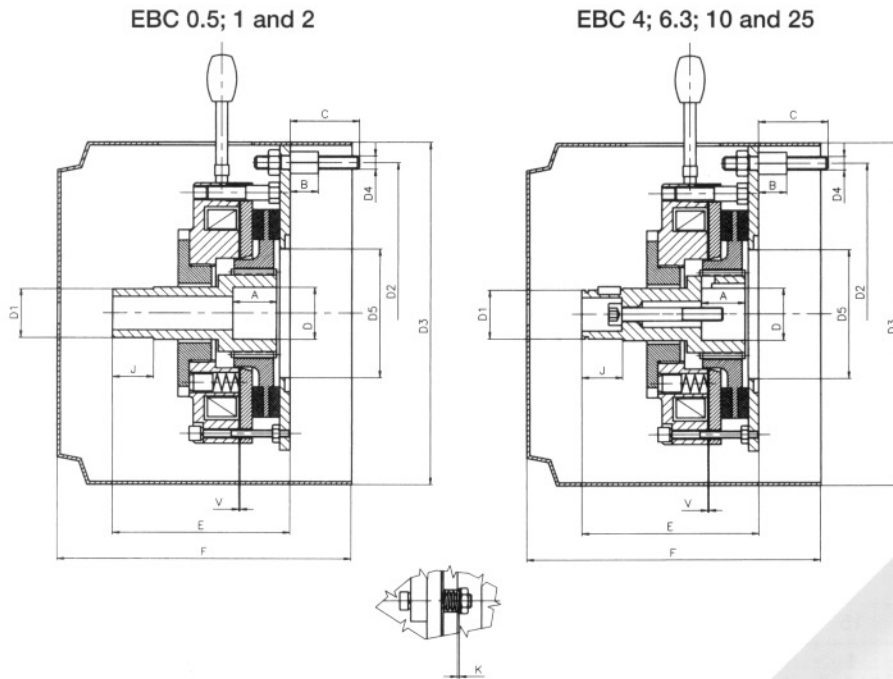




POHONY • DRIVES • ANTRIEBE




**ELECTROMAGNETICALLY SHIFTED DISC BRAKE  
SWITCHED-IN BY THE SPRINGS AND SWITCHED-OFF BY  
THE ELECTROMAGNET**

**EBC**

**AT COMBINATION WITH ELECTRIC MOTOR OF THE SERIES 1LA7**

The brakes EBC 0.5, 1 and 2 are determined for the connection with the electric motors of the series 1LA7 of outputs from 0.37 to 2.2 kW, brakes EBC 4, 6.3, 10 and 25 is determined for the connection with electric motors of the series 1LA7 of outputs from 1.5 to 15 kW. From basic execution these brakes differ from each other in the size of supplying voltage of field coil. Connecting in sizes are adapted to the shaft and the cover of the electric motor.



**PSP Pohony a.s.**

## MAIN TECHNICAL PARAMETERS

Parameters		Size of EBC							
Name	Dimensions	0.5	1	2	4	6.3	10	16	25
Transmitted torque rotating	Nm	5	10	20	40	63	100	160	250
Transmitted torque static	Nm	5.5	12	24	48	75	120	190	300
Rated voltage	V	205							
Rated current by	20°C (A)	0.128	0.175	0.25	0.32	0.43	0.46		0.56
	90°C (A)	0.107	0.146	0.21	0.27	0.36	0.39		0.48
D*	mm	14.9	19.9	19.9	25	25	40		45
D <sub>1</sub>	mm	14.9	19.9	19.9	25	25	40		45
D <sub>2</sub>	mm	122	137	153	167	192	228		270
D <sub>3</sub>	mm	139	156	174	196	219	259		299
D <sub>4</sub>	mm	3xM6	3xM6	4xM6	4xM8	4xM8	4xM8		4xM10
D <sub>5</sub>	mm	40	42	60	75	84	95		136
A	mm	16.5	14.5	22	30	35	42		50
B	mm	10	12.5	24.5	18	21	30		40
C	mm	28	30	48.5	50	54	71		74
E	mm	78	80.5	109	117	128	155		182
F	mm				174	190	231		269
J	mm	14	15	17.5	37.5	38	42		47
K	mm	1	1	1	1	1	1.5		1.5
Air gap min.	mm	0.2	0.2	0.2	0.3	0.3	0.3		0.4
Air gap max.	mm**	0.4	0.4	0.5	0.6	0.7	0.7		0.8
Revol. max. moment of	min. <sup>-1</sup>	3 000	3 000	3 000	3 000	3 000	3 000		1 500
Inertia of rotation parts	kgm <sup>2</sup>	2.8 x 10 <sup>-5</sup>	8.6 x 10 <sup>-5</sup>	36.1 x 10 <sup>-5</sup>	81.7 x 10 <sup>-5</sup>	105 x 10 <sup>-5</sup>	274 x 10 <sup>-5</sup>		1 060 x 10 <sup>-5</sup>
Weight	kg	2.5	3	3.8	9	12.5	16.7		29

\* Size „D” is in tolerance that makes possible to connection with shaft of electric motor.

\*\* The air gap is adjusted on the value  $V_{min}$  at air gap increasing to the value  $V_{max}$  it is necessary to adjust again the brake to  $V_{min}$ .

## OPERATING DATA

Brake type size	Nominal moment (Nm)	Static moment (Nm)	Current at 20°C (A)	Current at 90°C (A)	Revolution max. (min <sup>-1</sup> )	Voltage (Vss)	Torgue of flywheel brake (kgm <sup>2</sup> )	Weight (kg)	Type of el. motor
<b>EBC 0.5</b>	5	5.5	0.128	0.107	3 000	205	2.8 x 10 <sup>-5</sup>	2.5	1LA707
<b>EBC 1</b>	10	12	0.175	0.146	3 000	205	8.6 x 10 <sup>-5</sup>	3	1LA708
<b>EBC 2</b>	20	24	0.25	0.21	3 000	205	36.1 x 10 <sup>-5</sup>	3.8	1LA709
<b>EBC 4</b>	40	48	0.32	0.27	3 000	205	81 x 10 <sup>-5</sup>	9	1LA710
<b>EBC 6.3</b>	63	75	0.43	0.36	3 000	205	105 x 10 <sup>-5</sup>	12.5	1LA711
<b>EBC 10</b>	100	120	0.46	0.39	3 000	205	274 x 10 <sup>-5</sup>	16.7	1LA713
<b>EBC 25</b>	250	300	0.56	0.48	1 500	205	1060 x 10 <sup>-5</sup>	29	1LA716

The brake EBC for connection to electric motors consists of driving (braking) and fixed parts. The driving parts of the brake are the driver and brake wheel with friction lining. The fixed part is created by the pins, gripping plate, full magnet body, adjusting nut, metal plate, complete stirrup and brake cover. The adjustable air gap is between metal plate and full magnet body that must be in course of operation checked and according to the need adjusted.

The brake EBC are controlled with direct-current of voltage 205 V from one phase of electric motor through rectifying element.

The size of the nominal braking moment is possible to change at the range from 50 to 100 % by the tightening down or screwing out of adjusting nut at axial direction towards magnet body.

The brake is in activity (i.e. at braken down position) if we will disconnect exciting direct-current voltage. The force from the set of the springs induces the braking torque and the springs force the anchor plate with friction disc to fixed brake part. Mechanical releasing of the brake may be executed by the lever of complete stirrup.

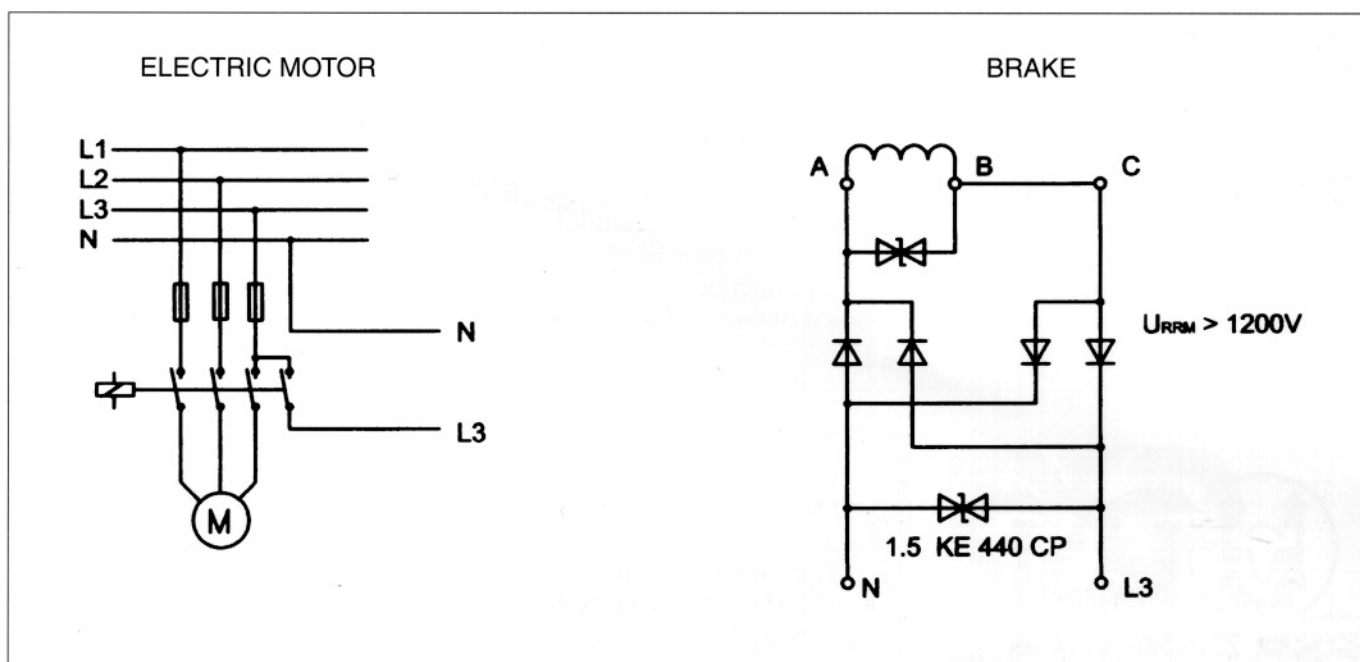
If we will connect the voltage to the magnet body coil outlets the brake in called position releasing of the brake and its driving part revolves together with the electric motor rotor.

The brake is connected with the shaft of electric motor either glued joint (EBC 0.5, 1 and 2) or spring on the shaft by other sizes.

The brake EBC work at nonlubricated surroundings with the ambient temperature at the range from + 50° by - 25°C. Proper operational brake temperature must not cross 90°C. They are not determined for the explosive environment. By the use of brake EBC at combination with usual base or flange electric motors we realise in fact their reconstruction to brake execution with safety disc electromagnetic brake.

At operation the brake does not request special maintenance. It is necessary to check and in case of the need to adjust the air gap. After wear of friction disc it is possible to agree with producer the suply of new spare part and to execute its replacement.

## DIAGRAM OF CONNECTION



ELECTRIC MOTOR				EL. SHIFTED DISC BRAKE	
Output (kW)	M. p. m. (min. <sup>-1</sup> )	Moment (Nm)	Type	Type	Transferred moment (Nm)
0.37	2 750	1.3	1LA7070-2	0.5	5
	1 350	2.5	1LA7073-4	0.5	5
	910	3.9	1LA7080-6	1	10
0.55	2790	1.9	1LA7073-2	0.5	5
	1 395	3.7	1LA7080-4	1	10
	900	5.8	1LA7083-6	1	10
0.75	2 850	2.5	1LA7080-2	1	10
	1 395	5.1	1LA7083-4	1	10
	895	8	1LA7090-6	2	20
1.1	2 835	3.7	1LA7083-2	1	10
	1 410	7.5	1LA7090-4	2	20
	900	2.5	1LA7096-6	2	20
1.5	2 860	5	1LA7090-2	2	20
	1 410	10	1LA7096-4	2	20
	925	15	1LA7106-6	4	40
2.2	2 850	7.4	1LA7096-2	2	20
	1 420	15	1LA7106-4	4	40
	940	22	1LA7113-6	6.3	63
3	2 895	9.8	1LA7106-2	4	40
	1 420	20	1LA7107-4	4	40
	950	30	1LA7130-6	10	100
4	2 900	13	1LA7113-2	6.3	63
	1 440	27	1LA7113-4	6.3	63
	950	40	1LA7133-6	10	100
5.5	2 950	18	1LA7130-2	10	100
	1 455	36	1LA7130-4	10	100
	950	55	1LA7134-6	10	100
7.5	2 950	25	1LA7131-2	10	100
	1 455	49	1LA7133-4	10	100
	960	75	1LA7163-6	25	250
11	1 460	72	1LA7163-4	25	250
	960	109	1LA7166-6	25	250
15	1 460	98	1LA7166-4	25	250

## DATA FOR ORDER

- type and size
- axial distance of the bases „H“
- number of pieces



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System of quality is certificated  
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