

PNEUMATIC ACTUATOR EB-DW, DOUBLE ACTING



The double acting version of this series is available in 9 sizes, constructed to the scotch-yoke principle.

TECHNICAL DATA

Torque:	27–4001 Nm (control air pressure 6 bar)
Final position:	adjustable to $\pm 3^\circ$
Limit switch and solenoid valve mounting:	VDI / VDE 3845
Control pressure:	max. 10 bar (EB 4 max. 8 bar)
Control air:	clean and dry air at circuits $\geq 2/\text{min}$ please lubricate
Temperature range:	$-20/+85^\circ\text{C}$
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 guide.
- 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-proof shaft bearing
 - Torques in agreement with EN ISO 5211
 - Control pressure min. 2 bar, max. 10 bar
 - Good visible elastic position indicator
 - Function return by turning the supply plate:
Currentless - close
Currentless - open
 - All elements of connection are made of stainless steel
- Possibilities of mounting and accessories are shown in chapter 4.3.

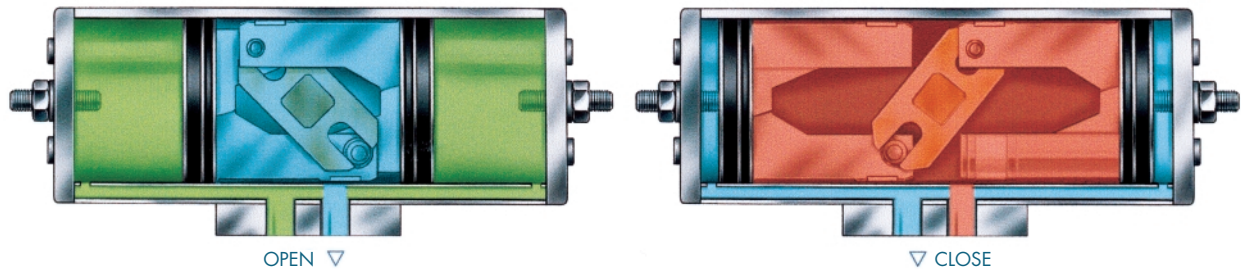
GENERAL APPLICATIONS

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



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FUNCTION



When the left positioned control connection is pressurised, the pistons are pushed together with the yoke turning counter-clockwise to open the valve. When the right positioned control connection is pressurised, the yoke turns clockwise to close the valve.

The stroke of the piston can be limited by the adjustment of the screws located in the end covers.

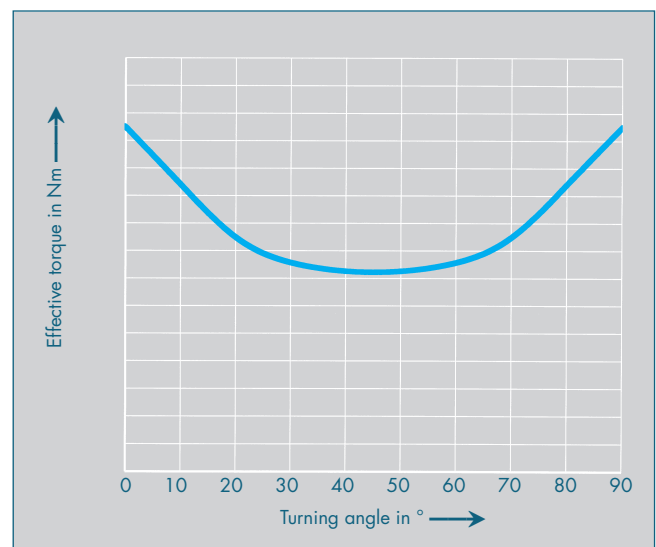
TORQUE (Nm)

Type	Control air pressure										
	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar
EB 4	13,5	16	18	20	22,5	25	27	29	31,5	34	36
EB 5	38	44,5	51	57	63	70	76	82	89	95	101
EB 6	78	91	104	117	130	143	156	169	182	195	208
EB 8	125	146	166	187	208	229	250	271	292	312	333
EB 10	265	309	353	397	441	485	530	574	618	662	706
EB 12	435	507	580	652	725	797	870	942	1015	1087	1160
EB 265	647	755	863	971	1079	1187	1295	1403	1510	1618	1726
EB 270	991	1157	1322	1487	1652	1817	1983	2148	2313	2478	2643
EB 280	2001	2334	2667	3001	3334	3668	4001	4334	4668	5001	5335

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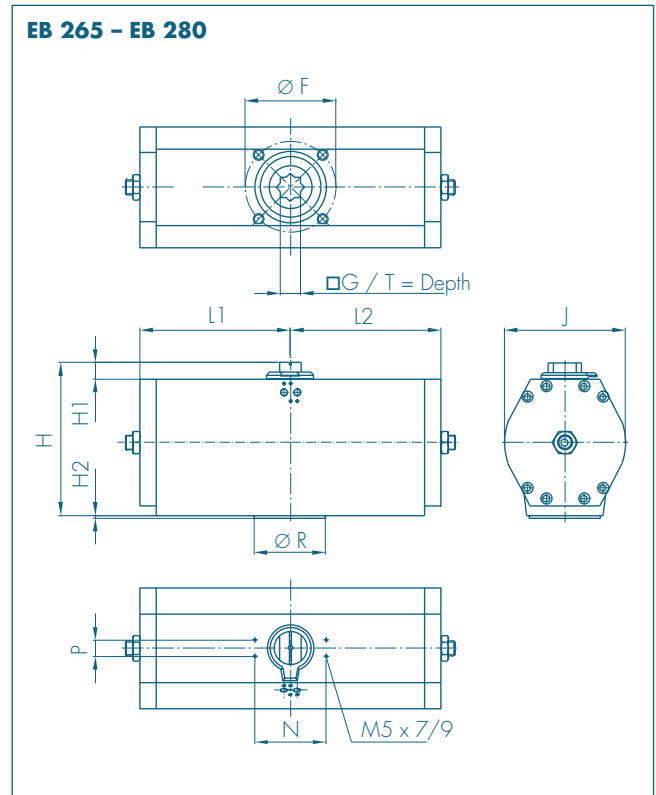
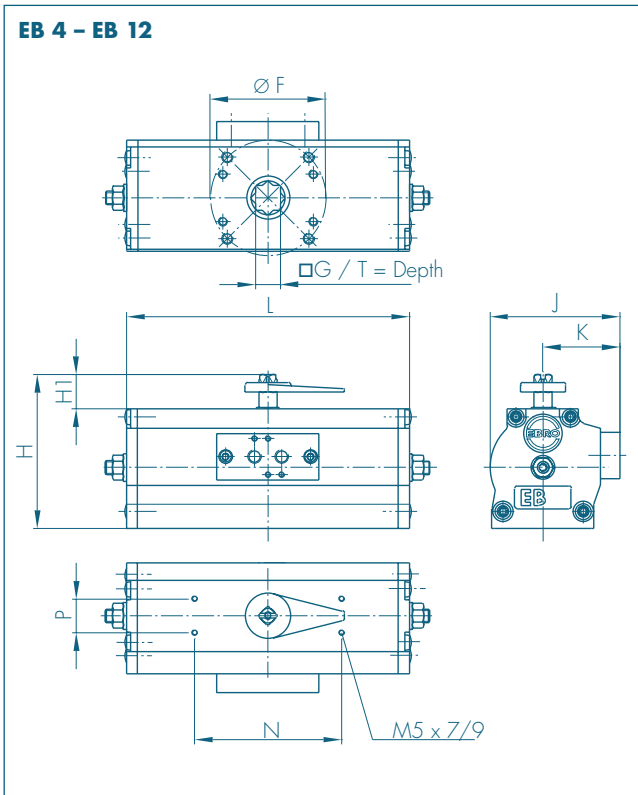
The torques shown in the diagram are measured values. The required size of the actuator can be established by comparing the values of the actuator with the required torque of the valve.

Especially non-lubricant media (e.g. bulk goods and dry gases) may cause an increase of the actuators torque. This is why we recommend to consider a safety of 12%. Choosing an actuator in critical limits, please contact our engineers. We offer our service with the Know-How of 30 years of process engineering to you.



Typical torque curve of a scotch-yoke actuator

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Type	Dimensions [mm]															Weight [kg]
	F	G	H	H1	H2	J	K	L	L1	L2	N	P	R	T		
EB 4	F04	11	96	30	-	74	49	158	-	-	80	30	-	14	1,1	
EB 5	F05	11/14	108	30	-	88	55	174	-	-	80	30	-	16	1,7	
EB 6	F05/07	14/17	123	30	-	103	62	208	-	-	130	30	-	18	2,6	
EB 8	F07/10	17/22	136	30	-	115	68	250	-	-	130	30	-	22	4,3	
EB 10	F07/10	17/22	155	30	-	135	79	312	-	-	130	30	-	22	6,8	
EB 12	F12	27	182	30	-	159	94	367	-	-	130	30	-	27	12,0	
EB 265	F12/16	32/36	232	30	3	152	-	-	195	195	80	30	85	60	21,0	
EB 270	F12/16/25*	32/36/46	278	30	4	220	-	-	145	270	130	30	100	60	32,0	
EB 280	F12/16/25	32/36/46	278	30	5	220	-	-	275	275	130	30	130	60	42,0	

* flange accommodation F25 with intermediate

WEIGHTS, CLOSING TIME* AND AIR CONSUMPTION

Type	EB 4	EB 5	EB 6	EB 8	EB 10	EB 12	EB 265	EB 270	EB 280
Weight DW in kg	1,10	1,70	2,60	4,30	6,80	12,00	21,00	32,00	42,00
Closing time DW in sec.	0,25	0,25	0,35	0,45	0,70	1,00	<2,5	<6,0	<5,0
Filling volume NL/Hub at 1 atm:	0,16	0,44	0,99	1,13	2,11	5,10	5,00	14,50	22,20

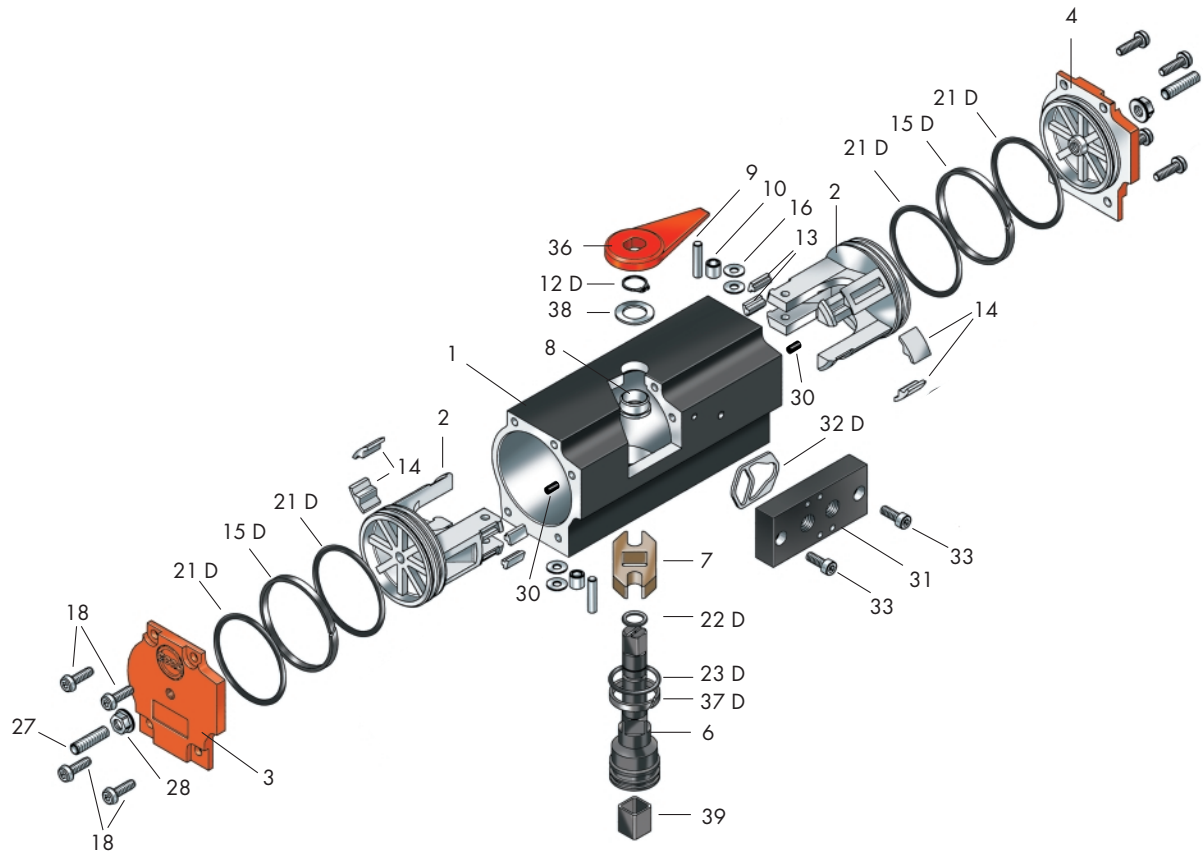
* = closing times with unthrottled air exhaust and air supply, 6 bar control pressure and 75 % load
air consumption = filling volume x control pressure

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

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MATERIAL SPECIFICATION AND PARTS LIST



EB4 - 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 Si 0,5 F22	17615	18	Hex. socket screw	8	1.4301	7500
2	Piston	2	GD-Al Si9 Cu3	1725	21 D	O-ring	4	70 NBR	ISO 1629
3	End cover	1	GD-Al Si9 Cu3	1725	22 D	O-ring	1	70 NBR	ISO 1629
4	End cover	1	GD-Al Si9 Cu3	1725	23 D	O-ring	1	70 NBR	ISO 1629
6	Drive shaft	1	16 Mn Cr 5/ESP 65	17210	27	Stroke adjusting screw	2	1.4301	913
7	Yoke	1	Sint E 30	30910	28	Seal nut	2	St-galvanized	
8	Bearing sleeve	1	Polyacetal		30	Stop	2	70 NBR	ISO 1629
9	Piston bolt	2	16 Mn Cr S 5	17210	31	Valve connection plate	1	GD-Al Si9 Cu3	1725
10	Roller	2	16 Mn Cr 5	17210	32 D	Shaped gasket	1	70 NBR	ISO 1629
12 D	Circlip	1	1.4122	471	33	Hex. socket screw	2	1.4301	912
13	Slide segment	4	PE-UHMW		36	Position indicator	1	EPDM	
14	Slide segment	4	PE-UHMW		37 D	Guide band	1	PTFE-Compound	
15 D	Guide band	2	PTFE-Compound		38	Pinion washer	1	Polyacetal	
16	Spacer ring	4	1.4301	988	39	Profile	1	1.4301	

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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.