



## TECHNICAL DATA: SINGLE SPEED MOTORS - SINGLE WINDING

MOTOR TYPE	Power [Kw]	r.p.m.	In (A) 400 V	cos φ	Ts/Tn	Is/In	A.C. brake I nom. (mA)	D.C. brake I nom. (mA)	Z <sub>0</sub>	Jx 10 <sup>-4</sup> Kgm <sup>2</sup>	Max braking torque (Nm)	A-sound pressure dB(A)	Weight Kg
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2 poles

3000 rpm

BM 63 A2	0.18	2800	0.60	0.75	3.0	3.5	****	200	9000	1.93	5.0	55	4.6
BM 63 B2	0.25	2800	0.75	0.70	3.5	5.0	****	200	7500	2.30	5.0	55	4.9
BM 63 C2	0.37	2800	0.95	0.77	2.5	3.8	****	200	6000	2.50	5.0	55	5.1
BA 71 A2	0.37	2810	0.95	0.80	2.6	3.9	65	110	6000	4.88	14	59	9.5
BA 71 B2	0.55	2810	1.45	0.80	2.6	3.9	65	110	6000	5.48	14	59	10.5
BA 71 C2	0.75	2850	1.90	0.74	2.7	4.6	65	110	5000	6.15	14	59	11.0
BA 80 A2	0.75	2800	1.70	0.86	3.1	5.3	125	150	6000	11.64	18	65	14.5
BA 80 B2	1.1	2800	2.40	0.86	3.1	5.3	125	150	6000	12.96	18	65	15.5
BA 90 SA2	1.5	2850	3.3	0.86	3.0	6.9	240	150	4500	18.95	38	72	20.0
BA 90 LA2	2.2	2850	4.5	0.86	3.0	6.9	240	150	4500	21.84	38	72	22.5
BA 100 LA2	3.0	2860	6.2	0.84	3.2	8.1	240	150	2800	39.82	50	74	30.0
BA 112 MB2	4.0	2880	8.1	0.87	2.5	7.4	280	470	1700	68.96	80	75	44.0
CF 132 SA2	5.5	2870	10.4	0.87	2.3	5.1	580	680	480	170.0	150	75	79.0
CF 132 SB2	7.5	2875	14.0	0.94	2.3	5.1	580	680	480	205.0	150	75	85.0
CF 160 MA2	11.0	2880	23.0	0.92	3.0	8.8	1390	860	350	485.0	190	77	138
CF 160 MB2	15.0	2880	30.0	0.93	3.0	8.8	1390	860	350	585.0	190	77	150
CF 160 LA2	18.5	2880	37.0	0.93	3.0	8.8	1390	860	350	685.0	190	77	168
CF 180 LA2	22.0	2870	47.0	0.93	1.8	6.5	950	1100	120	1650	300	78	230
CF 200 LA2	30.0	2945	55.0	0.87	2.3	6.7	950	1100	90	1950	300	79	175
CF 200 LB2	37.0	2945	68.0	0.87	2.4	6.5	950	1100	90	2100	300	79	190

4 poles

1500 rpm

BM 63 A4	0.12	1330	0.45	0.76	2.0	2.4	****	200	12000	2.47	5.0	42	4.4
BM 63 B4	0.18	1350	0.6	0.71	3.0	2.8	****	200	12000	3.08	5.0	42	5.1
BM 63 C4	0.22	1350	0.75	0.72	2.8	3.1	****	200	12000	3.55	5.0	42	5.5
BM 63 D4	0.30	1350	0.9	0.76	2.8	3.0	****	200	12000	3.83	5.0	42	5.8
BA 71 A4	0.25	1400	0.8	0.68	2.9	4.0	65	110	20000	7.2	14	45	9.5
BA 71 B4	0.37	1400	1.1	0.68	2.9	4.4	65	110	19000	8.1	14	45	10.5
BA 71 C4	0.55	1360	1.65	0.73	2.6	3.2	65	110	18000	9.43	14	45	11.5
BA 71 D4	0.65	1350	2.0	0.69	2.5	3.7	65	110	16000	9.92	14	45	12.0
BA 80 A4	0.55	1400	1.7	0.69	2.2	4.0	125	150	10000	14.97	18	47	14.0
BA 80 B4	0.75	1400	2.2	0.67	2.6	4.3	125	150	10000	17.19	18	47	15.0
BA 80 C4	0.9	1390	2.65	0.68	2.8	3.8	125	150	10000	18.3	18	47	16.0
BA 90 SA4	1.1	1400	2.7	0.77	2.3	4.6	240	150	15000	26.15	38	55	20.0
BA 90 LA4	1.5	1400	3.6	0.75	3.0	4.8	240	150	12000	30.53	38	55	22.5
BA 90 LB4	1.85	1400	4.3	0.77	3.0	4.6	240	150	9000	34.57	38	55	24.0
BA 100 LA4	2.2	1410	5.0	0.78	2.7	5.7	240	150	8000	51.14	50	57	32.0
BA 100 LB4	3.0	1410	6.4	0.83	2.7	5.0	240	150	7000	60.07	50	57	36.0
BA 112 MB4	4.0	1415	8.1	0.87	2.5	6.5	280	470	4000	125.7	80	61	45.0
CF 132 SB4	5.5	1425	11.5	0.80	2.6	5.8	580	680	1200	325.0	150	62	85.0
CF 132 MA4	7.5	1430	14.6	0.85	2.6	5.8	580	680	950	390.0	150	62	96.0
CF 132 MB4	8.8	1430	17.0	0.81	2.6	6.0	580	680	900	470.0	150	62	104
CF 160 MA4	9.2	1450	17.0	0.80	2.6	5.8	1390	860	850	725.0	190	63	138
CF 160 MB4	11.0	1460	22.0	0.80	2.8	5.8	1390	860	850	905.0	190	63	150
CF 160 LA4	15.0	1460	29.0	0.81	2.8	5.8	1390	860	850	1130	190	63	168
CF 180 LA4	18.5	1450	35.0	0.86	2.5	6.0	950	1100	540	1650	300	64	230
CF 180 LB4	22.0	1450	40.0	0.89	2.5	6.0	950	1100	540	1870	300	64	250
CF 200 LB4	30.0	1465	57.3	0.85	2.4	6.3	950	1100	300	2100	300	66	210



## BRAKE GROUP BA - CF SERIES

As standard all the BA-CF serie-motors are supplied with an A.C. brake. On request the D.C. brake is available. The difference between the D.C. and the A.C. brake group is the brake coil and the rectifier in the terminal board box, through which the D.C. coil is fed.

Both types of brake can be fed for an unlimited time also with the motor in standby.

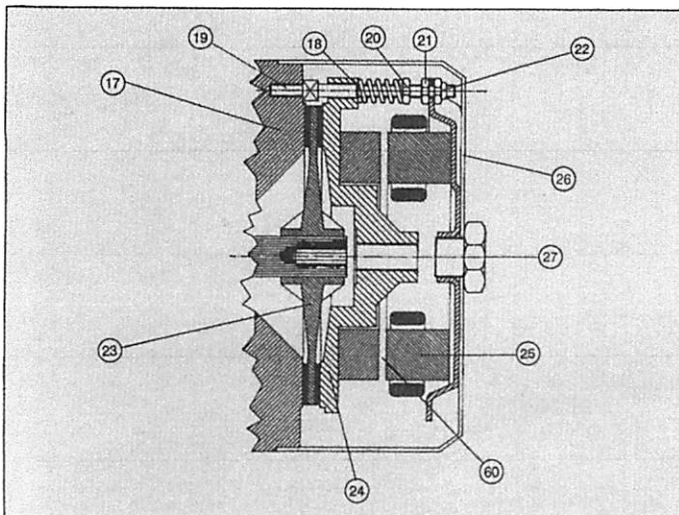
The A.C. brake permits a very quick and precise operation; the D.C. brake is more progressive and silent. The brake action is obtained without axial sliding of the shaft, and it is equally powerful on both directions of rotations. The brake disc material is asbestos free with an high friction coefficient and a long lifetime.

The table below shows max. braking torques for executions with A.C. as well as D.C. braking coils. For motors in execution BAF - CFF (double brake disc) the maximum torques can be increased with 60%.

MOTOR TYPE BA - CF	71	80	90	100	112	132	160	180	200
Max. braking torque A.C. (Nm)	14	18	38	50	80	150	190	300	300
Max. braking torque D.C. (Nm)	9	15	30	42	60	120	155	180	180

M.G.M. brake motors are pre-arranged for manual turning by means of hexagonal tool that can be fitted in a hexagonal hole in end of rotor shaft (reg. patent). As standard all motors series BA - CF are equipped with a hand lifting device for manual brake release allowing a manual turning of the motor shaft.

The standard supply voltage is 230/400V 50Hz for A.C. brake and 230V for D.C. brake. On request it is possible to supply brake coils with different voltages.



### AIR GAP ADJUSTMENT

The air gap (60), i.e. the distance between the 2 magnetics cores, brake coil (25) and brake moving element (24), must be 2-4 tenths of a millimeter. It is unadvisable to exceed this value in order to avoid vibrations of the brake moving element and, probably, the burning of the brake coil.

It is advisable to check periodically the air gap, because by the wear of the brake disc linings, it tends to increase. In order to set the air gap back to the required value, operate on the nut (21) to obtain the brake coil's forward displacement towards the brake moving element.

When this operation has been settled, the locknut (22) should be tightened.

### BRAKING TORQUE ADJUSTMENT

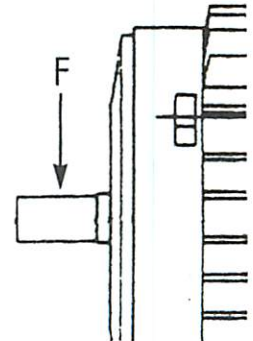
The braking torque is proportional to the springs (18) compression, which can be varied operating on locknut (20). The compression of the three springs must be as even as possible. If the brake coil (25) isn't able to call the brake moving element (24) back with a quick stroke and keep it attracted without vibrations, verify the exact air gap adjustment and, if this inconvenience still persists, loosen the locknut (20) of two threads and try it again until desired functioning is obtained.

All M.G.M. motors are equipped with ball bearings with double seal. The bearings are lubricated for life, washers are in synthetic rubber with high resistance to oils and wear, they are reinforced with a steel plate and they have a nominal service temperature between  $-40 + 120^{\circ}\text{C}$ .

MOTOR SIZE	TYPE OF BEARING	
	(DRIVE) SIDE "A"	(NON DRIVE) SIDE "B"
63	6202 - 2RS1	6202 - 2RS1
71	6203 - 2RS1	6203 - 2RS1
80	6204 - 2RS1	6204 - 2RS1
90	6205 - 2RS1	6205 - 2RS1
100	6206 - 2RS1	6206 - 2RS1
112	6306 - 2RS1	6306 - 2RS1
132	6308 - 2RS1	6308 - 2RS1
160	62309 - 2RS1	62309 - 2RS1
180	62310 - 2RS1	62310 - 2RS1
200	6312 - Z - C3	62310 - 2RS1

The nominal bearings lifetime is calculated in working hours according to international bearings lifetime calculations, and is depending on the applied load, temperature and speed.

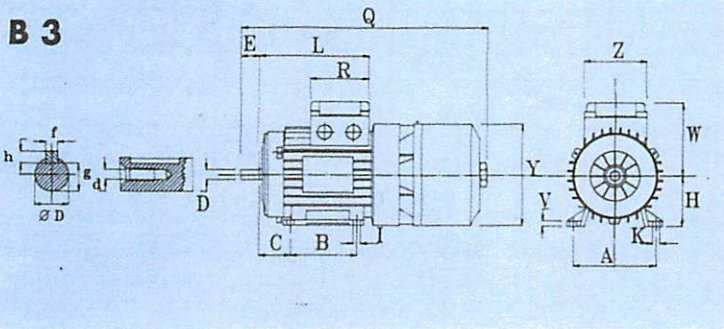
For the different lifetimes at different speeds the maximum allowed overhung load (N) acting at the middle of the output shaft (F in the sketch), can be obtained from the table below for every motor frame size.



MOTOR SIZE	L10 = 20000 h.				L10 = 40000 h.			
	2 POLES	4 POLES	6 POLES	8 POLES	2 POLES	4 POLES	6 POLES	8 POLES
63	410	520	600	650	330	410	470	520
71	500	630	720	800	400	500	570	630
80	660	840	950	1200	500	660	750	840
90	720	900	1000	1300	550	720	820	900
100	1000	1250	1400	1800	790	1000	1100	1250
112	1450	1850	2100	2650	1150	1450	1650	1850
132	2150	2700	3100	3950	1700	2150	2450	2700
160	2700	3400	3900	4900	2100	2700	3050	3400
180	3250	4100	4700	5980	2600	3250	3750	4100
200	4300	5450	6250	6850	3400	4300	4950	5450

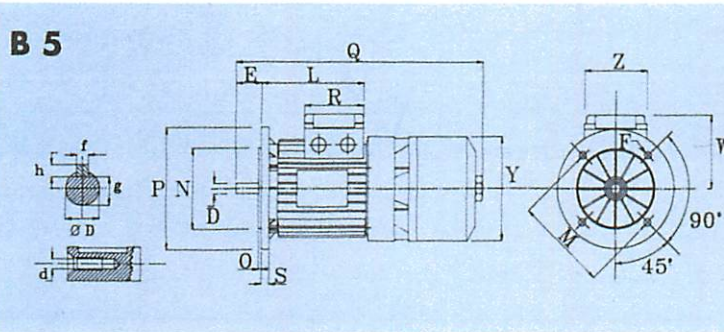
TYPE	Ø D	E	f	g	h	L	Q	R	V	Y	Z	d	Q BAPV BAF
71	14	30	5	11	5	148	342	81	8.5	150	75	M5	365
80	19	40	6	15.5	6	162	370	81	9.5	170	75	M6	392
90 S	24	50	8	20	7	171	410	98.5	10.5	185	98.5	M8	433
90 L	24	50	8	20	7	196	435	98.5	10.5	185	98.5	M8	458
100	28	60	8	24	7	217	484	98.5	13	199	98.5	M10	508
112	28	60	8	24	7	229	505	98.5	13.5	221	98.5	M10	528

### B 3



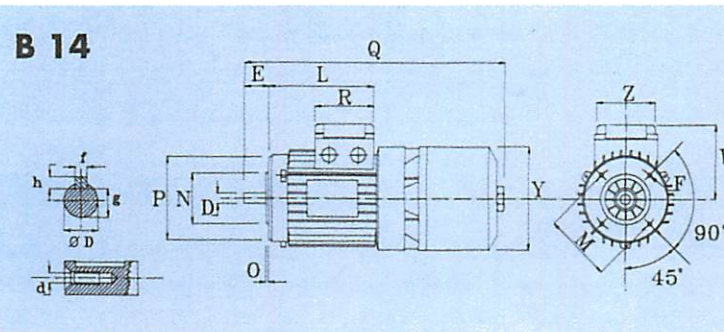
TYPE	A	B	C	H	I	K	W
71	112	90	45	71	7	10.5	102
80	125	100	50	80	9	14	113
90S	140	100	56	90	10	14	127
90L	140	125	56	90	10	14	127
100	160	140	63	100	12	15	138
112	190	140	70	112	12.5	16	158

### B 5



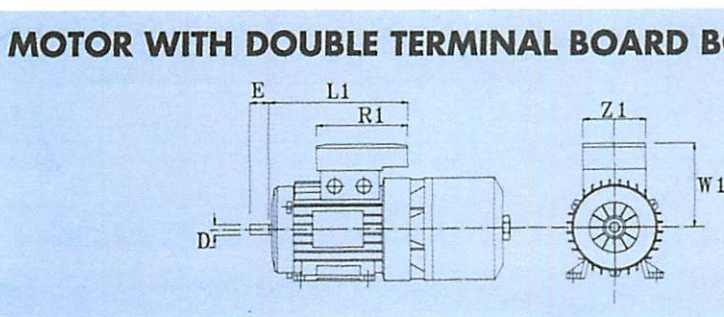
TYPE	F	Ø M	Ø N	O	Ø P	S
71	9.5	130	110	3.5	160	10
80	11.5	165	130	3.5	200	12
90S	11.5	165	130	3.5	200	12
90L	11.5	165	130	3.5	200	12
100	14	215	180	4	250	14
112	14	215	180	4	250	14

### B 14



TYPE	F	Ø M	Ø N	O	Ø P
71	M6	85	70	2.5	105
80	M6	100	80	3	120
90S	M8	115	95	3	140
90L	M8	115	95	3	140
100	M8	130	110	3.5	160
112	M8	130	110	3.5	160

## MOTOR WITH DOUBLE TERMINAL BOARD BOX



TYPE	E	L1	R1	W1	Z1
71	30	180	135	120	86
80	40	194	135	131	86
90S	50	207	170	148	112
90L	50	232	170	148	112
100	60	254	170	162	112
112	60	262	170	176	112

NOTES: Q shows the dimension Q for BAF and BAPV version.

Cable gland PG16