standard) -40°C to $+80^\circ\text{C}$ (low temperature) -15°C to $+120^\circ\text{C}$ (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 $\frac{1}{4}$ turn valves
- Blow-out proof shaft
- Torques in agreement with EN ISO 5211
- Optical position indicator with integrated operator for limit switches
- All fasteners made of stainless steel
- SIL 3 acc. to IEC 61508

KEY BENEFITS

- High opening- and closing- torques produced by scotch-yoke mechanism
- Ideal sliding properties provided by low friction multiple piston guides
- Operational safety and long service life assured by precise machining of parts
- Spring cartridges ensure safe and easy maintenance without special tools
- ATEX: EX II 2 GD c Tx



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

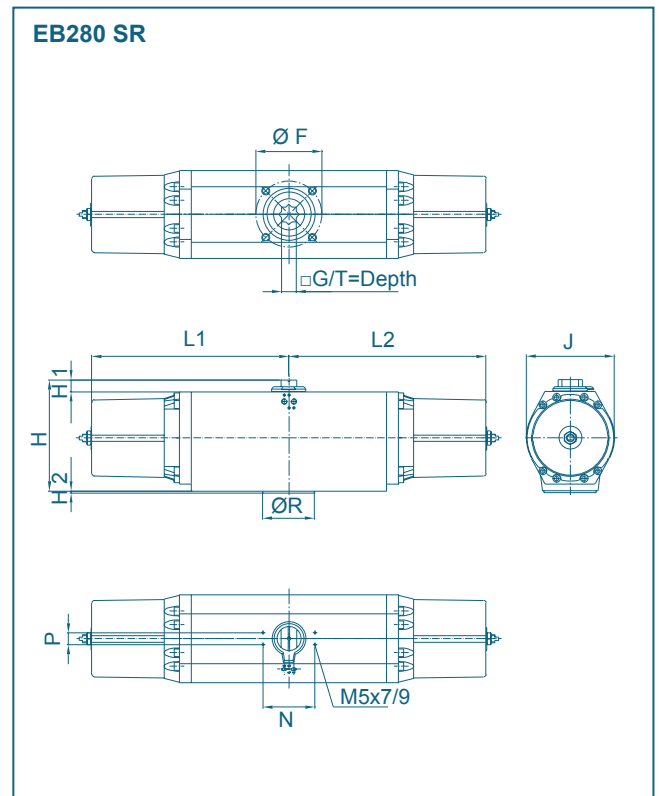
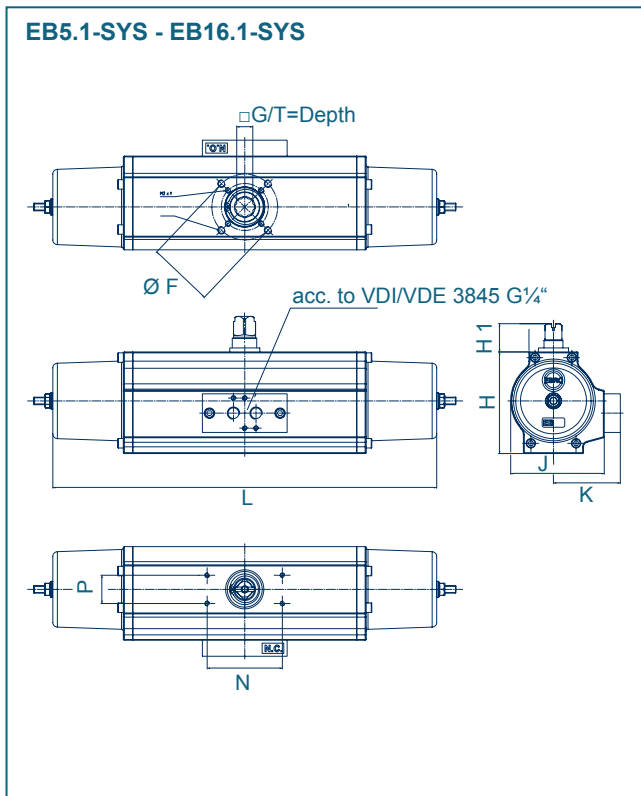
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ACTUATOR TORQUE (SINGLE-ACTING) EFF. AIR TORQUE IN NM AT CONTROL PRESSURE

Type	Spring -package	Spring		2,5 bar		3 bar		4 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar	
		Md in Nm		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
		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 9.1 SYS25	VI	55	100	102	57	134	89	197	152	260	215	291	246	323	278	386	341	449	404
EB 9.1 SYS30	V	69	127			120	62	183	125	246	188	277	219	309	251	372	314	438	377
EB 9.1 SYS40	IV	89	153					163	99	226	162	257	193	289	225	352	288	415	351
EB 9.1 SYS50	III	97	178							218	137	249	168	281	200	344	263	407	326
EB 9.1 SYS55	II	113	206									233	140	265	172	328	235	391	298
EB 9.1 SYS60	I	143	261											235	117	298	180	361	243
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	226	139	302	233	455	386	607	538	684	615	760	691	912	843	1065	978
EB 12.1 SYS30	V	185	309			272	148	425	301	577	453	654	530	730	606	882	758	1035	911
EB 12.1 SYS40	IV	241	392					369	218	521	370	598	447	674	523	826	675	979	828
EB 12.1 SYS50	III	296	475							466	287	543	364	619	440	771	592	924	745
EB 12.1 SYS55	II	333	546									506	293	582	369	734	521	887	674
EB 12.1 SYS60	I	389	630											526	285	678	437	831	590
EB14.1 SYS25	VI	199	312	358	245	469	356	692	579	915	802	1026	913	1138	1025	1361	1248	1583	1470
EB14.1 SYS30	V	257	401			411	267	634	490	857	713	968	824	1080	936	1303	1159	1525	1381
EB14.1 SYS40	IV	314	491					577	400	800	623	911	734	1023	846	1246	1069	1468	1291
EB14.1 SYS50	III	356	557							758	557	869	668	981	780	1204	1003	1426	1225
EB14.1 SYS55	II	413	647									812	578	924	690	1147	913	1369	1135
EB14.1 SYS60	I	516	798											821	539	1044	762	1266	984
EB16.1 SYS25	VI	343	513	499	329	668	498	1005	835	1342	1172	1511	1340	1679	1509	2016	1846	2353	2183
EB16.1 SYS30	V	433	648			578	363	915	700	1252	1037	1421	1205	1589	1374	1926	1711	2263	2048
EB16.1 SYS40	IV	523	782					825	566	1162	903	1331	1071	1499	1240	1836	1577	2173	1914
EB16.1 SYS50	III	604	904							1081	781	1250	949	1418	1118	1755	1455	2092	1792
EB16.1 SYS55	II	694	1039									1160	814	1328	983	1665	1320	2002	1657
EB16.1 SYS60	I	869	1263											1153	759	1490	1096	1827	1433
EB 280	40	580	847	794	372	1059	597	1590	1046	2121	1495	-	-	-	-	-	-	-	-
	50	725	1058	661	184	926	409	1458	857	1989	1306	2255	1530	-	-	-	-	-	-
	60	870	1270			793	221	1324	670	1855	1119	2120	1343	2386	1568	-	-	-	-
	70	1015	1481					1234	520	1776	978	2047	1206	2319	1435	2861	1893	-	-
	80	1160	1693					1096	328	1637	785	1907	1013	2177	1241	2718	1698	3259	2155
	87	1260	1840							1539	651	1810	881	2080	1110	2621	1569	3162	2028
	100	1470	2150											1888	833	2430	1290	2972	1747

Subject to change without notice

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Typ	ØF	G***	Dimensions [mm]											Weight [kg]	
			H	H1	H2	J	K	L	L1	L2	N	P	ØR		T
EB 5.1	F04/05*	10/11/12/14	77	30	-	72	57	280	-	-	80	30	-	13/16	2,4
EB 6.1	F04/05/07*	11/12/14/16/17	91	30	-	88	65	351	-	-	80	30	-	19	4,3
EB 8.1	F05/07	12/14/16/17	108	30	-	99	71	408	-	-	80	30	-	19	6,3
EB 9.1	F07/10	17/22	120	30	-	113	78	476	-	-	80	30	-	24	9,3
EB 10.1	F07/10	14/16/17/22	128	30	-	122	82	557	-	-	80	30	-	24	12,5
EB 12.1	F10/12	17/22/24/27	156	30	-	145	93	661	-	-	80	30	-	29	21,1
EB 14.1	F12/16	36	189	30	-	150	-	697	-	-	80	30	-	38	32,8
EB 16.1	F12/16	46	212	30	-	150	-	856	-	-	80	30	-	48	48,0
EB 280	F12/16/25	32/36/46	278	30	5	220	-	-	510	510	130	30	130	60	68,0

* F04/F05 no combined flange available

** Topflange F16/ F25 via adaption

*** Options (Standard = **BOLD**)

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CLOSING TIME* AND AIR CONSUMPTION

Type	EB 5.1	EB 6.1	EB 8.1	EB 9.1	EB 10.1	EB 12.1	EB 14.1	EB 16.1	EB 280
Closing time EB-SYS in sec.*	0,15	0,20	0,45	0,48	0,50	0,70	<1,5	<1,5	<5,0
Filling volume NL/Hub at 1 atm:**	0,27	0,56	0,89	1,40	1,95	3,37	4,52	6,80	11,20

* closing times with unthrottled air exhaust and air supply, 6 bar control pressure and 75% load

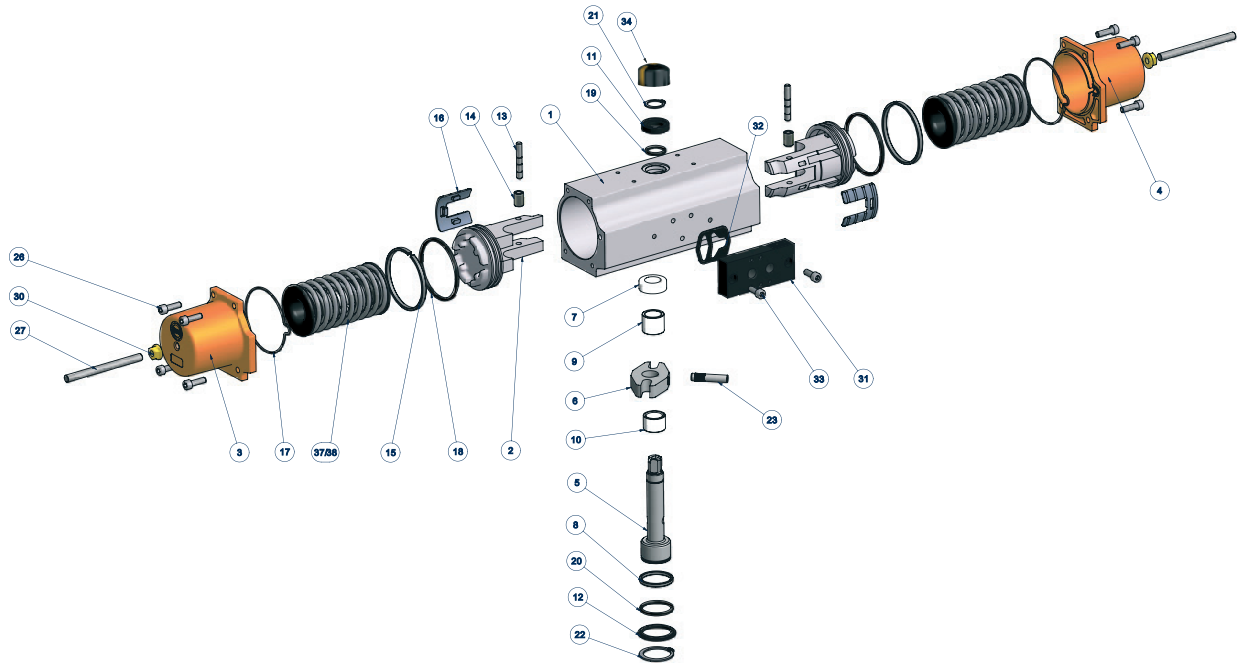
** air consumption = filling volume x control pressure

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Closing times can be adjusted up to 60 sec. by using the EBRO speed control block (depending on type of actuator).

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MATERIAL SPECIFICATION AND PARTS LIST



Only for EB-SYS (5.1 - 16.1)

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	CK 75
6	Yoke	1	16 Mn Cr 5	22D	Lower safety ring	1	CK 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	1.4301
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	Polymer blend
15	Guide band	2	Polymer blend	37	Spring package	1	Polymer blend
16	Slidepad	2	Polymer blend	38	Spring package	1	Polymer blend

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

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