MSBCA

ASYNCHRONOUS THREE-PHASE BRAKE MOTORS
WITH SQUIRREL CAGE ROTOR • ALTERNATING CURRENT BRAKE

MSBCA **series-enclosed construction externally ventilated sizes 63 ~160**

The motors under this series result from coupling an asynchronous three-phase motor with an electromagnetic disc-brake unit. Due to their safety and precision as well as their quick stop with a connection and disconnection time of a matter of 5 to 80 milliseconds they are suitable for a variety of applications such as:

-braking of loads or torques on the driving shaft
-braking of rotary masses in order to avoid any down-times
-braking to increase the set-up precision
-braking of machine parts in case of danger, in compliance with accident prevention rules.

TECHNICAL FEATURES

2 poles-3000rpm-50Hz

Brake motors have a ±6% tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power factor	Rated Current (A)			Tstart/Tn (Times)	Tmax/Tn (Times)	Tmin/Tn (Times)	Is/In	Noise dB(A)
					230V	400V	690V					
MSBCA631-2	0.18	2710	63	0.75	0.95	0.55	0.32	2.2	2.4	1.6	6	61
MSBCA632-2	0.25	2710	65	0.78	1.23	0.71	0.41	2.2	2.4	1.6	6	61
MSBCA633-2	0.37	2710	65	0.78	1.82	1.05	0.61	2.2	2.4	1.6	6	62
MSBCA711-2	0.37	2730	70	0.79	1.67	0.97	0.56	2.2	2.4	1.6	6	64
MSBCA712-2	0.55	2760	71	0.79	2.45	1.42	0.82	2.2	2.4	1.6	6	64
MSBCA713-2	0.75	2730	72	0.82	3.18	1.83	1.06	2.2	2.4	1.5	6	65
MSBCA801-2	0.75	2770	73	0.84	3.06	1.77	1.02	2.2	2.4	1.5	6	67
MSBCA802-2	1.1	2770	76.2	0.83	4.35	2.51	1.45	2.2	2.4	1.5	6	67
MSBCA803-2	1.5	2800	78.5	0.83	5.87	3.32	1.92	2.2	2.4	1.5	6	70
MSBCA90S-2	1.5	2840	78.5	0.84	5.76	3.28	1.90	2.2	2.4	1.5	6	72
MSBCA90L1-2	2.2	2840	81	0.85	8.0	4.61	2.66	2.2	2.4	1.4	6	72
MSBCA90L2-2	3	2840	82.6	0.86	10.56	6.10	3.52	2.2	2.4	1.4	6	74
MSBCA100L1-2	3	2840	82.6	0.87	10.44	6.03	3.48	2.2	2.3	1.4	7	76
MSBCA100L2-2	4	2850	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
MSBCA112M-2	4	2880	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
MSBCA112L-2	5.5	2880	85.7	0.88	18.23	10.53	6.08	2.2	2.3	1.2	7.5	78
MSBCA132S1-2	5.5	2900	85.7	0.88	18.23	10.53	6.08	2	2.2	1.2	7.5	80
MSBCA132S2-2	7.5	2920	87	0.88	24.49	14.14	8.16	2	2.2	1.2	7.5	80
MSBCA132M1-2	9.2	2930	88	0.89	29.87	17.25	9.96	2	2.2	1.2	7.5	81
MSBCA132M2-2	11	2930	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	83
MSBCA160M1-2	11	2940	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	86
MSBCA160M2-2	15	2940	89.4	0.91	46.09	26.61	15.36	2	2.2	1.2	7.5	86
MSBCA160L-2	18.5	2940	90	0.91	56.47	32.6	18.82	2	2.2	1.1	7.5	86

Motor Type	Brake Type	Static Brake Torque Nm.	Brake Current @400V.A	No.of Starts/h under no load	Cut-in Msec.	Cut out Msec.	J Brake Kgm^2
MSBCA 63	60 MD/MS	1.2~4	0.07	3000	5	20	0.00007
MSBCA 71	70 MD/MS	2~9	0.10	3000	5	20	0.00038
MSBCA 80	MEC 71 MD/MS	6.8~17	0.15	1300	6	25	0.0005
MSBCA 90 S	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 90 L	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 100 L	100 MD/MS	12~48	0.32	900	8	35	0.0016
●MSBCA 100 L	100 DD/MS	24~96	0.32	900	8	35	0.0032
MSBCA 112 MT	100 MD/MS	12~48	0.32	880	8	35	0.0016
●MSBCA 112 MT	100 DD/MS	24~96	0.32	880	8	35	0.0032
MSBCA 132 M	120 MD/MS	22~90	0.47	480	10	40	0.0053
MSBCA 132 S	120 MD/MS	22~90	0.47	480	10	40	0.0053
●1MSBCA 32 M	120 DD/MS	42~180	0.47	450	10	40	0.010
●MSBCA 132 S	120 DD/MS	42~180	0.47	450	10	40	0.010
MSBCA 160 MT	140 MD/MS	37~130	0.57	350	15	60	0.005
●MSBCA 160 MT	140 DD/MS	74~260	0.57	350	15	60	0.009
MSBCA 160 L	160 MD/MS	60~150	0.76	350	15	60	0.006
●MSBCA 160 L	160 DD/MS	120~300	0.76	350	15	60	0.011

● Motors with increased braking torque, on request.

TECHNICAL FEATURES

4 poles-1500rpm-50Hz

Brake motors have a ±6% tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power factor	Rated Current (A)			Tstart/Tn (Times)	Tmax/Tn (Times)	Tmin/Tn (Times)	Is/In	Noise dB(A)
					230V	400V	690V					
MSBCA631-4	0.12	1350	57	0.64	0.82	0.47	0.27	2.2	2.4	1.7	6	52
MSBCA632-4	0.18	1350	59	0.65	1.17	0.68	0.39	2.2	2.4	1.7	6	52
MSBCA633-4	0.25	1350	60	0.66	1.58	0.91	0.53	2.2	2.4	1.7	6	54
MSBCA711-4	0.25	1350	60	0.72	1.45	0.84	0.48	2.2	2.4	1.7	6	55
MSBCA712-4	0.37	1370	65	0.74	1.92	1.11	0.64	2.2	2.4	1.7	6	55
MSBCA713-4	0.55	1380	66	0.75	2.78	1.60	0.93	2.2	2.4	1.7	6	57
MSBCA801-4	0.55	1370	67	0.75	2.74	1.58	0.91	2.2	2.4	1.7	6	58
MSBCA802-4	0.75	1380	72	0.78	3.34	1.93	1.11	2.2	2.4	1.6	6	58
MSBCA803-4	1.1	1390	76.2	0.78	4.63	2.67	1.54	2.2	2.4	1.6	6	60
MSBCA90S-4	1.1	1400	76.2	0.79	4.57	2.64	1.52	2.2	2.4	1.6	6	61
MSBCA90L-4	1.5	1400	78.5	0.8	5.97	3.45	1.99	2.2	2.4	1.6	6	61
MSBCA90L2-4	2.2	1400	81	0.8	8.45	4.90	2.83	2.2	2.4	1.5	7	63
MSBCA100L1-4	2.2	1420	81	0.81	8.38	4.84	2.79	2.2	2.3	1.5	7	64
MSBCA100L2-4	3	1420	82.6	0.81	11.21	6.47	3.74	2.2	2.3	1.5	7	64
MSBCA100L3-4	4	1430	84.2	0.82	14.18	8.36	4.83	2.2	2.3	1.5	7	65
MSBCA112M-4	4	1430	84.2	0.83	14.31	8.26	4.77	2.2	2.2	1.5	7	65
MSBCA112L-4	5.5	1440	85.7	0.83	19.33	11.16	6.44	2.2	2.2	1.4	7	68
MSBCA132S-4	5.5	1450	85.7	0.84	19.1	11.03	6.37	2.2	2.2	1.4	7	71
MSBCA132M-4	7.5	1450	87	0.85	25.35	14.64	8.45	2.2	2.2	1.4	7	71
MSBCA132L1-4	9.2	1460	87.5	0.85	30.92	17.85	10.31	2.2	2.2	1.4	7.5	74
MSBCA132L2-4	10	1460	88	0.85	33.42	19.3	11.14	2.2	2.2	1.4	7.5	74
MSBCA132L2-4	11	1460	88.4	0.86	36.17	20.88	12.06	2.2	2.2	1.4	7.5	74
MSBCA160M-4	11	1460	88.4	0.87	35.76	20.64	11.92	2.2	2.2	1.4	7	75
MSBCA160L-4	15	1460	88.4	0.87	48.76	28.15	16.25	2.2	2.2	1.4	7.5	75

Motor Type	Brake Type	Static Brake Torque Nm.	Brake Current @400V.A	No.of Starts/h under no load	Cut-in Msec.	Cut out Msec.	J Brake Kgm^2
MSBCA 63	60 MD/MS	1.2~4	0.07	3000	5	20	0.00007
MSBCA 71	70 MD/MS	2~9	0.10	3000	5	20	0.00038
MSBCA 80	MEC 71 MD/MS	6.8~17	0.15	1300	6	25	0.0005
MSBCA 90 S	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 90 L	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 100 L	100 MD/MS	12~48	0.32	900	8	35	0.0016
●MSBCA 100 L	100 DD/MS	24~96	0.32	900	8	35	0.0032
MSBCA 112 MT	100 MD/MS	12~48	0.32	880	8	35	0.0016
●MSBCA 112 MT	100 DD/MS	24~96	0.32	880	8	35	0.0032
MSBCA 132 M	120 MD/MS	22~90	0.47	480	10	40	0.0053
MSBCA 132 S	120 MD/MS	22~90	0.47	480	10	40	0.0053
●1MSBCA 32 M	120 DD/MS	42~180	0.47	450	10	40	0.010
●MSBCA 132 S	120 DD/MS	42~180	0.47	450	10	40	0.010
MSBCA 160 MT	140 MD/MS	37~130	0.57	350	15	60	0.005
●MSBCA 160 MT	140 DD/MS	74~260	0.57	350	15	60	0.009
MSBCA 160 L	160 MD/MS	60~150	0.76	350	15	60	0.006
●MSBCA 160 L	160 DD/MS	120~300	0.76	350	15	60	0.011

● Motors with increased braking torque, on request.

TECHNICAL FEATURES

6 poles-1000rpm-50Hz

Brake motors have a ±6% tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power factor	Rated Current (A)			Tstart/Tn (Times)	Tmax/Tn (Times)	Tmin/Tn (Times)	Is/In	Noise dB(A)
					230V	400V	690V					
MSBCA631-6	0.09	840	42	0.61	0.88	0.51	0.29	2	2	1.5	3.5	50
MSBCA632-6	0.12	850	45	0.62	1.08	0.62	0.36	2	2	1.5	3.5	50
MSBCA711-6	0.18	880	56	0.66	1.22	0.70	0.41	1.6	1.7	1.5	4	52
MSBCA712-6	0.25	900	59	0.7	1.51	0.87	0.50	2.1	2.2	1.5	4	52
MSBCA713-6	0.37	890	61	0.69	2.2	1.27	0.73	2	2.1	1.5	4	54
MSBCA801-6	0.37	900	62	0.7	2.13	1.23	0.71	1.9	1.9	1.5	4	56
MSBCA802-6	0.55	900	67	0.72	2.85	1.65	0.95	2	2.3	1.5	4	56
MSBCA803-6	0.75	900	68	0.72	3.83	2.21	1.28	2	2.3	1.5	4	58
MSBCA90S-6	0.75	920	69	0.72	3.77	2.18	1.26	2.2	2.2	1.5	5.5	59
MSBCA90L-6	1.1	925	72	0.73	5.23	3.02	1.74	2.2	2.2	1.3	5.5	59
MSBCA100L-6	1.5	945	74	0.76	6.67	3.85	2.22	2.2	2.2	1.3	6	61
MSBCA112M-6	2.2	955	78	0.76	9.28	5.36	3.09	2.2	2.2	1.3	6	64
MSBCA132S-6	3	960	79	0.76	12.49	7.21	4.16	2	2	1.3	6.5	64
MSBCA132M1-6	4	960	80.5	0.76	16.35	9.44	5.45	2	2	1.3	6.5	68
MSBCA132M2-6	5.5	960	83	0.77	21.51	12.42	7.17	2	2	1.3	6.5	68
MSBCA132L-6	7.5	960	85	0.77	28.65	16.54	9.55	2	2	1.3	6.5	68
MSBCA160M-6	7.5	960	86	0.8	27.25	15.73	9.08	2	2.2	1.3	6.5	68
MSBCA160L-6	11	960	87.5	0.79	39.78	22.97	13.26	2	2.2	1.2	6.5	73

Motor Type	Brake Type	Static Brake Torque Nm.	Brake Current @400V.A	No.of Starts/h under no load	Cut-in Msec.	Cut out Msec.	J Brake Kgm^2
MSBCA 63	60 MD/MS	1.2~4	0.07	3000	5	20	0.00007
MSBCA 71	70 MD/MS	2~9	0.10	3000	5	20	0.00038
MSBCA 80	MEC 71 MD/MS	6.8~17	0.15	1300	6	25	0.0005
MSBCA 90 S	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 90 L	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 100 L	100 MD/MS	12~48	0.32	900	8	35	0.0016
●MSBCA 100 L	100 DD/MS	24~96	0.32	900	8	35	0.0032
MSBCA 112 MT	100 MD/MS	12~48	0.32	880	8	35	0.0016
●MSBCA 112 MT	100 DD/MS	24~96	0.32	880	8	35	0.0032
MSBCA 132 M	120 MD/MS	22~90	0.47	480	10	40	0.0053
MSBCA 132 S	120 MD/MS	22~90	0.47	480	10	40	0.0053
●1MSBCA 32 M	120 DD/MS	42~180	0.47	450	10	40	0.010
●MSBCA 132 S	120 DD/MS	42~180	0.47	450	10	40	0.010
MSBCA 160 MT	140 MD/MS	37~130	0.57	350	15	60	0.005
●MSBCA 160 MT	140 DD/MS	74~260	0.57	350	15	60	0.009
MSBCA 160 L	160 MD/MS	60~150	0.76	350	15	60	0.006
●MSBCA 160 L	160 DD/MS	120~300	0.76	350	15	60	0.011

● Motors with increased braking torque, on request.

TECHNICAL FEATURES

8 poles-750rpm-50Hz

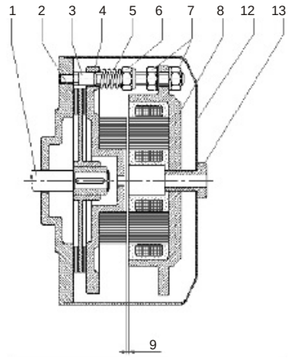
Brake motors have a ±6% tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power factor	Rated Current (A)			Tstart/Tn (Times)	Tmax/Tn (Times)	Tmin/Tn (Times)	Is/In	Noise dB(A)
					230V	400V	690V					
MSBCA711-8	0.09	680	48	0.56	0.84	0.48	0.28	1.5	1.7	1.3	3	50
MSBCA712-8	0.12	690	51	0.59	1.00	0.58	0.33	1.6	1.7	1.3	2.7	50
MSBCA801-8	0.18	680	51	0.61	1.45	0.84	0.48	1.5	1.7	1.3	2.8	52
MSBCA802-8	0.25	680	56	0.61	1.83	1.06	0.61	1.6	2	1.3	2.7	52
MSBCA90S-8	0.37	680	63	0.63	2.33	1.35	0.78	1.6	1.8	1.3	2.8	56
MSBCA90L-8	0.55	680	66	0.65	3.21	1.85	1.07	1.6	1.8	1.3	3	56
MSBCA100L1-8	0.75	710	66	0.67	4.24	2.45	1.41	1.7	2.1	1.3	3.5	59
MSBCA100L2-8	1.1	710	72	0.69	5.54	3.20	1.85	1.7	2.1	1.2	3.5	59
MSBCA112M-8	1.5	710	74	0.68	7.45	4.30	2.48	1.8	2.1	1.2	4.2	61
MSBCA132S-8	2.2	720	75	0.71	10.33	5.96	3.44	2	2	1.2	5.5	64
MSBCA132M-8	3	720	77	0.73	13.34	7.70	4.45	2	2	1.2	5.5	64
MSBCA160M1-8	4	730	80	0.73	17.12	9.89	5.71	1.9	2.1	1.2	6	68
MSBCA160M2-8	5.5	720	83.5	0.74	22.25	12.85	7.42	2	2.2	1.2	6	68
MSBCA160L-8	7.5	720	85	0.75	29.41	17.0	9.8	1.9	2.2	1.2	6	68

Motor Type	Brake Type	Static Brake Torque Nm.	Brake Current @400V.A	No.of Starts/h under no load	Cut-in Msec.	Cut out Msec.	J Brake Kgm^2
MSBCA 71	70 MD/MS	2~9	0.10	3000	5	20	0.00038
MSBCA 80	MEC 71 MD/MS	6.8~17	0.15	1300	6	25	0.0005
MSBCA 90 S	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 90 L	90 S MD/MS	16~35	0.26	1100	6	25	0.001
MSBCA 100 L	100 MD/MS	12~48	0.32	900	8	35	0.0016
●MSBCA 100 L	100 DD/MS	24~96	0.32	900	8	35	0.0032
MSBCA 112 MT	100 MD/MS	12~48	0.32	880	8	35	0.0016
●MSBCA 112 MT	100 DD/MS	24~96	0.32	880	8	35	0.0032
MSBCA 132 M	120 MD/MS	22~90	0.47	480	10	40	0.0053
MSBCA 132 S	120 MD/MS	22~90	0.47	480	10	40	0.0053
●1MSBCA 32 M	120 DD/MS	42~180	0.47	450	10	40	0.010
●MSBCA 132 S	120 DD/MS	42~180	0.47	450	10	40	0.010
MSBCA 160 MT	140 MD/MS	37~130	0.57	350	15	60	0.005
●MSBCA 160 MT	140 DD/MS	74~260	0.57	350	15	60	0.009
MSBCA 160 L	160 MD/MS	60~150	0.76	350	15	60	0.006
●MSBCA 160 L	160 DD/MS	120~300	0.76	350	15	60	0.011

● Motors with increased braking torque, on request.

ELECTROMAGNETIC DISK BRAKE SERIES CA



OPERATING PRINCIPLE

A) When brake is fed, the electromagnet (8) overcomes the strength exerted by the springs (5), attracts the moving core (4), releases the brake disc (2) and enables the motor shaft to rotate freely.
B) When the electromagnet (8) is not fed, the moving core pushed by the springs (5) actuates on the brake disc
(2) and stops the rotation of the driving shaft.

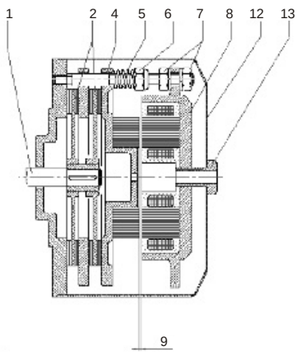
ADJUSTMENT OF THE BRAKING TORQUE

The braking torque is proportional to the compression of springs (5) and is varied by turning the self-locking nuts (6); the more springs are compressed, the greater the braking torque is.

ADJUSTMENT OF THE AIR GAP

The air gap (9) is the distance between electromagnet (8) and the moving core (4).
It is recommended to check the air gap regularly, since due to wear of the packings of the brake disc (2) it tends to increase. Turn nuts (7) to bring the air gap to the required value.
Pls. contact our technical department for information on the air gap adjustment values.

ELECTROMAGNETIC TWO DISC BRAKE



OPERATING PRINCIPLE

A) When brake is fed, the electromagnet (8) overcomes the strength exerted by the springs (5), attracts the moving core (4), releases the brake discs (2) and enables the motor shaft (1) to rotate freely.
B) When the electromagnet (8) is not fed, the moving core pushed by the springs (5) actuates on the brake discs (2) and stops the rotation of the driving shaft.

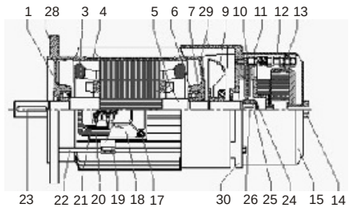
ADJUSTMENT OF THE BRAKING TORQUE

The braking torque is proportional to the compression of springs (5) and is varied by turning the self-locking nuts (6); the more springs are compressed, the greater the braking torque is.

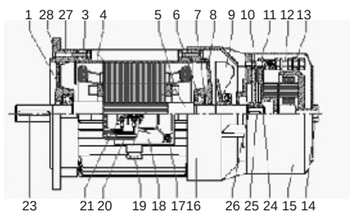
ADJUSTMENT OF THE AIR GAP

The air gap (9) is the distance between electromagnet (8) and the moving core (4).
It is recommended to check the air gap regularly, since due to wear of the packing of the brake disc (2) it tends to increase. Turn nuts (7) to bring the air gap to the required value.
Pls. contact our technical department for information on the air gap adjustment values.

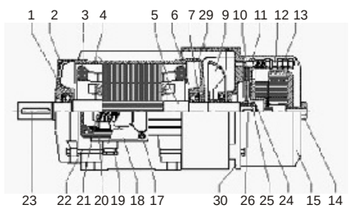
MSBCA Brake Motor B5 Frame Size 63~112



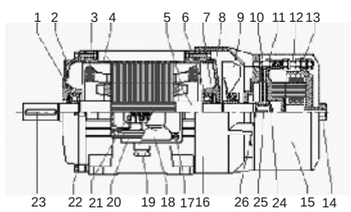
MSBCA Brake Motor B5 Frame Size 132~160



MSBCA Brake Motor B3 Frame Size 63~112



MSBCA Brake Motor B3 Frame Size 132~160



ASYNCHRONOUS THREE-PHASE BRAKE MOTORS with squirrel cage rotor -Type MSBCA Frame B3 Sizes 63~160 Type MSBCA Frame B5 Sizes 63~160 Enclosed construction -External ventilation

SPARE PARTS

1. Front bearing
2. Front shield
3. Winding
4. Frame with stator package
5. Shaft with rotor
6. Rear bearing
7. Compensating spring
8. Rear shield
9. Cooling fan
10. Brake disc
11. Moving anchor
12. Stud bolt with brake adjustment nuts
13. Electromagnet
14. Fixing bushing for brake hood
15. Brake hood
16. Brake holder
17. Fixing screw for terminal cover
18. Terminal-box cover
19. Cable-holder
20. Packing
21. Terminal box
22. Tie-bolt
23. Coupling side key
24. Seeger elastic ring
25. Brake side key
26. Toothed pignon
27. Fixing screw for shield
28. Shield with flange
29. Shield hood
30. Core