

PNEUMATIC ACTUATOR EB-SR, SINGLE-ACTING



The series EB-SR contains single-acting pneumatic actuators in spring open and spring close version.

TECHNICAL DATA

Torque:	315 to 14,000 in/lbs
Final position:	adjustable to +/- 3°
Limit switch and solenoid valve mounting:	VDI / VDE 3845
Control pressure:	min. 45 psi, max. 145 psi
Control air:	clean and dry air
Temperature range:	-4 °F/185 °F
Valve interface:	EN ISO 5211
Actuator cylinder:	Aluminium, hard anodized. Other coatings upon request.

THE ADVANTAGES

- High opening- and closing-torques caused by scotch-yoke construction principle
- Very good sliding characteristic by multiple piston guides.
- Operational safety and long service life caused by the exact machining of actuator cylinder.

FEATURES

- Maintenance-free, continuous lubrication
- Suitability for valves with an angle of 90°
- Blow-out proof shaft
- Torques in agreement with EN ISO 5211
- Control pressure min. 30 psi, max. 145 psi
- Good visible elastic position indicator
- All elements of connection are made of stainless steel.

Possibilities of mounting and accessories are shown in chapter 4.3.

GENERAL APPLICATIONS

- Water and wastewater technology
- Shipbuilding
- Swimming pool technology
- Bulk handling
- Pneumatic conveying systems
- Chemical industry



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ACTUATOR TORQUE INCH LBS AT CONTROL PRESSURE

Type	Spring moment Md F in in/lbs		45 psi		60 psi		75 psi		90 psi		100 psi	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
EB 5	153	243	189	99	306	216	414	324	531	441	648	558
	198	315			261	144	369	252	486	369	603	486
	243	396					324	171	441	288	558	405
	270	441					297	126	414	243	531	360
	315	522							360	162	486	279
	396	639									405	162
EB 6	396	513	387	189	621	423	855	657	1089	891	1323	1125
	405	666			531	270	765	504	999	738	1233	972
	495	810					675	360	909	594	1143	828
	567	918					603	252	837	486	1071	720
	657	1071							747	333	981	567
	810	1332									828	306
EB 8	432	738	693	387	1062	756	1440	1134	1818	1512	2196	1890
	585	999			909	495	1287	873	1665	1251	2043	1629
	738	1260					1134	612	1512	990	1890	1368
	810	1368					1062	504	1440	882	1818	1269
	963	1629							1287	621	1665	999
	1179	2007									1449	621
EB 10	963	1638	1422	747	2214	1539	3006	2331	3807	3132	4599	3924
	1305	2079			1872	1872	2664	1890	3465	2891	4257	3483
	1638	2511					2331	1458	3132	2259	3924	3051
	1782	2898					2187	1071	2988	1872	3780	2664
	2124	3330							2646	1440	3438	2232
	2610	4158									2952	1404
EB 12	1665	2781	2250	1134	3555	2439	4860	3744	6165	5049	7470	6354
	2169	3528			3051	1692	4356	2997	5661	4302	6966	5607
	2664	4275					3861	2250	5166	3555	6471	4860
	2997	4914					3528	1611	4833	2916	6138	4221
	3501	5670							4329	2160	5634	3465
	4338	7056									4797	2079
EB 265	1899	2718	3924	2205	5868	5049	70308	62937	87804	80433	105219	97848
	2844	4077			4131	2124	6867	5634	8811	7578	10746	9513
	3798	5427					4842	2367	7524	5751	9792	8163
	4131	5904							6381	3357	9459	7686
	4743	6786									838	445
	3465	5076	4482	2097	8433	5634	11403	9792	14382	12771	17352	15741
EB 270	4148	6084			6597	3384	10719	8784	13698	11763	16668	14733
	4869	7110					8676	4653	12978	10737	15948	13707
	6102	9027							10071	5157	14715	11790
	6948	10152									11979	6345
	6993	10242	9054	4230	17010	13761	23013	177876	261144	231903	35019	31770
	8379	12276			13320	6921	194643	17730	27630	23733	33633	29736
EB 280	9783	14328					158112	9414	26226	21681	32229	27684
	12312	18225							20322	10404	29700	23787
	14022	20493									24174	12807

WEIGHTS, CLOSING TIME* AND AIR CONSUMPTION

Type	EB 5	EB 6	EB 8	EB 10	EB 12	EB 265	EB 270	EB 280
Weight SR in lb	7	10	17	31	56	57	99	149
Closing time SR 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:	0.26	0.58	1.13	1.70	2.79	2.70	9.00	11.20

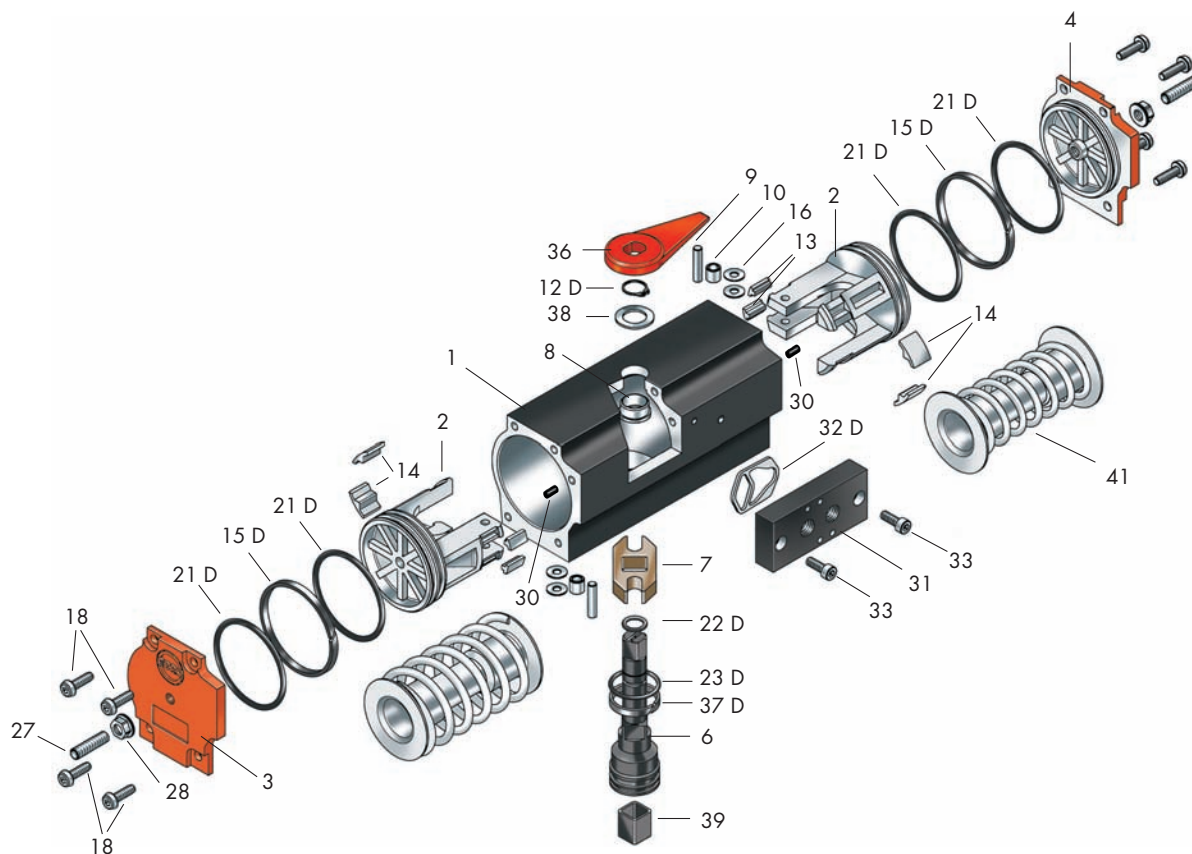
* = closing times with unthrottled air exhaust and air supply, 90 psi control pressure and 75 % load
air consumption = filling volume x control pressure

Subject to change without notice.

Closing times can be adjusted from 30 sec. up to 240 sec. by using the EBRO speed control block.

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MATERIAL SPECIFICATION AND PARTS LIST



EB5 - EB12 Separate instructions for use and maintenance are available for EB265 - EB280

COMPONENT PARTS

Pt.	Description	Qty.	Material	DIN	Pt.	Description	Qty.	Material	DIN
1	Actuator cylinder	1	Al Mg Si0,5 F22	17615	21 D	O-ring	4	70 NBR	ISO 1629
2	Piston	2	GD-Al Si9 Cu3	1725	22 D	O-ring	1	70 NBR	ISO 1629
3	End cover	1	GD-Al Si9 Cu3	1725	23 D	O-ring	1	70 NBR	ISO 1629
4	End cover	1	GD-Al Si9 Cu3	1725	27	Stroke adjusting screw	2	1.4301	913
6	Drive shaft	1	16 Mn Cr 5/ESP 65	17210	28	Seal nut	2	St-galvanized	
7	Yoke	1	Sint E 30	30910	30	Stop	2	70 NBR	ISO 1629
8	Bearing sleeve	1	Polyacetal		31	Valve connection plate	1	GD-Al Si9 Cu3	1725
9	Piston bolt	2	16 Mn Cr S 5	17210	32 D	Shaped gasket	1	70 NBR	ISO 1629
10	Roller	2	16 Mn Cr 5	17210	33	Hex. socket screw	2	1.4301	912
12 D	Circlip	1	1.4122	471	36	Position indicator	1	EPDM	
13	Slide segment	4	PE-UHMW		37 D	Guide band	1	PTFE-Compound	
14	Slide segment	4	PE-UHMW		38	Pinion washer	1	Polyacetal	
15 D	Guide band	2	PTFE-Compound		39	Profile	1	1.4301	
16	Spacer ring	4	1.4301	988	41	Spring package	2	1.4301	
18	Hex. socket screw	8	1.4301	7500					

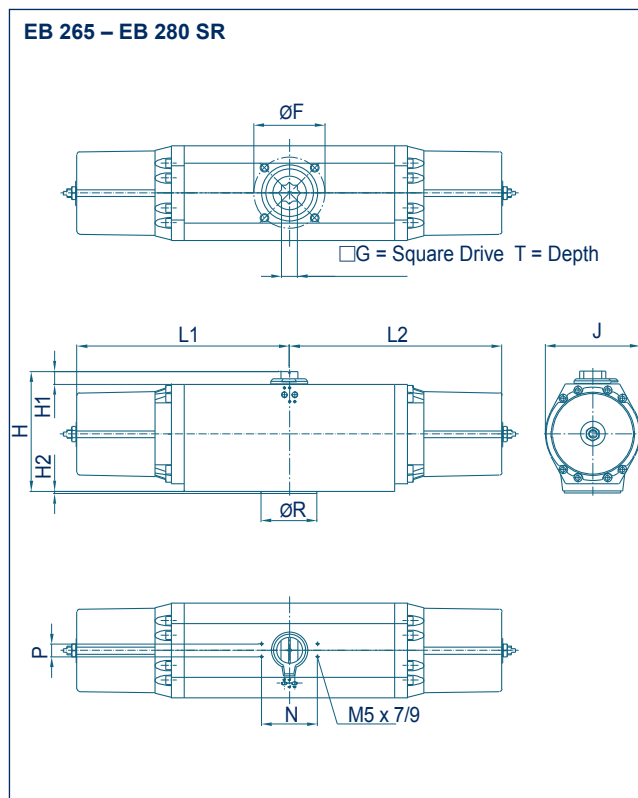
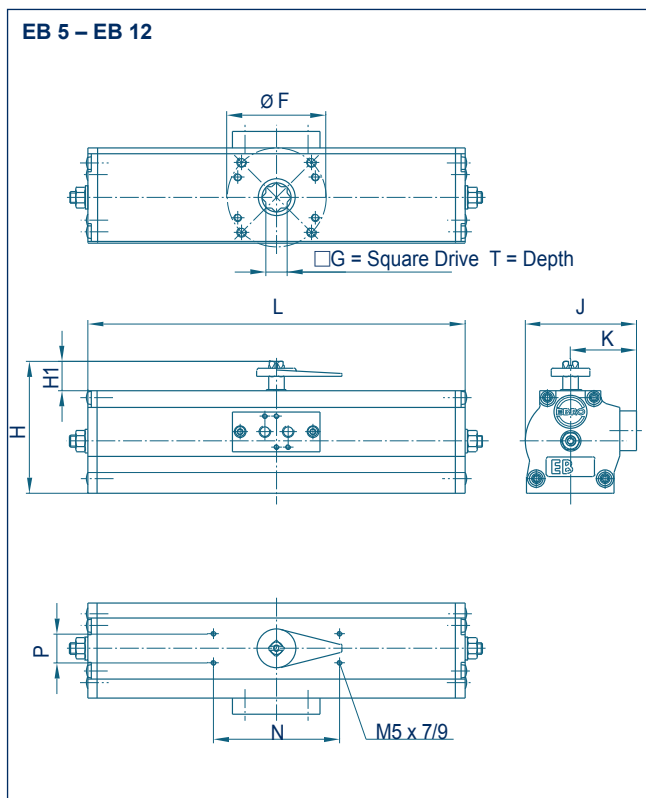
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REPLACEMENT PARTS

For ordering spare parts, please state actuator size and the required part no.

The spare parts marked with D are integrated in the standard seal set. Every component part is - of course - available separately.

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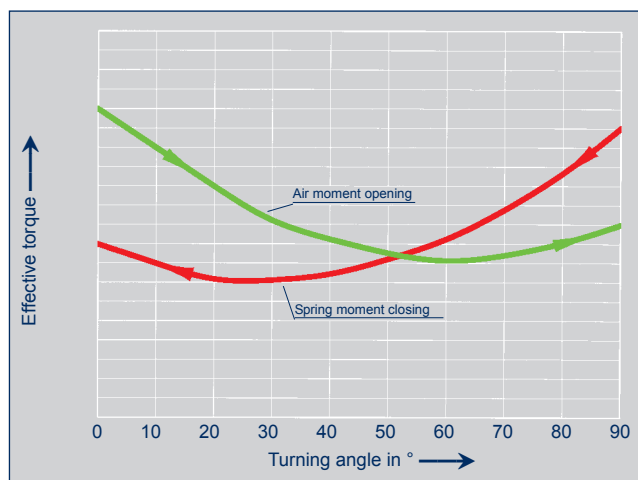


Type	Dimensions [in]															Weight [lb]
	F	G	H	H1	H2	J	K	L	L1	L2	N	P	R	T		
EB 5	F04	0.43	4.26	1.18	-	3.47	2.17	10.761	-	-	3.15	1.18	-	0.63	6	
EB 6	F05	0.55	4.85	1.18	-	4.06	2.44	2.8415	-	-	5.12	1.18	-	0.71	11	
EB 8	F07	0.67	5.36	1.18	-	4.53	2.68	.3320.	-	-	5.12	1.18	-	0.87	17	
EB 10	F07	0.67	6.11	1.18	-	5.32	3.11	7225.8	-	-	5.12	1.18	-	0.87	31	
EB 12	F10	0.87	7.17	1.18	-	6.26	3.70	5	-	-	5.12	1.18	-	1.06	56	
EB 265	F12/16	1.26/1.42	9.14	1.18	0.12	5.99	-	-	12.49	12.49	3.15	1.18	3.35	2.36	59	
EB 270	F12/16/25*	1.26/1.42/1.81	10.95	1.18	0.16	8.67	-	-	5.71	20.09	5.12	1.18	3.94	2.36	99	
EB 280	F12/16/25*	1.26/1.42/1.81	10.95	1.18	0.20	8.67	-	-	20.09	20.09	5.12	1.18	5.12	2.36	150	

* flange accomodation F25 with intermediate flange

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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. Choosing an actuator in critical limits, please contact our engineers. We offer our service with the Know-How of 20 years of process engineering to you.



Typical torque curve of a scotch-yoke actuator.