

# TECA-BM

## **Series Aluminium Housing Three-Phase Multi-Mount Asynchronous Brake Motor With Squirrel Cage Rotor · Direct Current Brake**



TEC brake-motor in the TECA-BM series utilises an asynchronous three-phase motor and an electromagnetic D.C brake Unit.

Features include reliability, operating safety, and quick braking time (connection and disconnection=5–80 milli seconds) they are suitable for a variety of applications, such as:

- Braking of loads or torques on the drive shaft
- Braking of rotating loads to reduce stopping time
- Braking operations to assist set-up precision
- Braking of machine parts, in accordance with safety standards

## Technical Features

**2 poles-3000rpm-50Hz**  
**Brake motors have a  $\pm 6\%$  tolerance on the supply voltage**

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power Factor (Cos $\phi$ )	Current (A)			$T_{st}/T_n$ (Times)	$T_{max}/T_n$ (Times)	$T_{min}/T_n$ (Times)	$I_{st}/I_n$ (Times)	Noise dB(A)
					230V	400V	690V					
TECA-BM 631-2	0.18	2710	63	0.75	0.95	0.55	0.32	2.2	2.4	1.6	6	61
TECA-BM 632-2	0.25	2710	65	0.78	1.23	0.71	0.41	2.2	2.4	1.6	6	61
TECA-BM 633-2	0.37	2710	65	0.78	1.82	1.05	0.61	2.2	2.4	1.6	6	62
TECA-BM 711-2	0.37	2730	70	0.79	1.67	0.97	0.56	2.2	2.4	1.6	6	64
TECA-BM 712-2	0.55	2760	71	0.79	2.45	1.42	0.82	2.2	2.4	1.6	6	64
TECA-BM 713-2	0.75	2730	72	0.82	3.18	1.83	1.06	2.2	2.4	1.5	6	65
TECA-BM 801-2	0.75	2770	73	0.84	3.06	1.77	1.02	2.2	2.4	1.5	6	67
TECA-BM 802-2	1.1	2770	76.2	0.83	4.35	2.51	1.45	2.2	2.4	1.5	6	67
TECA-BM 803-2	1.5	2800	78.5	0.83	5.87	3.32	1.92	2.2	2.4	1.5	6	70
TECA-BM 90S-2	1.5	2840	78.5	0.84	5.76	3.28	1.90	2.2	2.4	1.5	6	72
TECA-BM 90L1-2	2.2	2840	81	0.85	8.0	4.61	2.66	2.2	2.4	1.4	6	72
TECA-BM 90L2-2	3	2840	82.6	0.86	10.56	6.10	3.52	2.2	2.4	1.4	6	74
TECA-BM 100L1-2	3	2840	82.6	0.87	10.44	6.03	3.48	2.2	2.3	1.4	7	76
TECA-BM 100L2-2	4	2850	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
TECA-BM 112M-2	4	2880	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
TECA-BM 112L-2	5.5	2880	85.7	0.88	18.23	10.53	6.08	2.2	2.3	1.2	7.5	78
TECA-BM 132S1-2	5.5	2900	85.7	0.88	18.23	10.53	6.08	2	2.2	1.2	7.5	80
TECA-BM 132S2-2	7.5	2920	87	0.88	24.49	14.14	8.16	2	2.2	1.2	7.5	80
TECA-BM 132M1-2	9.2	2930	88	0.89	29.87	17.25	9.96	2	2.2	1.2	7.5	81
TECA-BM 132M2-2	11	2930	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	83
TECA-BM 160M1-2	11	2940	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	86
TECA-BM 160M2-2	15	2940	89.4	0.91	46.09	26.61	15.36	2	2.2	1.2	7.5	86
TECA-BM 160L-2	18.5	2940	90	0.91	56.47	32.6	18.82	2	2.2	1.1	7.5	86

Type	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake $Pd^2$ Kg $m^2$	No. of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
TECA-BM 63	K 1	5	15	0.00005	3000	45	20	10	62
TECA-BM 71	K 2	12	20	0.00014	3000	50	30	15	64
TECA-BM 80	K 3	16	25	0.00021	1300	55	30	15	67
TECA-BM 90S	K 4	20	30	0.00039	1100	65	40	15	72
●TECA-BM 90S	K 4 D	40	30	0.00078	1100	65	40	15	72
TECA-BM 90 L	K 4	20	30	0.00039	1100	65	40	15	72
●TECA-BM 90 L	K 4 D	40	30	0.00078	1100	65	40	15	72
TECA-BM 100 L	K 5	40	45	0.00104	900	75	45	20	76
●TECA-BM 100 L	K 6	60	50	0.00135	900	180	85	25	76
TECA-BM 112 MT	K 5	40	45	0.00104	880	75	45	20	77
TECA-BM 112 M	K 6	60	50	0.00135	880	180	85	25	78
TECA-BM 132 S	K 7	90	55	0.00219	480	200	95	50	80
●TECA-BM 132 S	K 7 D	180	55	0.00438	480	200	95	50	80
TECA-BM 132 M	K 7	90	55	0.00219	450	200	95	50	80
●TECA-BM 132 M	K 7 D	180	55	0.00438	480	200	95	50	80
TECA-BM 160 MT	K 7 D	180	55	0.00438	350	200	95	50	86
TECA-BM 160 L	K 8	200	60	0.00408	350	210	100	60	86
●TECA-BM 160 L	K 8 D	400	60	0.00816	350	210	100	60	86

● Motor with increased braking torque on request

★ On request, delayed brake cut in time for lifting equipment. We suggest double disk brake D for lifting equipment.

## Technical Features

### 4 poles-1500rpm-50Hz

Brake motors have a  $\pm 6\%$  tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power Factor (Cos $\phi$ )	Current (A)			$T_{st}/T_n$ (Times)	$T_{max}/T_n$ (Times)	$T_{min}/T_n$ (Times)	$I_{st}/I_n$ (Times)	Noise dB(A)
					230V	400V	690V					
TECA-BM 631-4	0.12	1350	57	0.64	0.82	0.47	0.27	2.2	2.4	1.7	6	52
TECA-BM 632-4	0.18	1350	59	0.65	1.17	0.68	0.39	2.2	2.4	1.7	6	52
TECA-BM 633-4	0.25	1350	60	0.66	1.58	0.91	0.53	2.2	2.4	1.7	6	54
TECA-BM 711-4	0.25	1350	60	0.72	1.45	0.84	0.48	2.2	2.4	1.7	6	55
TECA-BM 712-4	0.37	1370	65	0.74	1.92	1.11	0.64	2.2	2.4	1.7	6	55
TECA-BM 713-4	0.55	1380	66	0.75	2.78	1.60	0.93	2.2	2.4	1.7	6	57
TECA-BM 801-4	0.55	1370	67	0.75	2.74	1.58	0.91	2.2	2.4	1.7	6	58
TECA-BM 802-4	0.75	1380	72	0.78	3.34	1.93	1.11	2.2	2.4	1.6	6	58
TECA-BM 803-4	1.1	1390	76.2	0.78	4.63	2.67	1.54	2.2	2.4	1.6	6	60
TECA-BM 90S-4	1.1	1400	76.2	0.79	4.57	2.64	1.52	2.2	2.4	1.6	6	61
TECA-BM 90L-4	1.5	1400	78.5	0.8	5.97	3.45	1.99	2.2	2.4	1.6	6	61
TECA-BM 90L2-4	2.2	1400	81	0.8	8.45	4.90	2.83	2.2	2.4	1.5	7	63
TECA-BM 100L1-4	2.2	1420	81	0.81	8.38	4.84	2.79	2.2	2.3	1.5	7	64
TECA-BM 100L2-4	3	1420	82.6	0.81	11.21	6.47	3.74	2.2	2.3	1.5	7	64
TECA-BM 100L3-4	4	1430	84.2	0.82	14.18	8.36	4.83	2.2	2.3	1.5	7	65
TECA-BM 112M-4	4	1430	84.2	0.83	14.31	8.26	4.77	2.2	2.2	1.5	7	65
TECA-BM 112L-4	5.5	1440	85.7	0.83	19.33	11.16	6.44	2.2	2.2	1.4	7	68
TECA-BM 132S-4	5.5	1450	85.7	0.84	19.1	11.03	6.37	2.2	2.2	1.4	7	71
TECA-BM 132M-4	7.5	1450	87	0.85	25.35	14.64	8.45	2.2	2.2	1.4	7	71
TECA-BM 132L1-4	9.2	1460	87.5	0.85	30.92	17.85	10.31	2.2	2.2	1.4	7.5	74
TECA-BM 132L2-4	10	1460	88	0.85	33.42	19.3	11.14	2.2	2.2	1.4	7.5	74
TECA-BM 132L2-4	11	1460	88.4	0.86	36.17	20.88	12.06	2.2	2.2	1.4	7.5	74
TECA-BM 160M-4	11	1460	88.4	0.87	35.76	20.64	11.92	2.2	2.2	1.4	7	75
TECA-BM 160L-4	15	1460	88.4	0.87	48.76	28.15	16.25	2.2	2.2	1.4	7.5	75

Type	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake $Pd^2$ Kgm <sup>2</sup>	No. of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
TECA-BM 63	K 1	5	15	0.00005	3000	45	20	10	52
TECA-BM 71	K 2	12	20	0.00014	3000	50	30	15	55
TECA-BM 80	K 3	16	25	0.00021	1300	55	30	15	58
TECA-BM 90S	K 4	20	30	0.00039	1100	65	40	15	61
● TECA-BM 90S	K 4 D	40	30	0.00078	1100	65	40	15	61
TECA-BM 90 L	K 4	20	30	0.00039	1100	65	40	15	63
● TECA-BM 90 L	K 4 D	40	30	0.00078	1100	65	40	15	63
TECA-BM 100 L	K 5	40	45	0.00104	900	75	45	20	64
● TECA-BM 100 L	K 6	60	50	0.00135	900	180	85	25	65
TECA-BM 112 MT	K 5	40	45	0.00104	880	75	45	20	65
TECA-BM 112 M	K 6	60	50	0.00135	880	180	85	25	65
TECA-BM 132 S	K 7	90	55	0.00219	480	200	95	50	71
● TECA-BM 132 S	K 7 D	180	55	0.00438	480	200	95	50	71
TECA-BM 132 M	K 7	90	55	0.00219	450	200	95	50	71
● TECA-BM 132 M	K 7 D	180	55	0.00438	480	200	95	50	71
TECA-BM 160 MT	K 7 D	180	55	0.00438	350	200	95	50	75
TECA-BM 160 L	K 8	200	60	0.00408	350	210	100	60	75
● TECA-BM 160 L	K 8 D	400	60	0.00816	350	210	100	60	75

● Motor with increased braking torque on request

★ On request, delayed brake cut in time for lifting equipment. We suggest double disk brake D for lifting equipment.

## Technical Features

**6 poles-1000rpm-50Hz**  
**Brake motors have a  $\pm 6\%$  tolerance on the supply voltage**

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power Factor (Cos $\phi$ )	Current (A)			$T_{st}/T_n$ (Times)	$T_{max}/T_n$ (Times)	$T_{min}/T_n$ (Times)	$I_{st}/I_n$ (Times)	Noise dB(A)
					230V	400V	690V					
TECA-BM 631-6	0.09	840	42	0.61	0.88	0.51	0.29	2	2	1.5	3.5	50
TECA-BM 632-6	0.12	850	45	0.62	1.08	0.62	0.36	2	2	1.5	3.5	50
TECA-BM 711-6	0.18	880	56	0.66	1.22	0.70	0.41	1.6	1.7	1.5	4	52
TECA-BM 712-6	0.25	900	59	0.7	1.51	0.87	0.50	2.1	2.2	1.5	4	52
TECA-BM 713-6	0.37	890	61	0.69	2.2	1.27	0.73	2	2.1	1.5	4	54
TECA-BM 801-6	0.37	900	62	0.7	2.13	1.23	0.71	1.9	1.9	1.5	4	56
TECA-BM 802-6	0.55	900	67	0.72	2.85	1.65	0.95	2	2.3	1.5	4	56
TECA-BM 803-6	0.75	900	68	0.72	3.83	2.21	1.28	2	2.3	1.5	4	58
TECA-BM 90S-6	0.75	920	69	0.72	3.77	2.18	1.26	2.2	2.2	1.5	5.5	59
TECA-BM 90L-6	1.1	925	72	0.73	5.23	3.02	1.74	2.2	2.2	1.3	5.5	59
TECA-BM 100L-6	1.5	945	74	0.76	6.67	3.85	2.22	2.2	2.2	1.3	6	61
TECA-BM 112M-6	2.2	955	78	0.76	9.28	5.36	3.09	2.2	2.2	1.3	6	64
TECA-BM 132S-6	3	960	79	0.76	12.49	7.21	4.16	2	2	1.3	6.5	64
TECA-BM 132M1-6	4	960	80.5	0.76	16.35	9.44	5.45	2	2	1.3	6.5	68
TECA-BM 132M2-6	5.5	960	83	0.77	21.51	12.42	7.17	2	2	1.3	6.5	68
TECA-BM 132L-6	7.5	960	85	0.77	28.65	16.54	9.55	2	2	1.3	6.5	68
TECA-BM 160M-6	7.5	960	86	0.8	27.25	15.73	9.08	2	2.2	1.3	6.5	68
TECA-BM 160L-6	11	960	87.5	0.79	39.78	22.97	13.26	2	2.2	1.2	6.5	73

Type	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake $Pd^2$ Kg $m^2$	No.of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
TECA-BM 63	K 1	5	15	0.00005	3000	45	20	10	50
TECA-BM 71	K 2	12	20	0.00014	3000	50	30	15	52
TECA-BM 80	K 3	16	25	0.00021	1300	55	30	15	56
TECA-BM 90S	K 4	20	30	0.00039	1100	65	40	15	59
●TECA-BM 90S	K 4 D	40	30	0.00078	1100	65	40	15	59
TECA-BM 90 L	K 4	20	30	0.00039	1100	65	40	15	59
●TECA-BM 90 L	K 4 D	40	30	0.00078	1100	65	40	15	59
TECA-BM 100 L	K 5	40	45	0.00104	900	75	45	20	61
●TECA-BM 100 L	K 6	60	50	0.00135	900	180	85	25	61
TECA-BM 112 MT	K 5	40	45	0.00104	880	75	45	20	64
TECA-BM 112 M	K 6	60	50	0.00135	880	180	85	25	64
TECA-BM 132 S	K 7	90	55	0.00219	480	200	95	50	64
●TECA-BM 132 S	K 7 D	180	55	0.00438	480	200	95	50	64
TECA-BM 132 M	K 7	90	55	0.00219	450	200	95	50	68
●TECA-BM 132 M	K 7 D	180	55	0.00438	480	200	95	50	68
TECA-BM 160 MT	K 7 D	180	55	0.00438	350	200	95	50	68
TECA-BM 160 L	K 8	200	60	0.00408	350	210	100	60	73
●TECA-BM 160 L	K 8 D	400	60	0.00816	350	210	100	60	73

● Motor with increased braking torque on request

★ On request, delayed brake cut in time for lifting equipment. We suggest double disk brake D for lifting equipment.

## Technical Features

### 8 poles-750rpm-50Hz

Brake motors have a  $\pm 6\%$  tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power Factor (Cos $\phi$ )	Current (A)			$T_{st}/T_n$ (Times)	$T_{max}/T_n$ (Times)	$T_{min}/T_n$ (Times)	$I_{st}/I_n$ (Times)	Noise dB(A)
					230V	400V	690V					
TECA-BM 711-8	0.09	680	48	0.56	0.84	0.48	0.28	1.5	1.7	1.3	3	50
TECA-BM 712-8	0.12	690	51	0.59	1.00	0.58	0.33	1.6	1.7	1.3	2.7	50
TECA-BM 801-8	0.18	680	51	0.61	1.45	0.84	0.48	1.5	1.7	1.3	2.8	52
TECA-BM 802-8	0.25	680	56	0.61	1.83	1.06	0.61	1.6	2	1.3	2.7	52
TECA-BM 90S-8	0.37	680	63	0.63	2.33	1.35	0.78	1.6	1.8	1.3	2.8	56
TECA-BM 90L-8	0.55	680	66	0.65	3.21	1.85	1.07	1.6	1.8	1.3	3	56
TECA-BM 100L1-8	0.75	710	66	0.67	4.24	2.45	1.41	1.7	2.1	1.3	3.5	59
TECA-BM 100L2-8	1.1	710	72	0.69	5.54	3.20	1.85	1.7	2.1	1.2	3.5	59
TECA-BM 112M-8	1.5	710	74	0.68	7.45	4.30	2.48	1.8	2.1	1.2	4.2	61
TECA-BM 132S-8	2.2	720	75	0.71	10.33	5.96	3.44	2	2	1.2	5.5	64
TECA-BM 132M-8	3	720	77	0.73	13.34	7.70	4.45	2	2	1.2	5.5	64
TECA-BM 160M1-8	4	730	80	0.73	17.12	9.89	5.71	1.9	2.1	1.2	6	68
TECA-BM 160M2-8	5.5	720	83.5	0.74	22.25	12.85	7.42	2	2.2	1.2	6	68
TECA-BM 160L-8	7.5	720	85	0.75	29.41	17.0	9.8	1.9	2.2	1.2	6	68

Type	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake $Pd^2$ Kgm <sup>2</sup>	No. of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
63 TECA-BM	K 1	5	15	0.00005	3000	45	20	10	50
71 TECA-BM	K 2	12	20	0.00014	3000	50	30	15	50
80 TECA-BM	K 3	16	25	0.00021	1300	55	30	15	52
90 S TECA-BM	K 4	20	30	0.00039	1100	65	40	15	56
●90 S TECA-BM	K 4 D	40	30	0.00078	1100	65	40	15	56
90 L TECA-BM	K 4	20	30	0.00039	1100	65	40	15	56
●90 L TECA-BM	K 4 D	40	30	0.00078	1100	65	40	15	56
100 L TECA-BM	K 5	40	45	0.00104	900	75	45	20	59
●100 L TECA-BM	K 6	60	50	0.00135	900	180	85	25	59
112 MT TECA-BM	K 5	40	45	0.00104	880	75	45	20	61
112 M TECA-BM	K 6	60	50	0.00135	880	180	85	25	61
132 S TECA-BM	K 7	90	55	0.00219	480	200	95	50	64
●132 S TECA-BM	K 7 D	180	55	0.00438	480	200	95	50	64
132 M TECA-BM	K 7	90	55	0.00219	450	200	95	50	64
●132 M TECA-BM	K 7 D	180	55	0.00438	480	200	95	50	64
160 MT TECA-BM	K 7 D	180	55	0.00438	350	200	95	50	68
160 L TECA-BM	K 8	200	60	0.00408	350	210	100	60	68
●160 L TECA-BM	K 8 D	400	60	0.00816	350	210	100	60	68

● Motor with increased braking torque on request

★ On request, delayed brake cut in time for lifting equipment. We suggest double disk brake D for lifting equipment.

## Direct Current Brake Series CC

### OPERATING PRINCIPLE

The direct current brake is fed by means of an electronic circuit with diode bridge (rectifier) situated inside the terminal-box. When feeding the electromagnet (5), the movable anchor (4) is attracted towards the same, thus loading the braking torque springs (9) and allowing the disk (2), equipped with friction pad and fitted on the gear hub (6) to turn solely the motor shaft (1) by means of a key (7). By interrupting the feeding, the movable anchor (4), pushed by the braking torque springs (9), exerts a pressure upon the friction surface of the disk (2), thus causing it to stop.

### ADJUSTMENT OF THE AIR GAP

The air gap (11) is the distance between the electromagnet (5) and the movable anchor (9).

The air gap has to be regularly checked, since due to the wear of the friction pad (2) it tends to increase.

Act on the brake adjusters (3) after loosening the screws (8) to bring the air gap to the required value.

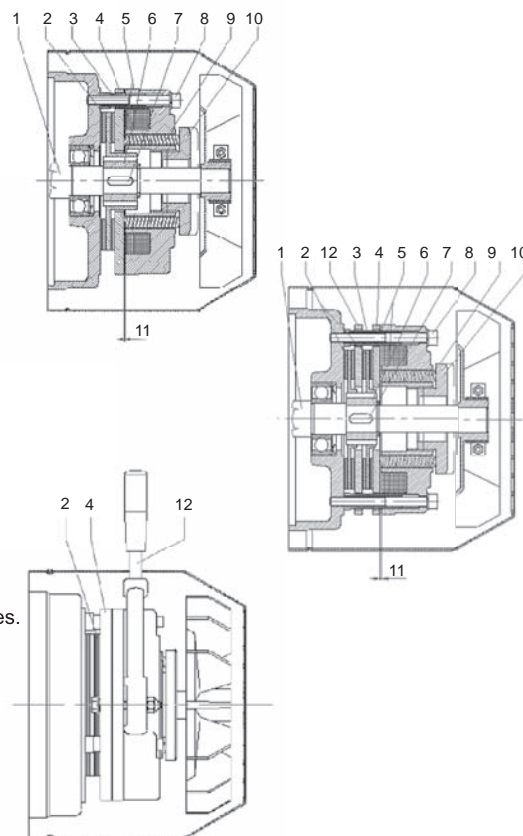
Act on the ring nut (10) which acts on the braking torque springs (9) to adjust the braking torque.

Pls. contact our technical department for information on the air gap adjustment values.

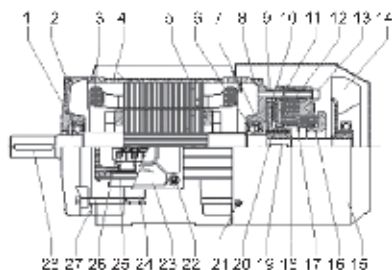
### HANDRELEASE WITH LEVER

Up on request a hand release with lever can be supplied.

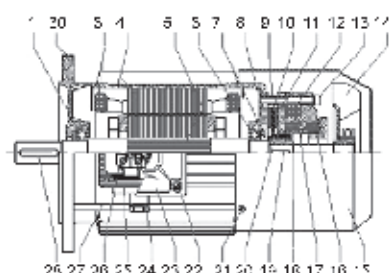
In case of a current cutoff, acting on the lever (12), the release, connected to the movable anchor (4) overcomes the springs pressure, thus detaching the movable anchor from the disc friction packing (2) allowing the shaft to turn.



### TECA-BM Brake Motors B3 63-160 Frame



### TECA-BM Brake Motors B5 63-160 Frame



### SPARE PARTS

1. Front bearing
2. Front shield
3. Winding
4. Frame with stator package
5. Shaft with rotor
6. Rear bearing
7. Spring
8. Rearshield
9. Adjusting bush
10. Brake disc
11. Moving anchor
12. Electromagnet coil with diode
13. Fixing screws for brake
14. Cooling fan
15. Fan cowl
16. Ring nut
17. Spring
18. See gearing
19. Key brake side
20. Toothed pinion
21. Fixing screw for fan cowl
22. Fixing screw for terminal-box
23. Terminal-box
24. Cable gland
25. Packing
26. Terminal-block
27. Tie-bolt
28. Shaft key
29. Fixing screw for shield

ASYNCHRONOUS THREE-PHASE BRAKE MOTORS with direct current 63~160 Type C FECCL Frame B3 Sizes 63~160, Type FC FECCL Frame B5 Sizes 63~160 Enclosed construction -External ventilation