

PNEUMATIC ACTUATOR EB-SYD, DOUBLE ACTING



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

TECHNICAL DATA

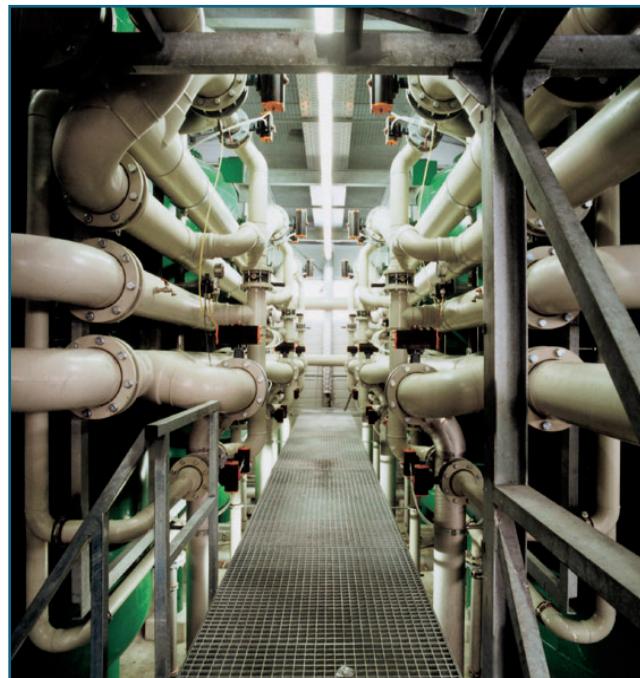
Torque:	27 - 4001 Nm (based on supply pressure of 6 bar)
Limit of travel:	exactly adjustable between $\pm 3^\circ$.
Limit switches and solenoid valve mounting:	VDI / VDE 3845
Supply pressure:	min. 2,5 bar, max. 8 bar
Supply quality:	clean and dry in accordance with ANSI/ ISA S7.0.01. for cycles ≥ 4 /min 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 $\frac{1}{4}$ turn valves
- Blow-out proof shaft
- Torques in agreement with EN ISO 5211
- High visibility position indicator
- All fasteners made of stainless steel

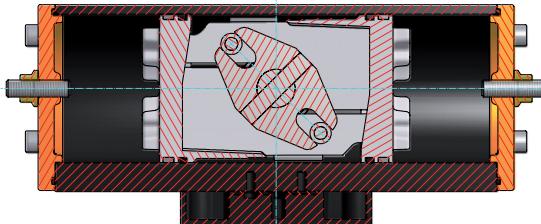
KEY BENEFITS

- High opening- and closing- torques produced by scotch-yoke mechanism
- Ideal sliding properties provided by low friction multiple piston guides
- Operational safety and long service life assured by precise machining of parts

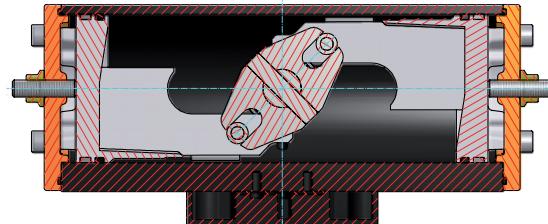


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FUNCTION



Open



Close

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

the yoke turns clockwise to close the valve. The stroke of the piston can be limited by adjusting the screws located in the end covers.

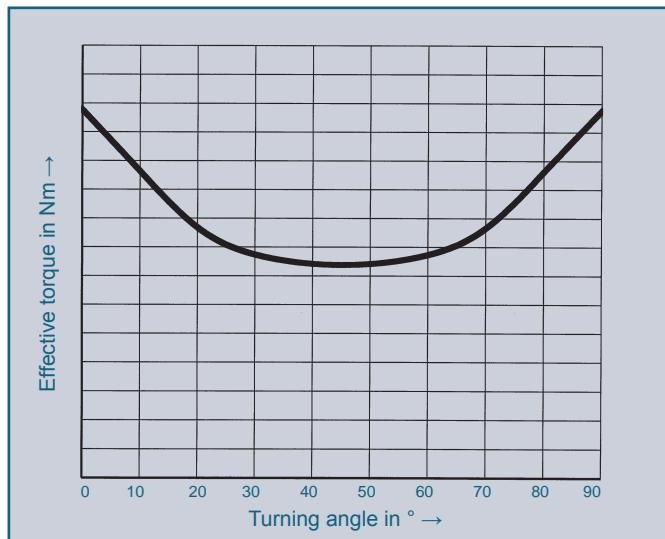
TORQUE (Nm)

Type	Control air pressure									
	2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar
EB 4.1	11	13	16	18	20	22	25	27	31	36
EB 5.1	36	38	44	51	57	63	70	76	89	101
EB 6.1	65	78	91	104	117	130	143	156	182	208
EB 8.1	104	125	146	166	187	208	229	250	292	333
EB 10.1	220	265	309	353	397	441	485	530	618	706
EB 12.1	381	457	534	610	686	762	839	915	1067	1220
EB 265	-	647	755	863	971	1079	1187	1295	1510	1726
EB 270	-	991	1157	1322	1487	1652	1817	1983	2313	2643
EB 280	-	2001	2334	2667	3001	3334	3668	4001	4668	5335

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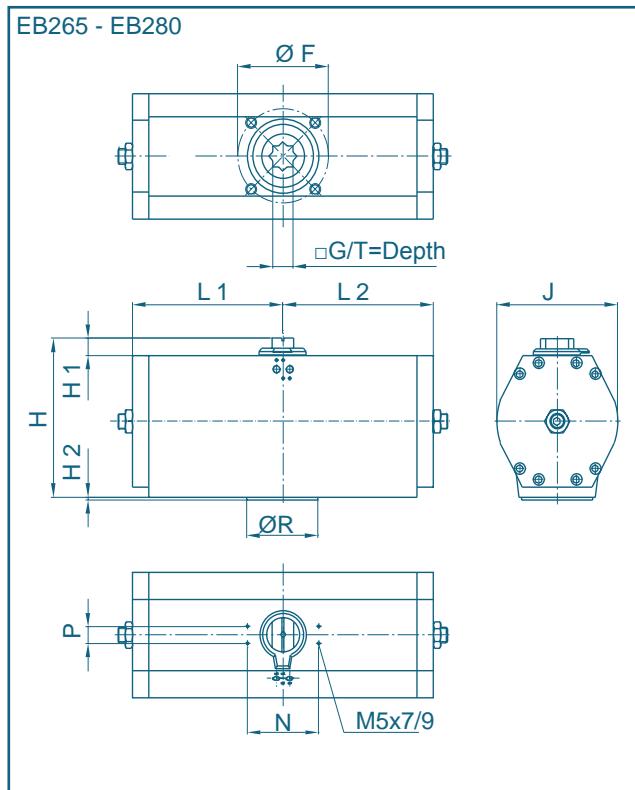
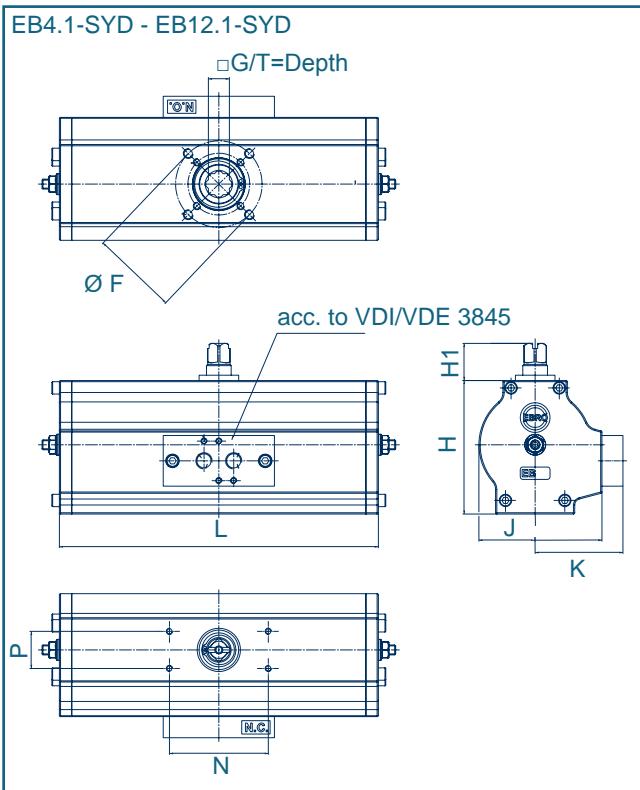
The torques shown in the diagram are measured values. The required size of the actuator can be established by comparing the values of the actuator with the required torque of the valve.

Especially non-lubricant media (e.g. bulk goods and dry gases) may cause an increase of the 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.

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Type	Dimensions [mm]													Weight [kg]	
	ØF	G	H	H1	H2	J	K	L	L1	L2	N	P	ØR	T	
EB 4.1	F04/05	11/14	66	30	-	57	48	148	-	-	80	30	-	13/16	1,1
EB 5.1	F04/05	11/14	77	30	-	72	57	174	-	-	80	30	-	13/16	1,7
EB 6.1	F05/07	17	91	30	-	88	65	224	-	-	80	30	-	19	3,0
EB 8.1	F07/10	17	108	30	-	100	71	258	-	-	80	30	-	19	4,1
EB 10.1	F07/10	22	128	30	-	122	82	334	-	-	80	30	-	24	7,5
EB 12.1	F10/12	27	156	30	-	145	93	392	-	-	80	30	-	29	12,7
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 connection F25 with intermediate flange

CLOSING TIME* AND AIR CONSUMPTION

Type	EB4.1	EB 5.1	EB 6.1	EB 8.1	EB 10.1	EB 12.1	EB 265	EB 270	EB 280
Closing time EB-SYD 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:	0,18	0,46	0,91	1,49	3,25	5,63	5,00	14,50	22,20

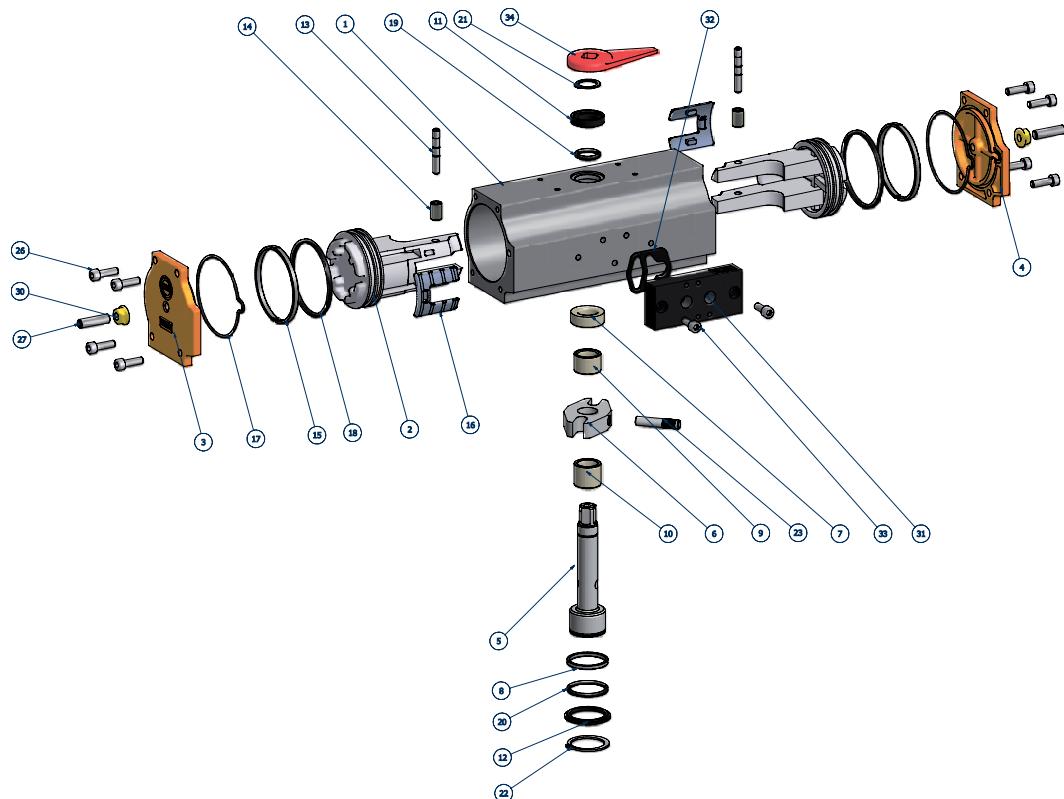
* = closing times with unthrottled air exhaust and air supply, 6 bar control pressure and 75% load
air consumption = filling volume x control pressure

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Closing times can be adjusted from 30 sec. up to 300 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-SYD (4.1 - 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				
16	Slidepad	2	Polymer blend				

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

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